Analysis Method: EPA 537 m

Sample Name AFP06-RS-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FOW115 **Sample Date/Time:** 2017-11-13 14:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-002 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FOW122 **Sample Date/Time:** 2017-11-14 10:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-003 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FOW107 **Sample Date/Time:** 2017-11-15 14:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-004 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FOW132 **Sample Date/Time:** 2017-11-16 10:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-SB-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FOW113 **Sample Date/Time:** 2017-11-13 13:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Validated Sample Result Forms: B7Q3711

Analysis Method: EPA 537 m

Sample Name AFP0601-004-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM604 **Sample Date/Time:** 2017-11-21 14:08 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.4	0.31	0.96	1.2	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0601-004-SS-901 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM605 **Sample Date/Time:** 2017-11-21 14:08 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.36	0.25	0.55	1.1	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.30	0.21	0.55	1.1	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.41	0.26	0.55	1.1	ug/kg	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	0.32	0.15	0.55	1.1	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.29	0.15	0.55	1.1	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.9	0.29	0.88	1.1	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	0.57	0.28	0.88	1.1	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0601-005-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM603 **Sample Date/Time:** 2017-11-21 14:30 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<1.0	0.34	1.0	1.3	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.65	0.22	0.65	1.3	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.80	0.30	0.65	1.3	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<1.0	0.51	1.0	1.3	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	2.5	0.36	1.0	1.3	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	0.50	0.36	1.0	1.3	ug/kg	J	J	
PERFLUOROHEPTANOIC ACID	375-85-9	0.54	0.25	0.65	1.3	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.65	0.31	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	0.48	0.18	0.65	1.3	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	1.4	0.29	0.65	1.3	ug/kg			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	9.3	0.34	1.0	1.3	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	0.86	0.33	1.0	1.3	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	1.5	0.33	1.0	1.3	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.40	1.0	1.3	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	2.4	0.44	1.0	1.3	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0602-001-GW-020 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM601 **Sample Date/Time:** 2017-11-21 10:25 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	380	2.0	5.0	8.0	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.81	0.66	1.5	2.0	ug/L	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	23	0.54	1.5	2.0	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	21	0.55	1.5	2.0	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<1.5	0.60	1.5	2.0	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.5	0.61	1.5	2.0	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.0	0.50	1.0	2.0	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	24	0.74	1.5	2.0	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	220	2.4	5.0	8.0	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	99	0.35	1.0	2.0	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<1.8	0.87	1.8	2.0	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<1.0	0.34	1.0	2.0	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	41	0.60	1.5	2.0	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	57	0.33	1.0	2.0	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	54	0.75	1.8	2.0	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.27	1.0	2.0	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.38	1.0	2.0	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.0	0.25	1.0	2.0	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-001-SO-020 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM612 **Sample Date/Time:** 2017-11-20 10:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	180	3.4	10	13	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	1.9	0.22	0.65	1.3	ug/kg			
PERFLUOROBUTANOIC ACID	375-22-4	4.2	0.30	0.65	1.3	ug/kg			
PERFLUORODECANE SULFONATE	335-77-3	<1.0	0.51	1.0	1.3	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	6.6	0.25	0.65	1.3	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	30	0.31	0.65	1.3	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	22	0.18	0.65	1.3	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	<0.65	0.29	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	7.3	0.34	1.0	1.3	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	13	0.33	1.0	1.3	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	16	0.33	1.0	1.3	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.40	1.0	1.3	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.0	0.44	1.0	1.3	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-001-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM611 **Sample Date/Time:** 2017-11-20 10:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	1000	230	88	110	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	1400	36	88	110	ug/kg			
PERFLUOROBUTANE SULFONATE	29420-43-3	<5.5	1.9	5.5	11	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	5.8	2.5	5.5	11	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	79	4.3	8.8	11	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	35	3.1	8.8	11	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	13	3.1	8.8	11	ug/kg			
PERFLUOROHEPTANOIC ACID	375-85-9	11	2.1	5.5	11	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	54	2.6	5.5	11	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	19	1.5	5.5	11	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	30	2.4	5.5	11	ug/kg			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	740	15	55	110	ug/kg			
PERFLUOROOCTANE SULFONATE	1763-23-1	2800	29	88	110	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	27	2.8	8.8	11	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	16	2.8	8.8	11	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<8.8	3.4	8.8	11	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	4.1	3.6	8.8	11	ug/kg	J	J	
PERFLUOROUNDECANOIC ACID	2058-94-8	16	3.7	8.8	11	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0602-002-GW-025 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM619 **Sample Date/Time:** 2017-11-21 11:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	12	0.66	1.5	2.0	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.15	0.066	0.15	0.20	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	7.1	0.054	0.15	0.20	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	3.0	0.055	0.15	0.20	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.15	0.060	0.15	0.20	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.15	0.061	0.15	0.20	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.10	0.050	0.10	0.20	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	5.4	0.074	0.15	0.20	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	76	0.56	1.5	2.0	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	23	0.35	1.0	2.0	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.12	0.087	0.18	0.20	ug/L	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.10	0.034	0.10	0.20	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	6.1	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	10	0.33	1.0	2.0	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	13	0.75	1.8	2.0	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.10	0.027	0.10	0.20	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.10	0.038	0.10	0.20	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.10	0.025	0.10	0.20	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-002-SO-029 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM614 **Sample Date/Time:** 2017-11-20 12:20 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.74	0.31	0.96	1.2	ug/kg	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.45	0.28	0.60	1.2	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.99	0.23	0.60	1.2	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	19	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	1.9	0.17	0.60	1.2	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	2.5	0.30	0.96	1.2	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	1.1	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-002-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM613 **Sample Date/Time:** 2017-11-20 11:25 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	540	29	88	110	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	8.3	0.36	0.88	1.1	ug/kg			
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	3.2	0.25	0.55	1.1	ug/kg			
PERFLUORODECANE SULFONATE	335-77-3	5.1	0.43	0.88	1.1	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	1.7	0.31	0.88	1.1	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	3.8	0.21	0.88	1.1	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	9.5	0.26	0.55	1.1	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	23	0.15	0.55	1.1	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	5.5	0.24	0.55	1.1	ug/kg			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	1.8	0.15	0.55	1.1	ug/kg			
PERFLUOROOCTANE SULFONATE	1763-23-1	240	2.9	8.8	11	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	3.8	0.28	0.88	1.1	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	28	0.28	0.88	1.1	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	2.1	0.37	0.88	1.1	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0602-003-GW-015 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM599 **Sample Date/Time:** 2017-11-21 09:08 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	24	0.33	0.75	1.0	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.075	0.033	0.075	0.10	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.31	0.027	0.075	0.10	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	1.1	0.028	0.075	0.10	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.075	0.030	0.075	0.10	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.075	0.031	0.075	0.10	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.050	0.025	0.050	0.10	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	2.5	0.037	0.075	0.10	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	19	0.28	0.75	1.0	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	3.7	0.018	0.050	0.10	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.090	0.044	0.090	0.10	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.050	0.017	0.050	0.10	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.075	0.030	0.075	0.10	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	8.7	0.17	0.50	1.0	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	4.1	0.038	0.090	0.10	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.050	0.014	0.050	0.10	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.050	0.019	0.050	0.10	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.050	0.013	0.050	0.10	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-003-SO-014 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM610 **Sample Date/Time:** 2017-11-20 09:42 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	16	0.31	0.96	1.2	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.73	0.28	0.60	1.2	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	1.5	0.23	0.60	1.2	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	11	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	2.2	0.17	0.60	1.2	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	4.3	0.30	0.96	1.2	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	2.5	0.30	0.96	1.2	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-003-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM609 **Sample Date/Time:** 2017-11-20 09:20 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	3.2	0.31	0.96	1.2	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.72	0.40	0.96	1.2	ug/kg	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	1.8	0.28	0.60	1.2	ug/kg			
PERFLUORODECANE SULFONATE	335-77-3	2.3	0.47	0.96	1.2	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	3.4	0.34	0.96	1.2	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	1.2	0.34	0.96	1.2	ug/kg	J	J	
PERFLUOROHEPTANOIC ACID	375-85-9	1.8	0.23	0.60	1.2	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	3.6	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	4.1	0.17	0.60	1.2	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	4.3	0.26	0.60	1.2	ug/kg			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.76	0.17	0.60	1.2	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	67	3.1	9.6	12	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	1.9	0.30	0.96	1.2	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	6.6	0.30	0.96	1.2	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	0.57	0.40	0.96	1.2	ug/kg	J	J	
PERFLUOROUNDECANOIC ACID	2058-94-8	3.0	0.41	0.96	1.2	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0602-004-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX422 **Sample Date/Time:** 2017-11-21 11:42 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	830	33	100	130	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	110	4.2	10	13	ug/kg			
PERFLUOROBUTANE SULFONATE	29420-43-3	<6.4	2.2	6.4	13	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	4.2	2.9	6.4	13	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	5.4	5.0	10	13	ug/kg	J	J	
PERFLUORODECANOIC ACID	335-76-2	11	3.6	10	13	ug/kg	J	J	
PERFLUORODODECANOIC ACID	307-55-1	6.6	3.6	10	13	ug/kg	J	J	
PERFLUOROHEPTANOIC ACID	375-85-9	5.6	2.4	6.4	13	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	<6.4	3.1	6.4	13	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	19	1.8	6.4	13	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	6.0	2.8	6.4	13	ug/kg	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	6.9	1.8	6.4	13	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	35	3.3	10	13	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	5.8	3.2	10	13	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	15	3.2	10	13	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<10	4.0	10	13	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<10	4.2	10	13	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	13	4.4	10	13	ug/kg	J	J	

Analysis Method: EPA 537 m

Sample Name AFP0603-002-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM620 **Sample Date/Time:** 2017-11-19 09:32 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.55	0.25	0.55	1.1	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.55	0.21	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.55	0.26	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.69	0.29	0.88	1.1	ug/kg	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0603-002-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM587 **Sample Date/Time:** 2017-11-19 09:32 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.034	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.013	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.025	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.12	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.096	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.011	0.0060	0.015	0.020	ug/L	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	0.030	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.038	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0603-PMW10-GW-074 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM595 **Sample Date/Time:** 2017-11-19 10:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.061	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.053	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.054	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.30	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.57	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.025	0.0060	0.015	0.020	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.32	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.15	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-001-GW-035 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM602 **Sample Date/Time:** 2017-11-21 13:42 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.0084	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.0077	0.0054	0.015	0.020	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	0.0066	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.018	0.0074	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.13	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.045	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.0052	0.0034	0.010	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.35	0.0060	0.015	0.020	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.12	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.027	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-001-SO-036 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX419 **Sample Date/Time:** 2017-11-20 14:35 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.62	0.31	0.96	1.2	ug/kg	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-001-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM615 **Sample Date/Time:** 2017-11-20 14:00 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<1.1	0.36	1.1	1.4	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.1	0.46	1.1	1.4	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.70	0.24	0.70	1.4	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.70	0.32	0.70	1.4	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<1.1	0.55	1.1	1.4	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.1	0.39	1.1	1.4	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.1	0.39	1.1	1.4	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.72	0.27	0.70	1.4	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	8.1	0.34	0.70	1.4	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	0.71	0.20	0.70	1.4	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.70	0.31	0.70	1.4	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.36	0.20	0.70	1.4	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	42	0.36	1.1	1.4	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	7.2	0.35	1.1	1.4	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	0.76	0.35	1.1	1.4	ug/kg	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.1	0.43	1.1	1.4	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.1	0.46	1.1	1.4	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.1	0.48	1.1	1.4	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-GW-030 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX417 **Sample Date/Time:** 2017-11-21 14:48 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.11	0.013	0.030	0.040	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.030	0.013	0.030	0.040	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	1.7	0.011	0.030	0.040	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.96	0.011	0.030	0.040	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.020	0.010	0.020	0.040	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.11	0.015	0.030	0.040	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.61	0.011	0.030	0.040	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	7.0	0.070	0.20	0.40	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.036	0.017	0.036	0.040	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.045	0.0068	0.020	0.040	ug/L			
PERFLUOROOCTANE SULFONATE	1763-23-1	0.25	0.012	0.030	0.040	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	1.5	0.0066	0.020	0.040	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	2.2	0.15	0.36	0.40	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.020	0.0054	0.020	0.040	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.020	0.0076	0.020	0.040	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.020	0.0050	0.020	0.040	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-GW-930 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX418 **Sample Date/Time:** 2017-11-21 14:48 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.12	0.013	0.030	0.040	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.030	0.013	0.030	0.040	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	1.7	0.011	0.030	0.040	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.91	0.011	0.030	0.040	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.020	0.010	0.020	0.040	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.093	0.015	0.030	0.040	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.57	0.011	0.030	0.040	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	7.0	0.070	0.20	0.40	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.036	0.017	0.036	0.040	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.046	0.0068	0.020	0.040	ug/L			
PERFLUOROOCTANE SULFONATE	1763-23-1	0.25	0.012	0.030	0.040	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	1.5	0.0066	0.020	0.040	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	2.1	0.15	0.36	0.40	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.020	0.0054	0.020	0.040	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.020	0.0076	0.020	0.040	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.020	0.0050	0.020	0.040	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-SO-029 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM617 **Sample Date/Time:** 2017-11-20 15:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.86	0.20	0.60	1.2	ug/kg	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	0.50	0.28	0.60	1.2	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	3.3	0.17	0.60	1.2	ug/kg		J	17
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	0.96	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-SO-929 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM618 **Sample Date/Time:** 2017-11-20 15:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<1.0	0.34	1.0	1.3	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	1.6	0.22	0.65	1.3	ug/kg			
PERFLUOROBUTANOIC ACID	375-22-4	1.2	0.30	0.65	1.3	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<1.0	0.51	1.0	1.3	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.65	0.25	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.65	0.31	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	7.1	0.18	0.65	1.3	ug/kg		J	17
PERFLUORONONANOIC ACID	375-95-1	<0.65	0.29	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<1.0	0.34	1.0	1.3	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<1.0	0.33	1.0	1.3	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	2.0	0.33	1.0	1.3	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.40	1.0	1.3	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.0	0.44	1.0	1.3	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX420 **Sample Date/Time:** 2017-11-20 15:00 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	1.4	0.26	0.80	1.0	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	65	3.3	8.0	10	ug/kg		J	17
PERFLUOROBUTANE SULFONATE	29420-43-3	1.4	0.17	0.50	1.0	ug/kg			
PERFLUOROBUTANOIC ACID	375-22-4	0.78	0.23	0.50	1.0	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	4.6	0.39	0.80	1.0	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	0.65	0.28	0.80	1.0	ug/kg	J	J	
PERFLUORODODECANOIC ACID	307-55-1	<0.80	0.28	0.80	1.0	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	1.4	0.19	0.50	1.0	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	21	0.24	0.50	1.0	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	8.9	0.14	0.50	1.0	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	0.50	0.22	0.50	1.0	ug/kg	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	910	14	50	100	ug/kg			
PERFLUOROOCTANE SULFONATE	1763-23-1	55	2.8	8.0	10	ug/kg		J	17
PERFLUOROOCTANOIC ACID	335-67-1	22	0.25	0.80	1.0	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	2.0	0.25	0.80	1.0	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.80	0.31	0.80	1.0	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.80	0.33	0.80	1.0	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	0.62	0.34	0.80	1.0	ug/kg	J	J	

Analysis Method: EPA 537 m

Sample Name AFP0604-002-SS-901 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX421 **Sample Date/Time:** 2017-11-20 15:00 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	1.3	0.31	0.96	1.2	ug/kg			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	100	4.0	9.6	12	ug/kg		J	17
PERFLUOROBUTANE SULFONATE	29420-43-3	1.7	0.20	0.60	1.2	ug/kg			
PERFLUOROBUTANOIC ACID	375-22-4	0.78	0.28	0.60	1.2	ug/kg	J	J	
PERFLUORODECANE SULFONATE	335-77-3	4.9	0.47	0.96	1.2	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	1.1	0.34	0.96	1.2	ug/kg	J	J	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	1.6	0.23	0.60	1.2	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	23	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	8.0	0.17	0.60	1.2	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	0.81	0.26	0.60	1.2	ug/kg	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	940	17	60	120	ug/kg			
PERFLUOROOCTANE SULFONATE	1763-23-1	91	3.1	9.6	12	ug/kg		J	17
PERFLUOROOCTANOIC ACID	335-67-1	24	0.30	0.96	1.2	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	2.0	0.30	0.96	1.2	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	0.49	0.41	0.96	1.2	ug/kg	J	J	

Analysis Method: EPA 537 m

Sample Name AFP0604-003-GW-035 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM598 **Sample Date/Time:** 2017-11-19 13:48 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.015	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.015	0.0054	0.015	0.020	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	0.019	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.032	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.32	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.13	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.0080	0.0034	0.010	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.1	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.21	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.068	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0605-001-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM606 **Sample Date/Time:** 2017-11-21 15:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<1.0	0.34	1.0	1.3	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.65	0.22	0.65	1.3	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.65	0.30	0.65	1.3	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<1.0	0.51	1.0	1.3	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.65	0.25	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.65	0.31	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.65	0.29	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<1.0	0.34	1.0	1.3	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<1.0	0.33	1.0	1.3	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<1.0	0.33	1.0	1.3	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.40	1.0	1.3	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.0	0.44	1.0	1.3	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0605-001-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM607 **Sample Date/Time:** 2017-11-21 15:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.0081	0.0054	0.015	0.020	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	0.013	0.0050	0.010	0.020	ug/L	J	J	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.0035	0.0034	0.010	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	0.013	0.0025	0.010	0.020	ug/L	J	J	

Analysis Method: EPA 537 m

Sample Name AFP0607-001-GW-011 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM578 **Sample Date/Time:** 2017-11-18 09:55 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.071	0.0066	0.015	0.020	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.11	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.14	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.018	0.0056	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	0.14	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.023	0.0087	0.018	0.020	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.077	0.0060	0.015	0.020	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.11	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.21	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0607-002-GW-020 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX388 **Sample Date/Time:** 2017-11-18 09:04 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.32	0.0073	0.017	0.022	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.017	0.0073	0.017	0.022	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.017	0.0059	0.017	0.022	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.55	0.0061	0.017	0.022	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.017	0.0066	0.017	0.022	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.017	0.0067	0.017	0.022	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0055	0.011	0.022	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.48	0.0081	0.017	0.022	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.041	0.0062	0.017	0.022	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.66	0.0039	0.011	0.022	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.029	0.0096	0.020	0.022	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0037	0.011	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.052	0.0066	0.017	0.022	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.31	0.0036	0.011	0.022	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	1.1	0.075	0.18	0.20	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.10	0.027	0.10	0.20	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.10	0.038	0.10	0.20	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0028	0.011	0.022	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0607-003-GW-046 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX389 **Sample Date/Time:** 2017-11-18 10:22 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.0083	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.024	0.0066	0.015	0.020	ug/L			
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.21	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.085	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.034	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.17	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.15	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.29	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0607-004-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX423 **Sample Date/Time:** 2017-11-19 10:18 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<2.1	0.68	2.1	2.6	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	63	0.86	2.1	2.6	ug/kg			
PERFLUOROBUTANE SULFONATE	29420-43-3	<1.3	0.44	1.3	2.6	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<1.3	0.60	1.3	2.6	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	1.6	1.0	2.1	2.6	ug/kg	J	J	
PERFLUORODECANOIC ACID	335-76-2	10	0.73	2.1	2.6	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	24	0.73	2.1	2.6	ug/kg			
PERFLUOROHEPTANOIC ACID	375-85-9	0.94	0.49	1.3	2.6	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	<1.3	0.62	1.3	2.6	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<1.3	0.36	1.3	2.6	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	2.5	0.57	1.3	2.6	ug/kg	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	11	0.36	1.3	2.6	ug/kg			
PERFLUOROOCTANE SULFONATE	1763-23-1	9.8	0.68	2.1	2.6	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	3.6	0.65	2.1	2.6	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	<2.1	0.65	2.1	2.6	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<21	8.1	21	26	ug/kg	U	UJ	02A
PERFLUOROTRIDECANOIC ACID	72629-94-8	<21	8.6	21	26	ug/kg	U	UJ	02A
PERFLUOROUNDECANOIC ACID	2058-94-8	46	0.88	2.1	2.6	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0607-004-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM621 **Sample Date/Time:** 2017-11-19 10:18 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.010	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	0.015	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	0.010	0.0061	0.015	0.020	ug/L	J	J	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.028	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	0.018	0.0035	0.010	0.020	ug/L	J	J	
PERFLUORONONANOIC ACID	375-95-1	0.012	0.0087	0.018	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.011	0.0060	0.015	0.020	ug/L	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	0.048	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.037	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0608-004-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM608 **Sample Date/Time:** 2017-11-21 16:30 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.37	0.36	0.88	1.1	ug/kg	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	2.3	0.25	0.55	1.1	ug/kg			
PERFLUORODECANE SULFONATE	335-77-3	1.4	0.43	0.88	1.1	ug/kg			
PERFLUORODECANOIC ACID	335-76-2	2.4	0.31	0.88	1.1	ug/kg			
PERFLUORODODECANOIC ACID	307-55-1	0.52	0.31	0.88	1.1	ug/kg	J	J	
PERFLUOROHEPTANOIC ACID	375-85-9	2.9	0.21	0.55	1.1	ug/kg			
PERFLUOROHEXANE SULFONATE	108427-53-8	3.6	0.26	0.55	1.1	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	2.1	0.15	0.55	1.1	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	7.4	0.24	0.55	1.1	ug/kg			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.35	0.15	0.55	1.1	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	92	2.9	8.8	11	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	5.8	0.28	0.88	1.1	ug/kg			
PERFLUOROPENTANOIC ACID	2706-90-3	3.4	0.28	0.88	1.1	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	0.38	0.36	0.88	1.1	ug/kg	J	J	
PERFLUOROUNDECANOIC ACID	2058-94-8	2.4	0.37	0.88	1.1	ug/kg			

Analysis Method: EPA 537 m

Sample Name AFP0609-002-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM580 **Sample Date/Time:** 2017-11-18 11:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.55	0.25	0.55	1.1	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.55	0.21	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.46	0.26	0.55	1.1	ug/kg	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.88	0.29	0.88	1.1	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0609-002-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM579 **Sample Date/Time:** 2017-11-18 11:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.016	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.084	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.030	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.043	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.51	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.23	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.045	0.0060	0.015	0.020	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.21	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.082	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0609-MW23-GW-027 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM589 **Sample Date/Time:** 2017-11-18 12:12 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.016	0.0069	0.016	0.021	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.016	0.0069	0.016	0.021	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.019	0.0057	0.016	0.021	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	0.040	0.0058	0.016	0.021	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.016	0.0063	0.016	0.021	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.016	0.0064	0.016	0.021	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0053	0.011	0.021	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.10	0.0078	0.016	0.021	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	1.1	0.056	0.15	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.13	0.0037	0.011	0.021	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.019	0.0091	0.019	0.021	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0036	0.011	0.021	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.076	0.0063	0.016	0.021	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.80	0.0035	0.011	0.021	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.083	0.0079	0.019	0.021	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0028	0.011	0.021	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0040	0.011	0.021	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0026	0.011	0.021	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0609-MW24-GW-43.5 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM597 **Sample Date/Time:** 2017-11-19 12:30 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.072	0.0066	0.015	0.020	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.066	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.28	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.45	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	1.8	0.056	0.15	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.55	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.021	0.0087	0.018	0.020	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.010	0.0034	0.010	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	2.4	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.72	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.47	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0609-MW25-GW-038 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM596 **Sample Date/Time:** 2017-11-19 11:32 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.030	0.0073	0.017	0.022	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.017	0.0073	0.017	0.022	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.30	0.0059	0.017	0.022	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.10	0.0061	0.017	0.022	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.017	0.0066	0.017	0.022	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.017	0.0067	0.017	0.022	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0055	0.011	0.022	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.19	0.0081	0.017	0.022	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	1.0	0.0062	0.017	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.66	0.0039	0.011	0.022	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.020	0.0096	0.020	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0037	0.011	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.089	0.0066	0.017	0.022	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.26	0.0036	0.011	0.022	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.29	0.0083	0.020	0.022	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0030	0.011	0.022	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0042	0.011	0.022	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0028	0.011	0.022	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-001-GW-014 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM591 **Sample Date/Time:** 2017-11-18 13:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.026	0.0066	0.015	0.020	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.035	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.17	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.18	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.50	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.35	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.030	0.0087	0.018	0.020	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.5	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.25	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.40	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-002-GW-014 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM594 **Sample Date/Time:** 2017-11-18 15:06 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.016	0.0069	0.016	0.021	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.016	0.0069	0.016	0.021	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.25	0.0057	0.016	0.021	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.20	0.0058	0.016	0.021	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.016	0.0063	0.016	0.021	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.016	0.0064	0.016	0.021	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0053	0.011	0.021	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.25	0.0078	0.016	0.021	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	3.3	0.056	0.15	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.76	0.0037	0.011	0.021	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.019	0.0091	0.019	0.021	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0036	0.011	0.021	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.94	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.40	0.0035	0.011	0.021	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.53	0.0079	0.019	0.021	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0028	0.011	0.021	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0040	0.011	0.021	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0026	0.011	0.021	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-003-GW-014 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX414 **Sample Date/Time:** 2017-11-18 13:48 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.12	0.0073	0.017	0.022	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.0088	0.0073	0.017	0.022	ug/L	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.044	0.0059	0.017	0.022	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.18	0.0061	0.017	0.022	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.017	0.0066	0.017	0.022	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.017	0.0067	0.017	0.022	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0055	0.011	0.022	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.14	0.0081	0.017	0.022	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.40	0.0062	0.017	0.022	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.45	0.0039	0.011	0.022	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.035	0.0096	0.020	0.022	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0037	0.011	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	2.1	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.15	0.0036	0.011	0.022	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.47	0.0083	0.020	0.022	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0030	0.011	0.022	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0042	0.011	0.022	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0028	0.011	0.022	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-003-GW-914 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX415 **Sample Date/Time:** 2017-11-18 13:48 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.11	0.0073	0.017	0.022	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.011	0.0073	0.017	0.022	ug/L	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.051	0.0059	0.017	0.022	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.18	0.0061	0.017	0.022	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.017	0.0066	0.017	0.022	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.017	0.0067	0.017	0.022	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0055	0.011	0.022	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.13	0.0081	0.017	0.022	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.43	0.0062	0.017	0.022	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.47	0.0039	0.011	0.022	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.037	0.0096	0.020	0.022	ug/L			
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0037	0.011	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.9	0.060	0.15	0.20	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.15	0.0036	0.011	0.022	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.46	0.0083	0.020	0.022	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0030	0.011	0.022	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0042	0.011	0.022	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0028	0.011	0.022	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-004-GW-014 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM592 **Sample Date/Time:** 2017-11-18 14:28 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.017	0.0073	0.017	0.022	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.017	0.0073	0.017	0.022	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.080	0.0059	0.017	0.022	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.13	0.0061	0.017	0.022	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.017	0.0066	0.017	0.022	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.017	0.0067	0.017	0.022	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.011	0.0055	0.011	0.022	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.16	0.0081	0.017	0.022	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	1.1	0.056	0.15	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.50	0.0039	0.011	0.022	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.020	0.0096	0.020	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.011	0.0037	0.011	0.022	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.23	0.0066	0.017	0.022	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.29	0.0036	0.011	0.022	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.34	0.0083	0.020	0.022	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.011	0.0030	0.011	0.022	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.011	0.0042	0.011	0.022	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.011	0.0028	0.011	0.022	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-005-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX401 **Sample Date/Time:** 2017-11-18 14:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.29	0.29	0.88	1.1	ug/kg	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.55	0.25	0.55	1.1	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.55	0.21	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.55	0.26	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	0.18	0.15	0.55	1.1	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.19	0.15	0.55	1.1	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.99	0.29	0.88	1.1	ug/kg	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-005-SD-901 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPX403 **Sample Date/Time:** 2017-11-18 14:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.22	0.17	0.60	1.2	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.78	0.31	0.96	1.2	ug/kg	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-005-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM583 **Sample Date/Time:** 2017-11-18 14:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.0092	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.028	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.021	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.033	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.30	0.0056	0.015	0.020	ug/L		J	17
PERFLUOROHEXANOIC ACID	307-24-4	0.10	0.0035	0.010	0.020	ug/L		J	17
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.18	0.0060	0.015	0.020	ug/L		J	17
PERFLUOROOCTANOIC ACID	335-67-1	0.055	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.072	0.0075	0.018	0.020	ug/L		J	17
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0610-005-SW-901 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM585 **Sample Date/Time:** 2017-11-18 14:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.010	0.0066	0.015	0.020	ug/L	J	J	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.016	0.0054	0.015	0.020	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	0.011	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.017	0.0074	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.096	0.0056	0.015	0.020	ug/L		J	17
PERFLUOROHEXANOIC ACID	307-24-4	0.061	0.0035	0.010	0.020	ug/L		J	17
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.086	0.0060	0.015	0.020	ug/L		J	17
PERFLUOROOCTANOIC ACID	335-67-1	0.044	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.037	0.0075	0.018	0.020	ug/L		J	17
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0613-001-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FPM582 **Sample Date/Time:** 2017-11-18 12:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<1.0	0.34	1.0	1.3	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.65	0.22	0.65	1.3	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.65	0.30	0.65	1.3	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<1.0	0.51	1.0	1.3	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<1.0	0.36	1.0	1.3	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.65	0.25	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.65	0.31	0.65	1.3	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.65	0.29	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.65	0.18	0.65	1.3	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<1.0	0.34	1.0	1.3	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<1.0	0.33	1.0	1.3	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<1.0	0.33	1.0	1.3	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<1.0	0.40	1.0	1.3	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<1.0	0.43	1.0	1.3	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<1.0	0.44	1.0	1.3	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0613-001-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM581 **Sample Date/Time:** 2017-11-18 12:40 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	0.87	0.0066	0.015	0.020	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.095	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.080	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.12	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.64	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.42	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.15	0.0060	0.015	0.020	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	0.24	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.43	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-005 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM577 **Sample Date/Time:** 2017-11-18 08:47 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-006 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPX416 **Sample Date/Time:** 2017-11-19 09:45 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.015	0.0034	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-007 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM616 **Sample Date/Time:** 2017-11-20 14:05 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-008 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FPM600 **Sample Date/Time:** 2017-11-21 09:45 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Validated Sample Result Forms: B7R2779

Analysis Method: EPA 537 m

Sample Name AFP0602-005-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRH317 **Sample Date/Time:** 2017-11-29 13:55 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.70	0.23	0.60	1.2	ug/kg	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	1.3	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	0.94	0.17	0.60	1.2	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.96	0.26	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.0	0.31	0.60	1.2	ug/kg	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	0.60	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	1.0	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0602-005-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FRH318 **Sample Date/Time:** 2017-11-29 13:55 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	6.7	0.13	0.30	0.40	ug/L			
8:2 FLUOROTELOMER SULFONATE	39108-34-4	0.036	0.013	0.030	0.040	ug/L	J	J	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.88	0.011	0.030	0.040	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.49	0.011	0.030	0.040	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.030	0.012	0.030	0.040	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.020	0.010	0.020	0.040	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.79	0.015	0.030	0.040	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	5.9	0.11	0.30	0.40	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	3.2	0.070	0.20	0.40	ug/L			
PERFLUORONONANOIC ACID	375-95-1	0.026	0.017	0.036	0.040	ug/L	J	J	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.020	0.0068	0.020	0.040	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.9	0.012	0.030	0.040	ug/L			
PERFLUOROOCTANOIC ACID	335-67-1	2.1	0.066	0.20	0.40	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	2.3	0.15	0.36	0.40	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.020	0.0054	0.020	0.040	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.020	0.0076	0.020	0.040	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.020	0.0050	0.020	0.040	ug/L	U	U	

Validated Sample Result Forms: B7R6307

Analysis Method: EPA 537 m

Sample Name AFP0606-001-SO-020 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ856 **Sample Date/Time:** 2017-12-04 16:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<9.6	4.0	9.6	12	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<9.6	4.1	9.6	12	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-001-SO-920 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ857 **Sample Date/Time:** 2017-12-04 16:10 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<8.0	2.6	8.0	10	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<8.0	3.3	8.0	10	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<5.0	1.7	5.0	10	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<5.0	2.3	5.0	10	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<8.0	3.9	8.0	10	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<8.0	2.8	8.0	10	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<8.0	2.8	8.0	10	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<5.0	1.9	5.0	10	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<5.0	2.4	5.0	10	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<5.0	1.4	5.0	10	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<5.0	2.2	5.0	10	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.50	0.14	0.50	1.0	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.80	0.26	0.80	1.0	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.80	0.25	0.80	1.0	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.80	0.25	0.80	1.0	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<8.0	3.1	8.0	10	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<8.0	3.3	8.0	10	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<8.0	3.4	8.0	10	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-001-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ854 **Sample Date/Time:** 2017-12-04 15:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.55	0.25	0.55	1.1	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.55	0.21	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.55	0.26	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	2.3	0.29	0.88	1.1	ug/kg		J	17
PERFLUOROOCTANOIC ACID	335-67-1	0.35	0.28	0.88	1.1	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-001-SS-901 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ855 **Sample Date/Time:** 2017-12-04 15:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.88	0.29	0.88	1.1	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.55	0.19	0.55	1.1	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.55	0.25	0.55	1.1	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.88	0.43	0.88	1.1	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.88	0.31	0.88	1.1	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.55	0.21	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.55	0.26	0.55	1.1	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.55	0.24	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.55	0.15	0.55	1.1	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	1.6	0.29	0.88	1.1	ug/kg		J	17
PERFLUOROOCTANOIC ACID	335-67-1	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.88	0.28	0.88	1.1	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.88	0.34	0.88	1.1	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.88	0.36	0.88	1.1	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.88	0.37	0.88	1.1	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-002-SO-024 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ853 **Sample Date/Time:** 2017-12-04 15:15 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.80	0.26	0.80	1.0	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.80	0.33	0.80	1.0	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.50	0.17	0.50	1.0	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<5.0	2.3	5.0	10	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.80	0.39	0.80	1.0	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.80	0.28	0.80	1.0	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.80	0.28	0.80	1.0	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.50	0.19	0.50	1.0	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.55	0.24	0.50	1.0	ug/kg	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	6.4	0.14	0.50	1.0	ug/kg			
PERFLUORONONANOIC ACID	375-95-1	<0.50	0.22	0.50	1.0	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.50	0.14	0.50	1.0	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.80	0.26	0.80	1.0	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.80	0.25	0.80	1.0	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	1.5	0.25	0.80	1.0	ug/kg			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.80	0.31	0.80	1.0	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.80	0.33	0.80	1.0	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.80	0.34	0.80	1.0	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-002-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ848 **Sample Date/Time:** 2017-12-04 14:20 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.77	0.25	0.77	0.96	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.77	0.32	0.77	0.96	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.48	0.16	0.48	0.96	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.48	0.22	0.48	0.96	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.77	0.37	0.77	0.96	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.77	0.27	0.77	0.96	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.77	0.27	0.77	0.96	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.48	0.18	0.48	0.96	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.48	0.23	0.48	0.96	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.48	0.13	0.48	0.96	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.48	0.21	0.48	0.96	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.48	0.13	0.48	0.96	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	7.0	0.25	0.77	0.96	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	0.51	0.24	0.77	0.96	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.77	0.24	0.77	0.96	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.77	0.30	0.77	0.96	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.77	0.32	0.77	0.96	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.77	0.33	0.77	0.96	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-003-SO-027 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ847 **Sample Date/Time:** 2017-12-04 13:55 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.70	0.23	0.70	0.88	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.70	0.29	0.70	0.88	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.44	0.15	0.44	0.88	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.44	0.20	0.44	0.88	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.70	0.34	0.70	0.88	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.70	0.25	0.70	0.88	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.70	0.25	0.70	0.88	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.44	0.17	0.44	0.88	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.69	0.21	0.44	0.88	ug/kg	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	0.13	0.12	0.44	0.88	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.44	0.19	0.44	0.88	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.44	0.12	0.44	0.88	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.70	0.23	0.70	0.88	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.84	0.22	0.70	0.88	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.70	0.22	0.70	0.88	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.70	0.27	0.70	0.88	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.70	0.29	0.70	0.88	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.70	0.30	0.70	0.88	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-003-SS-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ845 **Sample Date/Time:** 2017-12-04 13:32 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	1.3	0.29	0.60	1.2	ug/kg			
PERFLUOROHEXANOIC ACID	307-24-4	0.20	0.17	0.60	1.2	ug/kg	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.72	0.17	0.96	1.2	ug/kg	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	23	0.31	0.96	1.2	ug/kg			
PERFLUOROOCTANOIC ACID	335-67-1	0.52	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-004-SD-001 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ849 **Sample Date/Time:** 2017-12-04 15:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.80	0.26	0.80	1.0	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.80	0.33	0.80	1.0	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.50	0.17	0.50	1.0	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.50	0.23	0.50	1.0	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.80	0.39	0.80	1.0	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.80	0.28	0.80	1.0	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.80	0.28	0.80	1.0	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.50	0.19	0.50	1.0	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.50	0.24	0.50	1.0	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.50	0.14	0.50	1.0	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.50	0.22	0.50	1.0	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.50	0.14	0.50	1.0	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.80	0.26	0.80	1.0	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.42	0.25	0.80	1.0	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.80	0.25	0.80	1.0	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.80	0.31	0.80	1.0	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.80	0.33	0.80	1.0	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.80	0.34	0.80	1.0	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-004-SD-901 **Matrix Type:** S **Result Type:** TRG

Lab Sample Name: FRZ851 **Sample Date/Time:** 2017-12-04 15:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.96	0.31	0.96	1.2	ug/kg	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.60	0.20	0.60	1.2	ug/kg	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.60	0.28	0.60	1.2	ug/kg	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.96	0.47	0.96	1.2	ug/kg	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.96	0.34	0.96	1.2	ug/kg	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.60	0.23	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.60	0.29	0.60	1.2	ug/kg	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.60	0.26	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.60	0.17	0.60	1.2	ug/kg	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.96	0.31	0.96	1.2	ug/kg	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.45	0.30	0.96	1.2	ug/kg	J	J	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.96	0.30	0.96	1.2	ug/kg	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.96	0.37	0.96	1.2	ug/kg	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.96	0.40	0.96	1.2	ug/kg	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.96	0.41	0.96	1.2	ug/kg	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-004-SW-001 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FRZ850 **Sample Date/Time:** 2017-12-04 15:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.018	0.0074	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.060	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.048	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.0082	0.0060	0.015	0.020	ug/L	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	0.19	0.0033	0.018	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.019	0.0075	0.010	0.020	ug/L	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-004-SW-901 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FRZ852 **Sample Date/Time:** 2017-12-04 15:15 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.022	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	0.072	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.049	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.22	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.018	0.0075	0.018	0.020	ug/L	J	J	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-A01 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FRZ846 **Sample Date/Time:** 2017-12-04 13:45 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Validated Sample Result Forms: B7S5224

Analysis Method: EPA 537 m

Sample Name AFP0606-001-GW-026 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU248 **Sample Date/Time:** 2017-12-13 13:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.010	0.0056	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	0.019	0.0035	0.010	0.020	ug/L	J	J	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	0.0054	0.0034	0.010	0.020	ug/L	J	J	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-001-GW-926 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU249 **Sample Date/Time:** 2017-12-13 13:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.0054	0.0054	0.015	0.020	ug/L	J	J	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.0082	0.0056	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANOIC ACID	307-24-4	0.022	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-002-GW-029 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU244 **Sample Date/Time:** 2017-12-12 16:32 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.021	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.013	0.0055	0.015	0.020	ug/L	J	J	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.017	0.0074	0.015	0.020	ug/L	J	J	
PERFLUOROHEXANE SULFONATE	108427-53-8	0.13	0.0056	0.015	0.020	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.15	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	0.11	0.0033	0.010	0.020	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.054	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	UJ	2A
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	UJ	2A
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP0606-003-GW-026 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU245 **Sample Date/Time:** 2017-12-12 15:56 **Validation Level:** Stage 4

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	0.028	0.0054	0.015	0.020	ug/L			
PERFLUOROBUTANOIC ACID	375-22-4	0.033	0.0055	0.015	0.020	ug/L			
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	0.084	0.0074	0.015	0.020	ug/L			
PERFLUOROHEXANE SULFONATE	108427-53-8	1.5	0.056	0.15	0.20	ug/L			
PERFLUOROHEXANOIC ACID	307-24-4	0.42	0.0035	0.010	0.020	ug/L			
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	0.0094	0.0060	0.015	0.020	ug/L	J	J	
PERFLUOROOCTANOIC ACID	335-67-1	1.9	0.033	0.10	0.20	ug/L			
PERFLUOROPENTANOIC ACID	2706-90-3	0.099	0.0075	0.018	0.020	ug/L			
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-A02 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU246 **Sample Date/Time:** 2017-12-12 15:40 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

Analysis Method: EPA 537 m

Sample Name AFP06-RS-A03 **Matrix Type:** **Result Type:** TRG

Lab Sample Name: FTU247 **Sample Date/Time:** 2017-12-13 13:00 **Validation Level:** Stage 2B

Analyte	CAS No	Result Value	DL	LOD	LOQ	Result Units	Lab Qualifier	Validation Qualifier	Validation Reason Code
6:2 FLUOROTELOMER SULFONATE	27619-97-2	<0.015	0.0066	0.015	0.020	ug/L	U	U	
8:2 FLUOROTELOMER SULFONATE	39108-34-4	<0.015	0.0066	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANE SULFONATE	29420-43-3	<0.015	0.0054	0.015	0.020	ug/L	U	U	
PERFLUOROBUTANOIC ACID	375-22-4	<0.015	0.0055	0.015	0.020	ug/L	U	U	
PERFLUORODECANE SULFONATE	335-77-3	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUORODECANOIC ACID	335-76-2	<0.015	0.0061	0.015	0.020	ug/L	U	U	
PERFLUORODODECANOIC ACID	307-55-1	<0.010	0.0050	0.010	0.020	ug/L	U	U	
PERFLUOROHEPTANOIC ACID	375-85-9	<0.015	0.0074	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANE SULFONATE	108427-53-8	<0.015	0.0056	0.015	0.020	ug/L	U	U	
PERFLUOROHEXANOIC ACID	307-24-4	<0.010	0.0035	0.010	0.020	ug/L	U	U	
PERFLUORONONANOIC ACID	375-95-1	<0.018	0.0087	0.018	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONAMIDE	754-91-6	<0.010	0.0034	0.010	0.020	ug/L	U	U	
PERFLUOROOCTANE SULFONATE	1763-23-1	<0.015	0.0060	0.015	0.020	ug/L	U	U	
PERFLUOROOCTANOIC ACID	335-67-1	<0.010	0.0033	0.010	0.020	ug/L	U	U	
PERFLUOROPENTANOIC ACID	2706-90-3	<0.018	0.0075	0.018	0.020	ug/L	U	U	
PERFLUOROTETRADECANOIC ACID	376-06-7	<0.010	0.0027	0.010	0.020	ug/L	U	U	
PERFLUOROTRIDECANOIC ACID	72629-94-8	<0.010	0.0038	0.010	0.020	ug/L	U	U	
PERFLUOROUNDECANOIC ACID	2058-94-8	<0.010	0.0025	0.010	0.020	ug/L	U	U	

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/
Analysis Request Number: 467

Page 1 of 4

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AF Plant 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): F. Johnson

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please Indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)						NOTES
	AFP0607-001-SO-007	11/14/2017	1430	N	SO	2						Normal + MS/MSD
	AFP0607-002-SS-001	11/14/2017	1500	N	SO	1						
	AFP0607-002-SO-010	11/14/2017	1520	N	SO	1						
	AFP0601-001-SS-001	11/14/2017	1630	N	SO	2						Normal + MS/MSD
	AFP0610-003-SS-001	11/15/2017	1120	N	SO	1						
	AFP0610-003-SS-901	11/15/2017	1120	FD	SO	1						
	AFP0610-003-SO-015	11/15/2017	1145	N	SO	1						
	AFP0610-003-SO-915	11/15/2017	1145	FD	SO	1						
	AFP0610-004-SS-001	11/15/2017	1225	N	SO	1						
	AFP0610-004-SO-016	11/15/2017	1322	N	SO	1						
	AFP0610-002-SS-001	11/15/2017	1405	N	SO	1						
	~~AFP0610-~~ [illegible] AFP06-RS-003	11/15/2017	1415	EB	WQ	2						Acetate liner rinsate Following sample
	AFP0610-002-SO-015	11/15/2017	1430	N	SO	1						
	AFP0610-001-SS-001	11/15/2017	1520	N	SO	1						
	AFP0610-001-SO-014	11/15/2017	1530	I	SO	1						
					Total # of Containers	18						

International Solid
Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

18-Nov-17 14:43
Stephanie Pollen
B7Q0389
CCS ENV-853

RELINQUISHED BY:
Signature:
Date/Time: 11/17/17 1700
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY: KLARIZE ESPOSA
Signature:
Date/Time: 2017/11/18 14:43
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

Analyte List:

ANALYTE	EXPRESS PAR CODE				
[illegible]	PFOS				
[illegible]	PFOA				
[illegible]	PFNA	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	PFBA	[illegible]
[illegible]	PFDA	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	DONA	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Custody seal present & intact

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number: 466

Page 2 of 4

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AF Plant 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): FJohnson

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)		NOTES
	AFP0603-001-SS-001	11/13/2017	0920	N	SO	1		
	AFP0608-001-SO-041	11/13/2017	1130	N	SO	1		
	AFP06-SB-001	11/13/2017	1330	AB	WP	2		
	AFP0608-002-SS-001	11/13/2017	1420	N	SO	1		
	AFP06-RS-001	11/13/2017	1430	EB	WQ	2		Spoon, following sample
	AFP0608-002-SO-032	11/13/2017	1450	N	SO	1		
	AFP0608-003-SS-001	11/13/2017	1555	N	SO	1		
	AFP0608-003-SO-040	11/13/2017	1640	N	SO	1		
	AFP0608-001-SS-001	11/14/2017	0825	N	SO	1		
	AFP0608-001-SO-035	11/14/2017	0910	N	SO	1		
	AFP0607-003-SS-001	11/14/2017	1010	N	SO	1		
	AFP06-RS-002	11/14/2017	1015	EB	WQ	2		Spoon, following sample
	AFP0607-003-SO-047	11/14/2017	1220	N	SO	1		
	~~AFP0607-001-SS-001~~	~~11/14/2017~~	~~1040~~	~~N~~	~~SO~~	~~2~~	FJ 1348 11/14/17	~~Normal + MS/MSD~~ FJ 11/14/17 @1348
	AFP0607-001-SS-001	11/14/2017	1340	N	SO	2	18	Normal + MS/MSD
					Total # of Containers			

RELINQUISHED BY:
Signature:
Date/Time: 11/17/17 1700
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY: KLARIZE ESQUERRA
Signature:
Date/Time: 2017 11 18 14:43
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	62FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	82FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number: 468

Page 3 of 4

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AF Plant 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4905
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): E. Johnson

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

ANALYSIS

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below) PF 11/15 1628						NOTES
	AFP0601-003-SS-001	11/15/2017	1620	N	SO	~~2~~ 1						~~Normal + MS/MSD~~ PS 11/16/17 @1628
	AFP0601-001-SO-019	11/15/2017	1635	N	SO	2						Normal + MS/MSD
	AFP0601-003-SO-019	11/15/2017	1655	N	SO	1						
	AFP0601-002-SS-001	11/15/2017	1710	N	SO	1						
	AFP0601-002-SO-025	11/15/2017	1740	N	SO	1						
	AFP0604-003-~~SO~~-001	11/16/2017	0850	N	SO	1						
	AFP0604-003-SO-036	11/16/2017	0925	N	SO	1						
	AFP06-RS-004	11/16/2017	1040	EB	WQ	2						Acetate Liner, following sample → ~~AFP0604-003-SO~~ PS 11/17/17 1621

Total # of Containers: 10

RELINQUISHED BY:
Signature:
Date/Time: 11/17/17 1700
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY: KLARLA ESHLAN
Signature: Ly
Date/Time: 2017/11/18 14:43
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	6:2FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	8:2FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

custody seal present & intact

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/
Analysis Request Number: 473

Page 4 of 4

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AFPLANT 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): A. Willis, J. MESHEW

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)						NOTES
•	AFP0608-001-GW-045	11/15/17	1245	N	WG	2						
•	AFP0608-002-GW-035	11/15/17	1315	N	WG	2						
•	AFP0608-001-GW-042	11/15/17	1416	N	WG	2						
•	AFP0608-003-GW-040	11/15/17	1432	N	WG	2						
•	AFP0609-001-SD-001	11/16/17	1240	N	SE	1						
•	AFP0609-001-SW-001	11/16/17	1240	N	WS	2						
•	AFP0611-001-SW-001	11/16/17	1355	N	WS	2						
•	AFP0611-001-SD-001	11/16/17	1355	N	SE	1						
•	AFP0612-001-SW-001	11/16/17	1440	N	WS	2						
•	AFP0612-001-SD-001	11/16/17	1440	N	SE	1						

Total # of Containers: 17

RELINQUISHED BY:
Signature:
Date/Time: 11/17/17 1700
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY: KenRozzelloPPO
Signature:
Date/Time: 2017/11/18 14:43
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRDA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	6:2FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	8:2FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

Custody seal present & intact

AerostarSES AIR

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

475

Page 1 of 5

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AF Plant 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): Franklin Johnson, Ash Willis, Jeremy Meshew

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

22-Nov-17 14:34
Stephanie Pollen
B7Q3711
J_L ENV-810 , 1331

WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)	ANALYSIS	NOTES
·	AFP06-RS-005	11·18·17	0847	EB	MQ	2		Associated with following sample → off tubing.
·	AFP0607-002-GW-020	11·18·17	0904	N	WG	2		
·	AFP0607-001-GW-011	11·18·17	0955	N	WG	2		
·	AFP0607-001-GW-011 MS	11·18·17	0955	N	WG	2		
·	AFP0607-001-GW-011/MSD	11·18·17	0955	N	WG	2		
·	AFP0607-003-GW-046	11·18·17	1022	N	WG	2		
·	AFP0609-002-SW-001	11·18·17	1130	N	WS	2		
·	AFP0609-002-SD-001	11·18·17	1130	N	SE	1		
·	AFP0613-001-SW-001	11·18·17	1240	N	WS	2		
·	AFP0613-001-SD-001	11·18·17	1240	N	SE	1		
·	AFP0610-005-SW-001	11·18·17	1410	N	WS	2		
·	AFP0610-005-SD-001	11·18·17	1410	N	SE	1		
·	AFP0610-005-SW-901	11·18·17	1410	FD	WS	2		
·	AFP0610-005-SD-901	11·18·17	1410	FD	SE	1		
·	AFP0603-002-SW-001	11·19·17	0932	N	WS	2		
					Total # of Containers	26		

RELINQUISHED BY:
Signature:
Date/Time: 11/21/17 1700
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY:
Signature: Guerrettre
Date/Time: 2017/11/22 14:37
Printed Name:
Firm: 3.3 | 3.0 | 2.1
3.3 | 3.0 | 2.9
Signature:
Date/Time: 2.1 | 3.2 | 5.0
Printed Name:
Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
Perfluorononanoic acid	PFNA
[illegible]	[illegible]
Perfluoroheptanoic acid	PFHPA
[illegible]	[illegible]
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDOA
[illegible]	[illegible]

CAS	Contaminant	EXPIRES PAR CODE	CAS

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Custody Seal Intact

393466

AerostarSESLLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/
Analysis Request Number:

474
Page 2 of 5

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)
Installation: AF PLANT 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s):
A. Willis, F. Johnson

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)	NOTES
•	AFP0609-MW23-GW-027	11/18/17	1212	N	WG	2	
•	~~AFP06~~ AFP0610-001-GW-014	11/18/17	1310	N	WG	2	
•	AFP0610-003-GW-014	11/18/17	1348	N	WG	2	
•	AFP0610-003-GW-914	11/18/17	1348	FD	WG	2	
•	AFP0610-004-GW-014	11/18/17	1428	N	WG	2	
•	AFP0610-002-GW-014	11/18/17	1506	N	WG	2	
•	~~AFP06~~ AFP06-RS-006	11/19/17	0945	EB	WQ	2	
•	AFP0603-PMW10-GW-024	11/19/17	1040	N	WG	2	
	~~AFP0609 AF~~						
•	AFP0609-MW25-GW-038	11/19/17	1132	N	WG	2	
•	AFP0609-MW24-GW-43.5	11/19/17	1230	N	WG	2	
•	AFP0604-003-GW-035	11/19/17	1348	N	WG	2	
•	AFP0602-003-GW-015	11/21/17	0908	N	WG	6	MS/MSD
•	AFP06-RS-007	11/21/17	0945	EB	WQ	2	taken through PP testing associated w/ AFP0602-001-GW-020
•	AFP0602-001-GW-020	11/21/17	1025	N	WG	2	
					Total # of Containers	32	

RELINQUISHED BY:
Signature:
Date/Time: 11/21/17 1800
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY:
Signature: GP GUMPRICL
Date/Time: 14:34
3.2/3.0/21
Printed Name:
Firm: 2.3/3.0/2.9
Signature:
Date/Time: 2.1/3.2/5.0
Printed Name:
Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	6:2FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	8:2FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

Cups [illegible]

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

470

Page 3 of 5

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AFP 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): Franklin Johnson, Ash Willis

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)	ANALYSIS	NOTES
•	AFP0604-001-GW-035	11/21/2017	1342	N	WG	2		
•	AFP0604-002-GW-030	11/21/2017	1448	N	WG	2		
•	AFP0604-002-GW-930	11/21/2017	1448	FD	WG	2		
•	AFP0601-005-SS-001	11/21/2017	1430	N	SO	1		
•	AFP0601-004-SS-001	11/21/2017	1408	N	SO	1		
•	AFP0601-004-SS-901	11/21/2017	1408	FD	SO	1		
•	AFP0605-001-SD-001	11/21/2017	1540	N	S~~O~~E	3		Normal and MS/MSD
•	AFP0605-001-SW-001	11/21/2017	1540	N	WS	~~3~~6		Normal and MS/MSD
•	AFP0608-004-SS-001	11/21/2017	1630	N	SO	1		

Total # of Containers: 19

RELINQUISHED BY:
Signature:
Date/Time: 11/21/17 1800
Printed Name:
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY:
Signature: GP Gurenke
Date/Time: 14:34 2017/11/22
Printed Name:
Firm: 3.8|3.0|2.1
Signature:
Date/Time: 3.1|3.0|2.7
Printed Name:
Firm: 2.1|3.8|5.0

[illegible]

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	62FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	82FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

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1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

Page 4 of 5 469

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)
Installation: AFP 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): Franklin Johnson, Ash Willis

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

ANALYSIS

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)	NOTES
·	AFP0602-003-SS-001	11/20/2017	0920	N	SO	1	
·	AFP0602-003-SO-014	11/20/2017	0942	N	SO	1	
·	AFP0602-001-SS-001	11/20/2017	1015	N	SO	1	
·	AFP0602-001-SO-020	11/20/2017	1040	N	SO	1	
·	AFP0602-002-SS-001	11/20/2017	1125	N	SO	1	
·	AFP0602-002-SO-029	11/20/2017	1220	N	SO	1	
·	AFP0604-001-SS-001	11/20/2017	1400	N	SO	1	
·	AFP06-RS-007	11/20/2017	1405	EB	WQ	2	Spoon rinsate, following sample ↓
·	AFP0604-001-SO-036	11/20/2017	1435	N	SO	1	
·	AFP0604-002-SS-001	11/20/2017	1500	N	SO	1	
·	AFP0604-002-SS-901	11/20/2017	1506	FD	SO	1	
·	AFP0604-002-SO-029	11/20/2017	1530	N	SO	1	
·	AFP0604-002-SO-929	11/20/2017	1530	FD	SO	1	
·	AFP0602-002-GW-025	11/21/2017	1115	N	WG	2	
·	AFP0602-004-SS-001	11/21/2017	1142	N	SO	1	
					Total # of Containers	17	

RELINQUISHED BY:
Signature: Date/Time:
Printed Name: Firm: 11/21/17 1800
Signature: Date/Time:
Printed Name: Firm:

RECEIVED BY:
Signature: Guerrero Date/Time: 14:34 3.8 | 3.0 | 2.1
Printed Name: Firm: 2 3 | 3.0 | 2.9
Signature: Date/Time: 2.1 | 3.8 | 5.0
Printed Name: Firm:

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	62FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	82FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

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1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

476

Page 5 of 5

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AFPlant 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7004

Sampler(s): Jeremy Moshtw

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)						NOTES
·	AFP0603-002-SD-001	11·19·17	0932	N	SE	1						
·	AFP0607-D04-SW-001	11·19·17	1018	N	WS	2						
·	AFP0607-004-SD-001	11·19·17	1018	N	SW	1						

Total # of Containers 4

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

RELINQUISHED BY:
Signature: Date/Time: 11/21/17 1800
Printed Name: Firm:
Signature: Date/Time:
Printed Name: Firm:

RECEIVED BY:
Signature: GR Gurpreic Date/Time: 14:34
3.8|2.0|2.1
Printed Name: Firm: 3.3|2.0|2.9
Signature: Date/Time: 21|37|50
Printed Name: Firm:

Cust od Seal int

Analyte List:

ANALYTE	ERPIMS PAR CODE	CAS	Contaminant	ERPIMS PAR CODE	CAS
Perfluorooctanesulfonic acid	PFOS	1763-23-1	Perfluorotetradecanoic acid	PFTEA	376-06-7
Perfluorooctanoic acid	PFOA	335-67-1	Perfluorotridecanoic acid	PFTRIA	72629-94-8
Perfluorononanoic acid	PFNA	375-95-1	Perfluoroundecanoic acid	PFUNA	2058-94-8
Perfluorohexanesulfonic acid	PFHXSA	355-46-4	6:2 Fluorotelomer sulfonate	6:2FTS	27619-97-2
Perfluoroheptanoic acid	PFHPA	375-85-9	8:2 Fluorotelomer sulfonate	8:2FTS	39108-34-4
Perfluorobutanesulfonic acid	PFBSA	375-73-5	Perfluorobutanoic acid	PFBA	375-22-4
Perfluorodecanoic acid	PFDA	335-76-2	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluorododecanoic acid	PFDOA	307-55-1	Perfluorooctane sulfonamide	FOSA	754-91-6
Perfluorohexanoic acid	PFHXA	307-24-4	Perfluoropentanoic Acid	PFPA	2706-90-3

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

455

Page 1 of 1

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AF PLANT 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 287-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): A.Willis

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225
Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 15 analytes below)
	AFP0602-005-SD-001	11/29/17	1355	N	SE	1
	AFP0602-005-SW-001	11/29/17	1355	N	WS	2

Total # of Containers: 3

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

02-Dec-17 13:25
Stephanie Pollen
B7R2779
TLI env-1301

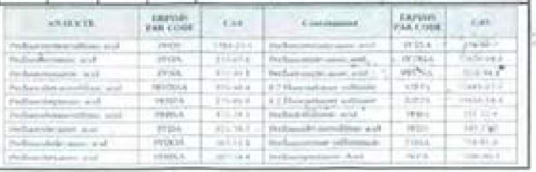
3.1/4.3/5.1
4.4/5.0/4.7

RELINQUISHED BY:
Signature: Date/Time:
Printed Name: Firm:
Signature: Date/Time:
Printed Name: Firm:

RECEIVED BY:
Signature: Ritu Goyal Date/Time: 2017/12/02 13.25
Printed Name: RITUGOYAL Firm:
Signature: Date/Time:
Printed Name: Firm:

custody seal present

Analyte List:



Page 1 of 1

AerostarSES LLC

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

451

Page 1 of 1

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AFPLANT6

Aerostar Project Manager: Send Data to: Brian Odom, BOdom@specproenv.com (478) 397-4906; Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): A. Willis, J. Meshew

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia

Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

Sample Types:
- N = Normal
- FD = Field Duplicate
- AB = Ambient Blank or Field Reagent Blank
- EB = Equipment Rinsate

Matrix:
- WG = Groundwater
- SO = Soil
- WP = Potable Water
- SE = Sediment
- WS = Surface Water
- WQ = Field QC (AB, EB)

06-Dec-17 14:51
Stephanie Pollen
B7R6307
ENV-1103
TLI

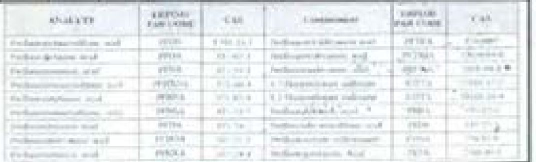
MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)	NOTES
	~~D0~~AFP0606-003-SS-001	12/04/17	1332	N	SO	1	
	AFP06-RS-A01	12/04/17	1345	EB	WQ	2	Taken from spot associated w/ AFP0606-003-SO-027
	AFP0606-003-SO-027	12/04/17	1355	N	SO	1	
	AFP0606-002-SS-001	12/04/17	1420	N	SO	1	
	~~AFP0606-003-GW-027~~	~~12/04/17~~	~~1425~~	~~N~~	~~WG~~	~~2~~	~~GRAB~~
	AFP0606-004-SO-001	12/04/17	1515	N	SE	1	
	AFP0606-004-SW-001	12/04/17	1515	N	WS	2	
	AFP0606-004-SO-901	12/04/17	1515	FD	SE	1	
	AFP0606-004-SW-901	12/04/17	1515	FD	WS	2	
	AFP0606-002-SO-024	12/04/17	1515	N	SO	1	
	~~AFP0606-002-GW-023~~	~~12/04/17~~	~~1600~~	~~N~~	~~WG~~	~~2~~	~~GRAB~~
	AFP0606-001-SS-001	12/04/17	1540	N	SO	1	
	AFP0606-001-SS-901	12/04/17	1540	FD	SO	1	
	AFP0606-001-SO-020	12/04/17	1610	N	SO	1	
	AFP0606-001-SO-920	12/04/17	1610	FD	SO	1	5.0/3.8/4.8 4.2/2.3/5.5
					Total # of Containers	16	

International Solid Sample. Heat Treat Required
High Risk material
Controlled Storage and Disposal

RELINQUISHED BY:
Signature: Date/Time: 12/5/17 1900
Printed Name: Ash Willis Firm: ASL
Signature: Date/Time:
Printed Name: Firm:

RECEIVED BY:
Signature: Parjeet Date/Time: 2017/12/06 14:51
Printed Name: PARAMJEET. Singh Firm:
Signature: Date/Time:
Printed Name: Firm:

Analyte List:



Custody seal Present

Page 1 of 1

AerostarSES

1006 Floyd Culler Court
Oak Ridge, TN 37830
865-481-7837

Chain of Custody Record/ Analysis Request Number:

465

Page 1 of 1

Project Name: Site Inspections of Fire Fighting Foam Usage at Various Air Force Bases in the Eastern United States

Job No.: M2032.0001 (Savannah)

Installation: AFPLANT 6

Aerostar Project Manager: Brian Odom, BOdom@specproenv.com (478) 397-4906
Send Data to: Jenny Vance, jvance@aerostar.net (865) 483-7904

Sampler(s): A. Willit

Laboratory Name/Address:
Maxxam Analytics, Inc
6740 Campobello Rd.
Mississauga, Ontario
L5N2L8

Laboratory Shipping Address:
Maxxam Analytics
c/o FedEx Depot
299 Cayuga Rd.
Cheektowaga, NY 14225

Please indicate "HOLD FOR PICKUP"

Contact: Melissa DiGrazia
Phone: (905) 817-5700, ext. 5784
email: MDiGrazia@maxxam.ca

ANALYSIS

Sample Types:
N = Normal
FD = Field Duplicate
AB = Ambient Blank or Field Reagent Blank
EB = Equipment Rinsate

Matrix:
WG = Groundwater
SO = Soil
WP = Potable Water
SE = Sediment
WS = Surface Water
WQ = Field QC (AB, EB)

MAXXAM use only	Sample ID	Date Collected	Time Collected	Sample Type	Matrix	PFAS (see list of 18 analytes below)						NOTES
	AFP0606-002-GW-029	12/12/17	1632	N	WG	2						
	AFP0606-003-GW-026	12/12/17	1556	N	WG	2						
	AFP06-RS-A02	12/12/17	1540	EB	WQ	2						all 3 tubing associated w/ AFP0606-003-GW-026
	AFP06-RS-A03	12/13/17	1300	EB	WQ	2						[illegible] tubing associated w/ AFP0606-001-GW-026
	AFP0606-001-GW-026	12/13/17	1340	N	WG	2						
	AFP0606-001-GW-926	12/13/17	1340	FD	WG	2						

Total # of Containers 12

15-Dec-17 14:34
Stephanie Pollen
B7S5224
MAF ENV-1183

RELINQUISHED BY:
Signature:
Date/Time: 12/14/17 2000
Printed Name: A. Willit
Firm: ASC
Signature:
Date/Time:
Printed Name:
Firm:

RECEIVED BY:
Signature:
Date/Time: 2017/12/15 14:31
Printed Name: Pardeep K Reenu
Firm:
Signature:
Date/Time:
Printed Name:
Firm:

Analyte List

ANALYTE	[illegible]	CAS	[illegible]	[illegible]	CAS
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Maxxam Job: B7Q0389 – Soil Analysis

Sample Analysis

Soil extracts were initially pre-screened and estimated concentrations were obtained so that samples could be appropriately diluted for analysis on QC batches 5292083 (2017/12/06-07), 5292108 (2017/12/06), 5292856 (2017/12/06-07) and 5293134 (2017/12/06-07). Due to high concentrations, dilutions were required for selected analytes in the following samples:

FOW098	*AFP0607-002-SO-010*	*Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
FOW100	*AFP0610-003-SS-001*	*Perfluorooctanesulfonate (PFOS)*
FOW101	*AFP0610-003-SS-901*	*Perfluorooctanesulfonate (PFOS)*
FOW106	*AFP0610-002-SS-001*	*Perfluorooctanesulfonate (PFOS)*
FOW117	*AFP0608-003-SS-001*	*Perfluorooctanesulfonate (PFOS)*
FOW119	*AFP0608-001-SS-001*	*Perfluorooctanesulfonate (PFOS)*
FOW130	*AFP0604-003-SS-001*	*Perfluorooctanesulfonate (PFOS)*

Detection limits were adjusted accordingly.

The recovery observed for Perfluorobutanoic acid (PFBA) in the Spike (LCS) exceeded acceptance criteria on QC batches 5292083 (2017/12/06-07) and 5292108 (2017/12/06). Samples were re-extracted and re-analyzed for this analyte on QC batches 5305958 (2017/12/12-13) and 5306464 (2017/12/11/12) respectively. Low extracted internal standard analyte recoveries were observed for sample FOW104 *(AFP0610-004-SS-001)* on QC batch 5305958 (2017/12/12-13), indicating possible extraction issues. This sample was further re-extracted and re-analyzed on QC batch 5314067 (2017/12/15) for Perfluorobutanoic acid (PFBA).

Extracted Internal Standard Analytes

The extracted internal standard analytes $^{13}C_4$-Perfluorobutanoic acid ($^{13}C_4$-PFBA), $^{13}C_5$-Perfluoropentanoic acid ($^{13}C_5$-PFPeA), $^{13}C_2$-Perfluorohexanoic acid ($^{13}C_2$-PFHxA), $^{13}C_4$-Perfluorooctanoic acid ($^{13}C_4$-PFOA), $^{13}C_4$-Perfluorooctanesulfonate ($^{13}C_4$-PFOS), $^{13}C_5$-Perfluorononanoic acid $^{13}C_5$-PFNA), $^{13}C_2$-Perfluorodecanoic acid ($^{13}C_2$-PFDA), $^{13}C_2$-Perfluoroundecanoic acid ($^{13}C_2$-PFUnA), $^{13}C_2$-Perfluorododecanoic acid ($^{13}C_2$-PFDoA), $^{13}C_2$-Perfluorotetradecanoic acid ($^{13}C_2$-PFTeDA) and $^{13}C_2$-8:2 Fluorotelomersulfonate ($^{13}C_2$-8:2FTS) are used to quantify native Perfluorobutanoic acid (PFBA), Perfluoropentanoic acid (PFPeA), Perfluorohexanoic acid (PFHxA), Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonate (PFOS), Perfluorononanoic acid (PFNA), Perfluorodecanoic acid (PFDA) & Perfluorodecanesulfonate (PFDS), Perfluoroundecanoic acid (PFUnA), Perfluorododecanoic acid (PFDoA), Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA) and 8:2 Fluorotelomersulfonate (8:2FTS) respectively. The recoveries observed for selected extracted internal standard analytes were below the defined lower control limit (LCL) for the following samples:

FOW098	*AFP0607-002-SO-010*	*($^{13}C_2$-PFTeDA)*
FOW100	*AFP0610-003-SS-001*	*($^{13}C_2$-PFTeDA)*
FOW106	*AFP0610-002-SS-001*	*($^{13}C_2$-PFTeDA)*
FOW112	*AFP0603-001-SO-047*	*($^{13}C_2$-PFTeDA)*
FOW116	*AFP0608-002-SO-032*	*($^{13}C_4$-PFBA, $^{13}C_5$-PFPeA, $^{13}C_2$-PFHxA, $^{13}C_4$-PFOA, $^{13}C_4$-PFOS, $^{13}C_5$-PFNA, $^{13}C_2$-PFDA, $^{13}C_2$-PFUnA, $^{13}C_2$-PFDoA, $^{13}C_2$-PFTeDA, $^{13}C_2$-8:2FTS)*
FOW118	*AFP0608-003-SO-040*	*($^{13}C_2$-PFTeDA)*
FOW124	*AFP0607-001-SS-001*	*($^{13}C_2$-PFUnA, $^{13}C_2$-PFDoA, $^{13}C_2$-PFTeDA)*
FOW131	*AFP0604-003-SO-036*	*($^{13}C_2$-PFTeDA)*

Samples FOW124 *(AFP0607-001-SS-001)* and FOW131 *(AFP0604-003-SO-036)* were re-extracted and re-analyzed for the associated native analytes on QC batch 5306415 (2017/12/11-12). Acceptable extracted internal standard analyte recoveries were obtained for sample FOW124 *(AFP0607-001-SS-001)*. Results for all other samples were reported from diluted extracts where acceptable extracted internal standard analyte recoveries were obtained. Detection limits were adjusted accordingly.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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Maxxam Job: B7Q0389 – Water Analysis

Sample Analysis

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batches 5284715 (2017/11/28), 5288370 (2017/11/29), 5289709 (2017/12/01) and 5292125 (2017/12/05). Due to high concentrations, the following samples were analyzed for selected analytes using reduced sample extraction volumes:

FOW136	*AFP0608-003-GW-040*	*Perfluorohexanoic acid (PFHxA), Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
FOW141	*AFP0612-001-SW-001*	*Perfluorohexanesulfonate (PFHxS)*

Detection limits were adjusted accordingly for these analytes.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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PROJECT NARRATIVE

Maxxam Analytics
Client Project #: M2032.0001 (SAVANNAH)

Client: Aerostar SES LLC
Client Project: M2032.0001 (SAVANNAH)

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in soil by SPE/LCMS						
FOW096	AFP0607-001-SO-007	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW097	AFP0607-002-SS-001	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW098	AFP0607-002-SO-010	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW099	AFP0601-001-SS-001	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06 & 2017/12/11-12
FOW100	AFP0610-003-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW101	AFP0610-003-SS-901	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW102	AFP0610-003-SO-015	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW103	AFP0610-003-SO-915	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW104	AFP0610-004-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/15
FOW105	AFP0610-004-SO-016	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW106	AFP0610-002-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW108	AFP0610-002-SO-015	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW109	AFP0610-001-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW110	AFP0610-001-SO-014	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW111	AFP0603-001-SS-001	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW112	AFP0603-001-SO-047	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW114	AFP0608-002-SS-001	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW116	AFP0608-002-SO-032	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW117	AFP0608-003-SS-001	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW118	AFP0608-003-SO-040	2017/11/13	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW119	AFP0608-001-SS-001	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07 & 2017/12/12-13
FOW120	AFP0608-001-SO-035	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07
FOW121	AFP0607-003-SS-001	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07
FOW123	AFP0607-003-SO-047	2017/11/14	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07
FOW124	AFP0607-001-SS-001	2017/11/14	2017/11/18	2017/11/30	2017/12/08	2017/12/06-07
FOW125	AFP0601-003-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07
FOW126	AFP0601-001-SO-019	2017/11/15	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW127	AFP0601-003-SO-019	2017/11/15	2017/11/18	2017/11/30	2017/12/06	2017/12/06-07
FOW128	AFP0601-002-SS-001	2017/11/15	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW129	AFP0601-002-SO-025	2017/11/15	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW130	AFP0604-003-SS-001	2017/11/16	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW131	AFP0604-003-SO-036	2017/11/16	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW137	AFP0609-001-SD-001	2017/11/16	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW140	AFP0611-001-SD-001	2017/11/16	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
FOW142	AFP0612-001-SD-001	2017/11/16	2017/11/18	2017/11/30	2017/12/07	2017/12/06-07
PFOS and PFOA in water by SPE/LCMS						
FOW107	AFP06-RS-003	2017/11/15	2017/11/18	2017/11/29	2017/12/01	2017/12/01
FOW113	AFP06-SB-001	2017/11/13	2017/11/18	2017/11/25	2017/11/28	2017/11/28
FOW115	AFP06-RS-001	2017/11/13	2017/11/18	2017/11/25	2017/11/28	2017/11/28
FOW122	AFP06-RS-002	2017/11/14	2017/11/18	2017/11/28	2017/11/29	2017/11/29
FOW132	AFP06-RS-004	2017/11/16	2017/11/18	2017/11/30	2017/12/05	2017/12/05
FOW133	AFP0603-001-GW-045	2017/11/15	2017/11/18	2017/11/29	2017/12/01	2017/12/01
FOW134	AFP0608-002-GW-035	2017/11/15	2017/11/18	2017/11/29	2017/12/01	2017/12/01
FOW135	AFP0608-001-GW-042	2017/11/15	2017/11/18	2017/11/29	2017/12/01	2017/12/01
FOW136	AFP0608-003-GW-040	2017/11/15	2017/11/18	2017/11/29	2017/12/01	2017/12/01
FOW138	AFP0609-001-SW-001	2017/11/16	2017/11/18	2017/11/30	2017/12/05	2017/12/05
FOW139	AFP0611-001-SW-001	2017/11/16	2017/11/18	2017/11/30	2017/12/05	2017/12/05
FOW141	AFP0612-001-SW-001	2017/11/16	2017/11/18	2017/11/30	2017/12/05	2017/12/05

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: Samples were received with temperature less than 10 degrees Celsius. Cooler custody seals were present and intact.

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Faller

Project Manager- Site Assessment
and Remediation/Ultra Trace

2017/12/20

Date

1.0 Project Narrative

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Maxxam Job: B7Q3711 – Soil Analysis

Sample Analysis

Soil extracts were initially pre-screened and estimated concentrations were obtained so samples could be appropriately diluted for analysis on QC batches 5294397 (2017/12/18) and 5297797 (2017/12/17-18). Due to high concentrations, dilutions were required for selected analytes in the following samples:

FPM608	*AFP0608-004-SS-001*	*Perfluorooctanesulfonate (PFOS)*
FPM609	*AFP0602-003-SS3001*	*Perfluorooctanesulfonate (PFOS)*
FPM611	*AFP0602-001-SS-001*	*All analytes*
FPM612	*AFP0602-001-SO-020*	*6:2 Fluorotelomersulfonate (6:2FTS)*
FPM613	*AFP0602-002-SS-001*	*Perfluorooctanesulfonate (PFOS), 6:2 Fluorotelomersulfonate (6:2FTS)*
FPX420	*AFP0604-002-SS-001*	*Perfluorooctanesulfonate (PFOS), Perfluorooctane sulfonamide (PFOSA), 8:2 Fluorotelomersulfonate (8:2FTS)*
FPX421	*AFP0604-002-SS-901*	*Perfluorooctanesulfonate (PFOS), Perfluorooctane sulfonamide (PFOSA), 8:2 Fluorotelomersulfonate (8:2FTS)*
FPX422	*AFP0602-004-SS-001*	*All analytes*

Detection limits were adjusted accordingly.

Due to a typographical error, the following 100x diluted samples were entered in the analytical sequence as 10x diluted samples on QC batch 5297797 (2017/12/17-18):

FPM613	*AFP0602-002-SS-001*
FPX420	*AFP0604-002-SS-001*
FPX421	*AFP0604-002-SS-901*

The correct dilution factors (100x) were applied during data processing. There is no impact on data quality.

QC Samples

Peak areas of injection internal standard analytes were above the upper control limit for the Matrix Spike on QC batch 5297797 (2017/12/17-18). Visual inspection of the sample vial resulted in observable evaporation of the sample extract. Because quantitation is performed using isotope dilution and internal standard methods, any apparent gains of the analyte that may occur during sample evaporation will be mirrored by a similar gain of the internal standard, and as such can be accounted for and corrected. Therefore, the quantification of target and extracted internal standard analytes is not affected by the high injection internal standard analyte peak areas.

Extracted Internal Standard Analytes

The extracted internal standard analyte $^{13}C_2$-Perfluorotetradecanoic acid ($^{13}C_2$-PFTeDA) is used to quantify native Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA). The recovery observed for this extracted internal standard analyte was below the defined lower control limit (LCL) for the following sample on QC batch 5297797 (2017/12/17-18):

FPX423	*AFP0607-004-SD-001*

The low extracted internal standard analyte recovery was confirmed by re-extraction and re-analysis of the sample on QC batch 5322553 (2017/12/22-28), past the method defined hold time. Because of their chemical structures, per- and polyfluorinated alkyl substances (PFAS) are chemically and biologically stable in the environment and resist typical environmental degradation processes. This would suggest the hold time exceedance would not have a significant impact on the data quality. Results for Perfluorotridecanoic acid (PFTrDA) and Perfluorotetradecanoic acid

(PFTeDA) were reported from a 10x diluted sample where acceptable recovery was obtained for the associated extracted internal standard analyte.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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Maxxam Job: B7Q3711 – Water Analysis

Sample Analysis

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batches 5296365 (2017/12/15), 5296632 (2017/12/13-15), 5296740 (2017/12/16), 5297027 (2017/12/12), 5298993 (2017/12/17) and 5300213 (2017/12/17). Due to high concentrations, the following samples were analyzed for selected analytes using reduced sample extraction volumes:

FPM589	*AFP0609-MW23-GW-027*	*Perfluorohexanesulfonate (PFHxS)*
FPM591	*AFP0610-001-GW-014*	*Perfluorooctanesulfonate (PFOS)*
FPM592	*AFP0610-004-GW-014*	*Perfluorohexanesulfonate (PFHxS)*
FPM594	*AFP0610-002-GW-014*	*Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
FPM596	*AFP0609-MW25-GW-038*	*Perfluorohexanesulfonate (PFHxS)*
FPM597	*AFP0609-MW24-GW-43.5*	*Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
FPM598	*AFP0604-003-GW-035*	*Perfluorooctanesulfonate (PFOS)*
FPM599	*AFP0602-003-GW-015*	*All analytes*
FPM601	*AFP0602-001-GW-020*	*All analytes*
FPM619	*AFP0602-002-GW-025*	*All analytes*
FPX388	*AFP0607-002-GW-020*	*Perfluoropentanoic acid (PFPeA)*
FPX414	*AFP0610-003-GW-014*	*Perfluorooctanesulfonate (PFOS)*
FPX415	*AFP0610-003-GW-914*	*Perfluorooctanesulfonate (PFOS)*
FPX417	*AFP0604-002-GW-030*	*All analytes*
FPX418	*AFP0604-002-GW-930*	*All analytes*

Sample FPM601 *(AFP0602-001-GW-020)* was also analyzed for Perfluorohexanesulfonate (PFHxS) and 6:2 Fluorotelomersulfonate (6:2FTS) by high level analysis with serial dilutions on QC batch 5299868 (2017/12/19). Detection limits were adjusted accordingly.

Due to a typographical error, incorrect sample vials were initially injected for the following sample on QC batch 5297027 (2017/12/12):

FPM619	*AFP0602-002-GW-025*

The correct sample vials were subsequently injected. There is no impact on data quality.

The following samples were initially analyzed on QC batch 5298993 (2017/12/17):

FPM601	*AFP0602-001-GW-020*	*For all analytes except Perfluorohexanesulfonate (PFHxS) and 6:2 Fluorotelomersulfonate (6:2FTS)*
FPM607	*AFP0605-001-SW-001*	
FPX417	*AFP0604-002-GW-030*	
FPX418	*AFP0604-002-GW-930*	

This batch failed to meet QC acceptance criteria due to lab error (extracted internal standard analytes were not added to the Matrix Spike). Samples were re-extracted and re-analyzed on QC batch 5322239 (2017/12/21), past the method defined hold time. Because of their chemical structures, per- and polyfluorinated alkyl substances (PFAS) are chemically and biologically stable in the environment and resist typical environmental degradation processes. This would suggest the hold time exceedance would not have a significant impact on the data quality. In the batch sequence, sample FPM607 *(AFP0605-001-SW-001)* was analyzed immediately after sample FPM601 *(AFP0602-001-*

GW-020), which contained concentrations of Perfluorohexanesulfonate (PFHxS) and 6:2 Fluorotelomersulfonate (6:2FTS) above the upper limit of quantitation (ULQ). Although an instrument blank (IB) was not analyzed between these samples, sample FPM607 *(AFP0605-001-SW-001)* was not found to contain these specific analytes above the method detection limits (MDLs), indicating that there was no significant carryover from FPM601 *(AFP0602-001-GW-020)*.

QC Samples

Matrix Spike and Matrix Spike Duplicate (MS/MSD) was required on sample FPM599 *(AFP0602-003-GW-015)* on QC batch 5300213 (2017/12/17). Due to high concentrations of target analytes in the native sample, a Matrix Duplicate (MD) was analyzed instead.

Extracted Internal Standard Analytes

The extracted internal standard $^{13}C_2$-Perfluorotetradecanoic acid ($^{13}C_2$-PFTeDA) is used to quantify native Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA). The recoveries observed for this extracted internal standard analyte were below the defined lower control limit (LCL) for the following samples:

FPM599	*AFP0602-003-GW-015*	*(QC Batch 5300213, 2017/12/17)*
FPX388	*AFP0607-002-GW-020*	*(QC Batch 5296740, 2017/12/16)*

Results for the associated native analytes for sample FPX388 *(AFP0607-002-GW-020)* were reported from the 10x reduced volume extract where acceptable extracted internal standard recovery was obtained. Sample FPM599 *(AFP0602-003-GW-015)* was re-extracted and re-analyzed on QC batch 5322292 (2017/12/21) past the method defined hold time. Because of their chemical structures, per- and polyfluorinated alkyl substances (PFAS) are chemically and biologically stable in the environment and resist typical environmental degradation processes. This would suggest the hold time exceedance would not have a significant impact on the data quality. Acceptable extracted internal standard analyte recovery was obtained upon re-analysis.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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PROJECT NARRATIVE

Maxxam Analytics
Client Project #: M2032.0001 (SAVANNAH)

Client: Aerostar SES LLC
Client Project: M2032.0001 (SAVANNAH)

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in soil by SPE/LCMS						
FPM580	AFP0609-002-SD-001	2017/11/18	2017/11/22	2017/12/01	2017/12/18	2017/12/18
FPM582	AFP0613-001-SD-001	2017/11/18	2017/11/22	2017/12/01	2017/12/18	2017/12/18
FPM603	AFP0601-005-SS-001	2017/11/21	2017/11/22	2017/12/01	2017/12/18	2017/12/18
FPM604	AFP0601-004-SS-001	2017/11/21	2017/11/22	2017/12/01	2017/12/18	2017/12/18
FPM605	AFP0601-004-SS-901	2017/11/21	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM606	AFP0605-001-SD-001	2017/11/21	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM608	AFP0608-004-SS-001	2017/11/21	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM609	AFP0602-003-SS-001	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM610	AFP0602-003-SO-014	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM611	AFP0602-001-SS-001	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM612	AFP0602-001-SO-020	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM613	AFP0602-002-SS-001	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM614	AFP0602-002-SO-029	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM615	AFP0604-001-SS-001	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM617	AFP0604-002-SO-029	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM618	AFP0604-002-SO-929	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPM620	AFP0603-002-SD-001	2017/11/19	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX401	AFP0610-005-SD-001	2017/11/18	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX403	AFP0610-005-SD-901	2017/11/18	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX419	AFP0604-001-SO-036	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX420	AFP0604-002-SS-001	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX421	AFP0604-002-SS-901	2017/11/20	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX422	AFP0602-004-SS-001	2017/11/21	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
FPX423	AFP0607-004-SD-001	2017/11/19	2017/11/22	2017/12/04	2017/12/17	2017/12/17-18
PFOS and PFOA in water by SPE/LCMS						
FPM577	AFP06-RS-005	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM578	AFP0607-001-GW-011	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM579	AFP0609-002-SW-001	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM581	AFP0613-001-SW-001	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM583	AFP0610-005-SW-001	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM585	AFP0610-005-SW-901	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM587	AFP0603-002-SW-001	2017/11/19	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM589	AFP0609-MW23-GW-027	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM591	AFP0610-001-GW-014	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM592	AFP0610-004-GW-014	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM594	AFP0610-002-GW-014	2017/11/18	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM595	AFP0603-PMW10-GW-074	2017/11/19	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM596	AFP0609-MW25-GW-038	2017/11/19	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM597	AFP0609-MW24-GW-43.5	2017/11/19	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM598	AFP0604-003-GW-035	2017/11/19	2017/11/22	2017/12/02	2017/12/13	2017/12/13-15
FPM599	AFP0602-003-GW-015	2017/11/21	2017/11/22	2017/12/05	2017/12/17	2017/12/17 & 2017/12/21
FPM599 Dup	AFP0602-003-GW-015	2017/11/21	2017/11/22	2017/12/05	2017/12/17	2017/12/17 & 2017/12/21
FPM600	AFP06-RS-008	2017/11/21	2017/11/22	2017/12/04	2017/12/12	2017/12/12
FPM601	AFP0602-001-GW-020	2017/11/21	2017/11/22	2017/12/05	2017/12/19	2017/12/17-21
FPM601 Dup	AFP0602-001-GW-020	2017/11/21	2017/11/22	2017/12/21	2017/12/19	2017/12/17-21
FPM602	AFP0604-001-GW-035	2017/11/21	2017/11/22	2017/12/04	2017/12/12	2017/12/12
FPM607	AFP0605-001-SW-001	2017/11/21	2017/11/22	2017/12/19	2017/12/21	2017/12/17 & 2017/12/21
FPM616	AFP06-RS-007	2017/11/20	2017/11/22	2017/12/04	2017/12/12	2017/12/12
FPM619	AFP0602-002-GW-025	2017/11/21	2017/11/22	2017/12/04	2017/12/12	2017/12/12
FPM621	AFP0607-004-SW-001	2017/11/19	2017/11/22	2017/12/02	2017/12/15	2017/12/15
FPX388	AFP0607-002-GW-020	2017/11/18	2017/11/22	2017/12/02	2017/12/16	2017/12/16
FPX389	AFP0607-003-GW-046	2017/11/18	2017/11/22	2017/12/02	2017/12/16	2017/12/16
FPX414	AFP0610-003-GW-014	2017/11/18	2017/11/22	2017/12/02	2017/12/16	2017/12/16
FPX415	AFP0610-003-GW-914	2017/11/18	2017/11/22	2017/12/02	2017/12/16	2017/12/16

FPX416	AFP06-RS-006	2017/11/19	2017/11/22	2017/12/02	2017/12/16	2017/12/16
FPX417	AFP0604-002-GW-030	2017/11/21	2017/11/22	2017/12/19	2017/12/21	2017/12/17 & 2017/12/21
FPX418	AFP0604-002-GW-930	2017/11/21	2017/11/22	2017/12/19	2017/12/21	2017/12/17 & 2017/12/21

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: Samples were received with temperatures less than 10 degrees Celsius. Cooler custody seals were present and intact.

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: Due to rework requirements, the following samples were analyzed past hold time: AFP0602-003-GW-015, AFP0602-001-GW-020, AFP0605-001-SW-001, AFP0604-002-GW-030, and AFP0604-002-GW-930.

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Project Manager- Site Assessment
and Remediation/Ultra Trace

2018/01/09
Date

1.0 Project Narrative

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www.maxxamanalytics.com

Maxxam Job: B7R2779 – Soil Analysis

Sample Analysis

The sample was analyzed on QC batch 5315415 (2017/12/21-22). No analytical difficulties were encountered.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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Maxxam Job: B7R2779 – Water Analysis

Sample Analysis

The sample was initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batch 5310642 (2017/12/18-19). Due to high concentrations, the sample was analyzed using reduced sample extraction volumes (2x and 20x). Detection limits were adjusted accordingly.

Due to a typographical error, these samples were entered in the analytical sequence as 1x and 10x extracts. The correct dilution factors (2x, 20x) were applied during data processing. There is no impact on data quality.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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PROJECT NARRATIVE

Maxxam Analytics
Client Project #: M2032.0001 (SAVANNAH)

Client: Aerostar SES LLC
Client Project: M2032.0001 (SAVANNAH)

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in soil by SPE/LCMS						
FRH317	AFP0602-005-SD-001	2017/11/29	2017/12/02	2017/12/14	2017/12/22	2017/12/21-22
PFOS and PFOA in water by SPE/LCMS						
FRH318	AFP0602-005-SW-001	2017/11/29	2017/12/02	2017/12/12	2017/12/18	2017/12/18-19

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: none encountered

c) Documentation Problems: Samples were received with temperatures less than 10 degrees Celsius. Cooler custody seal was present and intact.

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Faller
Project Manager- Site Assessment
and Remediation/Ultra Trace

2018/01/08
Date

1.0 Project Narrative

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Maxxam Job: B76307 – Soil Analysis

Sample Analysis

Soil samples were analyzed on QC batch 5321280 (2017/12/30-2018/01/03).

Extracted Internal Standard Analytes

The extracted internal standard analytes $^{13}C_4$-Perfluorobutanoic acid ($^{13}C_4$-PFBA), $^{13}C_2$-Perfluorohexanoic acid ($^{13}C_2$-PFHxA), $^{18}O_2$-Perfluorohexanesulfonate ($^{18}O_2$-PFHxS), $^{13}C_4$-Perfluoroheptanoic acid ($^{13}C_4$-PFHpA), $^{13}C_5$-Perfluorononanoic acid $^{13}C_5$-PFNA), $^{13}C_2$-Perfluorodecanoic acid ($^{13}C_2$-PFDA), $^{13}C_2$-Perfluoroundecanoic acid ($^{13}C_2$-PFUnA), $^{13}C_2$-Perfluorododecanoic acid ($^{13}C_2$-PFDoA), $^{13}C_2$-Perfluorotetradecanoic acid ($^{13}C_2$-PFTeDA), $^{13}C_2$-6:2 Fluorotelomersulfonate ($^{13}C_2$-6:2FTS) and $^{13}C_2$-8:2 Fluorotelomersulfonate ($^{13}C_2$-8:2FTS) are used to quantify native Perfluorobutanoic acid (PFBA), Perfluorohexanoic acid (PFHxA), Perfluorobutanesulfonate (PFBS) & Perfluorohexanesulfonate (PFHxS), Perfluoroheptanoic acid (PFHpA), Perfluorononanoic acid (PFNA), Perfluorodecanoic acid (PFDA) & Perfluorodecanesulfonate (PFDS), Perfluoroundecanoic acid (PFUnA), Perfluorododecanoic acid (PFDoA), Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA), 6:2 Fluorotelomersulfonate (6:2FTS) and 8:2 Fluorotelomersulfonate (8:2FTS) respectively. The recoveries observed for selected extracted internal standard analytes were below the defined lower control limit (LCL) for the following samples:

FRZ853	*AFP0606-002-SO-024*	*($^{13}C_4$-PFBA)*
FRZ856	*AFP0606-001-SO-020*	*($^{13}C_2$-PFUnA)*
FRZ857	*AFP0606-001-SO-920*	*($^{13}C_4$-PFBA, $^{13}C_2$-PFHxA, $^{18}O_2$-PFHxS, $^{13}C_4$-PFHpA, $^{13}C_5$-PFNA, $^{13}C_2$-PFDA, $^{13}C_2$-PFUnA, $^{13}C_2$-PFDoA, $^{13}C_2$-PFTeDA, $^{13}C_2$-6:2FTS, $^{13}C_2$-8:2FTS)*

Results for the associated native analytes were reported from 10x diluted extracts where acceptable extracted internal standard analyte recoveries were obtained.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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Maxxam Job: B7R6307 – Water Analysis

Sample Analysis

Water samples were analyzed on QC batch 5320438 (2018/01/04). No analytical difficulties were encountered.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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PROJECT NARRATIVE

Maxxam Analytics
Client Project #: M2032.0001 (SAVANNAH)

Client: Aerostar SES LLC
Client Project: M2032.0001 (SAVANNAH)

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in soil by SPE/LCMS						
FRZ845	AFP0606-003-SS-001	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ847	AFP0606-003-SO-027	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ848	AFP0606-002-SS-001	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ849	AFP0606-004-SD-001	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ851	AFP0606-004-SD-901	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ853	AFP0606-002-SO-024	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ854	AFP0606-001-SS-001	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ855	AFP0606-001-SS-901	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ856	AFP0606-001-SO-020	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
FRZ857	AFP0606-001-SO-920	2017/12/04	2017/12/06	2017/12/18	2017/12/30	2017/12/30-2018/01/03
PFOS and PFOA in water by SPE/LCMS						
FRZ846	AFP06-RS-A01	2017/12/04	2017/12/06	2017/12/18	2018/01/04	2018/01/04
FRZ850	AFP0606-004-SW-001	2017/12/04	2017/12/06	2017/12/18	2018/01/04	2018/01/04
FRZ852	AFP0606-004-SW-901	2017/12/04	2017/12/06	2017/12/18	2018/01/04	2018/01/04

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: Samples were received with temperature less than 10 degrees Celsius. Cooler custody seals were present and intact.

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Fuller
Project Manager- Site Assessment
and Remediation/ Ultra Trace

2018/01/16
Date

1.0 Project Narrative

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Maxxam Job: B7S5224

Sample Analysis

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batches 5329762 (2018/01/12) and 5332305 (2018/01/16). Due to high concentrations, the following sample was analyzed for Perfluorohexanesulfonate (PFHxS) and Perfluorooctanesulfonate (PFOS) using a reduced sample extraction volume:

FTU245 *AFP0606-003-GW-026*

Detection limits were adjusted accordingly for these analytes.

Extracted Internal Standard Analytes

The extracted internal standard analyte $^{13}C_2$-Perfluorotetradecanoic acid ($^{13}C_2$-PFTeDA) is used to quantify native Perfluorotridecanoic acid (PFTrDA) & Perfluorotetradecanoic acid (PFTeDA). The recovery observed for this extracted internal standard analyte was below the defined lower control limit (LCL) for the following sample on QC batch 5329762 (2018/01/12):

FTU244 *AFP0606-002-GW-029*

The sample was re-extracted and re-analyzed for the associated native analytes on QC batch 5352872 (2018/01/16), past the method defined hold time. Because of their chemical structures, per- and polyfluorinated alkyl substances (PFAS) are chemically and biologically stable in the environment and resist typical environmental degradation processes. This would suggest the hold time exceedance would not have a significant impact on the data quality. Acceptable extracted internal standard analyte recovery was obtained on re-analysis.

Quantitation of PFAS

Many PFAS (e.g. PFOS) have several isomeric forms that may show up as separate or partially-merged peaks in the analytical chromatograms. These peaks will be integrated and the areas summed such that the result represents the concentration of the sum of the linear and branched isomers, per USEPA (2009). Instrumentation is calibrated using certified quantitative standards containing only the linear isomer for all target analytes, except Perfluorooctane sulfonate (PFOS) and Perfluorohexane sulfonate (PFHxS), which are calibrated using certified branched and linear isomer mixtures. As additional certified reference materials containing branched and linear isomers become commercially available, they will be incorporated into the analytical method.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

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PROJECT NARRATIVE

Maxxam Analytics
Client Project #: M2032.0001 (SAVANNAH)

Client: Aerostar SES LLC
Client Project: M2032.0001 (SAVANNAH)

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in water by SPE/LCMS						
FTU244	AFP0606-002-GW-029	2017/12/12	2017/12/15	2017/12/22	2018/01/12	2018/01/12 & 2018/01/16
FTU245	AFP0606-003-GW-026	2017/12/12	2017/12/15	2017/12/22	2018/01/12	2018/01/12
FTU246	AFP06-RS-A02	2017/12/12	2017/12/15	2017/12/22	2018/01/12	2018/01/12
FTU247	AFP06-RS-A03	2017/12/13	2017/12/15	2017/12/27	2018/01/16	2018/01/16
FTU248	AFP0606-001-GW-026	2017/12/13	2017/12/15	2017/12/27	2018/01/16	2018/01/16
FTU249	AFP0606-001-GW-926	2017/12/13	2017/12/15	2017/12/27	2018/01/16	2018/01/16

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: Samples were received with temperature less than 10 degrees. Cooler custody seals were present and intact.

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: Due to rework requirements, sample "AFP0606-002-GW-029" was re-analyzed for PFTeDA and PFTrDA past hold time.

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Faller
Project Manager- Site Assessment
and Remediation/Ultra Trace

2018/01/26
Date

Appendix E

Physiochemical Sample Results

Table E-1 Physiochemical Sample Results

AFFF Area	Sample ID	Media	pH	TOC (mg/kg)	% Passing #4 Sieve	% Passing #200 Sieve	% Solids	USCS Classification
1	AFP0601-006-SS-001	SS	5.57	13,100	94.8	43.1	81.5	SM
1	AFP0601-006-SO-021	SO	5.12	70.3	90.4	19.0	88.2	SM
2	AFP0602-006-SS-001	SS	6.90	6,420	94.9	40.1	77.5	SM
2	AFP0602-006-SO-029	SO	5.45	8,750	100.0	25.2	73.9	SM
3	AFP0603-003-SS-001	SS	5.45	563	98.5	37.8	70.0	SM
3	AFP0603-003-SO-047	SO	5.37	57.2	99.5	29.0	63.3	SM
4	AFP0604-004-SS-001	SS	8.23	334	95.6	25.4	74.1	SM
4	AFP0604-004-SO-036	SO	5.39	618	96.8	25.1	68.4	SM
6	AFP0606-005-SS-001	SS	5.98	1,980	98.6	40.8	82.0	SM
6	AFP0606-005-SO-027	SO	4.90	49.9	100.0	30.1	75.3	SM
7	AFP0607-005-SS-001	SS	6.36	6,190	35.4	10.2	72.5	GP-GM
7	AFP0607-005-SO-047	SO	5.88	105	100.0	35.5	80.9	SM
8	AFP0608-005-SS-001	SS	6.50	9,250	86.7	17.3	71.3	SM
8	AFP0608-005-SO-032	SO	5.47	145	98.0	34.2	79.4	SM
10	AFP0610-006-SS-001	SS	7.34	43,000	91.8	22.9	83.8	SM
10	AFP0610-006-SO-015	SO	4.72	103	92.4	26.6	75.0	SM

SS=surface soil
AFFF = aqueous film forming foam
mg/kg = milligrams per kilogram
TOC = total organic carbon

SO=subsurface soil
ID = identification
pH = potential of hydrogen
USCS = Unified Soil Classification System

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Case Narrative

Client: MAXXAM/Aerostar SES LLC
Project: AF Plant 6, GA
Sample Receipt Date(s): 11-16 to 11-22-2017
SDG #: 132241 (folders 132357 and 132491) revised 12-20-17 to add missing GSA data

Fourteen samples were analyzed for (GSA)/hydrometer, pH, and TOC. GSA/hydrometer analyses were sub-contracted to Mi-Tech, Weston, WI. The assigned sample ID numbers, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. Any exceptions are noted below. The analyses were performed, where applicable, following QSM 5.0 requirements.

Sample Analysis and Quality Control

Inorganics:

The samples were analyzed using US EPA Method 9045D (pH) and the Llyod-Kahn method (total organic carbon, TOC). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

pH (9045D) Solid Analyses

Analytical Run # 144835

All analysis results for this analytical run met the method/project specified quality control criteria.

TOC (Lloyd-Kahn) Solid Analyses

Analytical Run # 144579 and 144809

All analysis results for this analytical run met the method/project specified quality control criteria.

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Case Narrative

Client: MAXXAM/Aerostar SES LLC
Project: AF Plant 6, GA
Sample Receipt Date(s): 12-07-2017
SDG #: 132771

Two samples were analyzed for (GSA)/hydrometer, pH, and TOC. GSA/hydrometer analyses were sub-contracted to Mi-Tech, Weston, WI. The assigned sample ID numbers, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. Any exceptions are noted below. The analyses were performed, where applicable, following QSM 5.0 requirements.

Sample Analysis and Quality Control

Inorganics:

The samples were analyzed using US EPA Method 9045D (pH) and the Llyod-Kahn method (total organic carbon, TOC). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

pH (9045D) Solid Analyses

Analytical Run # 144426

All analysis results for this analytical run met the method/project specified quality control criteria.

TOC (Lloyd-Kahn) Solid Analyses

Analytical Run # 145401

All analysis results for this analytical run met the method/project specified quality control criteria.

mi-TECH
WWW.MI-TECH.US

715.359.9400
Mi-Tech Services, Inc.
5707 Schofield Avenue
PO Box 107
Weston, WI 54476

ANALYTICAL REPORT

CT Laboratories
Attn: Eric Korthals
1230 Lange Court
Baraboo, WI 53913
ekorthals@ctlaboratories.com

PROJECT NAME:	**SI OF AFFF MULTIPLE SITES – AFF#6, GA**		
REPORT DATE:	December 4, 2017	CT LABS PO #	132357 MITECH
ANALYSIS:	HYDROMETER	MI-TECH #	10789
METHOD:	ASTM D422	DATE RECEIVED:	11/17/2017

Dear Mr. Korthals:

Analytical results for the above referenced project are enclosed. Thank you for your business.

Sincerely,
Mi-Tech Services, Inc.

Stephanie M. Finamore

Stephanie M. Finamore, M.S., P.G.
Environmental Director

Sample Description

AFP0601-006-SO-021

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 88.2

Lab Sample ID: 956963

Analytical Method: EPA 8000C

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144815

Analysis Date/Time 11/28/2017 13:16

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	88.2		0.1	0.1	0.1	0.1

Sample Description

AFP0601-006-SO-021

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	88.2	Lab Sample ID:	956963
Analytical Method:	EPA 9045D	Date Received:	11/22/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144835	Analysis Date/Time	11/28/2017 14:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.12					

Sample Description

AFP0601-006-SO-021

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	88.2	Lab Sample ID:	956963
Analytical Method:	L-Kahn/9060A	Date Received:	11/22/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144809	Analysis Date/Time	11/30/2017 17:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	70.3	J	41	85	170	170

Sample Description

AFP0601-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 81.5

Lab Sample ID: 956962

Analytical Method: EPA 8000C

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144815

Analysis Date/Time 11/28/2017 13:16

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	81.5		0.1	0.1	0.1	0.1

CT LABORATORIES
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Sample Description

AFP0601-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	81.5	Lab Sample ID:	956962
Analytical Method:	EPA 9045D	Date Received:	11/22/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144835	Analysis Date/Time	11/28/2017 14:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.57					

Sample Description

AFP0601-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 81.5

Lab Sample ID: 956962

Analytical Method: L-Kahn/9060A

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144809

Analysis Date/Time 11/30/2017 16:10

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	13100		44	92	180	180

Sample Description

AFP0602-006-SO-029

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 73.9
Lab Sample ID: 956965
Analytical Method: EPA 8000C
Date Received: 11/22/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144815
Analysis Date/Time 11/28/2017 13:16
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	73.9		0.1	0.1	0.1	0.1

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0602-006-SO-029

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 73.9
Lab Sample ID: 956965
Analytical Method: EPA 9045D
Date Received: 11/22/2017
Dilution Factor: 1
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144835
Analysis Date/Time 11/28/2017 14:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.45					

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0602-006-SO-029

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 73.9

Lab Sample ID: 956965

Analytical Method: L-Kahn/9060A

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144809

Analysis Date/Time 11/30/2017 16:48

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	8750		49	100	200	200

Sample Description

AFP0602-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	77.5	Lab Sample ID:	956964
Analytical Method:	EPA 8000C	Date Received:	11/22/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144815	Analysis Date/Time	11/28/2017 13:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	77.5		0.1	0.1	0.1	0.1

Sample Description

AFP0602-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	77.5	Lab Sample ID:	956964
Analytical Method:	EPA 9045D	Date Received:	11/22/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144835	Analysis Date/Time	11/28/2017 14:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	6.90					

CT LABORATORIES

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Sample Description

AFP0602-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 77.5

Lab Sample ID: 956964

Analytical Method: L-Kahn/9060A

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144809

Analysis Date/Time 11/30/2017 16:43

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6420		46	97	190	190

CT LABORATORIES
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Sample Description

AFP0603-003-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 63.3

Lab Sample ID: 954259

Analytical Method: L-Kahn/9060A

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144579

Analysis Date/Time 11/20/2017 11:02

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	57.2	J	57	120	240	240

Sample Description

AFP0603-003-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 63.3

Lab Sample ID: 954259

Analytical Method: EPA 8000C

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144565

Analysis Date/Time 11/20/2017 13:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	63.3		0.1	0.1	0.1	0.1

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0603-003-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 63.3
Lab Sample ID: 954259
Analytical Method: EPA 9045D
Date Received: 11/16/2017
Dilution Factor: 1
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144835
Analysis Date/Time 11/28/2017 14:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.37					

CT LABORATORIES
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Sample Description

AFP0603-003-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 70.0

Lab Sample ID: 954267

Analytical Method: EPA 8000C

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144565

Analysis Date/Time 11/20/2017 13:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	70.0		0.1	0.1	0.1	0.1

Sample Description

AFP0603-003-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	70.0	Lab Sample ID:	954267
Analytical Method:	EPA 9045D	Date Received:	11/16/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144835	Analysis Date/Time	11/28/2017 14:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	**Analyte**	**Concentration**	**Qualifiers**	**DL**	**LOD**	**LOQ**	**RL**
PH	pH	5.45					

Sample Description

AFP0603-003-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 70.0
Lab Sample ID: 954267
Analytical Method: L-Kahn/9060A
Date Received: 11/16/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144579
Analysis Date/Time 11/20/2017 15:16
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #: "
Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	563		51	110	210	210

Sample Description

AFP0604-004-SO-036

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 68.4

Lab Sample ID: 956967

Analytical Method: EPA 8000C

Date Received: 11/22/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144815

Analysis Date/Time 11/28/2017 13:16

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	68.4		0.1	0.1	0.1	0.1

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1
INORGANIC ANALYSIS DATA SHEET

Sample Description
AFP0604-004-SO-036

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 68.4
Lab Sample ID: 956967
Analytical Method: EPA 9045D
Date Received: 11/22/2017
Dilution Factor: 1
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144835
Analysis Date/Time 11/28/2017 14:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: S.U.

CAS #	**Analyte**	**Concentration**	**Qualifiers**	**DL**	**LOD**	**LOQ**	**RL**
PH	pH	5.39					

Sample Description

AFP0604-004-SO-036

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	68.4	Lab Sample ID:	956967
Analytical Method:	L-Kahn/9060A	Date Received:	11/22/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144809	Analysis Date/Time	11/30/2017 16:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	618		53	110	220	220

CT LABORATORIES
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Sample Description

AFP0604-004-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 74.1
Lab Sample ID: 956966
Analytical Method: EPA 8000C
Date Received: 11/22/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144815
Analysis Date/Time 11/28/2017 13:16
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	74.1		0.1	0.1	0.1	0.1

Sample Description

AFP0604-004-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 74.1

Lab Sample ID: 956966

Analytical Method: EPA 9045D

Date Received: 11/22/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144835

Analysis Date/Time 11/28/2017 14:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	8.23					

Sample Description

AFP0604-004-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	74.1	Lab Sample ID:	956966
Analytical Method:	L-Kahn/9060A	Date Received:	11/22/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144809	Analysis Date/Time	11/30/2017 17:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	334		49	100	200	200

Sample Description

AFP0607-005-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	80.9	Lab Sample ID:	954262
Analytical Method:	L-Kahn/9060A	Date Received:	11/16/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144579	Analysis Date/Time	11/20/2017 11:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	105	J	44	93	190	190

Sample Description

AFP0607-005-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 80.9

Lab Sample ID: 954262

Analytical Method: EPA 8000C

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144565

Analysis Date/Time 11/20/2017 13:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	80.9		0.1	0.1	0.1	0.1

CT LABORATORIES
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Sample Description

AFP0607-005-SO-047

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 80.9

Lab Sample ID: 954262

Analytical Method: EPA 9045D

Date Received: 11/16/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144835

Analysis Date/Time 11/28/2017 14:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.88					

Sample Description

AFP0607-005-SS-001

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 72.5
Lab Sample ID: 954261
Analytical Method: EPA 8000C
Date Received: 11/16/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144565
Analysis Date/Time 11/20/2017 13:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	72.5		0.1	0.1	0.1	0.1

Sample Description

AFP0607-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 72.5

Lab Sample ID: 954261

Analytical Method: EPA 9045D

Date Received: 11/16/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144835

Analysis Date/Time 11/28/2017 14:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	6.36					

Sample Description

AFP0607-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	72.5	Lab Sample ID:	954261
Analytical Method:	L-Kahn/9060A	Date Received:	11/16/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144579	Analysis Date/Time	11/20/2017 15:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6190		50	100	210	210

Sample Description

AFP0608-005-SO-032

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 79.4

Lab Sample ID: 954264

Analytical Method: L-Kahn/9060A

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144579

Analysis Date/Time 11/20/2017 12:02

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	145	J	45	94	190	190

Sample Description

AFP0608-005-SO-032

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	79.4	Lab Sample ID:	954264
Analytical Method:	EPA 8000C	Date Received:	11/16/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144565	Analysis Date/Time	11/20/2017 13:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	79.4		0.1	0.1	0.1	0.1

Sample Description

AFP0608-005-SO-032

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 79.4

Lab Sample ID: 954264

Analytical Method: EPA 9045D

Date Received: 11/16/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144835

Analysis Date/Time 11/28/2017 14:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.47					

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0608-005-SS-001

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 71.3

Lab Sample ID: 954265

Analytical Method: L-Kahn/9060A

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144579

Analysis Date/Time 11/20/2017 12:18

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	9250		50	110	210	210

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0608-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	71.3	Lab Sample ID:	954265
Analytical Method:	EPA 8000C	Date Received:	11/16/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144565	Analysis Date/Time	11/20/2017 13:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	71.3		0.1	0.1	0.1	0.1

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0608-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 71.3
Lab Sample ID: 954265
Analytical Method: EPA 9045D
Date Received: 11/16/2017
Dilution Factor: 1
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144835
Analysis Date/Time 11/28/2017 14:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	6.50					

Sample Description

AFP0610-006-SO-015

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 75.0

Lab Sample ID: 954266

Analytical Method: L-Kahn/9060A

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144579

Analysis Date/Time 11/20/2017 12:23

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	103	J	48	100	200	200

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

AFP0610-006-SO-015

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 75.0

Lab Sample ID: 954266

Analytical Method: EPA 8000C

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144565

Analysis Date/Time 11/20/2017 13:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	**Analyte**	**Concentration**	**Qualifiers**	**DL**	**LOD**	**LOQ**	**RL**
SOLID	Solids, Percent	75.0		0.1	0.1	0.1	0.1

Sample Description

AFP0610-006-SO-015

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water):	SOIL	SDG No.:	132357
% Solids:	75.0	Lab Sample ID:	954266
Analytical Method:	EPA 9045D	Date Received:	11/16/2017
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	144835	Analysis Date/Time	11/28/2017 14:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	4.72					

Sample Description

AFP0610-006-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 83.8

Lab Sample ID: 954263

Analytical Method: L-Kahn/9060A

Date Received: 11/16/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144579

Analysis Date/Time 11/20/2017 11:56

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: "

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	43000		43	89	180	180

CT LABORATORIES
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Sample Description

AFP0610-006-SS-001

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI OF AFFF
Matrix (soil/water): SOIL
SDG No.: 132357
% Solids: 83.8
Lab Sample ID: 954263
Analytical Method: EPA 8000C
Date Received: 11/16/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 144565
Analysis Date/Time 11/20/2017 13:20
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #:
Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	83.8		0.1	0.1	0.1	0.1

Sample Description

AFP0610-006-SS-001

1
INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI OF AFFF

Matrix (soil/water): SOIL

SDG No.: 132357

% Solids: 83.8

Lab Sample ID: 954263

Analytical Method: EPA 9045D

Date Received: 11/16/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 144835

Analysis Date/Time 11/28/2017 14:20

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.34					

Sample Description

AFP0606-005-SO-027

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF

Matrix (soil/water): SOIL

SDG No.: 132771

% Solids: 75.3

Lab Sample ID: 962397

Analytical Method: EPA 9045D

Date Received: 12/07/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 145226

Analysis Date/Time 12/12/2017 12:40

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	4.90					

Sample Description

AFP0606-005-SO-027

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF

Matrix (soil/water): SOIL

SDG No.: 132771

% Solids: 75.3

Lab Sample ID: 962397

Analytical Method: EPA 8000C

Date Received: 12/07/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 145121

Analysis Date/Time 12/07/2017 14:31

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: %

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	75.3		0.1	0.1	0.1	0.1

Sample Description

AFP0606-005-SO-027

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF

Matrix (soil/water): SOIL

SDG No.: 132771

% Solids: 75.3

Lab Sample ID: 962397

Analytical Method: L-Kahn/9060A

Date Received: 12/07/2017

Dilution Factor: 1.00

TCLP/SPLP Extraction Date/time:

Analytical Run #: 145401

Analysis Date/Time 12/19/2017 15:24

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #: INSTRUMENT T

Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	49.9	J	48	100	200	200

Sample Description

AFP0606-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories

Contract: MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF

Matrix (soil/water): SOIL

SDG No.: 132771

% Solids: 82.0

Lab Sample ID: 962396

Analytical Method: EPA 9045D

Date Received: 12/07/2017

Dilution Factor: 1

TCLP/SPLP Extraction Date/time:

Analytical Run #: 145226

Analysis Date/Time 12/12/2017 12:40

Analytical Prep Batch #:

Prep. Date/Time:

ICAL Calibration #:

Concentration Units: S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	5.98					

Sample Description

AFP0606-005-SS-001

1

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF
Matrix (soil/water):	SOIL	SDG No.:	132771
% Solids:	82.0	Lab Sample ID:	962396
Analytical Method:	EPA 8000C	Date Received:	12/07/2017
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	145121	Analysis Date/Time	12/07/2017 14:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	82.0		0.1	0.1	0.1	0.1

CT LABORATORIES
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Sample Description

AFP0606-005-SS-001

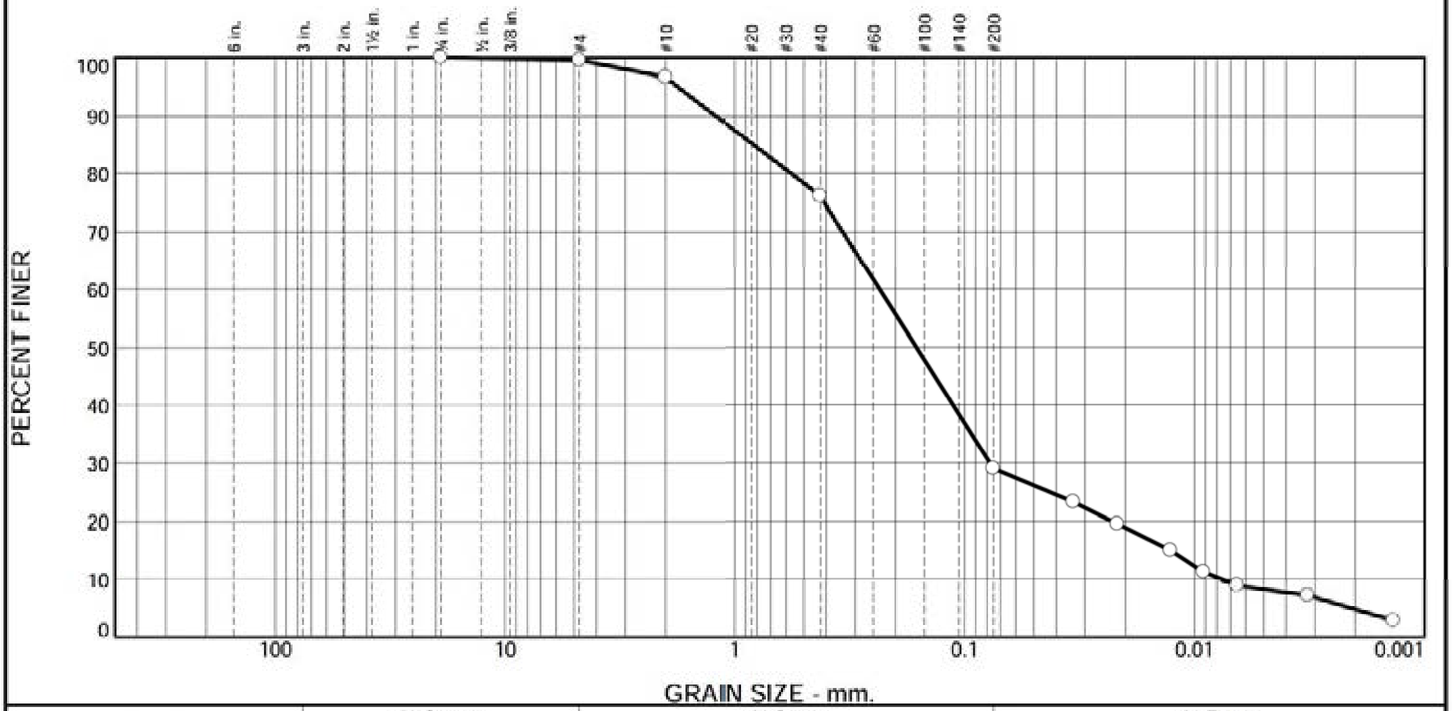
1

INORGANIC ANALYSIS DATA SHEET

Lab Name: CT Laboratories
Contract: MAXXAM ANALYTICS-SI MULTIPLE SITES AFFF
Matrix (soil/water): SOIL
SDG No.: 132771
% Solids: 82.0
Lab Sample ID: 962396
Analytical Method: L-Kahn/9060A
Date Received: 12/07/2017
Dilution Factor: 1.00
TCLP/SPLP Extraction Date/time:
Analytical Run #: 145401
Analysis Date/Time 12/19/2017 15:15
Analytical Prep Batch #:
Prep. Date/Time:
ICAL Calibration #: INSTRUMENT T
Concentration Units: mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1980		44	91	180	180

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	2.8	20.6	47.1	20.7	8.3

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	99.5		
#10	96.7		
#40	76.1		
#200	29.0		
0.0337 mm.	23.2		
0.0216 mm.	19.5		
0.0127 mm.	15.0		
0.0091 mm.	11.2		
0.0065 mm.	8.9		
0.0032 mm.	7.2		
0.0014 mm.	2.9		

* (no specification provided)

Client Sample Description

AFP0603-003-SO-047

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 1.2080 D_{85}= 0.8290 D_{60}= 0.2348

D_{50}= 0.1625 D_{30}= 0.0779 D_{15}= 0.0128

D_{10}= 0.0076 C_u= 30.79 C_c= 3.39

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954259

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

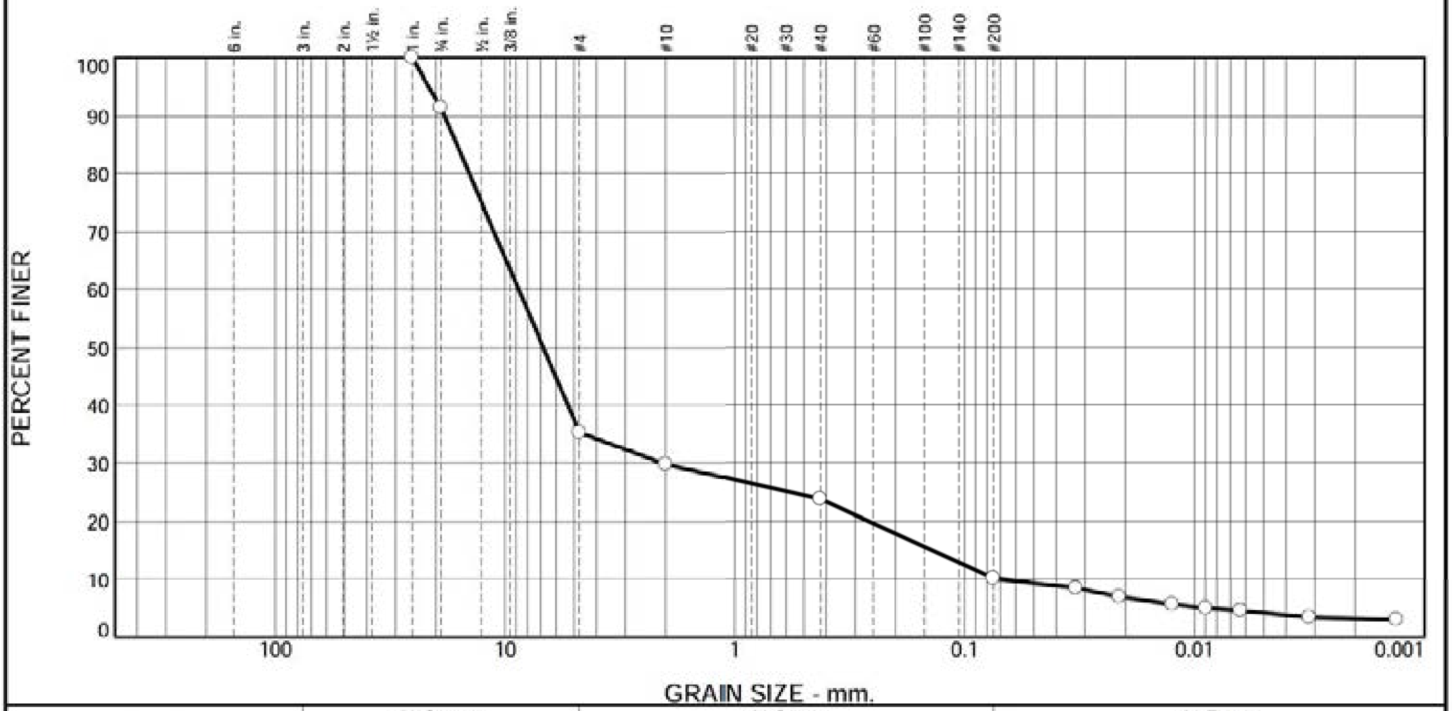
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 1

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	8.5	56.1	5.6	6.1	13.5	6.0	4.2

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.0	100.0		
0.75	91.5		
#4	35.4		
#10	29.8		
#40	23.7		
#200	10.2		
0.0328 mm.	8.5		
0.0212 mm.	7.0		
0.0125 mm.	5.7		
0.0089 mm.	5.0		
0.0063 mm.	4.6		
0.0032 mm.	3.4		
0.0013 mm.	3.0		

* (no specification provided)

Client Sample Description

AFP0607-005-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= GP-GM AASHTO (M 145)= A-1-a

Coefficients

D_{90}= 18.3413 D_{85}= 16.2069 D_{60}= 8.7307

D_{50}= 6.8170 D_{30}= 2.0724 D_{15}= 0.1390

D_{10}= 0.0688 C_u= 126.82 C_c= 7.15

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954261

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

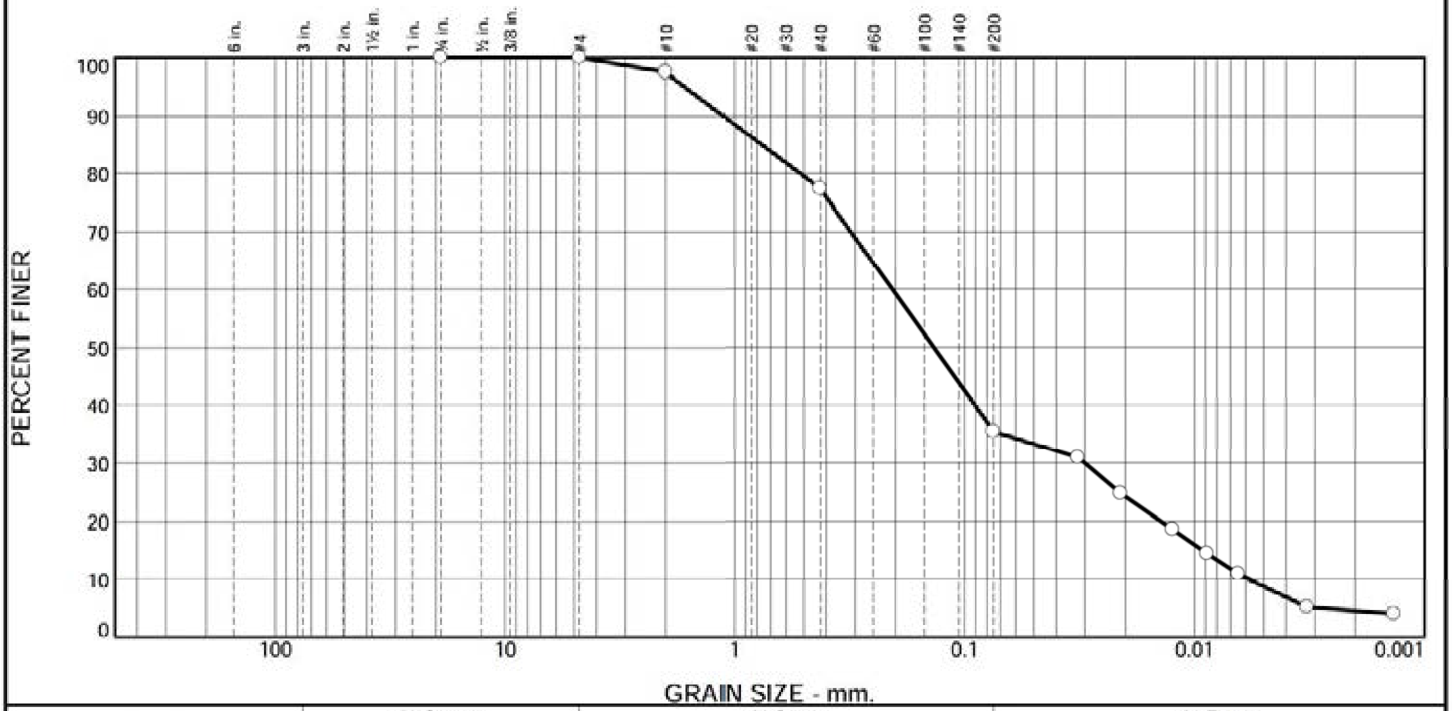
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 2

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	2.5	20.1	41.9	26.7	8.8

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	100.0		
#10	97.5		
#40	77.4		
#200	35.5		
0.0321 mm.	30.9		
0.0210 mm.	24.7		
0.0125 mm.	18.5		
0.0088 mm.	14.4		
0.0064 mm.	10.9		
0.0032 mm.	5.2		
0.0014 mm.	4.0		

* (no specification provided)

Client Sample Description

AFP0607-005-SO-047

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-4(0)

Coefficients

D_{90}= 1.1207	D_{85}= 0.7625	D_{60}= 0.2066
D_{50}= 0.1365	D_{30}= 0.0302	D_{15}= 0.0093
D_{10}= 0.0058	C_u= 35.69	C_c= 0.76

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954262

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

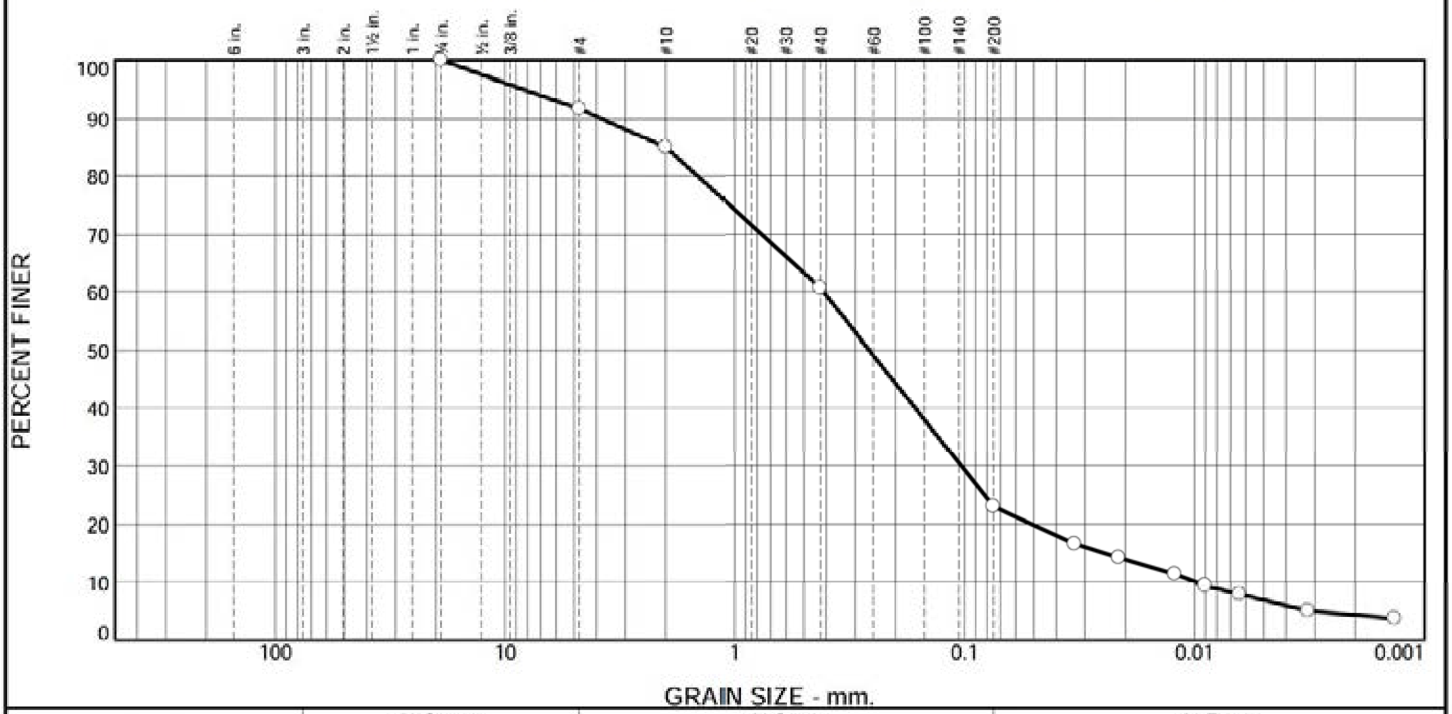
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 3

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	8.2	6.8	24.2	37.9	16.0	6.9

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	91.8		
#10	85.0		
#40	60.8		
#200	22.9		
0.0332 mm.	16.6		
0.0214 mm.	14.2		
0.0122 mm.	11.4		
0.0090 mm.	9.5		
0.0064 mm.	8.0		
0.0032 mm.	5.0		
0.0013 mm.	3.7		

* (no specification provided)

Client Sample Description

AFP0610-006-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 3.7915	D_{85}= 1.9970	D_{60}= 0.4105
D_{50}= 0.2595	D_{30}= 0.1037	D_{15}= 0.0248
D_{10}= 0.0098	C_u= 41.81	C_c= 2.67

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954263

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

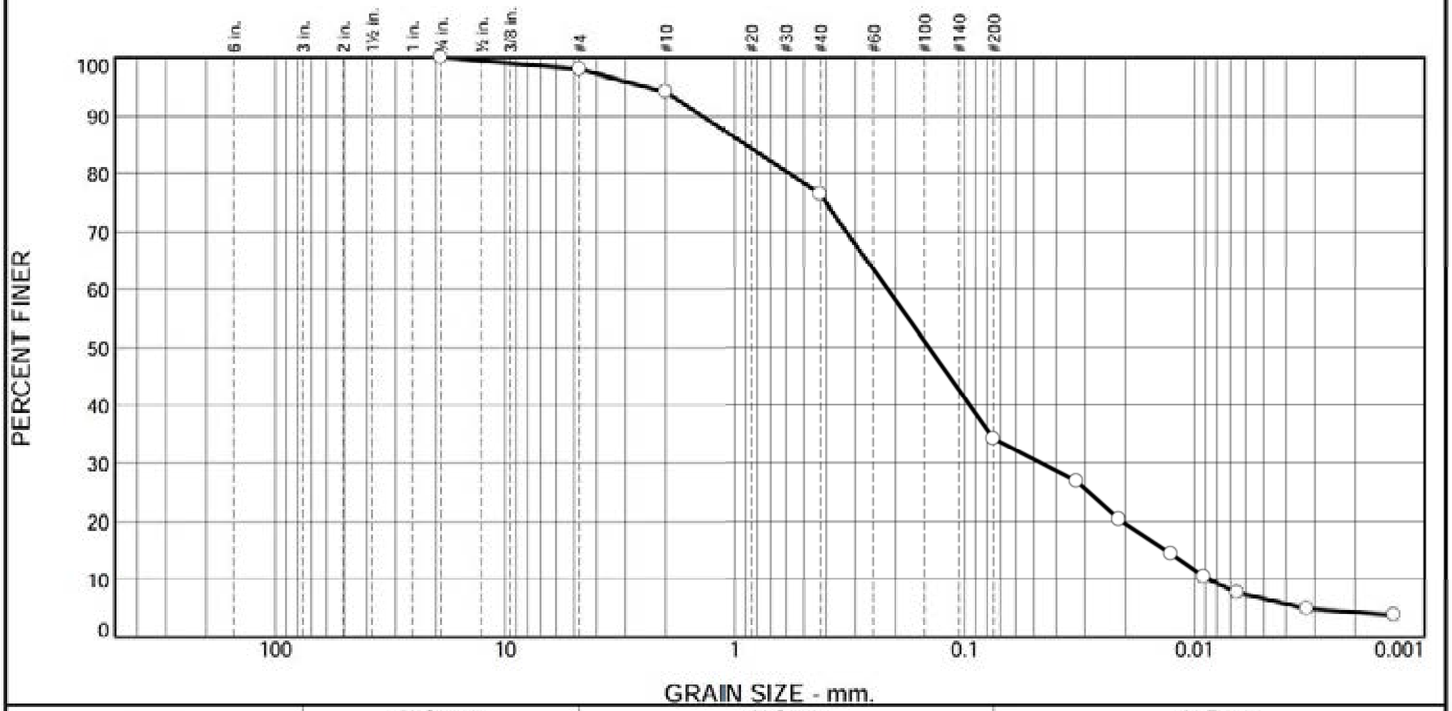
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 4

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	3.8	17.8	42.2	27.5	6.7

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	98.0		
#10	94.2		
#40	76.4		
#200	34.2		
0.0326 mm.	26.8		
0.0213 mm.	20.2		
0.0126 mm.	14.3		
0.0091 mm.	10.4		
0.0065 mm.	7.7		
0.0032 mm.	4.9		
0.0014 mm.	3.8		

* (no specification provided)

Client Sample Description

AFP0608-005-SO-032

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 1.3829 D_{85}= 0.8951 D_{60}= 0.2165

D_{50}= 0.1436 D_{30}= 0.0469 D_{15}= 0.0134

D_{10}= 0.0087 C_u= 25.01 C_c= 1.17

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954264

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

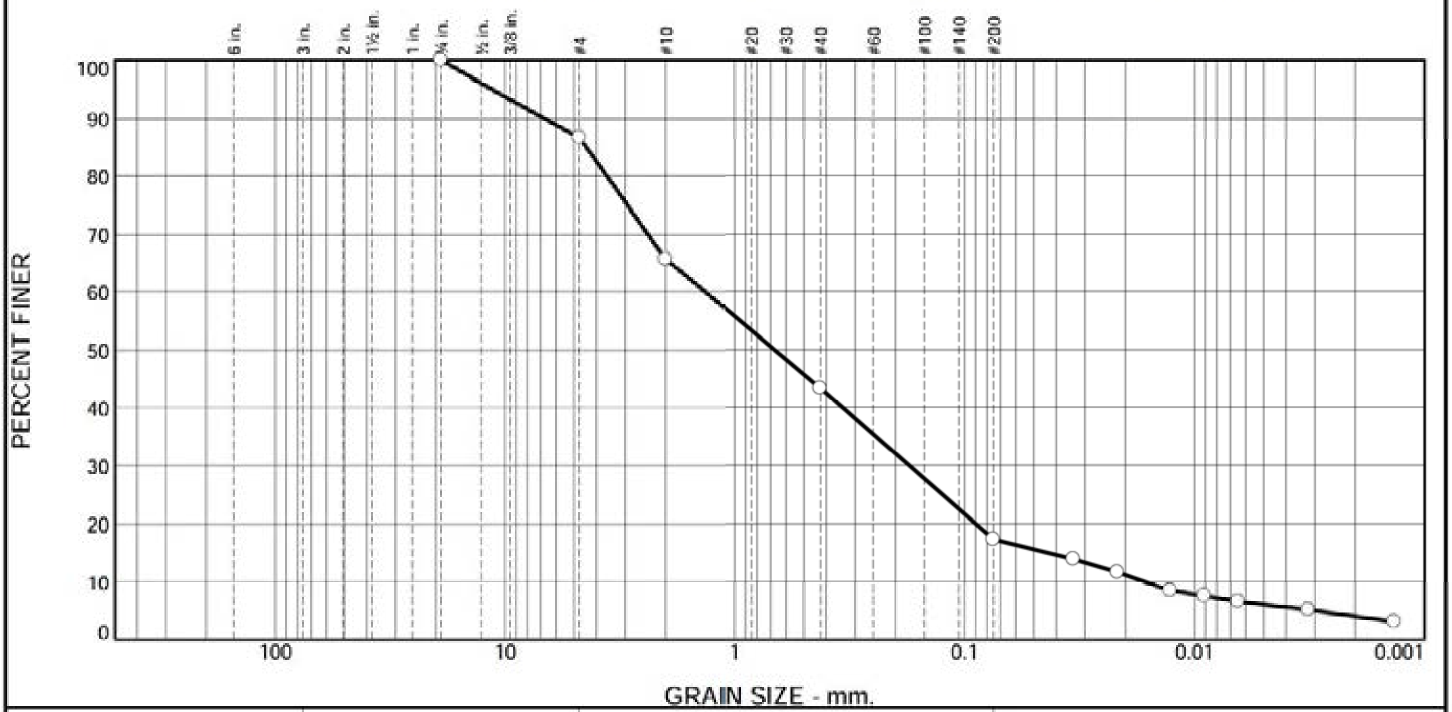
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 5

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	13.3	21.0	22.4	26.0	11.2	6.1

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	86.7		
#10	65.7		
#40	43.3		
#200	17.3		
0.0337 mm.	13.9		
0.0216 mm.	11.6		
0.0128 mm.	8.5		
0.0091 mm.	7.6		
0.0065 mm.	6.6		
0.0032 mm.	5.2		
0.0014 mm.	3.1		

* (no specification provided)

Client Sample Description

AFP0608-005-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-1-b

Coefficients

D_{90}= 6.7093	D_{85}= 4.4298	D_{60}= 1.3449
D_{50}= 0.6734	D_{30}= 0.1749	D_{15}= 0.0438
D_{10}= 0.0164	C_u= 81.90	C_c= 1.39

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954265

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

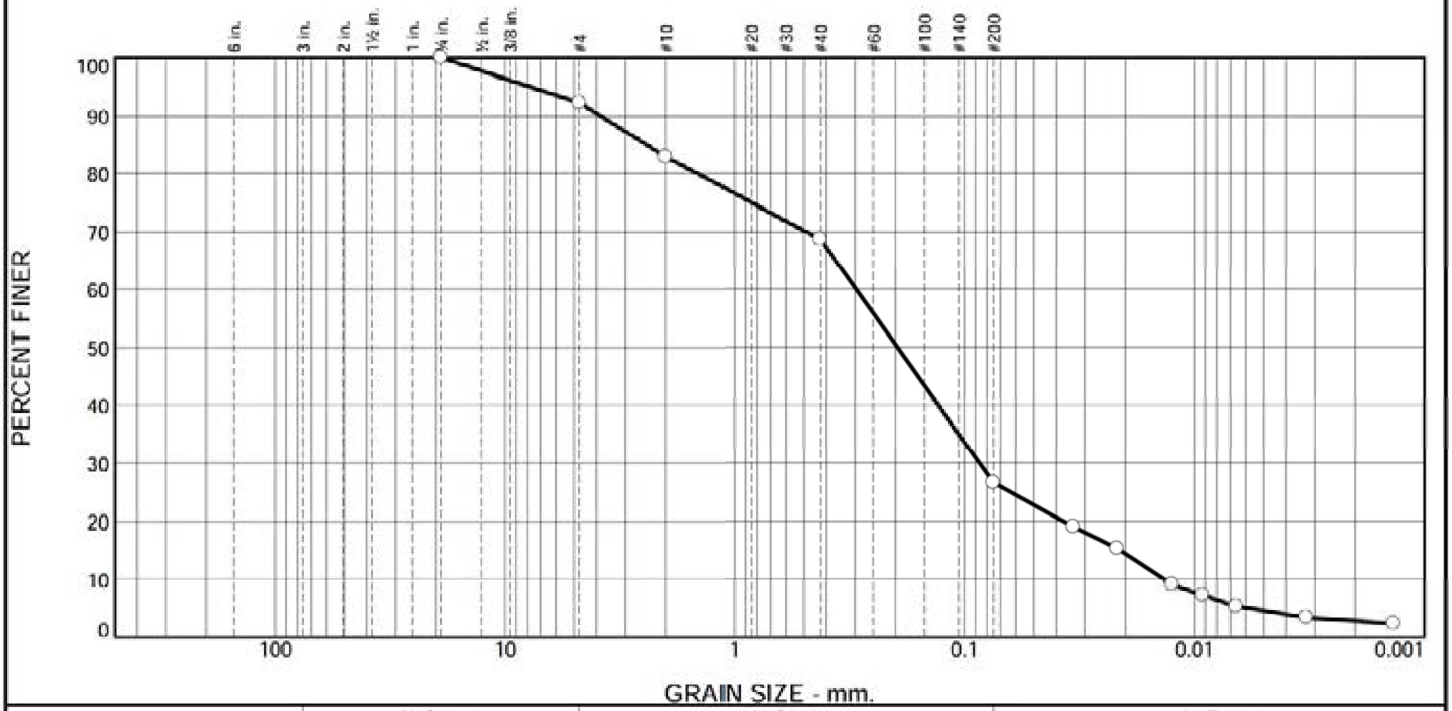
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 6

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	7.6	9.5	14.1	42.2	22.0	4.6

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	92.4		
#10	82.9		
#40	68.8		
#200	26.6		
0.0337 mm.	19.0		
0.0217 mm.	15.3		
0.0125 mm.	9.1		
0.0092 mm.	7.2		
0.0066 mm.	5.3		
0.0033 mm.	3.4		
0.0014 mm.	2.3		

* (no specification provided)

Client Sample Description

AFP0610-006-SO-015

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 3.8241	D_{85}= 2.4222	D_{60}= 0.2965
D_{50}= 0.1965	D_{30}= 0.0864	D_{15}= 0.0212
D_{10}= 0.0136	C_u= 21.84	C_c= 1.85

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017

Tested By: NW, TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954266

Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

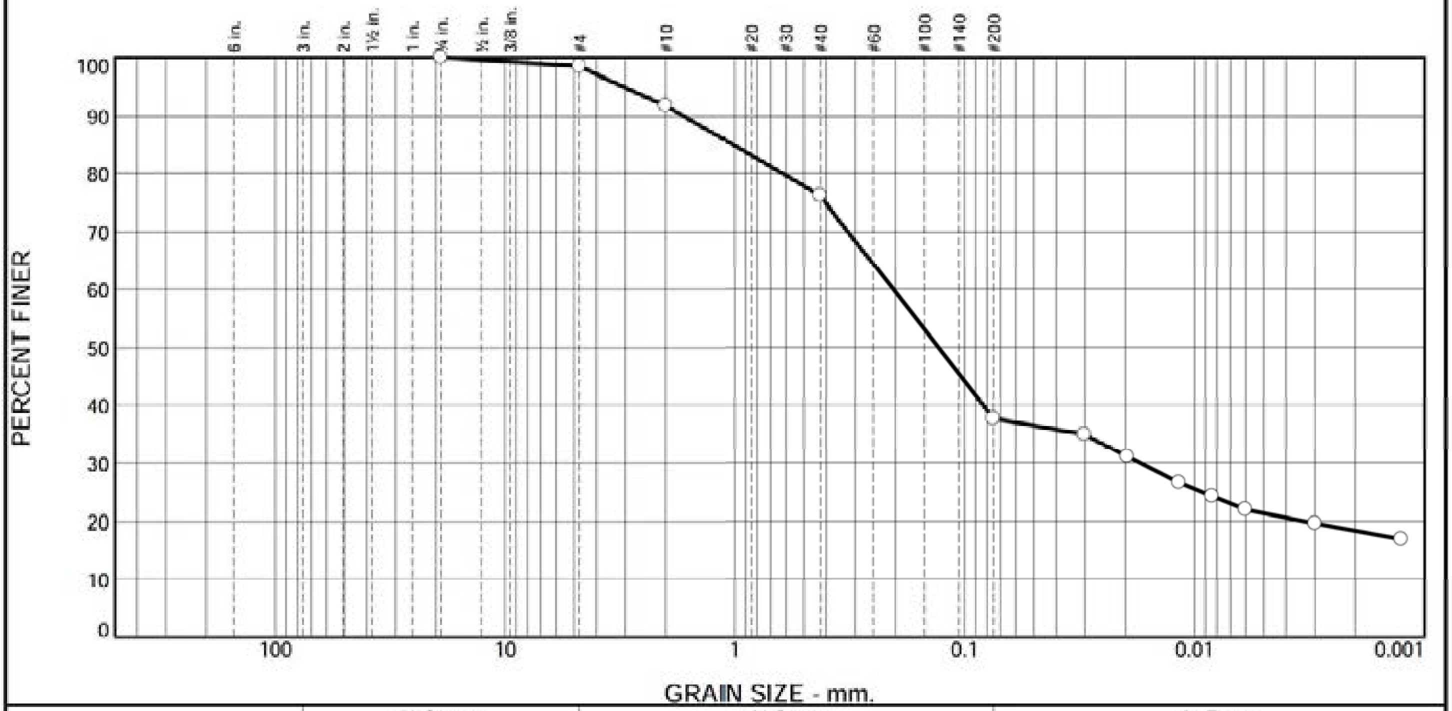
Weston, WI

Client: CT Laboratories

Project: SI of AFFF Multiple Sites - AFF #6, GA

Project No: 10789 (PO 132357) Figure 7

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	6.7	15.6	38.4	16.5	21.3

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	98.5		
#10	91.8		
#40	76.2		
#200	37.8		
0.0302 mm.	35.0		
0.0196 mm.	31.1		
0.0117 mm.	26.5		
0.0084 mm.	24.2		
0.0060 mm.	21.9		
0.0030 mm.	19.6		
0.0013 mm.	16.9		

* (no specification provided)

Client Sample Description

AFP0603-003-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-4(0)

Coefficients

D_{90}= 1.6675 D_{85}= 1.0165 D_{60}= 0.2047
D_{50}= 0.1303 D_{30}= 0.0174 D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 11-17-2017 Date Tested: 11-17-2017
Tested By: NW, TECHNICIAN
Checked By: SMF
Title: ENVIRONMENTAL DIRECTOR

Sample Number: 954267 Date Sampled: 11-13-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories
Project: SI of AFFF Multiple Sites - AFF #6, GA
Project No: 10789 (PO 132357) Figure 8

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www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 132357 MITECH

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to:
Mi-Tech
5707 SCHOFIELD AVE
WESTON, WI 54476

Return Invoice and Results to: **ekorthals@ctlaboratories.com**

Government UPS Shipping Acct ? Y N

CTLaboratories
Eric Korthals
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee ☒ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☐

Date Due: 2 2 WEEKS ***RUSH TURNAROUND NEEDED?*** *Y or [✓ N] (Circle One)*

Project Name: SI OF AFFF MULTIPLE SITES—AFP #6 **Project State:** GA

Analytical/QC Criteria: [✓ NONE INDICATED] STATE DOD QSM NELAP (Circle one) OTHER

Report results as EDD? [✓ N] Y (Circle one and indicate type:) Data Deliverable Package LEVEL: STD

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
954259	11/13/2017 1130	SOIL	AFP0603-003-SO-047	HYDROMETER / GSA	
954261	11/13/2017 1010	SOIL	AFP0607-005-SS-001	HYDROMETER	
954262	11/13/2017 1220	SOIL	AFP0607-005-SO-047	HYDROMETER	
954263	11/13/2017 1120	SOIL	AFP0610-006-SS-001	HYDROMETER	
954264	11/13/2017 1430	SOIL	AFP0608-005-SO-032	HYDROMETER	
954265	11/13/2017 1420	SOIL	AFP0608-005-SS-001	HYDROMETER	
954266	11/13/2017 1145	SOIL	AFP0610-006-SO-015	HYDROMETER	
954267	11/13/2017 0920	SOIL	AFP0603-003-SS-001	HYDROMETER	

Relinquished by: Date/Time: 11-16-17 / 1300h

Received by: Cindy Zelenka Date/Time: 11-17-17 11:10 am Receipt Temperature (C)

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #
Effective Date: 02/15/14

mi-TECH
WWW.MI-TECH.US

715.359.9400
Mi-Tech Services, Inc.
5707 Schofield Avenue
PO Box 107
Weston, WI 54476

ANALYTICAL REPORT

CT Laboratories
Attn: Eric Korthals
1230 Lange Court
Baraboo, WI 53913
ekorthals@ctlaboratories.com

PROJECT NAME:	SI OF AFFF MULTIPLE SITES – AFP 6 - GA		
REPORT DATE:	DECEMBER 8, 2017	CT LABS PO #	132491 MITECH
ANALYSIS:	HYDROMETER	MI-TECH #	10792
METHOD:	ASTM D422	DATE RECEIVED:	11/27/2017

Dear Mr. Korthals:

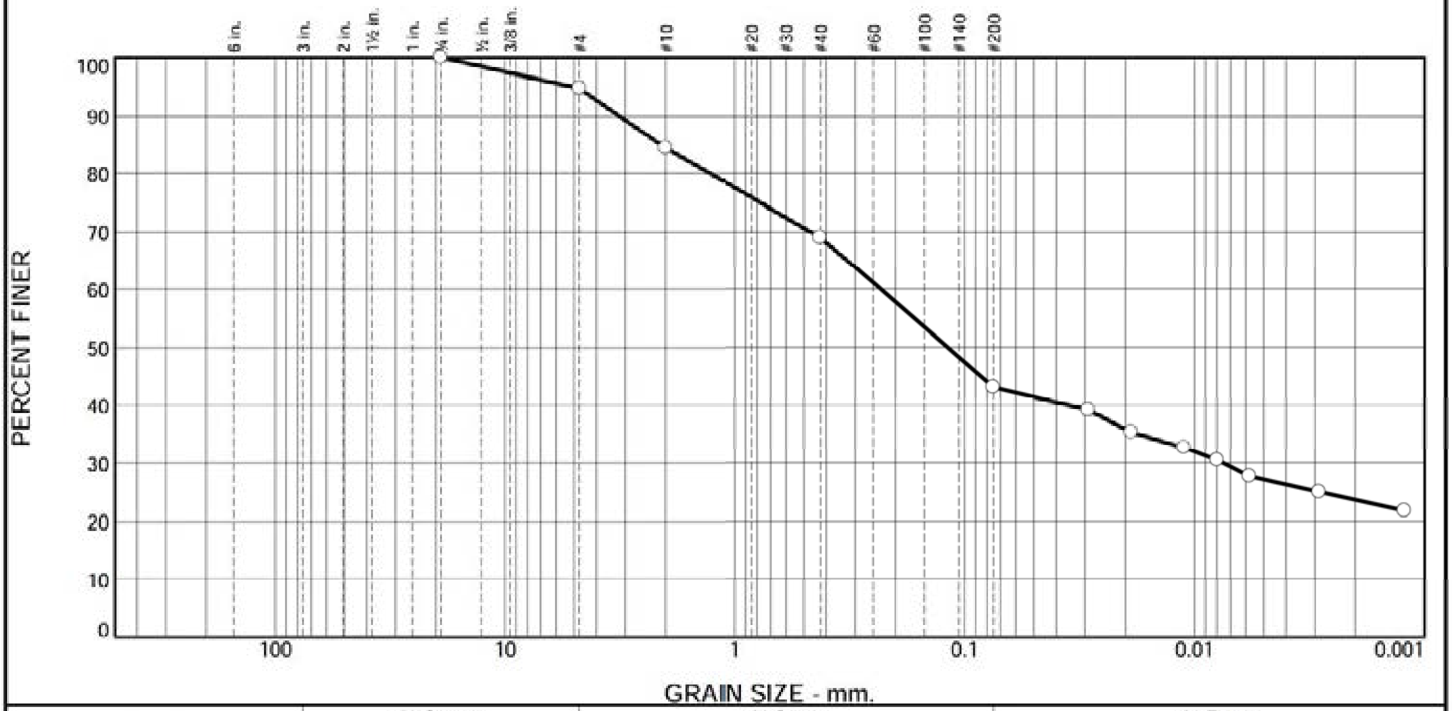
Analytical results for the above referenced project are enclosed. Thank you for your business.

Sincerely,
Mi-Tech Services, Inc.

Stephanie M. Finamore

Stephanie M. Finamore, M.S., P.G.
Environmental Director

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.2	10.4	15.3	26.0	16.0	27.1

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	94.8		
#10	84.4		
#40	69.1		
#200	43.1		
0.0289 mm.	39.2		
0.0189 mm.	35.4		
0.0111 mm.	32.7		
0.0080 mm.	30.5		
0.0058 mm.	27.6		
0.0029 mm.	25.0		
0.0012 mm.	21.7		

* (no specification provided)

Client Sample Description

AFP0601-006-SS-01

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-4(0)

Coefficients

D_{90}= 3.1762 D_{85}= 2.0970 D_{60}= 0.2318
D_{50}= 0.1189 D_{30}= 0.0076 D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 11-27-2017 Date Tested: 11-30-2017
Tested By: NW- TECHNICIAN
Checked By: SMF
Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956962

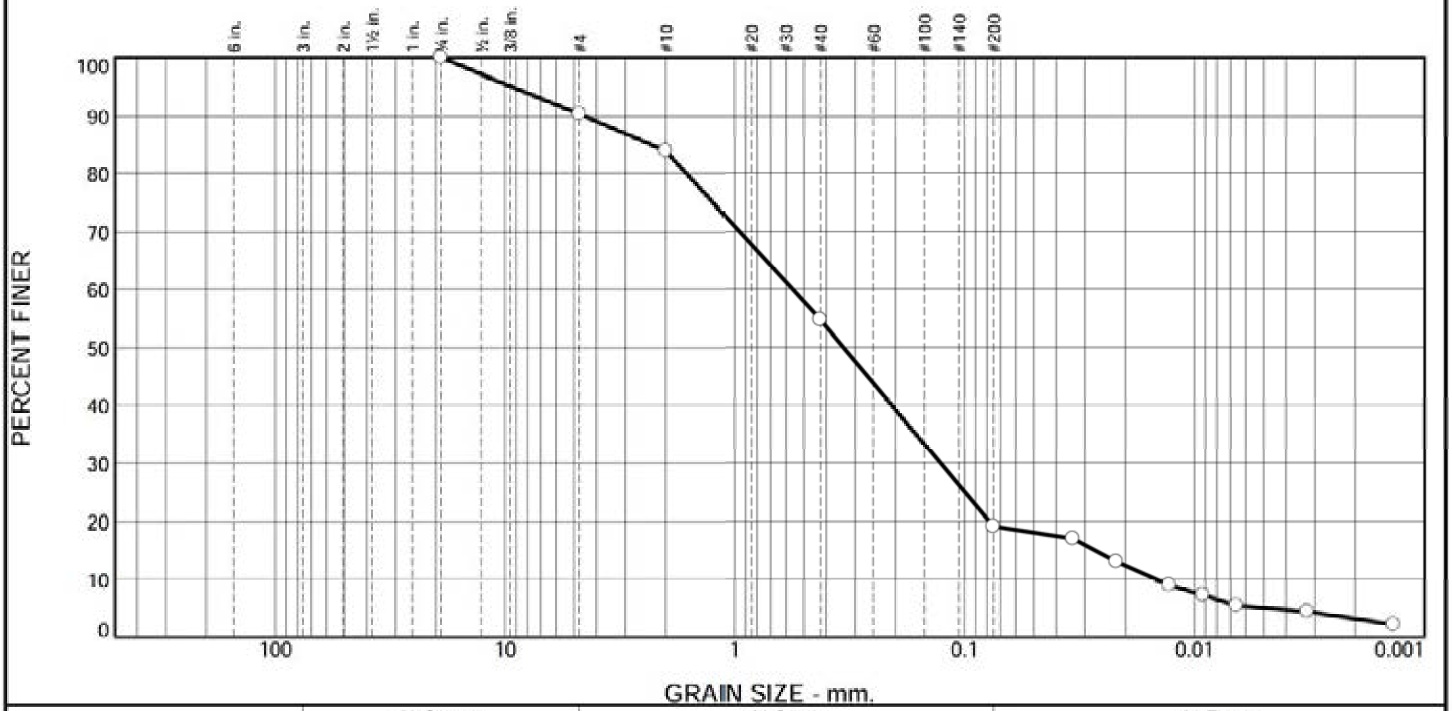
Date Sampled: 11-14-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories
Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA
Project No: 10792 (PO # 132491) Figure 1

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	9.6	6.5	29.2	35.7	13.9	5.1

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	90.4		
#10	83.9		
#40	54.7		
#200	19.0		
0.0338 mm.	17.0		
0.0219 mm.	13.0		
0.0129 mm.	9.0		
0.0092 mm.	7.3		
0.0066 mm.	5.5		
0.0032 mm.	4.4		
0.0014 mm.	2.2		

* (no specification provided)

Client Sample Description

AFP0601-006-SO-021

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 4.4906 D_{85}= 2.3084 D_{60}= 0.5621

D_{50}= 0.3377 D_{30}= 0.1277 D_{15}= 0.0272

D_{10}= 0.0147 C_u= 38.23 C_c= 1.97

Remarks

Date Received: 11-27-2017 Date Tested: 11-30-2017

Tested By: NW-TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956963

Date Sampled: 11-15-2017

Mi-Tech Services, Inc.

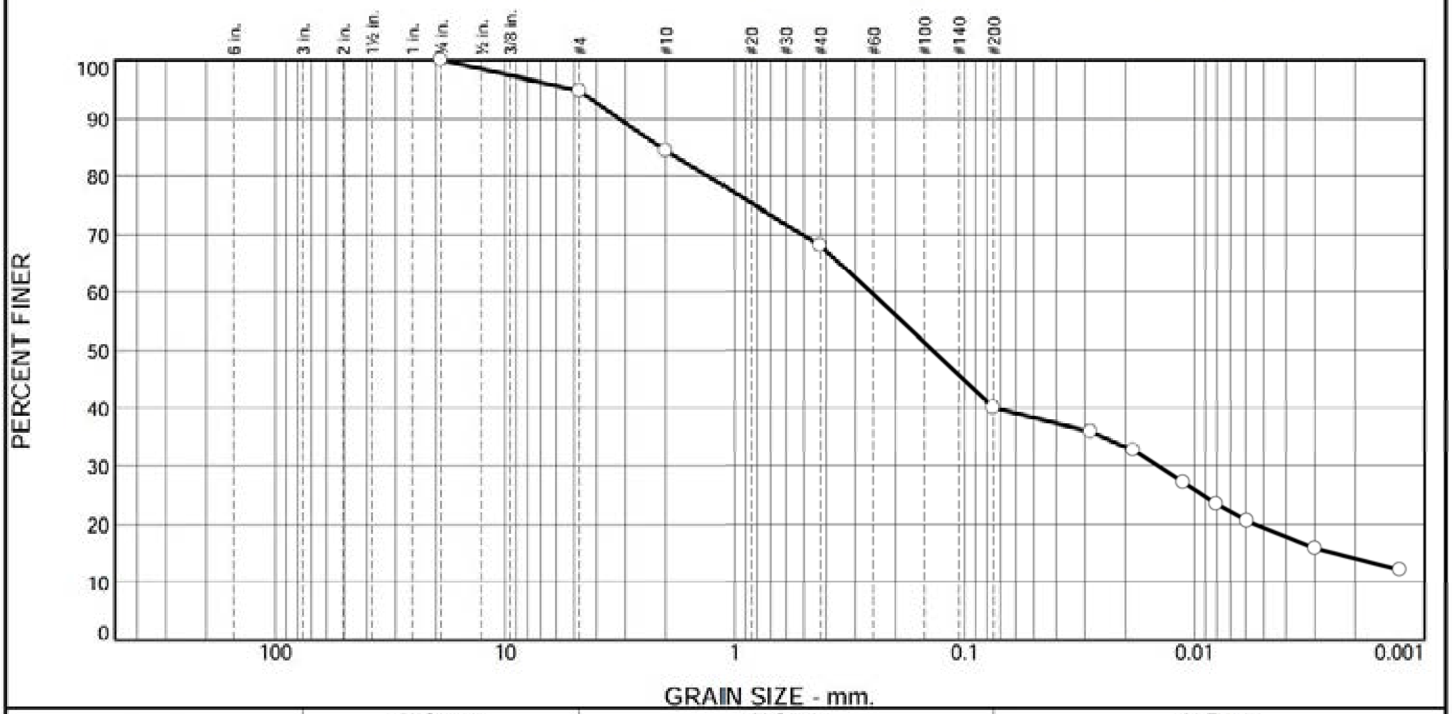
Weston, WI

Client: CT Laboratories

Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA

Project No: 10792 (PO # 132491) Figure 2

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.1	10.5	16.2	28.1	20.8	19.3

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	94.9		
#10	84.4		
#40	68.2		
#200	40.1		
0.0283 mm.	36.0		
0.0185 mm.	32.7		
0.0112 mm.	27.1		
0.0080 mm.	23.3		
0.0059 mm.	20.5		
0.0030 mm.	15.8		
0.0013 mm.	12.1		

* (no specification provided)

Client Sample Description

AFP0602-006-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-4(0)

Coefficients

D_{90}= 3.1765 D_{85}= 2.1005 D_{60}= 0.2568

D_{50}= 0.1385 D_{30}= 0.0145 D_{15}= 0.0025

D_{10}= C_u= C_c=

Remarks

Date Received: 11-27-2017 Date Tested: 11-29-2017

Tested By: NW-TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956964

Date Sampled: 11-20-2017

Mi-Tech Services, Inc.

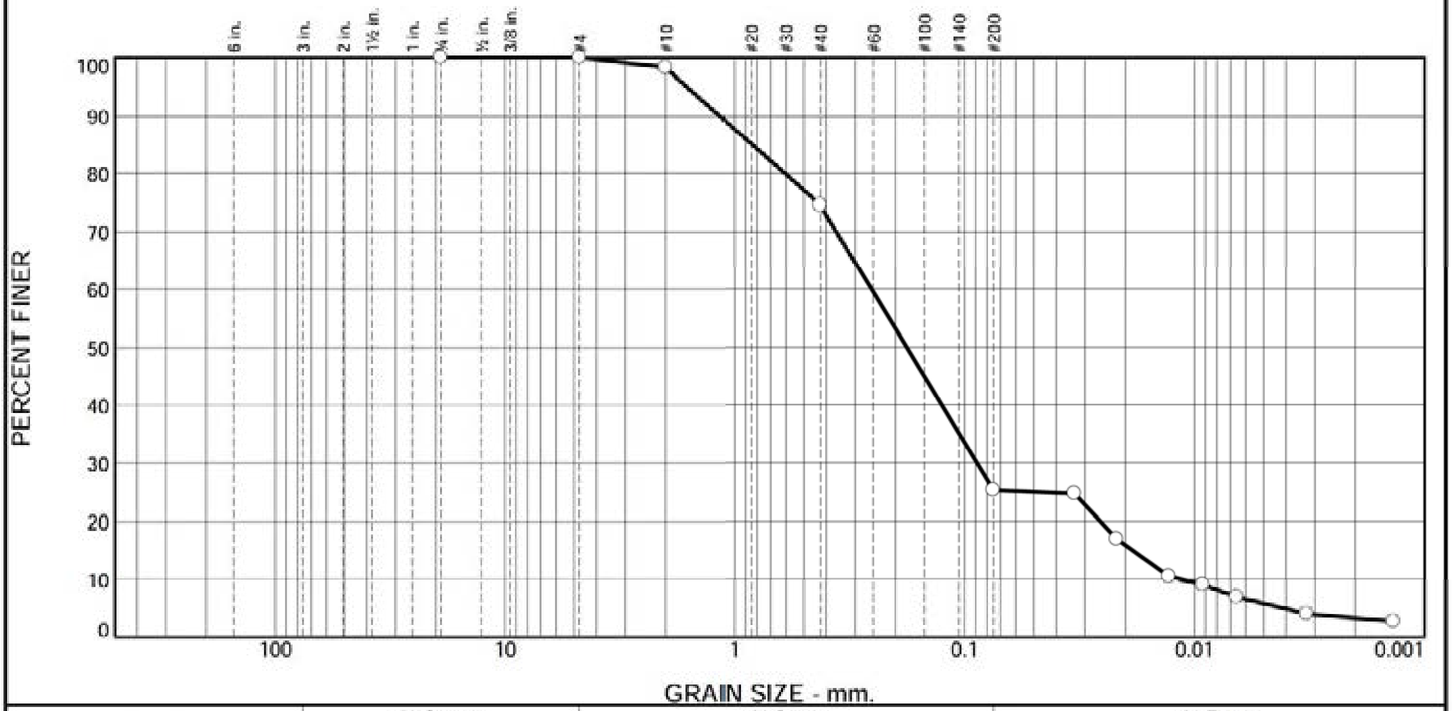
Weston, WI

Client: CT Laboratories

Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA

Project No: 10792 (PO # 132491) Figure 3

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.7	23.7	49.4	19.4	5.8

Test Results (ASTM D 422-63 & ASTM D 2217)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	100.0		
#10	98.3		
#40	74.6		
#200	25.2		
0.0333 mm.	24.7		
0.0218 mm.	16.9		
0.0129 mm.	10.5		
0.0092 mm.	9.1		
0.0066 mm.	7.0		
0.0033 mm.	4.0		
0.0014 mm.	2.7		

* (no specification provided)

Client Sample Description

AFP0602-006-SO-029

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 1.1620	D_{85}= 0.8381	D_{60}= 0.2543
D_{50}= 0.1790	D_{30}= 0.0886	D_{15}= 0.0187
D_{10}= 0.0115	C_u= 22.17	C_c= 2.69

Remarks

Date Received: 11-27-2017 Date Tested: 11-29-2017

Tested By: NW-TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956965

Date Sampled: 11-20-2017

Mi-Tech Services, Inc.

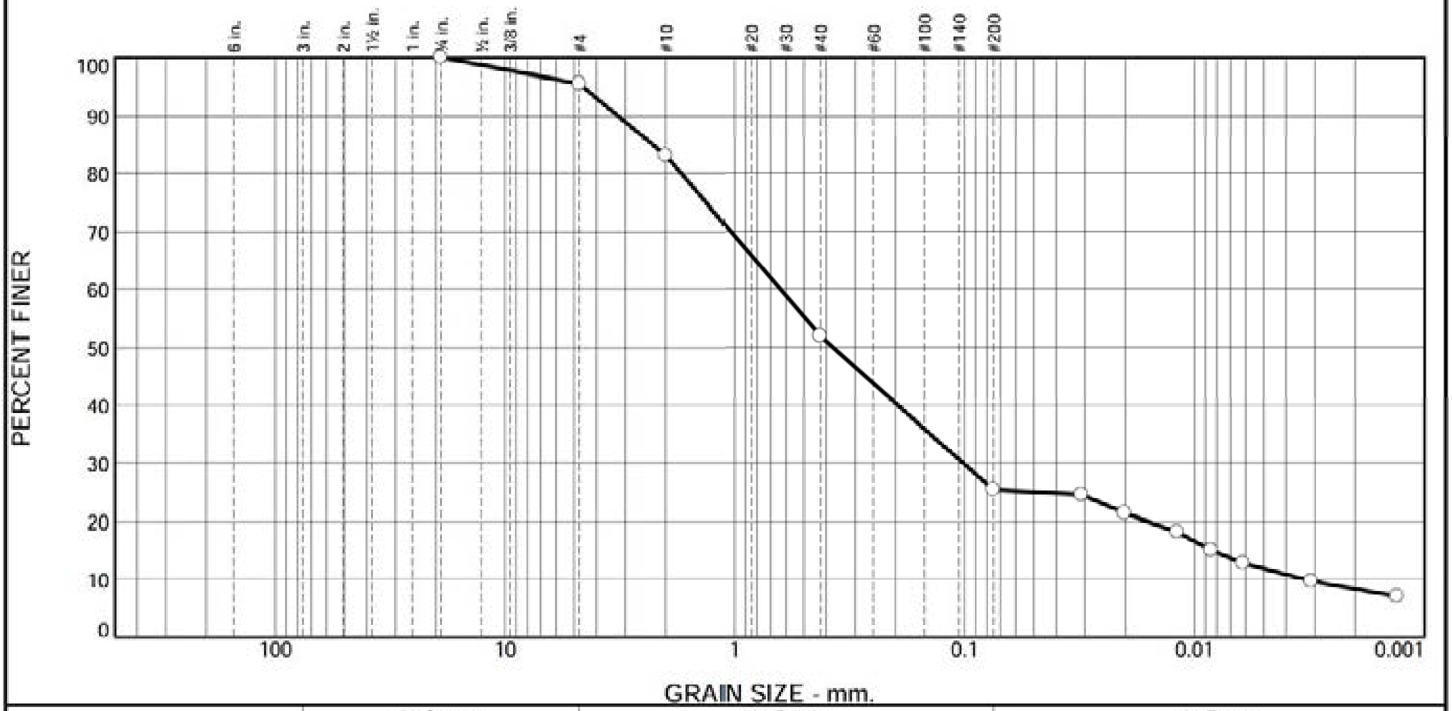
Weston, WI

Client: CT Laboratories

Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA

Project No: 10792 (PO # 132491) Figure 4

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.4	12.4	31.3	26.5	13.5	11.9

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	95.6		
#10	83.2		
#40	51.9		
#200	25.4		
0.0310 mm.	24.5		
0.0201 mm.	21.4		
0.0119 mm.	18.3		
0.0085 mm.	15.1		
0.0061 mm.	12.9		
0.0031 mm.	9.7		
0.0013 mm.	7.1		

* (no specification provided)

Client Sample Description

AFP0604-004-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 3.2125 D_{85}= 2.2708 D_{60}= 0.6344
D_{50}= 0.3750 D_{30}= 0.1015 D_{15}= 0.0083
D_{10}= 0.0033 C_u= 192.09 C_c= 4.91

Remarks

Date Received: 11-27-2017 Date Tested: 11-29-2017
Tested By: NW-TECHNICIAN
Checked By: SMF
Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956966

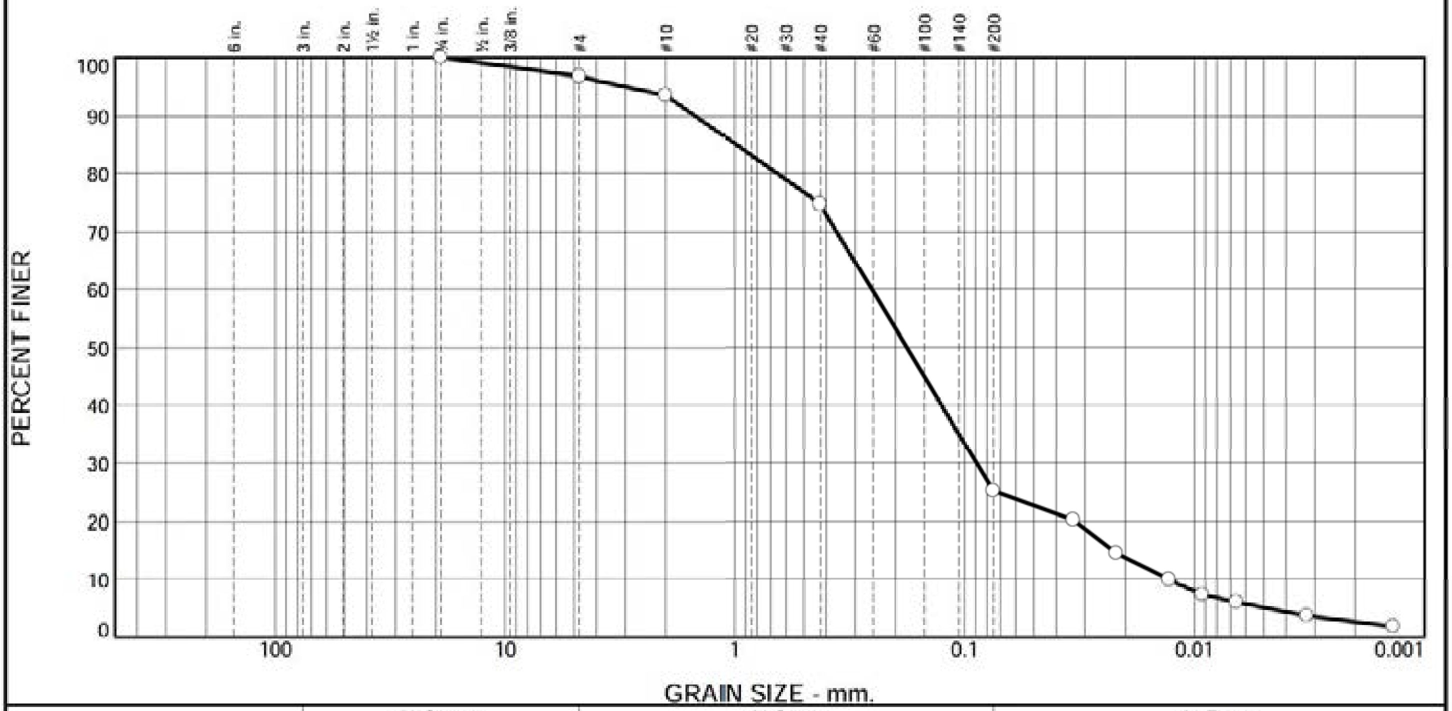
Date Sampled: 11-16-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories
Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA
Project No: 10792 (PO # 132491) Figure 5

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.2	3.1	19.0	49.6	20.0	5.1

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	96.8		
#10	93.7		
#40	74.7		
#200	25.1		
0.0336 mm.	20.2		
0.0219 mm.	14.4		
0.0129 mm.	9.9		
0.0092 mm.	7.4		
0.0066 mm.	6.1		
0.0032 mm.	3.7		
0.0014 mm.	1.8		

* (no specification provided)

Client Sample Description

AFP0604-004-SO-036

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 1.4826 D_{85}= 0.9844 D_{60}= 0.2538

D_{50}= 0.1789 D_{30}= 0.0889 D_{15}= 0.0228

D_{10}= 0.0130 C_u= 19.54 C_c= 2.40

Remarks

Date Received: 11-27-2017 Date Tested: 11-30-2017

Tested By: NW-TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 956967

Date Sampled: 11-16-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories

Project: SI OF AFFF MULTIPLE SITES - AFP 6, GA

Project No: 10792 (PO # 132491) Figure 6

C T L A B O R A T O R I E S
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www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

VP #10792

PURCHASE ORDER # 132491 MITECH

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Mi-Tech
5707 SCHOFIELD AVE
WESTON, WI 54476

Return Invoice and Results to: **ekorthals@ctlaboratories.com**

CTLaboratories
Eric Korthals
1230 Lange Court
Baraboo WI 53913

Government UPS Shipping Acct ? Y N

Ship by: Speedee ☒ UPS Grnd ☐ UPS 2nd ☐ UPS NDA ☐

Date Due: ~2 weeks ***RUSH TURNAROUND NEEDED?*** Y or [✓ N] *(Circle One)*

Project Name: SI OF AFFF MULTIPLE SITES - AFP 6 **Project State:** GA

Analytical/QC Criteria: [✓ NONE INDICATED] STATE DOD QSM NELAP (Circle one) OTHER

Report results as EDD? [✓ N] Y (Circle one and indicate type:) Data Deliverable Package LEVEL: STD

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
956962	11/14/2017 1630	SOIL	AFP0601-006-SS-01	HYDROMETER	
956963	11/15/2017 1655	SOIL	AFP0601-006-SO-021	HYDROMETER	
956964	11/20/2017 0920	SOIL	AFP0602-006-SS-001	HYDROMETER	
956965	11/20/2017 0942	SOIL	AFP0602-006-SO-029	HYDROMETER	
956966	11/16/2017 0850	SOIL	AFP0604-004-SS-001	HYDROMETER	
956967	11/16/2017 0925	SOIL	AFP0604-004-SO-036	HYDROMETER	

Relinquished by: Date/Time: 11-22-17 / 1330h

Received by: Stephanie Simon Date/Time: 11/27/17 11:30am Receipt Temperature (C) —

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Form #: FPM1-01
Effective Date: 02/15/14

MI-TECH
WWW.MI-TECH.US

715.359.9400
Mi-Tech Services, Inc.
5707 Schofield Avenue
PO Box 107
Weston, WI 54476

ANALYTICAL REPORT

CT Laboratories
Attn: Eric Korthals
1230 Lange Court
Baraboo, WI 53913
ekorthals@ctlaboratories.com

PROJECT NAME:	SI MULTIPLE SITES AFFF – AF PLANT 6, GA		
REPORT DATE:	DECEMBER 20, 2017	CT LABS PO #	132771 MITECH
ANALYSIS:	HYDROMETER	MI-TECH #	10796
METHOD:	ASTM D422	DATE RECEIVED:	12/08/2017

Dear Mr. Korthals:

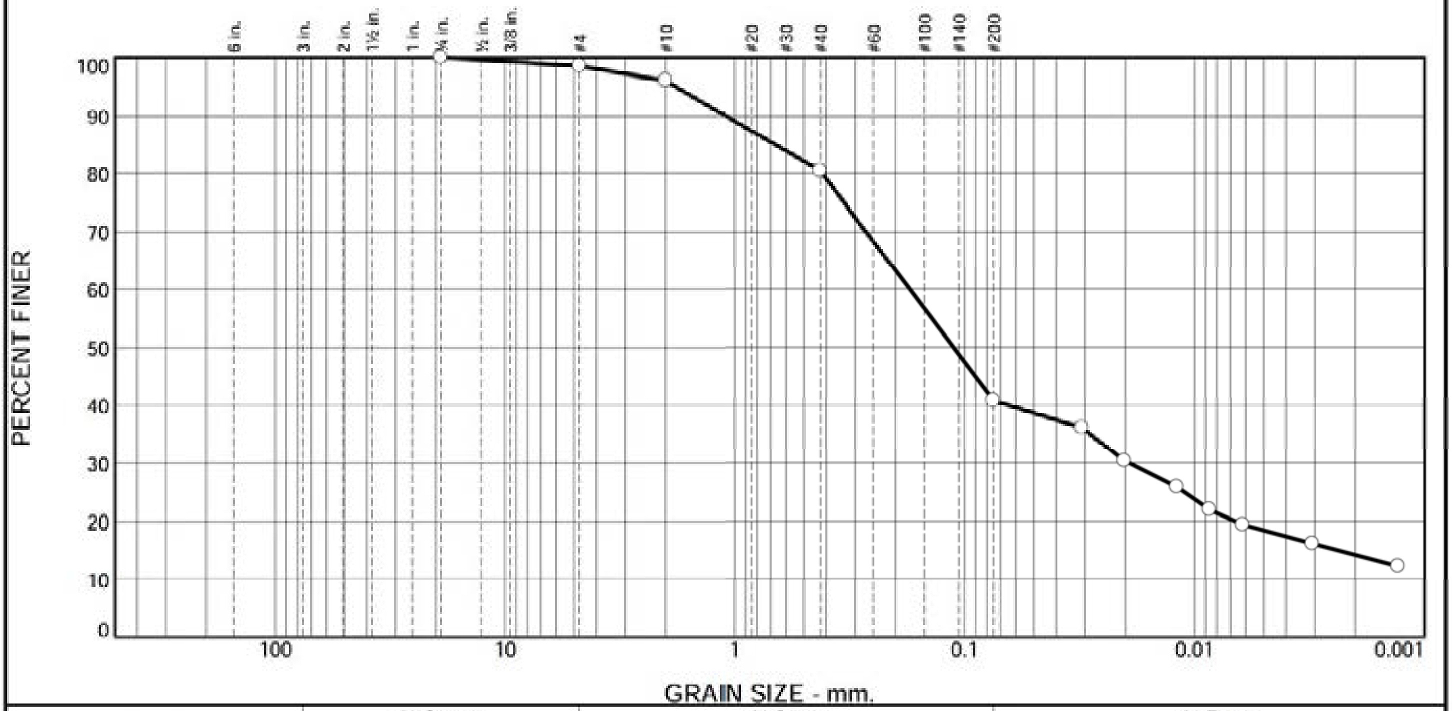
Analytical results for the above referenced project are enclosed. Thank you for your business.

Sincerely,
Mi-Tech Services, Inc.

Stephanie M. Finamore

Stephanie M. Finamore, M.S., P.G.
Environmental Director

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	2.5	15.6	39.7	22.4	18.4

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	98.6		
#10	96.1		
#40	80.5		
#200	40.8		
0.0309 mm.	36.2		
0.0202 mm.	30.3		
0.0119 mm.	25.8		
0.0086 mm.	21.9		
0.0062 mm.	19.3		
0.0031 mm.	16.1		
0.0013 mm.	12.2		

* (no specification provided)

Client Sample Description

AFP0606-005-SS-001

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-4(0)

Coefficients

D_{90}= 1.0903 D_{85}= 0.6644 D_{60}= 0.1735
D_{50}= 0.1120 D_{30}= 0.0194 D_{15}= 0.0024
D_{10}= C_u= C_c=

Remarks

Date Received: 12-8-2017 Date Tested: 12-8-2017
Tested By: CZ-TECHNICIAN
Checked By: SMF
Title: ENVIRONMENTAL DIRECTOR

Sample Number: 962396

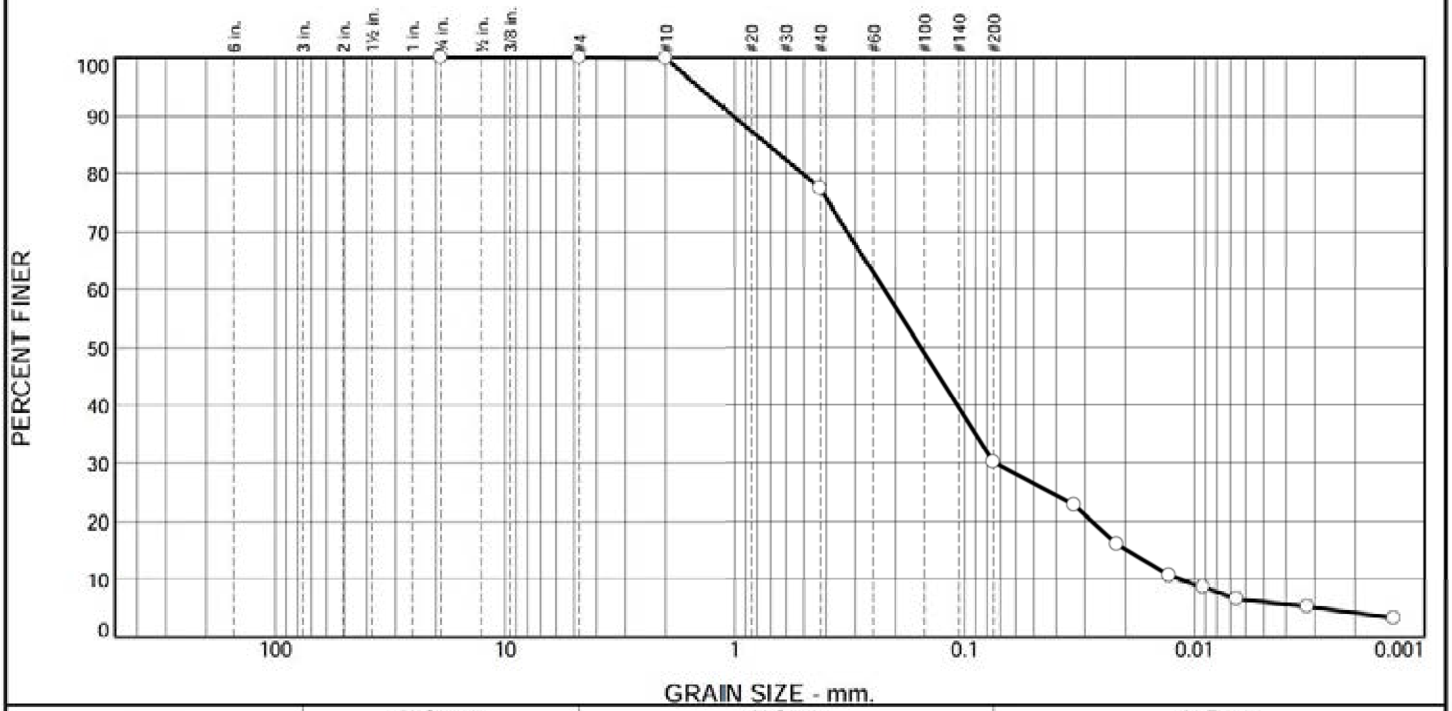
Date Sampled: 12-4-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories
Project: SI MULTIPLE SITES AFFF - AF PLANT 6, GA
Project No: 10796 (PO 132771) Figure 1

Particle Size Distribution Report - Hydrometer Method



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	22.5	47.3	24.0	6.1

Test Results (ASTM D 422-63 & ASTM D 2217)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.75	100.0		
#4	100.0		
#10	99.9		
#40	77.4		
#200	30.1		
0.0334 mm.	22.7		
0.0218 mm.	16.0		
0.0129 mm.	10.6		
0.0092 mm.	8.6		
0.0066 mm.	6.6		
0.0032 mm.	5.3		
0.0014 mm.	3.3		

* (no specification provided)

Client Sample Description

AFP0606-005-SO-027

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 1.0129	D_{85}= 0.7175	D_{60}= 0.2246
D_{50}= 0.1556	D_{30}= 0.0743	D_{15}= 0.0197
D_{10}= 0.0116	C_u= 19.43	C_c= 2.13

Remarks

Date Received: 12-8-2017 Date Tested: 12-8-2017

Tested By: CZ-TECHNICIAN

Checked By: SMF

Title: ENVIRONMENTAL DIRECTOR

Sample Number: 962397

Date Sampled: 12-4-2017

Mi-Tech Services, Inc.

Weston, WI

Client: CT Laboratories

Project: SI MULTIPLE SITES AFFF - AF PLANT 6, GA

Project No: 10796 (PO 132771) Figure 2

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Acrostar SES LLC
Project Contact: Brian Odom
Telephone: 478 - 397 - 4906
Project Name: SI of AFFF Multiple sites
Project #: M2032.0001
Location: AF PLANT 6, GA
Sampled By: A.Willis / J. Mcihew

Folder #: 132357
Company: MAXXAM ANALYTI
Project: SI OF AFFF MULTIPLE S
Logged By: DRT PM: ET

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
QSM RCRA SDWA NPDES
Solid Waste Other ________

PO # M20320001

Report To: Jerry Vance
EMAIL: jvance@aerostar.net
Company: Acrostar SES LLC
Address: 1006 Floyd Culler Ct
Oak Ridge, TN 37830
Invoice To:* Brian Odom
EMAIL: bodom@specproenv.com
Company: Acrostar SES LLC
Address: 1006 Floyd Culler Ct
Oak Ridge, TN 37830

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Fill in Spaces with Bottles per Test

Turnaround Time
Normal RUSH*
Date Needed: ________
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	TOC & pH SOIL	HYDROMETER	Total # Containers	Designated MS/MSD	CT Lab ID # *Lab use only*
11/13/17	1130	S	Comp	1	AFP0603-003-SO-047		x	x	2		954259
11/14/17	1010	S	Comp	1	AFP0607-005-SS-001		x	x	2		954261
11/14/17	1220	S	Comp	1	AFP0607-005-SO-047		x	x	2		954262
11/15/17	1120	S	Comp	1	AFP0610-006-SS-001		x	x	2		954263
11/13/17	1430	S	Comp	1	AFP0608-005-SO-032		x	x	2		954264
11/13/17	1420	S	Comp	1	AFP0608-005-SS-001		x	x	2		954265
11/15/17	1145	S	Comp	1	AFP0610-006-SO-015		x	x	2		954266
11/13/17	0920	S	Comp	1	AFP0603-003-SS-001		x	x	2		954267

Relinquished By: Ash Willis
Date/Time 11/15/17 2000
Received By:
Date/Time 11/16/17 1030

Received by:
Date/Time
Received for Laboratory by:
Date/Time 11/16/17 1051

Lab Use Only
Ice Present [✓ Yes] No
Temp 1.0 IR Gun 4
Cooler # Maxxam

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Aerostar SES LLC
Project Contact: Brian Odom
Telephone: 419-397-4906
Project Name: SI of AFFF Multiple Sites
Project #: M2032.0001
Location: AFP 6, GA
Sampled By: Ash Willis / Frank Johnson

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 132491
Company: MAXXAM ANALYTI
Project: SI OF AFFF MULTIPLE S
Logged By: DRT PM: ET

ram:
RCRA SDWA NPDES
Waste Other ______
032.0001

Report To: Jenny Vance
EMAIL: jvance@aerostar.net
Company: Aerostar SES LLC
Address: 1006 Floyd Culler Ct
Oak Ridge, TN 37923
Invoice To:* Brian Odom
EMAIL: bodom@spec proenv.com
Company: Aerostar SES, LLC
Address: 1006 Floyd Culler Ct
Oak Ridge, TN 37830

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: ______
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	TOC; pH Soil	Hydrometer	Total # Containers	Designated MS/MSD	CT Lab ID # *Lab use only*
11/14/17	1630	S	Comp	1	AFP0601-006-SS-001	N	X	X	2		956962
11/15/17	1655	S	Comp	1	AFP0601-006-SO-021		X	X	2		956963
11/20/17	0920	S	Comp	1	AFP0602-006-SS-001		X	X	2		956964
11/20/17	0942	S	Comp	1	AFP0602-006-SO-029		X	X	2		956965
11/16/17	0850	S	Comp	1	AFP0604-004-SS-001		X	X	2		956966
11/16/17	0925	S	Comp	1	AFP0604-004-SO-036		X	X	2		956967

Relinquished By:	Date/Time	Received By:	Date/Time
	11/21/17 1800		11/22/17 1030

Received by:	Date/Time	Received for Laboratory by:	Date/Time
			11/22/17 1051

Lab Use Only
Ice Present [✓ Yes] No
Temp 1.5 IR Gun 30
Cooler # Maxxam

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Aerostar SES LLC
Project Contact: Brian Odom
Telephone: 478-397-4906
Project Name: SI Multiple Sites AFFF
Project #: M2032.0001
Location: AF PLANT 6, GA
Sampled By: A. Willis / J. Moshew

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
132771

Program:
QSM RCRA SDWA NPDES
Solid Waste Other ______

PO # M2032.0001

Report To: Jenny Vance
EMAIL: jvance@aerostar.net
Company: Aerostar SES LLC
Address: 1006 Floyd Culler Ct
Oak Ridge, TN 37830
Invoice To:* Brian Odom
EMAIL: bodom@specproenv.com
Company:
Address: SAME AS ABOVE

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: ______
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	TOC; pH, hydrometer	Total # Containers	Designated MS/MSD	CT Lab ID # *Lab use only*
							Fill in Spaces with Bottles per Test			
12/4/17	1326	S	COMP	1	AF0606-003-SS-001	N	X	2		962396
12/4/17	1355	S	Comp	1	AF0606-003-SO-027	N	X	2		962397

Relinquished By: A. Willis
Date/Time 12/5/17 1900
Received By:
Date/Time
Received by:
Date/Time
Received for Laboratory by:
Date/Time 12-6-17 1057

Lab Use Only
Ice Present [✓ Yes] No
Temp 2.7 IR Gun 16
Cooler # xxxx

Appendix F

Groundwater Level Measurements

Table F-1 Groundwater Level Measurements

AFFF Area	Well ID	Top of Casing Elevation (feet)[1]	Depth to Water Below Top of Casing (feet)	Static Groundwater Elevation (feet)[1]	Date Measured
1	AFP0601-001	1080.06	dry	Unknown	11/21/2017
1	AFP0601-002	1080.65	dry	Unknown	11/21/2017
1	AFP0601-003	1081.33	dry	Unknown	11/21/2017
2	AFP0602-001	1022.24	15.03	1007.21	11/21/2017
2	AFP0602-002	1022.17	23.18	998.99	11/21/2017
2	AFP0602-003	1023.43	13.56	1009.87	11/21/2017
3	AFP0603-001	1108.21	41.70	1066.51	11/21/2017
3	B04539	1108.75	30.94	1077.81	11/21/2017
3	B04540	1098.84	26.90	1071.94	11/21/2017
3	PMW10	1107.03	41.67	1065.36	11/21/2017
4	AFP0604-001	1108.21	25.11	1083.10	11/21/2017
4	AFP0604-002	1108.14	24.98	1083.16	11/21/2017
4	AFP0604-003	1107.71	25.14	1082.57	11/21/2017
4	B4MWV	1107.29	25.86	1081.43	11/21/2017
4	MW6	1108.64	51.48	1057.16	11/21/2017
6	AFP0606-001	1018.13	21.74	996.39	12/13/2017
6	AFP0606-002	1014.05	28.15	985.90	12/13/2017
6	AFP0606-003	1014.70	23.55	991.15	12/13/2017
7	AFP0607-001	1039.40	8.48	1030.92	11/21/2017
7	AFP0607-002	1039.70	11.37	1028.33	11/21/2017
7	AFP0607-003	1074.45	38.40	1036.05	11/21/2017
7	OB2088	1038.45	12.55	1025.90	11/21/2017
8	AFP0608-001	1105.14	39.52	1065.62	11/21/2017
8	AFP0608-002	1097.88	33.00	1064.88	11/21/2017
8	AFP0608-003	1097.31	32.32	1064.99	11/21/2017
8	B102MW-2	1095.32	30.51	1064.81	11/21/2017

AFFF Area	Well ID	Top of Casing Elevation (feet)[1]	Depth to Water Below Top of Casing (feet)	Static Groundwater Elevation (feet)[1]	Date Measured
9	MW23	1083.81	22.23	1061.58	11/21/2017
9	MW24	1090.65	32.12	1058.53	11/21/2017
9	MW25	1087.42	26.32	1061.10	11/21/2017
10	AFP0610-001	1061.23	12.12	1049.11	11/21/2017
10	AFP0610-002	1061.62	12.02	1049.60	11/21/2017
10	AFP0610-003	1062.07	13.05	1049.02	11/21/2017
10	AFP0610-004	1061.78	12.82	1048.96	11/21/2017

[1] NAVD 88 datum

AFFF = aqueous film forming foam

ID = identification

TOC = top of casing

Final
Site Inspections Report of Fire Fighting Foam Usage at Dobbins Air Reserve Base
Cobb County, Georgia

October 2018

Submitted to:

Air Force Civil Engineer Center
3515 General McMullen Suite 155
San Antonio, Texas 78226-2018

Submitted by:

U.S. Army Corps of Engineers
Savannah District
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3640

Prepared by:

Aerostar SES LLC
1006 Floyd Culler Court
Oak Ridge, Tennessee 37830-8022
under
Contract No. W912HN-15-C-0022

Final
Site Inspections Report
of
Fire Fighting Foam Usage
at
Dobbins Air Reserve Base
Cobb County, Georgia

October 2018

Submitted to:
Air Force Civil Engineer Center
3515 General McMullen Suite 155
San Antonio, Texas 78226-2018

Submitted by:
U.S. Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

Prepared by:
Aerostar SES LLC
1006 Floyd Culler Court
Oak Ridge, Tennessee 37830
under
Contract No. W912HN-15-C-0022

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Acronyms and Abbreviations

µg/L	micrograms per liter
µg/kg	microgram per kilogram
AFFF	aqueous film forming foam
AFP	Air Force Plant
amsl	above mean sea level
ARB	Air Reserve Base
ASL	Aerostar SES LLC
AST	aboveground storage tank
bgs	below ground surface
btoc	below top of casing
CAS	Chemical Abstracts Service
CCMWA	Cobb County-Marietta Water Authority
CSM	conceptual site model
DOBNS	Dobbins Air Reserve Base
DPT	direct push technology
dup	duplicate
EDR	Environmental Data Resources, Inc.
EPA	Environmental Protection Agency
°F	degrees Fahrenheit
EZ	exclusion zone
ft	foot/feet
FTA	fire training area
HA	health advisory
HEF	high-expansion foam
HQ	hazard quotient
ID	identification
IDW	investigation-derived waste
IRP	Installation Restoration Program
IWTP	industrial wastewater treatment plant
J	reported concentration is an estimated value
LDPE	low-density polyethylene
mg/kg	milligrams per kilogram
ML	silt with sand/sandy silt
N/A	not applicable
NAVD88	North American Vertical Datum 1988
NFRAP	No Further Response Action Planned
ND	not detected
NL	not listed
NM	not measured
No.	number
OWS	oil/water separator
PA	preliminary assessment
Parsons	Parsons Engineering Science, Inc.
PFAS	per- and polyfluorinated alkyl substances
PFBS	perfluorobutane sulfonate
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
pH	potential of hydrogen

PPE	personal protective equipment
PVC	polyvinyl chloride
PWS	public water supply
QAPP	quality assurance project plan
RSL	regional screening level
RI	remedial investigation
SI	site inspection
SM	silty sand
SO	subsurface soil
SS	surface soil
TOC	total organic carbon
UCMR 3	Unregulated Contaminant Monitoring Rule 3
U	The analyte was not detected above the reported value.
UJ	The analyte was not detected at the reported value. The reported value is approximate.
USACE	U.S. Army Corps of Engineers
USAF	United States Air Force
USCS	Unified Soil Classification System
WWTP	wastewater treatment plant
X	analyte exceeded calibration range
Y	replicate/duplicate precision outside acceptance limits

1.0 INTRODUCTION

Aerostar SES LLC (ASL) under contract to the U.S. Army Corps of Engineers (USACE) Savannah District (Contract No. W912HN-15-C-0022) conducted screening-level site inspections (SIs) at 16 known or suspected aqueous film forming foam (AFFF) release areas at Dobbins Air Reserve Base (ARB) Figure 1 (Appendix A) shows the location of Dobbins ARB northwest of Atlanta, and Figure 2 (Appendix A) shows the 16 release areas. The purpose of the inspections was to determine the presence or absence of perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), and perfluorobutane sulfonate (PFBS) in the environment at these areas. PFOA, PFOS, and PFBS are included in a class of synthetic fluorinated chemicals used in industrial and consumer products, including defense-related applications. This class of compounds is also referred to as per- and polyfluorinated alkyl substances (PFAS).

In 1970, the United States Air Force (USAF) began using AFFF, firefighting agents containing PFOS and PFOA, to extinguish petroleum fires. Releases of AFFF to the environment routinely occur during fire training, equipment maintenance, and use. Releases also occur occasionally during storage of AFFF. Although manufacturers have reformulated AFFF to eliminate PFOS, the USAF maintains a significant inventory of PFOS-based AFFF. As of this report, the USAF is actively removing PFOS-based AFFF from its inventory and replacing it with formulations based on shorter carbon chains, which may be less persistent and bioaccumulative in the environment.

SIs were conducted at Dobbins ARB in December 2017 and January 2018, in accordance with contract requirements (USACE, February 2016), a quality assurance project plan (QAPP) (ASL, January 2016), and a site-specific addendum to the QAPP (ASL, October 2017). The QAPP and QAPP addendum were prepared in accordance with Environmental Protection Agency (EPA) guidance (EPA, March 2012) and Air Force Civil Engineer Center requirements.

The objectives of the SIs are to

- determine if a confirmed release of PFOS, PFOA, or PFBS has occurred at the areas selected for inspection;
- determine if PFOS and PFOA are present in groundwater or surface water at the inspection areas at concentrations exceeding the EPA lifetime health advisory (HA) for drinking water;
- determine if PFBS is present in soil, sediment, groundwater, or surface water at the inspection areas at concentrations exceeding generic regional screening levels (RSLs);
- determine if PFOA and PFOS are present in soil or sediment at the inspection areas at concentrations exceeding calculated RSLs; and
- identify potential receptor pathways with immediate impacts to human health.

This report identifies any releases of AFFF that resulted in PFOS, PFOA, or PFBS contamination in the environment above the project screening levels and any possible human exposure to drinking water above the HA levels. This report does not include assessment of ecological exposure pathways, receptors, or risk from PFAS impacts to the environment. Confirmed releases may require further investigation to fully delineate the extent of contamination and perform a complete risk assessment that includes ecological receptors.

Screening levels for this SI have been determined for PFOS, PFOA, and PFBS. The screening level for PFOS and PFOA in soil and sediment was calculated using EPA's RSL calculator (https://epaprgs.ornl.gov/cgi-bin/chemicals/csl_search) based on a hazard quotient (HQ) of 0.1 (HQ=0.1) (Appendix B). The toxicity value input for the calculator was the Tier 3 value reference dose of 0.00002 milligrams per kilograms per day derived by EPA in its drinking water HAs for PFOS (EPA, May 2016a) and PFOA (EPA, May 2016b). Screening levels for PFOS and PFOA in groundwater and surface water are based on EPA lifetime drinking water HAs for PFOS (EPA, May 2016a) and PFOA (EPA, May

2016b). A release was considered confirmed when exceedances of the following concentrations were identified:

PFOS:
0.07 micrograms per liter (µg/L) in groundwater or surface water (combined with PFOA value).
126 micrograms per kilogram (µg/kg) in soil or sediment.

PFOA:
0.07 µg/L in groundwater or surface water (combined with PFOS value).
126 µg/kg in soil or sediment.

Although PFOS and PFOA are the focus of the HA and provide specific targets for the USAF to address in this SI, EPA has also derived RSLs for PFBS for which there is a Tier 2 toxicity value (Provisional Peer Reviewed Toxicity Value). The USAF also considered a release to be confirmed if exceedances of the RSL concentrations (HQ=0.1) were identified:

PFBS:
40 µg/L in groundwater or surface water.
130,000 µg/kg in soil or sediment (residential soil RSL).

Published generic regional and calculated screening levels presented in the QAPP and QAPP addendum were based on an HQ of 1.0. The screening levels have subsequently been revised to reflect an HQ of 0.1. This change affects PFBS screening levels for all media and calculated PFOS and PFOA screening levels for soil and sediment. Screening levels for PFOA and PFOS in groundwater and surface water remain at 0.07 µg/L and are based on the EPA lifetime HA for drinking water. Table 1 presents the screening values for comparing the analytical results for each of the PFAS compounds.

Table 1 Regulatory Screening Values

Parameter	CAS Number	EPA Regional Screening Level Table (May 2018)[a]		Calculated Screening Level for Soil and Sediment[b] (µg/kg)	EPA Health Advisory for Drinking Water (Surface Water or Groundwater)[c] (µg/L)
		Residential Soil (µg/kg)	Tap Water (µg/L)		
Perfluorobutane sulfonate (PFBS)[c]	29420-43-3	130,000	40	N/A	NL
Perfluorooctanoic acid (PFOA)	335-67-1	NL	NL	126	0.07[d]
Perfluorooctane sulfonate (PFOS)	1763-23-1	NL	NL	126	

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b] Screening levels calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
[c] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[d] The EPA health advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/kg = micrograms per kilogram
µg/L = micrograms per liter
EPA = Environmental Protection Agency
N/A = not applicable
NL = not listed
CAS = Chemical Abstracts Service
RSL = Regional Screening Level

A preliminary assessment (PA) conducted in February 2015 (CH2M Hill, October 2015) recommended SIs for 16 areas at Dobbins ARB because of known or suspected releases of AFFF. These 16 areas (now identified as AFFF Areas 1 through 16) are listed in Table 2 and shown on Figure 2 in Appendix A.

Table 2 AFFF Areas and Selection Rationale for Site Inspections at Dobbins Air Reserve Base

AFFF Area	Location	Associated Existing IRP ID	Rationale	Media of Concern
1	Former FTA FT-02	FT-02	• Operational from the early 1950s to 1974. • Constructed of an unlined, earthen pit. • Potential AFFF use (quantities unknown). • AFFF was first used by the Air Force in 1970.	Surface soil Subsurface soil Groundwater Sediment Surface Water
2	Former FTA FT-03	FT-03	• Operational from 1974 to the late 1980s. • Constructed of a concrete-lined pit and an OWS connected to the AFP 6 IWTP. • Potential AFFF use (quantities unknown). • AFFF was introduced to the Air Force in 1970.	Surface soil Subsurface soil Groundwater
3	Building 5 (Hangar)	New Site	• Has an AFFF fire suppression system; currently not operational. • Two releases of AFFF occurred in the 1990s. • One release of 600 gallons of AFFF concentrate occurred from a leaking tank outside the building in a graveled area. • A second release occurred when an estimated 5,000 gallons of AFFF/water mix were accidentally discharged and an unknown quantity flowed outside the hangar.	Surface soil Subsurface soil Groundwater
4	Building 731 (Hangar)	New Site	• Formerly had an AFFF fire suppression system (currently has an HEF system). • Two releases of AFFF occurred (1999 and unknown). • An AFFF release of up to 20 gallons (date unknown) occurred in the mechanical room and was captured by the building drainage system. • An AFFF release of up to 1,500 gallons (in 1999) flowed outside the hangar toward nearby grassed areas and into the stormwater drainage system.	Surface soil Subsurface soil Groundwater
5	Building 746 (Hangar)	New Site	• Formerly had an AFFF fire suppression system (currently has an HEF system). • A release of up to 1,500 gallons of AFFF occurred between 1999 and 2004 and flowed outside the hangar.	Surface soil Subsurface soil Groundwater
6	Building 745 (Hangar)	New Site	• Known AFFF release outside the building during resupply activities. • Possible AFFF release during fire engine cleaning activities outside the building prior to 1999. • AFFF quantity released is unknown.	Surface soil Subsurface soil Groundwater
7	C-5A Galaxy Fire	New Site	• AFFF may have been applied to the fire from a crash that occurred in October 1970. • AFFF quantity released is unknown.	Surface soil Subsurface soil Groundwater
8	L-188CF Electra Crash	New Site	• AFFF may have been applied to the fire from a crash that occurred in January 1985; quantity unknown.	Surface soil Subsurface soil Groundwater

AFFF Area	Location	Associated Existing IRP ID	Rationale	Media of Concern
9	L-100-20 Hercules Crash	New Site	• AFFF was applied to multiple fires from a crash that occurred in February 1993. • Used approximately 1,000 gallons of AFFF/water mixture.	Surface soil Subsurface soil Groundwater
10	F-18 Tire Fire	New Site	• Used approximately 100 gallons of AFFF/water mixture. • PFAS may have migrated to grassed areas nearby.	Surface soil Subsurface soil Groundwater
11	E-2 Tire Fire	New Site	• Used approximately 50 to 100 gallons of AFFF/water mixture. • PFAS may have migrated to grassed areas nearby.	Surface soil Subsurface soil Groundwater
12	Motor Pool (Building 516)	New Site	• Approximately 2 to 5 gallons of AFFF released to paved area outside the building. • PFAS may have migrated to a wooded area nearby.	Surface soil Subsurface soil Groundwater
13	AFFF Spray Test Area	New Site	• Repeated release of AFFF directly onto the ground. • Approximately 100 gallons of AFFF/water mixed at a 3% solution (total for all engines) was discharged during each annual test. • Total volume of AFFF discharged at the test area is unknown.	Surface soil Subsurface soil Groundwater
14	Big Lake	OT-04	• Visual confirmation that AFFF released from Building 5 flowed into the lake. • The total quantity of AFFF received from Building 5 is unknown. • Fish kill confirmed. • Discharges directly to an unnamed tributary of Rottenwood Creek.	Surface soil Subsurface soil Groundwater Sediment Surface Water
15	Spill Pond 3	New Site	• Visual confirmation that foam was received from an unknown source. • The type of foam is unknown. • The pond is unlined and depth to groundwater is 5 feet bgs. • Discharges directly to an unnamed tributary of Rottenwood Creek.	Surface soil Subsurface soil Groundwater Sediment Surface Water
16	Spill Pond 4	New Site	• Visual confirmation that AFFF released from Building 731 flowed into the pond. • The total quantity of AFFF received from Building 731 is unknown but may have been up to 1,500 gallons of AFFF. • The pond is unlined, and depth to groundwater is 5 feet bgs. • Fish kill confirmed. • Discharges directly to an unnamed tributary of Rottenwood Creek.	Surface soil Subsurface soil Groundwater Sediment Surface Water

Modified from Table 4.1, "*Preliminary Assessment Report Summary and Findings Dobbins Air Reserve Base, Georgia*" (CH2M Hill, October 2015)

AFFF = aqueous film forming foam AFP = Air Force Plant bgs = below ground surface FTA = fire training area HEF = high-expansion foam

IRP = Installation Restoration Program IWTP = industrial wastewater treatment plant OWS = oil/water separator PFAS = per- and polyfluorinated alkyl substances

2.0 AREA DESCRIPTIONS

2.1 DOBBINS AIR RESERVE BASE

Situated 16 miles northwest of Atlanta in Marietta, Georgia, and Cobb County, Dobbins ARB is the largest multi-service reserve training base in the world and supports more than 10,000 guardsmen and reservists from the Air Force, Army, Navy, and Marines. The base was built in 1943 and was originally called Marietta Army Airfield. In 1950, the named changed to Dobbins Air Force Base to honor Capt. Charles Dobbins, a pilot from Marietta. Captain Dobbins was killed during World War II when his C-47 aircraft was shot down over the Mediterranean Sea. In June 1992, the name was changed to Dobbins Air Reserve Base.

Topography
Dobbins ARB is located in the Central Uplands district of the Piedmont physiographic province. This district is characterized by a series of low, linear ridges separated by broad, open valleys. Streams flowing through this section are generally transverse to the underlying geologic structure and occupy valleys 150 to 200 feet below the ridge crests (Parsons Engineering Science, Inc. [Parsons], May 1995).

The base is situated on a gently rolling plateau which slopes gradually downward to the southeast. The plateau is dissected by several small stream channels, including Rottenwood and Poor House Creeks. Elevations range from approximately 1,100 feet above mean sea level (amsl) at the northwest corner of the base to approximately 950 feet amsl at the southwest corner (Parsons, May 1995).

Climate
The climate at Dobbins ARB is characteristic of the northern temperate zone, with four clearly separated seasons and a predominant weather movement from west to east. The average annual temperature at Dobbins ARB is 61 degrees Fahrenheit (°F), with an average daily maximum and minimum of 70°F and 51°F, respectively. July is the hottest month, with an average high of 89°F and an average low of 66°F. January is the coldest month, with an average high of 50°F and an average low of 28°F. The area receives an average of 54.4 inches of precipitation a year. October is the driest month, with an average of 3.38 inches of precipitation, and January is the wettest, averaging 5.82 inches (Intellicast.com, 2018).

2.2 FORMER FIRE TRAINING AREA (FTA) FT-02 – AFFF AREA 1

Former FTA FT-02 (Figures 2 and 3, Appendix A) is southwest of the intersection of Taxiway E and the former Northwest-Southeast Runway. The former FTA is bordered by the taxiway to the north, the former runway to the east, and by a wooded area to the west and south.

FT-02 was used from the early 1950s to 1974. Petroleum, oil, and lubricant wastes were dumped into an unlined, earthen pit about 100 feet square and 3 to 4 feet deep and ignited. Prior to 1970, a protein foam was used to extinguish fires; from 1970 through 1974, AFFF was used. A 10- to 12-foot-deep holding pond located next to the burn pit temporarily retained water used to extinguish fires. Excess water flowed into an unnamed tributary of Poor House Creek south of the area. When fire training activities were moved to FTA FT-03, FTA FT-02 was regraded and paved for use as a power check pad.

Media potentially impacted by PFAS at FT-02 include surface soil, subsurface soil, groundwater, sediment, and surface water.

2.3 FORMER FTA FT-03 – AFFF AREA 2

Former FTA FT-03 (Figures 2 and 4, Appendix A) is north of Runway 11/29 in the central portion of the base. The former FTA is bordered by Big Lake to the north, the runway to the south, and grassed areas to the east and west.

The FTA was used from 1974 to the late 1980s and use of AFFF at FT-03 is likely. The FTA consisted of a concrete-lined burn pit with a 2,500-gallon tank for fuel storage. Runoff from the burn pit was collected in a baffled sump pit and conveyed to an oil/water separator (OWS). Water from the OWS was piped to the industrial wastewater treatment plant (IWTP) located on Air Force Plant (AFP) 6 property for further treatment. The integrity of the concrete-lined FT-03 fire training facility is uncertain.

Media potentially impacted by PFAS at FT-03 include surface soil, subsurface soil, groundwater, sediment, and surface water.

2.4 BUILDING 5 (HANGAR) – AFFF AREA 3

Building 5 (Figures 2 and 5, Appendix A) is a hangar near the western boundary of the base at the west end of Taxiway L. The hangar is bordered by a landscaped grassed area to the southwest, a concrete aircraft ramp (Hangar 5 Ramp) to the northwest, a paved driveway and parking area to the northeast, and a paved parking area to the southeast.

Building 5 was constructed in the 1970s with an AFFF fire suppression system. The AFFF system consists of a primary 600-gallon aboveground storage tank (AST) and a secondary back-up, 600-gallon AST. The two original AFFF ASTs were removed and replaced in the mid-1990s. The system is currently inactive.

Building 5 has grated floor drains positioned along the inside of the hangar doors that would collect AFFF after system activation or in the event of a valve failure. AFFF captured by the hangar floor drains is assumed to be directed to either the AFP 6 IWTP or wastewater treatment plant (WWTP). Any AFFF that escaped the hangar would be discharged to Big Lake via the stormwater system.

Two known AFFF releases occurred in the 1990s at Building 5. The first AFFF release was discovered during an inspection of the AFFF system in 1993. A 600-gallon, primary AST was found empty and was assumed to have leaked directly onto the ground at the graveled tank site on the southeast side of the hangar. The quantity of AFFF released is assumed to be 600 gallons of AFFF concentrate (no dilution).

The second AFFF release occurred between 1993 and 1997 during a system test. Although the two AFFF tanks were disconnected from the system prior to testing, AFFF solution remained in the piping and foam filled the hangar. Although the amount of AFFF released is unknown, an estimated 5,000 gallons of water/AFFF mixed at a 3% solution would normally be released during the 10 minute test. The hangar floor drains did not contain the release, and AFFF flowed across the concrete ramp (north side of the building) to a grassed area to the northeast. The AFFF then flowed into the stormwater drainage system to Big Lake and ultimately flowed off-base in an unnamed tributary of Rottenwood Creek.

Media potentially impacted by PFAS at Building 5 include surface soil, subsurface soil, and groundwater. A separate SI was also conducted at Big Lake to address possible impacts from the release at Building 5.

2.5 BUILDING 731 (HANGAR) – AFFF AREA 4

Building 731 (Figures 2 and 6) is a hangar in the northeastern part of the base on the north side of Runway 11/29. The hangar is bordered by a paved access drive and landscaped grassed area to the northwest, a paved parking area to the northeast, a concrete paved equipment parking area to the southeast, and a concrete paved aircraft ramp to the southwest.

Building 731 was constructed in the 1970s with an AFFF fire suppression system with a 1,500-gallon AST. The AFFF system was replaced with a high-expansion foam (HEF) fire suppression system in 2006. Building 731 is currently used for fuel-cell cleaning and maintenance.

Building 731 has grated floor drains positioned along the inside of the hangar doors that would collect AFFF after system activation or in the event of a valve failure. AFFF captured by the hangar floor drains is assumed to be directed to either the AFP 6 IWTP or WWTP via the OWS. Any AFFF that escaped the hangar would be discharged to Spill Pond 4 via the stormwater system. A 4,400-gallon concrete OWS associated with Building 731 is located in the asphalt parking area on the northwest side of the building receives wastes from fuel cell maintenance procedures. The OWS discharges to the sanitary sewer (AECOM, August 2012).

Two known AFFF releases occurred at Building 731. The first AFFF release occurred in 1999 and was caused by a system malfunction. The quantity of AFFF released during this event is unknown; however, it is possible that the entire 1,500-gallon AFFF tank (concentrate) emptied. During cleanup activities, AFFF was pushed outside the hangar and allowed to dry on the aircraft ramp and parking apron (southwest side of the hangar). AFFF flowed north onto grassed areas and entered the stormwater drainage system eventually flowing to Pond 4. AFFF was observed in the pond and a fish kill was documented.

The second AFFF release occurred in the Building 731 mechanical room and was contained within the building. A leak from the AFFF concentrate tank was observed during an inspection (date unknown). The quantity of AFFF released was estimated to be between 15 to 20 gallons. The AFFF was captured by the floor drain and was assumed to have been directed to either the AFP 6 IWTP or WWTP.

Media potentially impacted by PFAS at Building 731 include surface soil, subsurface soil, and groundwater. A separate SI was conducted at Spill Pond 4 to address sediment and surface water impacts from the release at Building 731.

2.6 BUILDING 746 (HANGAR) – AFFF AREA 5

Building 746 (Figures 2 and 7, Appendix A) is a hangar in the northeastern part of the base on the north side of Runway 11/29. The hangar is bordered by a landscaped, grassed area and paved access road to the north, a grassed area and small paved ramp and access road to the east, a concrete paved aircraft ramp/parking apron area to the south, and a paved area to the west. Buildings 745 (current fire station) and Building 747 (hangar) are immediately east and west of Building 746, respectively.

Building 746, currently a C-130 maintenance hangar, was constructed in the 1970s and was originally equipped with an AFFF fire suppression system and 1,500-gallon AST. The AFFF system was replaced with an HEF fire suppression system in 2006.

Building 746 has grated floor drains positioned along the inside of the hangar doors that would collect the AFFF after system activation or in the event of a valve failure. AFFF captured by the hangar floor drains is assumed to be directed to either the AFP 6 IWTP or WWTP.

One known AFFF release occurred at Building 746 between 1999 and 2004 and was caused by a system malfunction. Although the quantity of AFFF released is unknown, it is assumed the entire 1,500-gallon AFFF (concentrate) tank was released based on the amount of AFFF in the hangar. During cleanup activities, AFFF was pushed outside the hangar and allowed to dry on the aircraft ramp and parking apron (south side of the hangar). AFFF reached the grassed area south of Building 746 and entered the nearby stormwater drainage system.

Media potentially impacted by PFAS at Building 746 include surface soil, subsurface soil, and groundwater.

2.7 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

Building 745 (Figures 2 and 7), the current fire station, is in the northeastern part of the base on the north side of Runway 11/29. The fire station is bordered by landscaped grassed areas to the north and east and concrete/paved areas to the south and west.

Building 745 serves as the only fire station for the flightline at Dobbins ARB. The fire station houses five fire engines/crash trucks. A trailer used to refill AFFF tanks on the fire engines is stored outside the building. The fire station has a grated floor drain system that collects AFFF during accidental releases. AFFF captured by the floor drains is directed to an OWS and is assumed to be directed to either the AFP 6 IWTP or WWTP.

Fire trucks are refilled with AFFF on the concrete ramp outside the station garage doors on the south side of Building 745 and accidental releases of AFFF occasionally occurred during the transfer process. Standard practice was to wash the AFFF from the concrete onto the adjacent grassed area with water or to allow the AFFF to dry in place. All vehicle cleaning is currently performed in the stalls of the fire station inside Building 745. Prior to 1999, fire truck exterior washing was performed on the concrete ramp south of Building 745; any residual AFFF from truck washing likely flowed to the grassed area east of the ramp.

Media potentially impacted by PFAS at Building 745 include surface soil, subsurface soil, and groundwater.

2.8 C-5A GALAXY FIRE – AFFF AREA 7

On October 17, 1970, the fire department responded to a Lockheed C-5A Galaxy aircraft fire at the east end of Runway 11/29 (Figures 2 and 8). The potential release area is covered by concrete pavement and the surrounding area is grassed. Although foam was likely used to suppress the fire, the type of foam (protein or AFFF) and quantity used are unknown. The Air Force began using AFFF in 1970 and therefore may have been used to extinguish the fire.

Media potentially impacted by PFAS at the C-5A fire site include surface soil, subsurface soil, and groundwater.

2.9 L-188CF ELECTRA CRASH – AFFF AREA 8

On January 29, 1985, the fire department responded to a Galaxy Airlines Lockheed L-188CF Electra cargo plane crash on Runway 11/29 (Figures 2 and 9, Appendix A). The commercial cargo plane had departed Philadelphia bound for Charlotte, North Carolina, when the right main landing gear jammed during gear retraction. The crew elected to divert to what was then Dobbins Air Force Base for safety reasons and Runway 29 was foamed in preparation for the landing. The aircraft landed with the nose and left main gear extended and the right main gear partially retracted causing the aircraft to veer to the right. At approximately 4,200 feet from the runway threshold, the aircraft came to rest with the nose gear approximately 70 feet off the runway in the adjacent grassed area. A fire erupted in the right main gear area but was quickly extinguished (Flight Safety Foundation, 2017a; National Transportation Safety Board (NTSB), 2017). The PA indicated that standard practice was to cover the runway with protein foam in preparation for a crash landing, but the crash trucks most likely used AFFF to extinguish the fire. The PA indicates the crash site was 4,200 feet from the Runway 11 threshold.

As indicated above, the Flight Safety Foundation report states the crash occurred on Runway 29 and the plane veered off the runway to the right 4,200 feet from the runway threshold. Based on this information, the crash site indicated in the PA may be incorrect. An alternate crash site is included on Figures 2 and 9 (Appendix A) to show the location of the crash 4,200 feet from the Runway 29 threshold and north of the runway. Both possible crash sites were included in the SI and are designated as the primary and alternate crash sites.

Media potentially impacted by PFAS at the L-188CF Crash site include surface soil, subsurface soil, and groundwater.

2.10 L-100-20 HERCULES CRASH – AFFF AREA 9

On February 3, 1993, the fire department responded to a Lockheed L-100-20 Hercules aircraft crash at the intersection of Lake Circle and 4th Street (Figures 2 and 10, Appendix A). The aircraft was being used as a high technology test bed to evaluate a fly-by-wire rudder actuator and ground minimum control speed. During the final high speed ground test run, the aircraft accidentally veered left and became airborne. The Hercules aircraft climbed to 250 feet and crashed into the southwest corner of the Joint Services Medical Center (Building 550) (Flight Safety Foundation, 2017b). Aircraft crash debris was scattered over a large area, and AFFF was used to suppress multiple fires. The quantity of AFFF used was estimated to be no more than 1,000 gallons of AFFF and water.

Media potentially impacted by PFAS at the L-100-20 Crash site include surface soil, subsurface soil, and groundwater.

2.11 F-18 TIRE FIRE – AFFF AREA 10

In 2002, the fire department responded to an F-18 Hornet tire fire caused by overheated brakes just east of the intersection of Taxiway E and the former NW/SE runway (Figures 2 and 11, Appendix A). The area is paved and the surrounding area is grassed. Approximately 100 gallons of AFFF/water mixed at a 3% solution were used to extinguish the fire. Residual AFFF was allowed to dry in-place and may have migrated with surface water runoff to the grassed areas on the edges of the runway.

Media potentially impacted by PFAS at the F-18 tire fire area include surface soil, subsurface soil, and groundwater.

2.12 E-2 TIRE FIRE – AFFF AREA 11

In 2001, the fire department responded to a Northrop Grumman E-2 Hawkeye tire fire on the airfield. The tire fire, which was caused by overheated brakes, occurred in the grassed infield between Runways 11/29 and 110/290, east of the former NW/SE runway (Figures 2 and 12, Appendix A). Approximately 50 to 100 gallons of AFFF/water mixture were used to extinguish the fire. Residual AFFF was allowed to dry in place and may have migrated with stormwater runoff to the grassed areas on the edges of the runway.

Media potentially impacted by PFAS at the F-18 tire fire area include surface soil, subsurface soil, and groundwater.

2.13 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

The Motor Pool Facility (Building 516) is north of the airfield on the south side of Industrial Drive (Figures 2 and 13, Appendix A). The building is bordered on all sides by paved parking areas and access drives. The paved areas are bordered by woods to the east, south, and west. A grassed area borders the pavement to the north along Industrial Drive.

During maintenance on a fire engine in 2015, an equipment malfunction caused an AFFF release to the pavement at the southwest corner of the building. Approximately 2 to 5 gallons of AFFF concentrate leaked onto the pavement and were allowed to dry in place.

Media potentially impacted by PFAS at Building 516 include surface soil, subsurface soil, and groundwater.

2.14 AFFF SPRAY TEST AREA – AFFF AREA 13

The AFFF spray test area is near the southeast end of the former NW/SE runway, immediately north of the current aircraft fire training facility (Figures 2 and 14, Appendix A). The former concrete runway is bordered by grassed areas to the northeast and southwest. The aircraft fire training facility is at the southeast end of the former runway, while the northwest portion of the runway is part of the active airfield.

The Dobbins ARB Fire Department conducts annual AFFF spray testing on the former runway. A total of approximately 100 gallons of AFFF/water mixed at a 3% solution (total for all engines) is discharged during each annual test. The tests are normally perfomed on sunny, windless days and the AFFF is allowed to dry on the concrete surface of the runway. These tests have been conducted for many years and the total quantity of AFFF discharged is unknown.

Media potentially impacted by PFAS at the AFFF spray test area include surface soil, subsurface soil, and groundwater.

2.15 BIG LAKE (OT-04) – AFFF AREA 14

Big Lake is an unlined, artificial lake north of the airfield at the west end of 4th Street (Figures 2 and 4, Appendix A). The lake is bordered by wooded areas to the north, northwest, and east; a picnic and recreational area to the northeast; and a grassed area and former FTA FT-03 to the south.

The PA identified one known release of AFFF to Big Lake. An accidental AFFF release at Building 5 (hangar) between 1993 and 1997 flowed into the stormwater drainage system and into Big Lake. AFFF was observed on the lake surface and a fish kill was confirmed. The AFFF ultimately flowed off-base in an unnamed tributary of Rottenwood Creek.

Media potentially impacted by PFAS at Big Lake include surface soil, subsurface soil, groundwater, sediment, and surface water.

2.16 SPILL POND 3 – AFFF AREA 15

Spill Pond 3 is an unlined spill containment pond in the north/central part of the base (Figures 2 and 15, Appendix A). The pond is bordered by a grassed area and Atlantic Avenue to the north, a drainage ditch (pond bypass) and grassed area to the east, and wooded areas to the south and west.

The containment pond was constructed by the USACE in 1978 to comply with federal laws and regulations concerning possible spills of oil or other hazardous substances that could discharge to navigable waters.

According to the PA, at some point in the past (date unknown) foam of unknown source, type, and quantity was observed in Spill Pond 3. Media potentially impacted by PFAS at Spill Pond 3 include surface soil, subsurface soil, groundwater, sediment, and surface water.

2.17 SPILL POND 4 – AFFF AREA 16

Spill Pond 4 is a second unlined spill containment pond in the north/central part of the base (Figures 2 and 16, Appendix A). The spill pond is bordered by a grassed area and Atlantic Avenue to the north and by grassed areas on the remaining three sides.

The containment pond was constructed by the USACE in 1978 to comply with federal laws and regulations concerning possible spills of oil or other hazardous substances that could discharge to navigable waters.

In 1999, an AFFF release occurred at Building 731 (hangar) and up to 1,500-gallon AFFF was released. During cleanup activities, AFFF was pushed outside the hangar and allowed to dry on the aircraft ramp and parking apron. AFFF eventually entered the stormwater drainage system flowing to Pond 4. AFFF was observed in the pond and a fish kill documented.

Media potentially impacted by PFAS at Spill Pond 4 include surface soil, subsurface soil, groundwater, sediment, and surface water.

3.0 FIELD ACTIVITIES AND FINDINGS

ASL conducted SI field activities at Dobbins ARB beginning on November 28, 2017, and ending on January 10, 2018. Fieldwork was conducted in accordance with the QAPP (ASL, January 2016) and the base-specific field sampling plan addendum to the QAPP (ASL, October 2017). A readiness review (documented in Appendix C) conducted prior to fieldwork covered anticipated hazards, types and proper use of equipment needed for the field activities, sampling procedures, and procedures to be used to prevent cross-contamination of samples with PFAS-containing compounds.

3.1 SAMPLING PROCEDURES

Field activities included collecting groundwater samples (from direct push technology [DPT] borings, temporary wells, and existing monitoring wells), collecting surface soil and subsurface soil samples (from hand auger and DPT soil borings), and collecting surface water and sediment samples. ASL selected sampling locations in areas most likely to have been impacted by known or suspected AFFF releases.

3.1.1 Sampling Methodology

Soil borings were advanced with a track-mounted DPT drill rig. Surface soil samples were collected to a depth of 6 inches below ground surface (bgs) with stainless steel hand augers. Subsurface soil samples were collected immediately above the water saturated/unsaturated soil interface using a DPT Macro-core® sampler with acetate liner. Soil samples were placed in containers using stainless steel spoons.

Groundwater samples were collected from DPT soil borings, temporary monitoring wells, and existing monitoring wells. Groundwater samples from soil borings were collected with a reusable GeoProbe® SP16 drive point groundwater sampler consisting of a sheathed 0.78-inch inside diameter by 41-inch-long stainless steel screen. To collect the samples, the drive point was advanced to the desired depth and the sheath retracted, exposing the screen. The sample was then collected with a peristaltic pump and polyvinyl tubing inserted through the drill rods into the screen. Temporary monitoring wells were constructed using 0.75-inch inside diameter polyvinyl chloride (PVC) pre-packed 0.010-inch machine slot screens and 1-inch inside diameter risers. Samples from temporary and existing monitoring wells were typically collected with peristaltic pumps and disposable polyvinyl tubing inserted to the approximate midpoint of the saturated portion of the screened interval.

Water levels in twelve temporary monitoring wells and one existing permanent monitoring well were too deep to sample using a peristaltic pump. The deeper temporary wells were sampled manually using low-density polyethylene (LDPE) tubing with a check valve attached at the bottom of the tubing. Samples were collected by rapidly moving the tubing up and down by hand. At the end of the upstroke, the water in the tubing continues to move slightly upward by inertia. On the downstroke, the check valve at the bottom of the tubing opens, allowing additional water to enter the device. The up and down motion is continued until water moves up and out of the tubing and the sample collected. The existing well with a water level too deep to sample with a peristaltic pump was sampled using a ProActive stainless steel submersible pump.

Sediment samples were collected using stainless steel spoons. Surface water samples were collected by attaching the sample container to an extendable rod designed for sampling and dipping the container into the water.

Field duplicate samples were collected at a frequency of one for every 10 samples for each media sampled. Matrix spike/matrix spike duplicate samples were collected at a frequency of one for every 20 samples for each media. Boring logs and sample collection forms are in Appendix C.

All soil, sediment, and groundwater samples were submitted via overnight courier to Maxxam Analytics International Corporation of Mississauga, Ontario, Canada, under chain of custody procedures and analyzed for PFBS, PFOA, and PFOS using modified EPA Method 537 "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/ Tandem Mass Spectrometry (LC/MS/MS)." Eighteen PFAS compounds are included in this analysis; however, only the three analytes listed below have health-based screening levels associated with them.

Analyte	*CAS Number
Perfluorobutane sulfonate (PFBS)	29420-43-3
Perfluorooctanoic acid (PFOA)	335-67-1
Perfluorooctane sulfonate (PFOS)	1763-23-1

*CAS = Chemical Abstracts Service

Laboratory case narratives and analytical data sheets are presented in Appendix D.

To provide basic soil parameter information, ASL collected representative composite surface soil and subsurface soil samples from each area and submitted them to CT Laboratories of Baraboo, Wisconsin, for analysis of physiochemical parameters. These analyses included potential of hydrogen (pH), particle size distribution, percent solids, and total organic carbon (TOC), as summarized in Table E-1 in Appendix E.

3.1.2 Data Quality

Third-party data validation was conducted on 100% of the analytical data. Overall, the quality of the data was acceptable; no data was rejected, and all data is considered usable for decision-making. The precision (98.3%) and accuracy results (96.3%) were acceptable for the project. These calculations are based on the total number of data records validated. Each analyte result is considered a data record, and 3,654 records were validated (203 samples, 18 analytes per sample).

The precision result of 98.3% indicates 1.7% of the data records were qualified during validation (with a "J" or "UJ" indicating estimated values) because of precision concerns (primarily field duplicate outliers). The accuracy result of 96.3% indicates 3.7% of the data records were qualified during validation (with a "J" or "UJ") because of accuracy concerns (primarily due to internal standard outliers).

The data validation report indicated a completeness of 100% based on the fact that the data for all of the samples received by the laboratory were acceptable. However, groundwater samples could not be collected from seven temporary wells because groundwater was not encountered. Based on a total of 210 samples, the planned number of data records was 3,780 (based on 18 analytes per sample). The actual completeness (based on collection of 203 of 210 samples), therefore, is 96.7% but is still acceptable for the project.

Further details on precision, accuracy, and completeness are included in the data validation report in Appendix D.

3.1.3 Surveying

Coordinates and elevations for soil borings and temporary wells were established by Wellston Associates Surveyors of Warner Robins Georgia. Northing and easting coordinates were recorded in the Georgia State Plane Coordinate System, North American Datum 1983, West Zone. Elevations were referenced to North American Vertical Datum 1988 (NAVD88). ASL personnel recorded sediment/surface water sample points using a Trimble Geo7X handheld global positioning system (GPS) unit.

3.2 PFAS CROSS-CONTAMINATION AVOIDANCE PROCEDURES

Field personnel complied with PFAS cross-contamination avoidance procedures and considerations, which are included in ASL Standard Operating Procedure 028, "Field Sampling Protocols to Avoid Cross-Contamination at Perfluorinated Compounds (PFCs) Sites."

3.2.1 Field Equipment

- Teflon®-containing materials (Teflon® tubing, bailers, tape, plumbing paste, or other Teflon® materials) were not used because Teflon® contains fluorinated compounds.
- Peristaltic pumps equipped with silicon tubing were used to sample groundwater at depths of 25 feet or shallower. A ProActive stainless steel pump with PVC leads was used to sample groundwater at depths greater than 25 feet.
- LDPE tubing was used downhole for all sampling and well development.
- Field notes were recorded in a bound logbook that did not have waterproof paper.
- All personnel changed gloves between recording and sampling activities to prevent cross-contamination.
- Post-It Notes® were not allowed on site.
- Only Sharpie® brand markers were used. Pens were used to document field activities in the logbooks and on field forms, to label sample containers, and to prepare the chains of custody.
- Chemical (blue) ice packs were not used to store samples, food, or drinks.

3.2.2 Field Clothing and Personal Protective Equipment

- The sampling personnel wore field clothing made of synthetic and natural fibers (preferably cotton). The clothing had to have been laundered at least six times without using a fabric softener since it was purchased. New clothing was not allowed because it could contain PFAS-related treatments.
- Only rain gear made from polyurethane and wax-coated materials was allowed.
- Clothing or boots containing Gore-Tex™ was not allowed because it consists of a PFAS membrane.
- Tyvek® clothing was not allowed on site because it contains fluorinated compounds.
- Disposable nitrile gloves were worn at all times when field activities were being conducted, and a new pair was donned prior to the following activities at each sample location:
    - Decontamination of reusable sampling equipment;
    - Contact with sample bottles or water containers;
    - Insertion of anything into the well (LDPE tubing, HydraSleeve® bailer, etc.);
    - Insertion of silicon tubing into the peristaltic pump;
    - Completion of monitor well purging;
    - Sample collection; and
    - Handling of any quality assurance/quality control samples, including field blanks and equipment blanks.
- A new pair of nitrile gloves were worn after handling any non-dedicated sampling equipment, after contact with surfaces that had not been decontaminated, or when field personnel thought it was necessary.

3.2.3 Sample Containers

- All samples were collected in high-density polyethylene bottles with screw caps made of the same materials. The liners of lined screw caps were not made of Teflon® and did not contain PFAS.
- Glass sample containers were not used.
- Container labels were completed using a Sharpie® pen after the caps had been placed on each bottle.

3.2.4 Wet Weather

- Field personnel who were sampling during wet weather (such as rainfall or snowfall) wore appropriate clothing that did not pose a risk of cross-contamination. Sampling personnel avoided synthetic gear treated with water-repellant finishes containing PFAS. Only rain gear made from polyurethane and wax-coated materials was allowed.
- Field personnel wore gloves when erecting or moving a gazebo tent overtop used for protection from rain at sampling locations because the canopy material may have been treated with a PFAS-based coating. Gloves were changed immediately after handling the tent, and any further contact with the tent was avoided until all sampling activities were finished and the team was ready to move on to the next sample location.

3.2.5 Equipment Decontamination

Field sampling equipment was decontaminated using Alconox® or Liquinox® soap. Decon 90® was not used during decontamination activities. Laboratory-certified PFAS-free water was used for the final decontamination rinse of sampling equipment. Larger equipment, such as drill rigs, was decontaminated using potable water and a high-pressure washer and then rinsed with potable water.

3.2.6 Personnel Hygiene

- Field personnel did not use cosmetics, moisturizers, hand cream, or other related products as part of their personal hygiene routine before a sampling event because these products may contain surfactants and be a potential source of PFAS.
- Because many manufactured sunblock and insect repellants contain PFAS, only sunblock and insect repellants that contain 100% natural ingredients were allowed.
- For restroom breaks, field personnel left the exclusion zone (EZ) before removing personal protective equipment (PPE). Before returning to the EZ, field personnel washed as normal, allowing extra time to rinse with water after using soap. Field personnel used a mechanical dryer to avoid using paper towels if possible.

3.2.7 Food Considerations

Field personnel did not eat or drink inside the EZ.

3.2.8 Visitors

Site visitors remained outside the EZ during all sampling activities.

3.3 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

3.3.1 Sample Locations

To assess possible PFAS impacts from previous use of AFFF at Former FTA FT-02, six surface soil samples (four primary and two duplicate), three subsurface soil samples, and five groundwater samples were collected. Surface and subsurface soil samples were collected from soil borings DOBNS01-001, DOBNS01-002, and DOBNS01-003, and groundwater samples were collected from temporary wells installed in the soil borings. Groundwater samples were also collected from existing monitoring wells D2-W7 and D2-W23. Planned sediment and surface water samples from an unnamed tributary of Poor House Creek were not collected because no surface water was present. A surface soil sample was collected at location DOBNS01-004 in lieu of the sediment sample. Sample locations for AFFF Area 1 are shown on Figure 3 in Appendix A.

3.3.2 Soil Description and Lithology

The three soil borings completed at Former FTA FT-02 (DOBNS01-001, DOBNS01-002, and DOBNS01-003) were terminated at a depths of 30.0 feet, 35.1 feet, and 30.0 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and Unified Soil Classification System (USCS) designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.3.3 Groundwater Flow

Groundwater levels were gauged at three temporary and two existing monitoring wells at FT-02 on December 13, 2017. Groundwater was detected at depths ranging from 8.32 feet to 23.74 feet below top of casing [btoc]) and at elevations ranging from 968.25 feet NAVD88 (at D2-W23) to 975.07 feet NAVD88 (at DOBNS01-003). Groundwater contours developed from these water level measurements indicate shallow groundwater flows southwest, as shown on Figure 3 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.3.4 Analytical Results

Surface Soil

Six surface soil samples (four primary and two duplicates) were collected from soil borings DOBNS01-001 through DOBNS01-003 at Former FTA FT-02. Surface soil sample DOBNS01-004-SS-001 (and duplicate DOBNS01-004-SS-901) were collected in lieu of planned sediment and surface water samples at that location because surface water was not present. PFBS was detected in four of the six samples and PFOA was detected in each of the samples. All detected concentrations of PFBS and PFOA were below their respective screening levels. PFOS was also detected in each of the samples and exceeded the screening level in sample DOBNS01-003-SS-001. Surface soil analytical results are summarized in Table 3 and shown on Figure 17 in Appendix A.

Table 3 Former Fire Training Area FT-02 (AFFF Area 1) Surface Soil Analytical Results

	Sample ID	DOBNS01-001-SS-001	DOBNS01-002-SS-001	DOBNS01-002-SS-901 (dup)
	Date Sampled	**12/02/17**	**12/02/17**	**12/02/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**1.0 J**	**0.92 J**	**1.1 J**
Perfluorooctanoic acid (PFOA)	126[b]	**3.6**	**5.5**	**5.2**
Perfluorooctane sulfonate (PFOS)	126[b]	**65**	**28**	**23**
	Sample ID	**DOBNS01-003-SS-001**	**DOBNS01-004-SS-001[1]**	**DOBNS01-004-SS-901[1] (dup)**
	Date Sampled	**12/02/17**	**12/01/17**	**12/01/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**0.80 J**	0.50 UJ	0.50 UJ
Perfluorooctanoic acid (PFOA)	126[b]	**6.9**	**1.5**	**1.7**
Perfluorooctane sulfonate (PFOS)	126[b]	**200**	**7.0**	**6.1**

[1] DOBNS01-004-SS-001/-901 were collected in lieu of planned sediment sample DOBNS01-004-SD-001.

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface
ft = foot or feet SS = surface soil DOBNS = Dobbins Air Reserve Base
ID = identification dup = duplicate J = The reported concentration is an estimated value
UJ = The analyte was not detected at the reported value. The reported value is approximate.

Subsurface Soil

Three subsurface soil samples were also collected from soil borings DOBNS01-001 through DOBNS01-003 at Former FTA FT-02. Where detected, PFBS, PFOA, and PFOS concentrations were below their respective screening levels. Subsurface soil analytical results are summarized in Table 4 and shown on Figure 17 in Appendix A.

Table 4 Former Fire Training Area FT-02 (AFFF Area 1) Subsurface Soil Analytical Results

	Sample ID	DOBNS01-001-SO-024	DOBNS01-002-SO-029	DOBNS01-003-SO-024
	Date Sampled	12/02/17	12/02/17	12/02/17
	Depth (ft bgs)	24–25	29–30	24–25
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	**1.1**	0.55 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	**28**	**23**	**7.3**
Perfluorooctane sulfonate (PFOS)	126[b]	0.80 U	**0.45 J**	**0.43 J**

Bold values indicate analyte detected at concentration indicated.

[a]EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface
ft = foot or feet SO = subsurface soil DOBNS = Dobbins Air Reserve Base
ID = identification J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 1 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS01-005-SS-001 was composed of equal aliquots of soil collected from borings DOBNS01-001, DOBNS01-002, and DOBNS01-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS01-005-SO-024 was composed of equal aliquots of soil collected from the same borings at 24 to 25 feet bgs, 29 to 30 feet bgs, and 24 to 25 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Five groundwater samples were collected at FT-02, including two from existing monitoring wells D2-W7 and D2-W23 and three from temporary monitoring wells at borings DOBNS01-001 through DOBNS01-003. PFBS was detected in each of the five samples, all at concentrations below the screening level. PFOA and PFOS were also detected in each of the five groundwater samples at individual and combined concentrations above the screening level. Groundwater analytical results are summarized in Table 5 and shown on Figure 18 in Appendix A.

Table 5 Former Fire Training Area FT-02 (AFFF Area 1) Groundwater Analytical Results

	Sample ID	DOBNS01-D2-W7-GW-023	DOBNS01-D2-W23-GW-014	DOBNS01-001-GW-025
	Date Sampled	12/15/17	01/10/18	12/11/17
	Screened Interval (ft bgs)	10.5–30.5	5–15	19.7–29.7
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**0.31**	**0.92 J**	**0.67**
Perfluorooctanoic acid (PFOA)	0.07[b]	**10**	**12**	**14**

	Sample ID	DOBNS01-D2-W7-GW-023	DOBNS01-D2-W23-GW-014	DOBNS01-001-GW-025
	Date Sampled	12/15/17	01/10/18	12/11/17
	Screened Interval (ft bgs)	10.5–30.5	5–15	19.7–29.7
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorooctane sulfonate (PFOS)	0.07[b]	**5.3**	**0.19**	**0.21**
PFOS +PFOA	0.07[c]	**15.3**	**12.19**	**14.21**

	Sample ID	DOBNS01-002-GW-030	DOBNS01-003-GW-025
	Date Sampled	12/11/17	12/11/17
	Screened Interval (ft bgs)	24.9–34.9	19.7–29.7
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**0.65**	**0.071**
Perfluorooctanoic acid (PFOA)	0.07[b]	**80**	**4.7 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.77**	**0.67**
PFOS +PFOA	0.07[c]	**80.77**	**5.37 J**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
ft = foot or feet
ID = identification
AFFF = aqueous film forming foam
GW = groundwater
J = reported concentration is an estimated value
bgs = below ground surface
DOBNS = Dobbins Air Reserve Base

3.3.5 Conclusions

Past use of AFFF at Former FTA FT-02 has resulted in releases of PFAS to the environment. Media impacted by PFAS above screening levels at AFFF Area 1 include surface soil (PFOS) and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.4 FORMER FTA FT-03 – AFFF AREA 2

3.4.1 Sample Locations

To assess possible PFAS impacts from previous use of AFFF at Former FTA FT-03, three surface soil samples, four subsurface soil samples (three primary and one duplicate), and five groundwater samples were collected. Surface soil and subsurface soil samples were collected from soil borings DOBNS02-001, DOBNS02-002, and DOBNS02-003. A groundwater sample was also collected from soil boring DOBNS02-002 using an SP16 drive point sample; the remaining groundwater samples were collected from existing monitoring wells D3-W3, D3-W4, D3-W25, and D3-W32. Planned groundwater samples from borings DOBNS02-001 and DOBNS02-003 (which refused at depths of 11.0 and 8.0 feet, respectively) could not be collected. Although temporary monitoring wells were installed in the two borings, neither well produced groundwater. Sediment and surface water were also identified as media of concern for AFFF Area 2; however, these media were sampled as part of the Big Lake (OT-04) SI. Sample locations for AFFF Area 2 are shown on Figure 4 in Appendix A.

3.4.2 Soil Description and Lithology

The three soil borings completed at Former FTA FT-03 (DOBNS02-001, DOBNS02-002, and DOBNS02-003) refused at a depths of 11.0 feet, 41.5 feet, and 8.0 feet, respectively, and encountered residual and saprolitic soil and weathered granitic gneiss. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey to non-plastic silt (ML). Detailed boring logs are included in Appendix C.

3.4.3 Groundwater Flow

Groundwater levels were gauged at two temporary wells and four existing monitoring wells at FT-03 on December 13, 2017. Groundwater was detected at depths ranging from 6.10 feet to 30.0 feet btoc and at elevations ranging from 974.00 feet NAVD88 (at D2-W25) to 1005.52 feet NAVD88 (at D3-W4). Temporary monitoring wells DOBNS02-001 and DOBNS02-003 were dry (a temporary monitoring well was not installed at DOBNS02-002). Groundwater contours developed from these water level measurements (and from water level measurements from nearby wells at Big Lake [AFFF Area 14]) indicate shallow groundwater flows to the east/southeast as shown on Figure 4 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.4.4 Analytical Results

Surface Soil

Three surface soil samples were collected from soil borings DOBNS02-001 through DOBNS02-003 at Former FTA FT-03. PFBS was detected in one of the three samples and PFOA was detected in each of the samples; all detected concentrations were below their respective screening levels. PFOS was also detected in each of the samples and exceeded the screening level in two samples (DOBNS02-001-SS-001 and DOBNS02-SS-003). Surface soil analytical results are summarized in Table 6 and shown on Figure 19 in Appendix A.

Table 6 Former Fire Training Area FT-03 (AFFF Area 2) Surface Soil Analytical Results

	Sample ID	**DOBNS02-001-SS-001**	**DOBNS02-002-SS-001**	**DOBNS02-003-SS-001**
	Date Sampled	**12/06/17**	**12/06/17**	**12/05/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**0.59 J**	0.60 U	0.50 U
Perfluorooctanoic acid (PFOA)	126[b]	**7.3 J**	**2.2**	**4.6**
Perfluorooctane sulfonate (PFOS)	126[b]	**140 J**	**55**	**270**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
AFFF = aqueous film forming foam
bgs = below ground surface
ft = foot or feet
SS = surface soil
DOBNS = Dobbins Air Reserve Base
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

Subsurface Soil

Four subsurface soil samples (three primary and one duplicate) were also collected from soil borings DOBNS02-001 through DOBNS02-003 at Former FTA FT-03. PFBS, PFOA, and PFOS were detected in samples DOBNS02-001-SO-010/-910 (primary and duplicate), all at concentrations were below their respective screening levels. PFOS was also detected in DOBNS02-003-SO-005 at a concentration of 5,300 µg/kg, exceeding the screening level. PFBS, PFOA, and PFOS were not detected in DOBNS02-002-SO-036. Subsurface soil analytical results are summarized in Table 7 and shown on Figure 19 in Appendix A.

Table 7 Former Fire Training Area FT-03 (AFFF Area 2) Subsurface Soil Analytical Results

	Sample ID	**DOBNS02-001-SO-010**	**DOBNS02-001-SO-910 (dup)**	**DOBNS02-002-SO-036**	**DOBNS02-003-SO-005**
	Date Sampled	**12/06/17**	**12/06/17**	**12/06/17**	**12/06/17**
	Depth (ft bgs)	**10–11**	**10–11**	**36–37**	**5–6**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000^{a}	**9.4 J**	**9.1 J**	5.5 U	49 U
Perfluorooctanoic acid (PFOA)	126^{b}	**19 J**	**18 J**	8.8 U	78 U
Perfluorooctane sulfonate (PFOS)	126^{b}	**1.1 J**	**1.5 J**	8.8 U	**5,300**

Bold values indicate analyte detected at concentration indicated.

Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
ft = foot or feet
ID = identification
AFFF = aqueous film forming foam
SO = subsurface soil
dup = duplicate
bgs = below ground surface
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 2 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS02-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS02-001, DOBNS02-002, and DOBNS02-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS02-004-SO-036 was composed of equal aliquots of soil collected from the same borings at 10 to 11 feet bgs, 36 to 37 feet bgs, and 5 to 6 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Groundwater samples were collected at Former FT-02 from existing monitoring wells D3-W3, D3-W4, D3-W25, and D3-W32 and from boring DOBNS02-002. PFBS was detected in each of the five samples, all at concentrations below the screening level. PFOA and PFOS were also detected in each of the samples at combined and individual concentrations above the screening level. Groundwater analytical results are summarized in Table 8 and shown on Figure 20 in Appendix A.

Table 8 Former Fire Training Area FT-03 (AFFF Area 2) Groundwater Analytical Results

Sample ID		DOBNS02-D3-W3-GW-035	DOBNS02-D3-W4-GW-013	DOBNS02-D3-W25-GW-020	DOBNS02-D3-W32-GW-012	DOBNS02-002-GW-039
Date Sampled		12/15/17	12/15/17	12/10/17	12/11/17	12/15/17
Screened Interval (ft bgs)		24.5–55	8–13	14–24	10–15	37–41
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**1.5**	**2.0**	**0.072**	**0.70**	**0.90**
Perfluorooctanoic acid (PFOA)	0.07[b]	**18**	**8.0**	**0.35**	**1.9**	**3.2**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**34**	**29**	**0.86**	**3.6**	**8.5**
PFOS +PFOA	0.07[c]	**52**	**37.0**	**1.21**	**5.5**	**11.7**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf). [b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). [c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
AFFF = aqueous film forming foam
bgs = below ground surface
ft = foot or feet
GW = groundwater
DOBNS = Dobbins Air Reserve Base
ID = identification

3.4.5 Conclusions

Past use of AFFF at Former FTA FT-03 has resulted in releases of PFAS to the environment. Media impacted by PFAS above screening levels at AFFF Area 2 include surface soil (PFOS), subsurface soil (PFOS), and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.5 BUILDING 5 (HANGAR) – AFFF AREA 3

3.5.1 Sample Locations

To assess possible PFAS impacts from previous releases of AFFF at Building 5, four surface soil samples, four subsurface soil samples, and one groundwater sample were collected. Surface soil and subsurface soil were collected from soil borings DOBNS03-001, DOBNS03-002, and DOBNS03-003 outside the hangar where a 5,000 gallon release of AFFF/water mix was released, as well as from boring

DOBNS03-004 south of the hangar near the former location of the leaking tank. Groundwater samples were also collected from a temporary well installed at soil boring DOBNS03-001. Planned groundwater samples from borings DOBNS03-002, DOBNS03-003, and DOBNS03-004 (which refused before encountering groundwater) could not be collected. Although temporary monitoring wells were installed in the three borings, none produced groundwater. Sample locations for AFFF Area 3 are shown on Figure 5 in Appendix A.

3.5.2 Soil Description and Lithology

The four soil borings completed at Building 5 (DOBNS03-001, DOBNS03-002, DOBNS03-003, and DOBNS03-004) refused at a depths of 20.5 feet, 24.4 feet, 15.1 feet, and 22.2 feet, respectively, and encountered residual and saprolitic soils. Soil types and USCS designations encountered primarily consisted of clayey to non-plastic silt (ML) with occasional intervals of lean clay (CL). Detailed boring logs are included in Appendix C.

3.5.3 Groundwater Flow

Groundwater levels were gauged at four temporary monitoring wells at Building 5 on December 13, 2017. Groundwater was detected at a depth of 17.95 feet btoc (elevation 1057.76 feet NAVD88) at DOBNS03-001; the remaining three temporary wells were dry. Although groundwater contours could not be developed at Building 5, shallow groundwater is expected to flow to the south/southeast as shown on Figure 5 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.5.4 Analytical Results

Surface Soil

Four surface soil samples were collected from soil borings DOBNS03-001 through DOBNS03-004 at Building 5. PFBS was not detected in any of the samples. PFOA was detected in two of four samples, both at concentrations below the screening level. PFOS was detected in all four samples and exceeded the screening level in sample DOBNS03-004-SS-001. Surface soil analytical results are summarized in Table 9 and shown on Figure 21 in Appendix A.

Table 9 Building 5 (Hangar) (AFFF Area 3) Surface Soil Analytical Results

	Sample ID	**DOBNS03-001-SS-001**	**DOBNS03-002-SS-001**	**DOBNS03-003-SS-001**	**DOBNS03-004-SS-001**
	Date Sampled	**12/10/17**	**12/10/17**	**12/10/17**	**12/12/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 U	0.55 U	0.50 U	0.47 U
Perfluorooctanoic acid (PFOA)	126[b]	0.96 U	**0.48 J**	0.80 U	**0.77 J**
Perfluorooctane sulfonate (PFOS)	126[b]	**5.7**	**22**	**7.4**	**220**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf). [b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet

SS = surface soil DOBNS = Dobbins Air Reserve Base ID = identification J = reported concentration is an estimated value

U = The analyte was not detected above the reported value.

Subsurface Soil

Four subsurface soil samples were also collected from soil borings DOBNS03-001 through DOBNS03-004 at Building 5. Where detected, PFBS, PFOA, and PFOS concentrations were below their respective screening levels. Subsurface soil analytical results are summarized in Table 10 and shown on Figure 21 in Appendix A.

Table 10 Building 5 (Hangar) (AFFF Area 3) Subsurface Soil Analytical Results

	Sample ID	**DOBNS03-001-SO-020**	**DOBNS03-002-SO-024**	**DOBNS03-003-SO-015**	**DOBNS03-004-SO-020**
	Date Sampled	**12/10/17**	**12/10/17**	**12/10/17**	**12/12/17**
	Depth (ft bgs)	**19.5–20.5**	**23–24**	**14.1–15.1**	**19–20**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.49 U	0.42 U	**0.73 J**
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	0.78 U	0.67 U	**9.5**
Perfluorooctane sulfonate (PFOS)	126[b]	**0.59 J**	0.78 U	0.67 U	**16**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
ft = foot or feet
ID = identification
AFFF = aqueous film forming foam
SO = subsurface soil
J = reported concentration is an estimated value
bgs = below ground surface
DOBNS = Dobbins Air Reserve Base
U = the analyte was not detected above the reported value.

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 3 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS03-005-SS-001 was composed of equal aliquots of soil collected from borings DOBNS03-001 through DOBNS03-004 at 0 to 6 inches bgs. Subsurface soil sample DOBNS03-005-SO-020 was composed of equal aliquots of soil collected from the same borings at 19.5 to 20.5 feet bgs, 23 to 24 feet bgs, 14.1 to 15.1 feet bgs, and 19 to 20 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

One groundwater sample was collected at Building 5 from a temporary monitoring well installed at boring DOBNS03-001. Temporary monitoring wells installed at borings DOBNS03-002, -003, and -004 were dry. PFBS, PFOA, and PFOS were detected in sample DOBNS03-001-GW-019, all at concentrations at or below their respective screening levels. Groundwater analytical results are summarized in Table 11 and shown on Figure 22 in Appendix A.

Table 11 Building 5 (Hangar) (AFFF Area 3) Groundwater Analytical Results

	Sample ID	**DOBNS03-001-GW-019**
	Date Sampled	**12/14/17**
	Screened Interval (ft bgs)	**9.4–19.4**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.026**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.019 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.051**
PFOS +PFOA	0.07[c]	**0.070 J**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
GW = groundwater
ID = identification
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

3.5.5 Conclusions

Past releases of AFFF at Building 5 have resulted in PFOS impacts to surface soil above the screening level. Because three of four temporary wells were dry (including one installed at DOBNS03-004 near the leaking tank release area), additional groundwater investigation is also warranted.

3.6 BUILDING 731 (HANGAR) – AFFF AREA 4

3.6.1 Sample Locations

To assess possible PFAS impacts from previous releases of AFFF at Building 731, four surface soil samples (three primary and one duplicate), three subsurface soil samples, and three groundwater samples were collected. Surface and subsurface soil samples were collected from soil borings DOBNS04-001, DOBNS04-002, and DOBNS04-003, and groundwater samples were collected from temporary wells installed in each boring. Sample locations for AFFF Area 4 are shown on Figure 6 in Appendix A.

3.6.2 Soil Description and Lithology

The three soil borings completed at Building 731 (DOBNS04-001, DOBNS04-002, and DOBNS04-003) were each terminated at a depth of 35.0 feet and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL), fat clay (CH), and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.6.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at Building 731 on December 13, 2017. Groundwater was detected at depths ranging from 22.36 feet to 32.37 feet btoc and at elevations ranging from 977.62 feet NAVD88 (at DOBNS04-001) to 979.02 feet NAVD88 (at DOBNS04-002).

Groundwater contours developed from these water level measurements indicate shallow groundwater flows northwest, as shown on Figure 6 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.6.4 Analytical Results

Surface Soil

Four surface soil samples (three primary and one duplicate) were collected from soil borings DOBNS04-001 through DOBNS04-003 at Building 731. PFBS and PFOA were detected in samples DOBNS04-001-SS-001 and DOBNS04-001-901 (primary and duplicate) both at concentrations below their respective screening levels. PFOS was detected in all four samples and exceeded the screening level in samples DOBNS03-001-SS-001 and DOBNS03-001-SS-901. Surface soil analytical results are summarized in Table 12 and shown on Figure 23 in Appendix A.

Table 12 Building 731 (Hangar) (AFFF Area 4) Surface Soil Analytical Results

	Sample ID	**DOBNS04-001-SS-001**	**DOBNS04-001-SS-901 (dup)**	**DOBNS04-002-SS-001**	**DOBNS04-003-SS-001**
	Date Sampled	**12/06/17**	**12/06/17**	**12/07/17**	**12/06/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**0.45 J**	**0.29 J**	0.46 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	**2.2 J**	**1.4 J**	0.73 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	**160**	**190**	**41**	**11**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
dup = duplicate

Subsurface Soil

Three subsurface soil samples were also collected from soil borings DOBNS04-001 through DOBNS04-003 at Building 731. PFBS and PFOA were not detected in any of the three samples. PFOS was detected in one sample (DOBNS04-001-SO-028) at a concentration below the screening level. Subsurface soil analytical results are summarized in Table 13 and shown on Figure 23 in Appendix A.

Table 13 Building 731 (Hangar) (AFFF Area 4) Subsurface Soil Analytical Results

	Sample ID	DOBNS04-001-SO-028	DOBNS04-002-SO-030	DOBNS04-003-SO-026
	Date Sampled	12/06/17	12/07/17	12/06/17
	Depth (ft bgs)	28–29	30–31	26–27
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.50 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	0.80 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	**0.56 J**	0.80 U	0.88 U

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 4 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS04-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS04-001, DOBNS04-002, and DOBNS04-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS04-004-SO-026 was composed of equal aliquots of soil collected from the same borings at 28 to 29 feet bgs, 30 to 31 feet bgs, and 26 to 27 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Groundwater samples were collected from three temporary monitoring wells at Building 731. PFBS was detected in all three samples at concentrations below the screening level. PFOA and PFOS were detected in all three samples and all combined PFOS and PFOA concentrations were above the screening level. Groundwater analytical results are summarized in Table 14 and shown on Figure 24 in Appendix A.

Table 14 Building 731 (Hangar) (AFFF Area 4) Groundwater Analytical Results

	Sample ID	DOBNS04-001-GW-030	DOBNS04-002-GW-034	DOBNS04-003-GW-015
	Date Sampled	12/14/17	12/12/17	12/13/17
	Screened Interval (ft bgs)	24.8–34.8	24.8–34.8	24.7–34.7
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.51**	**0.013 J**	**2.4**

Sample ID		**DOBNS04-001-GW-030**	**DOBNS04-002-GW-034**	**DOBNS04-003-GW-015**
Date Sampled		**12/14/17**	**12/12/17**	**12/13/17**
Screened Interval (ft bgs)		**24.8–34.8**	**24.8–34.8**	**24.7–34.7**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.31 J**	**0.076**	**0.96**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**2.5**	**0.63**	**0.031 J**
PFOS +PFOA	0.07[c]	**2.81 J**	**0.706**	**0.991 J**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
dup = field duplicate
GW = groundwater
ID = identification

3.6.5 Conclusions

Previous releases of AFFF at Building 731 have resulted in impacts to the environment. Media impacted by PFAS above screening levels at AFFF Area 4 include surface soil (PFOS) and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.7 BUILDING 746 (HANGAR) – AFFF AREA 5

3.7.1 Sample Locations

To assess possible PFAS impacts from previous releases of AFFF at Building 746, three surface soil samples, four subsurface soil samples (three primary and one duplicate), and four groundwater samples (three primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil borings DOBNS05-001, DOBNS05-002, and DOBNS05-003. Groundwater samples were collected from temporary wells installed in each boring. Sample locations for AFFF Area 5 are shown on Figure 7 in Appendix A.

3.7.2 Soil Description and Lithology

The three soil borings completed at Building 746 (DOBNS05-001, DOBNS05-002, and DOBNS05-003) were terminated at depths of 35.0 feet, 40.0 feet, and 40.0 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.7.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at Building 746 on December 13, 2017. Groundwater was detected at depths ranging from 30.33 feet to 35.93 feet btoc and at elevations ranging from 981.88 feet NAVD88 (at DOBNS05-003) to 988.46 feet NAVD88 (at DOBNS05-001). Groundwater contours developed from these water level measurements (and from water level measurements collected from two temporary wells at adjacent AFFF Area 6) indicate shallow groundwater flows northeast, as shown on Figure 7 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.7.4 Analytical Results

Surface Soil

Three surface soil samples were collected from soil borings DOBNS05-001 through DOBNS05-003 at Building 746. Where detected, PFBS, PFOA, and PFOS concentrations were below screening levels. Surface soil analytical results are summarized in Table 15 and shown on Figure 25 in Appendix A.

Table 15 Building 746 (Hangar) (AFFF Area 5) Surface Soil Analytical Results

	Sample ID	DOBNS05-001-SS-001	DOBNS05-002-SS-001	DOBNS05-003-SS-001
	Date Sampled	12/05/17	12/05/17	12/05/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	**0.43 J**	0.65 U	0.50 U
Perfluorooctanoic acid (PFOA)	126[b]	**2.3**	**1.2 J**	0.80 U
Perfluorooctane sulfonate (PFOS)	126[b]	**72**	**71**	**15**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Four subsurface soil samples (three primary and one duplicate) were also collected from soil borings DOBNS05-001 through DOBNS05-003 at Building 746. Where detected, PFBS, PFOA and PFOS concentrations were below screening levels. Subsurface soil analytical results are summarized in Table 16 and shown on Figure 25 in Appendix A.

Table 16 Building 746 (Hangar) (AFFF Area 5) Subsurface Soil Analytical Results

	Sample ID	DOBNS05-001-SO-028	DOBNS05-001-SO-928 (dup)	DOBNS05-002-SO-033	DOBNS05-003-SO-035
	Date Sampled	**12/05/17**	**12/05/17**	**12/05/17**	**12/07/17**
	Depth (ft bgs)	**28–29**	**28–29**	**32.5–33.5**	**34.2–35.2**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 U	0.55 U	**1.5**	0.75 U
Perfluorooctanoic acid (PFOA)	126[b]	0.96 U	0.88 U	**4.4**	1.2 U
Perfluorooctane sulfonate (PFOS)	126[b]	0.96 U	**1.3**	**0.32 J**	**1.1 J**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
dup = duplicate

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 5 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS05-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS05-001, DOBNS05-002, and DOBNS05-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS05-004-SO-028 was composed of equal aliquots of soil collected from the same borings at 28 to 29 feet bgs, 32.5 to 33.5 feet bgs, and 34.2 to 35.2 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Four groundwater samples (three primary and one duplicate) were collected from three temporary monitoring wells at Building 746. PFBS was detected in all four samples at concentrations below screening levels. PFOA and PFOS were also detected in all four samples and exceeded the screening level in three of the four samples (for both individual and combined analyte concentrations). Groundwater analytical results are summarized in Table 17 and shown on Figure 26 in Appendix A.

Table 17 Building 746 (Hangar) (AFFF Area 5) Groundwater Analytical Results

	Sample ID	DOBNS05-001-GW-034	DOBNS05-002-GW-038	DOBNS05-002-GW-938 (dup)	DOBNS05-003-GW-038
	Date Sampled	**12/08/17**	**12/08/17**	**12/08/17**	**12/08/17**
	Screened Interval (ft bgs)	**24.8–34.8**	**29.7–39.7**	**29.7–39.7**	**29.8–39.8**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.24**	**0.22**	**0.23**	**0.051**

Sample ID		DOBNS05-001-GW-034	DOBNS05-002-GW-038	DOBNS05-002-GW-938 (dup)	DOBNS05-003-GW-038
Date Sampled		12/08/17	12/08/17	12/08/17	12/08/17
Screened Interval (ft bgs)		24.8–34.8	29.7–39.7	29.7–39.7	29.8–39.8
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.073**	**0.17**	**0.19**	**0.010 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.17**	**3.7**	**3.5**	**0.056**
PFOS +PFOA	0.07[c]	**0.243**	**3.87**	**3.69**	**0.066 J**

Bold values indicate analyte detected at concentration indicated.

Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
dup = field duplicate
GW = groundwater
ID = identification

3.7.5 Conclusions

A previous release of AFFF at Building 746 has resulted in PFOA, PFOS, and combined PFOA + PFOS impacts to groundwater above screening levels at AFFF Area 5. Soil has not been impacted above screening levels.

3.8 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

3.8.1 Sample Locations

To assess possible PFAS impacts from previous releases of AFFF at Building 745, three surface soil samples, three subsurface soil samples, and four groundwater samples (three primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil borings DOBNS06-001, DOBNS06-002, and DOBNS06-003. A groundwater sample was collected from boring DOBNS06-001 using an SP16 drive point sampler. Groundwater samples were also collected from temporary wells installed in borings DOBNS06-002 and DOBNS06-003. Sample locations for AFFF Area 6 are shown on Figure 7 in Appendix A.

3.8.2 Soil Description and Lithology

The three soil borings completed at Building 745 (DOBNS06-001, DOBNS06-002, and DOBNS06-003) were terminated at depths of 35.0 feet, 40.2 feet, and 37.6 feet respectively and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) with some intervals of clayey silt (ML). Detailed boring logs are included in Appendix C.

3.8.3 Groundwater Flow

Groundwater levels were gauged at two temporary monitoring wells at Building 745 on December 13, 2017. Groundwater was detected at a depth of 29.32 feet at DOBNS06-002 and at a depth of 32.23 feet btoc at DOBNS06-003 (at elevations of 985.27 feet NAVD88 and 983.17 feet NAVD88, respectively). A temporary well was not installed at DOBNS06-001. Groundwater contours developed from these water level measurements and from water level measurements collected from three temporary wells installed at adjacent AFFF Area 5 indicate shallow groundwater flows northeast as shown on Figure 7 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.8.4 Analytical Results

Surface Soil

Three surface soil samples were collected from soil borings DOBNS06-001 through DOBNS06-003 at Building 745. Where detected, PFBS and PFOA concentrations were below their respective screening levels. PFOS was detected at concentrations above the screening level in each of the three samples. Surface soil analytical results are summarized in Table 18 and shown on Figure 25 in Appendix A.

Table 18 Current Fire Station (Building 745) (AFFF Area 6) Surface Soil Analytical Results

	Sample ID	**DOBNS06-001-SS-001**	**DOBNS06-002-SS-001**	**DOBNS06-003-SS-001**
	Date Sampled	**12/05/17**	**12/04/17**	**12/04/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**27 J**	6.0 U	5.5 U
Perfluorooctanoic acid (PFOA)	126[b]	75 U	**8.2 J**	**95**
Perfluorooctane sulfonate (PFOS)	126[b]	**22,000**	**1,200**	**2,700**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Three subsurface soil samples were also collected from soil borings DOBNS06-001 through DOBNS06-003 at Building 745. Where detected, PFBS, PFOA, and PFOS concentrations were below screening levels. Subsurface soil analytical results are summarized in Table 19 and shown on Figure 25 in Appendix A.

Table 19 Current Fire Station (Building 745) (AFFF Area 6) Subsurface Soil Analytical Results

	Sample ID	**DOBNS06-001-SO-028**	**DOBNS06-002-SO-030**	**DOBNS06-003-SO-028**
	Date Sampled	**12/05/17**	**12/04/17**	**12/04/17**
	Depth (ft bgs)	**27–28**	**30–31**	**28–29**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 U	**8.6**	**3.3 J**
Perfluorooctanoic acid (PFOA)	126[b]	0.96 U	0.80 U	**90**
Perfluorooctane sulfonate (PFOS)	126[b]	0.96 U	**0.38 J**	10 U

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 6 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS06-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS06-001, DOBNS06-002, and DOBNS06-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS06-004-SO-030 was composed of equal aliquots of soil collected from the same borings at 27 to 28 feet bgs, 30 to 31 feet bgs, and 28 to 29 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Four groundwater samples (three primary and one duplicate) were collected from two temporary monitoring wells and one soil boring at Building 745. PFBS was detected in all four samples at concentrations below detection limits. Combined PFOS and PFOA concentrations were above the screening level for all four samples. Groundwater analytical results are summarized in Table 20 and shown on Figure 26 in Appendix A.

Table 20 Current Fire Station (Building 745) (AFFF Area 6) Groundwater Analytical Results

	Sample ID	**DOBNS06-001-GW-032**	**DOBNS06-001-GW-932 (dup)**	**DOBNS06-002-GW-038**	**DOBNS06-003-GW-036**
	Date Sampled	**12/05/17**	**12/05/17**	**12/08/17**	**12/08/17**
	Screened Interval (ft bgs)	**31–35**	**31–35**	**30–40**	**27.4–37.4**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**1.5**	**1.5**	**9.5**	**10**

Sample ID		DOBNS06-001-GW-032	DOBNS06-001-GW-932 (dup)	DOBNS06-002-GW-038	DOBNS06-003-GW-036
Date Sampled		12/05/17	12/05/17	12/08/17	12/08/17
Screened Interval (ft bgs)		31–35	31–35	30–40	27.4–37.4
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorooctanoic acid (PFOA)	0.07[b]	**1.2**	**1.3**	0.10 U	**37**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**19**	**17**	**0.33**	**1.7**
PFOS +PFOA	0.07[c]	**20.2**	**18.3**	**0.33**	**38.7**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
U = analyte was not detected above the reported value
AFFF = aqueous film forming foam
dup = field duplicate
GW = groundwater
ID = identification

3.8.5 Conclusions

Previous releases of AFFF at Building 745 have resulted in impacts to the environment. Media impacted by PFAS above screening levels at AFFF Area 6 include surface soil (PFOS) and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.9 C-5A GALAXY FIRE – AFFF AREA 7

3.9.1 Sample Locations

To assess potential PFAS impacts from the possible use of AFFF to extinguish a C-5A Galaxy fire, nine surface soil samples (eight primary and one duplicate), nine subsurface soil samples (eight primary and one duplicate), and eight groundwater samples were collected. Surface and subsurface soil samples were collected from soil borings DOBNS07-001 through DOBNS07-008. Groundwater samples were collected from borings DOBNS07-002, DOBNS07-003, DOBNS07-006, and DOBNS07-007 using an SP16 drive point sampler. Groundwater samples were also collected from temporary wells installed in borings DOBNS07-001, DOBNS07-004, DOBNS07-005, and DOBNS07-008. Sample locations for AFFF Area 7 are shown on Figure 8 in Appendix A.

3.9.2 Soil Description and Lithology

The eight soil borings completed at the C-5A Galaxy Fire site (DOBNS07-001 through DOBNS07-008) were terminated at depths ranging from 25.0 feet to 30.1 feet and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML) with occasional intervals of clayey gravel (GC) and gravelly clay (CL). Detailed boring logs are included in Appendix C.

3.9.3 Groundwater Flow

Groundwater levels were gauged at four temporary monitoring wells at the C-5A crash site on December 13, 2017. Groundwater was detected at depths ranging from 16.61 feet to 25.58 feet btoc and at elevations ranging from 952.97 feet NAVD88 (at DOBNS07-008) to 970.82 feet NAVD88 (at DOBNS07-001). Groundwater contours developed from these water level measurements indicate shallow groundwater flows southeast, as shown on Figure 8 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.9.4 Analytical Results

Surface Soil

Nine surface soil samples (eight primary and one duplicate) were collected from soil borings DOBNS07-001 through DOBNS07-008 at the C-5A Galaxy fire site. PFBS and PFOA were not detected in any of the samples. PFOS was detected in five of nine samples, all at concentrations below the screening level. Surface soil analytical results are summarized in Table 21 and shown on Figure 27 in Appendix A.

Subsurface Soil

Nine subsurface soil samples (eight primary and one duplicate) were also collected from soil borings DOBNS07-001 through DOBNS07-008 at the C-5A Galaxy fire site. PFBS, PFOA, and PFOS were not detected in any of the samples. Subsurface soil analytical results are summarized in Table 22 and shown on Figure 27 in Appendix A.

Table 21 C-5A Galaxy Fire (AFFF Area 7) Surface Soil Analytical Results

	Sample ID	DOBNS07-001-SS-001	DOBNS07-001-SS-901 (dup)	DOBNS07-002-SS-001	DOBNS07-003-SS-001	DOBNS07-004-SS-001	DOBNS07-005-SS-001	DOBNS07-006-SS-001	DOBNS07-007-SS-001	DOBNS07-008-SS-001
Date Sampled	**Date Sampled**	**12/03/17**	**12/03/17**	**12/03/17**	**12/03/17**	**12/03/17**	**12/02/17**	**12/02/17**	**12/02/17**	**12/03/17**
Screened Interval (ft bgs)	**Depth (ft bgs)**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.49 U	0.50 U	0.50 U	0.55 U	0.55 U	0.55 U	0.50 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	0.78 U	0.80 U	0.80 U	0.88 U	0.88 U	0.88 U	0.80 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	0.88 U	0.78 U	**0.50 J**	**0.38 J**	**0.55 J**	**0.82 J**	0.88 U	0.80 U	**0.50 J**

Table 22 C-5A Galaxy Fire (AFFF Area 7) Subsurface Soil Analytical Results

	Sample ID	DOBNS07-001-SO-015	DOBNS07-002-SO-018	DOBNS07-003-SO-020	DOBNS07-004-SO-020	DOBNS07-005-SO-024	DOBNS07-006-SO-020	DOBNS07-007-SO-019	DOBNS07-008-SO-025	DOBNS07-008-SO-925 (dup)
Date Sampled	**Date Sampled**	**12/03/17**	**12/03/17**	**12/03/17**	**12/03/17**	**12/02/17**	**12/02/17**	**12/02/17**	**12/03/17**	**12/03/17**
Screened Interval (ft bgs)	**Depth (ft bgs)**	**15–16**	**18–19**	**20–21**	**10–11**	**24–25**	**19.5–20.5**	**19–20**	**25–26**	**25–26**
Analyte	**Screening Level**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.65 U	0.55 U	0.55 U	0.55 U	0.55 U	0.60 U	0.50 U	0.55 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	1.0 U	0.88 U	0.88 U	0.88 U	0.88 U	0.96 U	0.79 U	0.88 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	1.0 U	0.88 U	0.88 U	0.88 U	0.88 U	0.96 U	0.79 U	0.88 U	0.88 U

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per liter
bgs = below ground surface
SS = surface soil
DOBNS = Dobbins Air Reserve Base
dup = duplicate
U = analyte was not detected above the reported value

AFFF = aqueous film forming foam
ft = foot or feet
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 7 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS07-009-SS-001 was composed of equal aliquots of soil collected from borings DOBNS07-001 through DOBNS07-008 at 0 to 6 inches bgs. Subsurface soil sample DOBNS07-009-SO-024 was composed of equal aliquots of soil collected from the same borings at 15 to 16 feet bgs, 18 to 19 feet bgs, 20 to 21 feet bgs, 10 to 11 feet bgs, 24 to 25 feet bgs, 19.5 to 20.5 bgs, 19 to 20 bgs, and 25 to 26 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Eight groundwater samples were collected at AFFF Area 7; four samples were collected from temporary monitoring wells and four were collected from soil borings. Where detected, PFBS and PFOA concentrations were below their respective screening levels. PFOS was detected in three of the eight samples and exceeded the screening level in one sample (DOBNS07-006-GW-025) for both PFOS and PFOA+PFOS combined. Groundwater analytical results are summarized in Table 23 and shown on Figure 28 in Appendix A.

Table 23 C-5A Galaxy Fire (AFFF Area 7) Groundwater Analytical Results

Sample ID		DOBNS07-001-GW-020	DOBNS07-002-GW-024	DOBNS07-003-GW-024	DOBNS07-004-GW-025
Date Sampled		12/05/17	12/03/17	12/03/17	12/05/17
Screened Interval (ft bgs)		14.9–24.9	21–25	21–25	19.9–29.9
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**0.0073 J**	0.015 U	0.015 U	0.015 U
Perfluorooctanoic acid (PFOA)	0.07[b]	0.010 U	0.010 U	**0.0091 J**	0.010 U
Perfluorooctane sulfonate (PFOS)	0.07[b]	0.015 U	0.015 U	**0.0097 J**	0.015 U
PFOS +PFOA	0.07[c]	ND	ND	**0.0188 J**	ND

Sample ID		DOBNS07-005-GW-025	DOBNS07-006-GW-025	DOBNS07-007-GW-029	DOBNS07-008-GW-029
Date Sampled		12/05/17	12/02/17	12/03/17	12/05/17
Screened Interval (ft bgs)		19.7–29.7	23–27	26–30	19.8–29.8
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	0.015 U	**0.0075 J**	0.015 U	0.015 U
Perfluorooctanoic acid (PFOA)	0.07[b]	0.010 U	**0.012 J**	**0.0080 J**	0.010 U
Perfluorooctane sulfonate (PFOS)	0.07[b]	0.015 U	**0.15**	**0.021**	0.015 U

	Sample ID	DOBNS07-005-GW-025	DOBNS07-006-GW-025	DOBNS07-007-GW-029	DOBNS07-008-GW-029
	Date Sampled	12/05/17	12/02/17	12/03/17	12/05/17
Screened Interval (ft bgs)		19.7–29.7	23–27	26–30	19.8–29.8
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
PFOS +PFOA	0.07[c]	ND	**0.162 J**	**0.0290 J**	ND

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
AFFF = aqueous film forming foam
bgs = below ground surface
ft = foot or feet
GW = groundwater
DOBNS = Dobbins Air Reserve Base
ID = identification
ND = not detected
J = reported concentration is an estimated value
U = analyte was not detected above the reported value

3.9.5 Conclusions

Apparent use of AFFF at the C5A Galaxy fire has resulted in PFOS (and combined PFOS and PFOA) impacts to groundwater above the screening level at one of eight sampling locations. Soil has not been impacted above screening levels at AFFF Area 7.

3.10 L-188CF ELECTRA CRASH – AFFF AREA 8

3.10.1 Sample Locations

Two possible sites for the L-188CF Electra crash were investigated due to uncertainty regarding the actual crash location, as discussed in Section 2.9. To assess potential PFAS impacts from the likely use of AFFF to extinguish the resulting fire, three surface soil samples, three subsurface soil samples, and three groundwater samples were collected from both the primary and alternate crash sites. Surface and subsurface soil samples were collected from soil borings DOBNS08-001 through DOBNS08-003 at the primary crash site and from soil borings DOBNS08-004 through DOBNS08-006 at the alternate crash site. Groundwater samples were collected from temporary monitoring wells installed in each of the six borings. Sample locations for AFFF Area 8 are shown on Figure 9 in Appendix A.

3.10.2 Soil Description and Lithology

The six soil borings completed at the primary and alternate L-188CF Electra crash sites (DOBNS08-001 through DOBNS08-006) were terminated at depths ranging from 17.5 feet to 32.2 feet and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.10.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at the primary L-188CF crash site and at three temporary well at the alternate crash site on December 13, 2017. Groundwater was detected at the primary crash site at depths ranging from 5.97 feet to 16.45 feet btoc and at elevations ranging from 1010.90 feet NAVD88 (at DOBNS08-001) to 1018.23 feet NAVD88 (at DOBNS08-002). Groundwater was detected at the alternate crash site at depths ranging from 8.55 feet to 14.08 feet btoc and at elevations ranging from 1003.84 feet NAVD88 (at DOBNS08-005) to 1008.86 feet NAVD88 (at DOBNS08-006). Groundwater contours developed from these water level measurements indicate shallow groundwater flows north at the primary crash site and northwest at the alternate crash site, as shown on Figure 9 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.10.4 Analytical Results

Surface Soil

Six surface soil samples were collected at the primary and alternate L-188CF Electra crash sites (three at each site). PFBS was not detected in any of the six samples. Where detected, PFOA and PFOS concentrations were all below their respective screening levels. Surface soil analytical results are summarized in Table 24 and shown on Figure 29 in Appendix A.

Table 24 L-188CF Electra Crash (AFFF Area 8) Surface Soil Analytical Results

	Sample ID	**DOBNS08-001-SS-001**	**DOBNS08-002-SS-001**	**DOBNS08-003-SS-001**	**DOBNS08-004-SS-001[c]**	**DOBNS08-005-SS-001[c]**	**DOBNS08-006-SS-001[c]**
	Date Sampled	**11/30/17**	**12/01/17**	**11/30/17**	**12/01/17**	**12/01/17**	**12/01/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.65 U	0.65 U	0.60 U	0.60 U	0.60 U
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	1.0 U	**1.0 J**	0.96 U	**0.69 J**	**0.72 J**
Perfluorooctane sulfonate (PFOS)	126[b]	**3.4**	**12**	**5.8**	**5.2**	**6.8**	**16**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

[c] Alternate crash site sample, see Section 2.9 for additional information.

µg/kg = micrograms per kilogram
AFFF = aqueous film forming foam
bgs = below ground surface
ft = foot or feet
SS = surface soil
DOBNS = Dobbins Air Reserve Base
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

Subsurface Soil

Six subsurface soil samples were also collected at the primary and alternate L-188CF Electra crash sites. PFBS, PFOA, and PFOS were not detected in any of the samples. Subsurface soil analytical results are summarized in Table 25 and shown on Figure 29 in Appendix A.

Table 25 L-188CF Electra Crash (AFFF Area 8) Subsurface Soil Analytical Results

	Sample ID	**DOBNS08-001-SO-026**	**DOBNS08-002-SO-010**	**DOBNS08-003-SO-005**
	Date Sampled	**11/30/17**	**12/01/17**	**11/30/17**
	Depth (ft bgs)	**26–27**	**10–11**	**5–6**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.70 U	0.60 U	0.70 U
Perfluorooctanoic acid (PFOA)	126[b]	1.1 U	0.96 U	1.1 U
Perfluorooctane sulfonate (PFOS)	126[b]	1.1 U	0.96 U	1.1 U

	Sample ID	**DOBNS08-004-SO-014**	**DOBNS08-005-SO-011**	**DOBNS08-006-SO-014**
	Date Sampled	**12/01/17**	**12/01/17**	**12/01/17**
	Depth (ft bgs)	**14–15**	**11–12**	**14–15**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.50 U	0.65 U	0.50 UJ
Perfluorooctanoic acid (PFOA)	126[b]	0.80 U	1.0 U	0.80 U
Perfluorooctane sulfonate (PFOS)	126[b]	0.80 U	1.0 U	0.80 U

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
UJ = The analyte was not detected a the reported value. The reported value is approximate.
U = The analyte was not detected above the reported value.

AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 8 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS08-007-SS-001 was composed of equal aliquots of soil collected from borings DOBNS08-001 through DOBNS08-006 at 0 to 6 inches bgs. Subsurface soil sample DOBNS08-007-SO-005 was composed of equal aliquots of soil collected from the same borings at 26 to 27 feet bgs, 10 to 11 feet bgs, 5 to 6 feet bgs, 14 to 15 feet bgs, 11 to 12 feet bgs, and 14 to 15 ft bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Groundwater samples were collected from temporary wells installed at both the primary and alternate L-188CF Electra crash sites; three samples were collected from each site. Where detected, PFBS concentrations were all below the screening level at both sites. PFOA and PFOS were detected in each of the three samples collected at the primary crash site, and combined PFOS and PFOA exceeded the screening level in DOBNS08-002-GW-012. PFOS and/or PFOA were detected in two of three samples collected at the alternate crash site. PFOA and combined PFOS and PFOA exceeded the screening level in DOBNS08-006-GW-015. Groundwater analytical results are summarized in Table 26 and shown on Figure 30 in Appendix A.

Table 26 L-188CF Electra Crash (AFFF Area 8) Groundwater Analytical Results

	Sample ID	**DOBNS08-001-GW-027**	**DOBNS08-002-GW-012**	**DOBNS08-003-GW-010**	**DOBNS08-004-GW-016**	**DOBNS08-005-GW-015**	**DOBNS08-006-GW-015**
	Date Sampled	**12/07/17**	**12/06/17**	**12/07/17**	**12/07/17**	**12/07/17**	**12/07/17**
	Screened Interval (ft bgs)	**22–32**	**7–17**	**4.7–14.7**	**11.3–21.3**	**9.8–19.8**	**9.8–19.8**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	0.015 U	**0.014 J**	**0.0093 J**	**0.037**	**0.022**	**0.75**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.0090 J**	**0.041**	**0.0078 J**	**0.062**	0.010 U	**0.13**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.025**	**0.063**	**0.011 J**	0.016 U	0.015 U	**0.017 J**
PFOS +PFOA	0.07[c]	**0.0340 J**	**0.104**	**0.0188 J**	**0.062**	ND	**0.147 J**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
AFFF = aqueous film forming foam
bgs = below ground surface
ND = not detected
ft = foot or feet
GW = groundwater
DOBNS = Dobbins Air Reserve Base
ID = identification
J = reported concentration is an estimated value
U = analyte was not detected above the reported value

3.10.5 Conclusions

Use of AFFF to extinguish the resulting fire from the L-188CF Electra crash has resulted in PFOA and combined PFOA + PFOS impacts to groundwater above screening levels. Surface soil has not been impacted above screening levels at either site; and PFBS, PFOS, and PFOA were not detected in subsurface soil at either site. Since groundwater has been impacted at both sites, and lacking any other known source for PFAS in the area, use of AFFF for the Electra crash may have impacted both areas.

3.11 L-100-20 HERCULES CRASH – AFFF AREA 9

3.11.1 Sample Locations

To assess possible PFAS impacts from use of AFFF to suppress multiple fires caused by an L-100-20 crash, four surface soil samples (three primary and one duplicate), three subsurface soil samples, and three groundwater samples (two primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil borings DOBNS09-001, DOBNS09-002, and DOBNS09-003. Groundwater samples were collected from temporary monitoring wells installed in borings DOBNS09-002 and DOBNS09-003. A temporary monitoring well installed in boring DOBNS09-001 failed to produce water. Sample locations for AFFF Area 9 are shown on Figure 10 in Appendix A.

3.11.2 Soil Description and Lithology

Borings DOBNS09-001 and DOBNS09-002 refused at depths of 9.1 feet and 44.2 feet, respectively, and DOBNS09-003 was terminated at a depth of 45.0 feet. All three borings encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey to non-plastic silt (ML). Detailed boring logs are included in Appendix C.

3.11.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at the L-100-20 crash site on December 13, 2017. Groundwater was detected at a depth of 42.11 feet btoc at DOBNS09-002 and at a depth of 38.73 feet btoc at DOBNS09-003 and at elevations of 982.97 feet NAVD88 and 980.02 feet NAVD88, respectively. DOBNS09-001 was dry. Although groundwater contours could not be developed, shallow groundwater is expected to flow to the southeast, as shown on Figure 10 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.11.4 Analytical Results

Surface Soil

Four surface soil samples (three primary and one duplicate) were collected from soil borings DOBNS09-001 through DOBNS09-003 at the L-100-20 Hercules crash site. PFBS was not detected in any of the samples. PFOA was detected in all four samples at concentrations below the screening level. PFOS was detected in all four samples and exceeded the screening level in three samples (two primary and one duplicate). Surface soil analytical results are summarized in Table 27 and shown on Figure 31 in Appendix A.

Table 27 L-100-20 Hercules Crash (AFFF Area 9) Surface Soil Analytical Results

	Sample ID	DOBNS09-001-SS-001	DOBNS09-002-SS-001	DOBNS09-002-SS-901 (dup)	DOBNS09-003-SS-001
	Date Sampled	12/11/17	12/11/17	12/11/17	12/11/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 U	0.60 U	0.48 U	0.60 U
Perfluorooctanoic acid (PFOA)	126[b]	**1.5**	**18 J**	**7.5 J**	**9.8**
Perfluorooctane sulfonate (PFOS)	126[b]	**54**	**410**	**390**	**300**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SS = surface soil DOBNS = Dobbins Air Reserve Base ID = identification dup = duplicate
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.

Subsurface Soil

Subsurface soil samples were also collected from soil borings DOBNS09-001 through DOBNS09-003 at the Hercules crash site. Where detected, PFBS, PFOA and PFOS concentrations were below their respective screening levels. Subsurface soil analytical results are summarized in Table 28 and shown on Figure 31 in Appendix A.

Table 28 L-100-20 Hercules Crash (AFFF Area 9) Subsurface Soil Analytical Results

	Sample ID	DOBNS09-001-SO-009	DOBNS09-002-SO-037	DOBNS09-003-SO-037
	Date Sampled	12/11/17	12/11/17	12/11/17
	Depth (ft bgs)	8–9	37–38	37–38
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	**0.51 J**	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	**0.99 J**	0.96 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	**120**	**1.2**	0.88 U

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SO = subsurface soil DOBNS = Dobbins Air Reserve Base ID = identification
J = reported concentration is an estimated value U = the analyte was not detected above the reported value.

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 9 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS09-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS09-001, DOBNS09-002, and DOBNS09-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS09-004-SO-009 was composed of equal aliquots of soil collected from the same borings at 8 to 9 feet bgs, 37 to 38 feet bgs, and 37 to 38 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Three groundwater samples (two primary and one duplicate) were collected from two temporary monitoring wells installed at the Hercules crash site. A temporary well installed at DOBNS09-001 was dry. PFBS was detected in all three samples at concentrations below screening levels. Individual and combined PFOS and PFOA concentrations were above the screening level for all three samples. Groundwater analytical results are summarized in Table 29 and shown on Figure 32 in Appendix A.

Table 29 L-100-20 Hercules Crash (AFFF Area 9) Groundwater Analytical Results

	Sample ID	DOBNS09-002-GW-044	DOBNS09-003-GW-042	DOBNS09-003-GW-942 (dup)
	Date Sampled	12/14/17	12/13/17	12/13/17
	Screened Interval (ft bgs)	33–44	34.7–44.7	34.7–44.7
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**2.5**	**0.58**	**0.62**
Perfluorooctanoic acid (PFOA)	0.07[b]	**2.4**	**0.13**	**0.13**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**37**	**4.8**	**5.1**
PFOS +PFOA	0.07[c]	**39.4**	**4.93**	**5.23**

Bold values indicate analyte detected at concentration indicated.

Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
AFFF = aqueous film forming foam
dup = field duplicate
GW = groundwater
ID = identification

3.11.5 Conclusions

Use of AFFF to extinguish multiple fires resulting from the L-100-20 Hercules crash has resulted in PFAS impacts to the environment. Media impacted above screening levels include surface soil (PFOS) and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.12 F-18 TIRE FIRE – AFFF AREA 10

3.12.1 Sample Locations

To assess possible PFAS impacts from use of AFFF to extinguish an F-18 tire fire, three surface soil samples, four subsurface soil samples (three primary and one duplicate), and three groundwater samples were collected. Surface and subsurface soil samples were collected from soil borings DOBNS10-001, DOBNS10-002, and DOBNS10-003. Groundwater samples were collected from temporary monitoring wells installed in each boring. Sample locations for AFFF Area 10 are shown on Figure 11 in Appendix A.

3.12.2 Soil Description and Lithology

The three soil borings completed at the F-18 tire fire site (DOBNS10-001, DOBNS10-002, and DOBNS10-003) were terminated at depths of 25.0 feet, 30.0 feet, and 30.0 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.12.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at the F-18 tire fire site on December 13, 2017. Groundwater was detected at depths ranging from 14.50 feet to 20.08 feet btoc and at elevations ranging from 980.18 feet NAVD88 (at DOBNS10-002) to 983.05 feet NAVD88 (at DOBNS10-001). Groundwater contours developed from these water level measurements indicate shallow groundwater flows south/southeast, as shown on Figure 11 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.12.4 Analytical Results

Surface Soil

Three surface soil samples were collected from soil borings DOBNS10-001 through DOBNS10-003 at the F-18 tire fire site. PFBS was not detected in any of the samples. Where detected, PFOA and PFOS concentrations were below screening levels. Surface soil analytical results are summarized in Table 30 and shown on Figure 33 in Appendix A.

Table 30 F-18 Tire Fire (AFFF Area 10) Surface Soil Analytical Results

	Sample ID	**DOBNS10-001-SS-001**	**DOBNS10-002-SS-001**	**DOBNS10-003-SS-001**
	Date Sampled	**11/30/17**	**11/30/17**	**11/30/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 U	0.55 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	0.96 U	**1.7**	0.88 U

	Sample ID	DOBNS10-001-SS-001	DOBNS10-002-SS-001	DOBNS10-003-SS-001
	Date Sampled	11/30/17	11/30/17	11/30/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorooctane sulfonate (PFOS)	126[b]	**7.2**	**12**	**2.9**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
U = the analyte was not detected above the reported value.

AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Four subsurface soil samples (three primary and one duplicate) were also collected from soil borings DOBNS10-001 through DOBNS10-003 at the F-18 tire fire site. PFBS, PFOA, and PFOS were not detected in any of the samples. Subsurface soil analytical results are summarized in Table 31 and shown on Figure 33 in Appendix A.

Table 31 F-18 Tire Fire (AFFF Area 10) Subsurface Soil Analytical Results

	Sample ID	DOBNS10-001-SO-019	DOBNS10-002-SO-024	DOBNS10-002-SO-924 (dup)	DOBNS10-003-SO-024
	Date Sampled	11/30/17	11/30/17	11/30/17	11/30/17
	Depth (ft bgs)	19–20	24–25	24–25	24–25
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.70 U	0.55 U	0.75 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	1.1 U	0.88 U	1.2 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	1.1 U	0.88 U	1.2 U	0.88 U

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
U = the analyte was not detected above the reported value.

AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
dup = duplicate

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 10 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS10-004-SS-001 was composed of equal aliquots of soil collected from borings

DOBNS10-001, DOBNS10-002, and DOBNS10-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS10-004-SO-019 was composed of equal aliquots of soil collected from the same borings at 19 to 20 feet bgs, 24 to 25 feet bgs, and 24 to 25 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Groundwater samples were collected from temporary monitoring wells installed at borings DOBNS10-001 through DOBNS10-003 at the F-18 tire fire site. Where detected, PFBS, PFOS, and PFOA concentrations were all below screening levels. Groundwater soil analytical results are summarized in Table 32 and shown on Figure 34 in Appendix A.

Table 32 F-18 Tire Fire (AFFF Area 10) Groundwater Analytical Results

	Sample ID	**DOBNS10-001-GW-020**	**DOBNS10-002-GW-025**	**DOBNS10-003-GW-023**
	Date Sampled	**12/14/17**	**12/06/17**	**12/04/17**
	Screened Interval (ft bgs)	**14.8–24.8**	**19.8–29.8**	**17.9–27.9**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.011 J**	0.015 U	**0.21**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.024**	0.010 U	**0.014 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.013 J**	0.015 U	0.015 U
PFOS +PFOA	0.07[c]	**0.037 J**	ND	**0.014 J**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
AFFF = aqueous film forming foam
bgs = below ground surface
ND = not detected
ft = foot or feet
GW = groundwater
DOBNS = Dobbins Air Reserve Base
ID = identification
J = reported concentration is an estimated value
U = The analyte was not detected above the reported value

3.12.5 Conclusions

Use of AFFF to extinguish an F-18 tire fire has not resulted in PFAS impacts to the environment. Where detected, PFBS, PFOS, and PFOA concentrations were below screening levels in both soil and groundwater.

3.13 E-2 TIRE FIRE – AFFF AREA 11

3.13.1 Sample Locations

To assess possible PFAS impacts from use of AFFF to extinguish an E-2 tire fire, three surface soil samples, three subsurface soil samples, and four groundwater samples (three primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil borings DOBNS11-001, DOBNS11-002, and DOBNS11-003. Groundwater samples were collected from temporary monitoring wells installed in each boring. Sample locations for AFFF Area 11 are shown on Figure 12 in Appendix A.

3.13.2 Soil Description and Lithology

The three soil borings completed at the E-2 tire fire site (DOBNS11-001, DOBNS11-002, and DOBNS11-003) were terminated at depths of 40.0 feet, 28.0 feet, and 25.0 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.13.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at the E-2 tire fire site on December 13, 2017. Groundwater was detected at depths ranging from 15.41 feet to 18.50 feet btoc and at elevations ranging from 989.42 feet NAVD88 (at DOBNS11-003) to 990.76 feet NAVD88 (at DOBNS11-002). Groundwater contours developed from these water level measurements indicate shallow groundwater flows south/southeast as shown on Figure 12 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.13.4 Analytical Results

Surface Soil
Three surface soil samples were collected from soil borings DOBNS11-001 through DOBNS11-003 at the E-2 tire fire site. PFBS was not detected in any of the samples. Where detected, PFOA and PFOS concentrations were below screening levels. Surface soil analytical results are summarized in Table 33 and shown on Figure 35 in Appendix A.

Table 33 E-2 Tire Fire (AFFF Area 11) Surface Soil Analytical Results

	Sample ID	**DOBNS11-001-SS-001**	**DOBNS11-002-SS-001**	**DOBNS11-003-SS-001**
	Date Sampled	**11/30/17**	**11/29/17**	**11/29/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.48 UJ	0.50 UJ
Perfluorooctanoic acid (PFOA)	126[b]	**0.63 J**	**0.32 J**	0.80 U
Perfluorooctane sulfonate (PFOS)	126[b]	**6.6**	**3.8**	**11**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SS = surface soil DOBNS = Dobbins Air Reserve Base ID = identification
J = reported concentration is an estimated value U = The analyte was not detected above the reported value.
UJ = The analyte was not detected at the reported value. The reported value is approximate.

Subsurface Soil

Three subsurface soil samples were also collected from soil borings DOBNS11-001 through DOBNS11-003 at the F-18 tire fire site. PFBS, PFOA, and PFOS were not detected in any of the samples. Subsurface soil analytical results are summarized in Table 34 and shown on Figure 35 in Appendix A.

Table 34 E-2 Tire Fire (AFFF Area 11) Subsurface Soil Analytical Results

	Sample ID	**DOBNS11-001-SO-034**	**DOBNS11-002-SO-021**	**DOBNS11-003-SO-017**
	Date Sampled	**11/30/17**	**11/29/17**	**11/29/17**
	Depth (ft bgs)	**34–35**	**21–22**	**16.5–17.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.65 U	0.60 UJ	0.55 UJ
Perfluorooctanoic acid (PFOA)	126[b]	1.0 U	0.96 U	0.88 U
Perfluorooctane sulfonate (PFOS)	126[b]	1.0 U	0.96 U	0.88 U

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value
U = The analyte was not detected above the reported value.
UJ = The analyte was not detected at the reported value. The reported value is approximate.

AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 11 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS11-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS11-001, DOBNS11-002, and DOBNS11-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS11-004-SO-021 was composed of equal aliquots of soil collected from the same borings at 34 to 35 feet bgs, 21 to 22 feet bgs, and 16.5 to 17.5 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Four groundwater samples (three primary and one duplicate) were collected from temporary monitoring wells installed at the E-2 tire fire site. Where detected, PFBS, PFOS, and PFOA concentration were all below screening levels. Groundwater analytical results are summarized in Table 35 and shown on Figure 36 in Appendix A.

Table 35 E-2 Tire Fire (AFFF Area 11) Groundwater Analytical Results

Sample ID		DOBNS11-001-GW-034	DOBNS11-002-GW-022	DOBNS11-003-GW-018	DOBNS11-003-GW-918 (dup)
Date Sampled		12/08/17	12/06/17	12/06/17	12/06/17
Screened Interval (ft bgs)		28.7–38.7	17.2–27.2	14.3–24.3	14.3–24.3
Analyte	Screening Level (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)	Result (µg/L)
Perfluorobutane sulfonate (PFBS)	40[a]	**0.011 J**	**0.010 J**	**0.012 J**	**0.010 J**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.010 J**	**0.024**	**0.021**	**0.020**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.021**	0.015 U	**0.020 J**	**0.017 J**
PFOS +PFOA	0.07[c]	**0.031 J**	**0.024**	**0.041 J**	**0.037 J**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
U = The analyte was not detected above the reported value.

AFFF = aqueous film forming foam
dup = duplicate
GW = groundwater
ID = identification

3.13.5 Conclusions

Use of AFFF to extinguish the E-2 tire fire has not resulted in PFAS impacts to the environment. Where detected, PFBS, PFOS, and PFOA concentrations were below screening levels in both soil and groundwater.

3.14 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

3.14.1 Sample Locations

To assess possible PFAS impacts from an accidental release of AFFF at the motor pool facility, four surface soil samples (three primary and one duplicate), four subsurface soil samples (three primary and one duplicate), and one groundwater sample were collected. Surface and subsurface soil samples were collected from soil borings DOBNS12-001, DOBNS12-002, and DOBNS12-003. A groundwater sample was collected from a temporary monitoring well installed at DOBNS12-001. Planned groundwater samples from borings DOBNS12-002 and DOBNS12-003 (which refused at depths of 9.0 feet and 7.7 feet, respectively) could not be collected. Although temporary monitoring wells were installed in the borings, DOBNS12-002 did not produce enough groundwater to sample and DOBNS12-003 was dry. Sample locations for AFFF Area 12 are shown on Figure 13 in Appendix A.

3.14.2 Soil Description and Lithology

The three soil borings completed at the motor pool (DOBNS12-001, DOBNS12-002, and DOBNS12-003) refused at depths of 24.0 feet, 9.0 feet, and 7.7 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey to non-plastic silt (ML). Detailed boring logs are included in Appendix C.

3.14.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at the motor pool on December 13, 2017. Groundwater was detected at a depth of 22.78 feet btoc at DOBNS12-001 and at a depth of 9.44 feet btoc at DOBNS12-002 and at elevations of 1044.21 feet NAVD88 and 1057.86 feet NAVD88, respectively. DOBNS12-003 was dry. Although groundwater contours could not be developed, shallow groundwater is expected to flow to the south/southeast, as shown on Figure 13 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.14.4 Analytical Results

Surface Soil
Four surface soil samples (three primary and one duplicate) were collected from soil borings DOBNS12-001 through DOBNS12-003 at Building 516. PFBS and PFOA were detected in each of the four samples at concentrations below their respective screening levels. PFOS was also detected in each of the samples and exceeded the screening level in one sample (DOBNS12-003-SS-001). Surface soil analytical results are summarized in Table 36 and shown on Figure 37 in Appendix A.

Table 36 Motor Pool (Building 516) (AFFF Area 12) Surface Soil Analytical Results

	Sample ID	**DOBNS12-001-SS-001**	**DOBNS12-002-SS-001**	**DOBNS12-002-SS-901 (dup)**	**DOBNS12-003-SS-001**
	Date Sampled	**12/07/17**	**12/07/17**	**12/07/17**	**12/07/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	**2.7**	**0.64 J**	**0.35 J**	**1.3**
Perfluorooctanoic acid (PFOA)	126[b]	**1.5**	**1.5 J**	**2.0**	**1.2**
Perfluorooctane sulfonate (PFOS)	126[b]	**54**	**31 J**	**28**	**150**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SS = surface soil DOBNS = Dobbins Air Reserve Base ID = identification dup = duplicate
J = reported concentration is an estimated value

Subsurface Soil
Four subsurface soil samples (three primary and one duplicate) were also collected from soil borings DOBNS12-001 through DOBNS12-003 at Building 516. Where detected, PFBS and PFOA concentrations were below their respective screening levels. PFOS was detected in each of the samples and exceeded the screening level in primary and duplicate samples DOBNS12-003-SO-007 and

DOBNS12-003-SO-907. Subsurface soil analytical results are summarized in Table 37 and shown on Figure 37 in Appendix A.

Table 37 Motor Pool (Building 516) (AFFF Area 12) Subsurface Soil Analytical Results

	Sample ID	**DOBNS12-001-SO-024**	**DOBNS12-002-SO-009**	**DOBNS12-003-SO-007**	**DOBNS12-003-SO-907 (dup)**
	Date Sampled	**12/07/17**	**12/07/17**	**12/07/17**	**12/07/17**
	Depth (ft bgs)	**23–24**	**8–9**	**6.7–7.7**	**6.7–7.7**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.48 UJ	0.55 U	**0.26 J**	0.45 U
Perfluorooctanoic acid (PFOA)	126[b]	0.76 UJ	**2.1**	**2.5**	**2.2**
Perfluorooctane sulfonate (PFOS)	126[b]	**3.8 J**	**73**	**200**	**220**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SO = subsurface soil DOBNS = Dobbins Air Reserve Base ID = identification dup = duplicate
U = analyte was not detected at the reported value. J = The reported concentration is an estimated value
UJ = The analyte was not detected at the reported value. The reported value is approximate.

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 12 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS12-004-SS-001 was composed of equal aliquots of soil collected from borings DOBNS12-001, DOBNS12-002, and DOBNS12-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS12-004-SO-024 was composed of equal aliquots of soil collected from the same borings at 23 to 24 feet bgs, 8 to 9 feet bgs, and 6.7 to 7.7 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

A groundwater sample was collected from a temporary well installed at boring DOBNS12-001 at Building 516. The temporary well installed in boring DOBNS12-002 did not produce enough water to sample and the well installed in DOBNS12-003 was dry. PFBS was detected in sample DOBNS12-001-GW-024 below the screening level. PFOA and PFOS were detected in the sample at individual and combined concentrations above the screening level. Groundwater analytical results are summarized in Table 38 and shown on Figure 38 in Appendix A.

Table 38 Motor Pool Facility (Building 516) (AFFF Area 12) Groundwater Analytical Results

	Sample ID	**DOBNS12-001-GW-024**
	Date Sampled	**12/14/17**
	Screened Interval (ft bgs)	**13.7–23.7**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.24**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.23 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.84**

	Sample ID	**DOBNS12-001-GW-024**
	Date Sampled	**12/14/17**
	Screened Interval (ft bgs)	**13.7–23.7**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**
PFOS +PFOA	0.07[c]	**1.07 J**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.
µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
ID = identification
GW = groundwater

3.14.5 Conclusions

An inadvertent release of AFFF at Building 516 has resulted in PFAS impacts to the environment. Media impacted above screening levels include surface soil (PFOS), subsurface soil (PFOS), and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.15 AFFF SPRAY TEST AREA – AFFF AREA 13

3.15.1 Sample Locations

To assess possible PFAS impacts from previous releases of AFFF at the spray test area, five surface soil samples, five subsurface soil samples, and six groundwater samples (five primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil borings DOBNS13-001 through DOBNS13-005. Groundwater samples were collected from temporary wells installed in borings DOBNS13-001 through DOBNS13-004. A groundwater sample was also collected from boring DOBNS13-005 using an SP16 drive point sampler. Sample locations for AFFF Area 13 are shown on Figure 14 in Appendix A.

3.15.2 Soil Description and Lithology

Four borings completed at the AFFF spray test area (DOBNS13-001 and DOBNS13-003 through DOBNS13-005) were each terminated at a depth of 55.0 feet; the remaining boring (DOBNS13-002) refused at a depth of 47.1 feet. Each of the five borings encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Based on surrounding topography, and the fact that organic material was noted at a depth 18.5 feet in DOBNS13-002, shallow soils (i.e., less than 20 feet bgs) are likely fill. Soil types and USCS designations encountered primarily consisted of lean clay (CL) and clayey silt (ML). Detailed boring logs are included in Appendix C.

3.15.3 Groundwater Flow

Groundwater levels were gauged at four temporary monitoring wells at the AFFF spray test area on December 13, 2017. Groundwater was detected at depths ranging from 36.87 feet to 47.17 feet btoc and at elevations ranging from 949.88 feet NAVD88 (at DOBNS13-004) to 962.35 feet NAVD88 (at

DOBNS13-002). Groundwater contours developed from these water level measurements indicate shallow groundwater flows south/southwest, as shown on Figure 14 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.15.4 Analytical Results

Surface Soil

Five surface soil samples were collected from soil borings DOBNS13-001 through DOBNS13-005 at the AFFF spray test area. PFBS and PFOA were detected in each of the samples at concentrations below their respective screening levels. PFOS was also detected in each of the five samples and exceeded the screening level in four samples. Surface soil analytical results are summarized in Table 39 and shown on Figure 39 in Appendix A.

Table 39 AFFF Spray Test Area (AFFF Area 13) Surface Soil Analytical Results

	Sample ID	DOBNS13-001-SS-001	DOBNS13-002-SS-001	DOBNS13-003-SS-001
	Date Sampled	12/12/17	12/12/17	12/12/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	**6.8 J**	**1.2**	**180**
Perfluorooctanoic acid (PFOA)	126[b]	**11**	**1.7**	**18**
Perfluorooctane sulfonate (PFOS)	126[b]	**900**	**440**	**1,900**

	Sample ID	DOBNS13-004-SS-001	DOBNS13-005-SS-001
	Date Sampled	12/02/17	11/29/17
	Depth (ft bgs)	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	**7.1**	**4.8 J**
Perfluorooctanoic acid (PFOA)	126[b]	**1.4**	**0.57 J**
Perfluorooctane sulfonate (PFOS)	126[b]	**270**	**77**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Five subsurface soil samples were also collected from soil borings DOBNS13-001 through DOBNS13-005 at the AFFF spray test area. PFBS and PFOA were not detected in any of the samples. PFOS was detected in one sample (DOBNS13-003-SO-048) at a concentration below the screening level. Subsurface soil analytical results are summarized in Table 40 and shown on Figure 39 in Appendix A.

Table 40 AFFF Spray Test Area (AFFF Area 13) Subsurface Soil Analytical Results

	Sample ID	**DOBNS13-001-SO-047**	**DOBNS13-002-SO-034**	**DOBNS13-003-SO-048**	**DOBNS13-004-SO-051**	**DOBNS13-005-SO-051**
	Date Sampled	**12/12/17**	**12/12/17**	**12/12/17**	**12/02/17**	**11/29/17**
	Depth (ft bgs)	**47–48**	**34–35**	**47.5–48.5**	**51–52**	**51–52**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	8.0 U	0.50 U	0.49 U	0.55 U	0.60 UJ
Perfluorooctanoic acid (PFOA)	126[b]	13 U	0.80 U	0.78 U	0.88 U	0.96 U
Perfluorooctane sulfonate (PFOS)	126[b]	13 U	0.80 U	**1.8**	0.88 U	0.96 U

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
U = The analyte was not detected above the reported value
UJ = The reported concentration is an estimated value
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 13 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS13-006-SS-001 was composed of equal aliquots of soil collected from borings DOBNS13-001 through DOBNS13-005 at 0 to 6 inches bgs. Subsurface soil sample DOBNS13-006-SO-051 was composed of equal aliquots of soil collected from the same borings at 47 to 48 feet bgs, 34 to 35 feet bgs, 47.5 to 48.5 feet bgs, 51 to 52 feet bgs, and 51 to 52 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Six groundwater samples (five primary and one duplicate) were collected at the AFFF spray test area. PFBS was detected in five of six samples all at concentrations below the screening level. PFOA and PFOS were detected in each of the six samples with combined PFOS and PFOS concentrations above the screening level in five samples. Groundwater analytical results are summarized in Table 41 and shown on Figure 40 in Appendix A.

Table 41 AFFF Spray Test Area (AFFF Area 13) Groundwater Analytical Results

	Sample ID	**DOBNS13-001-GW-050**	**DOBNS13-002-GW-045**	**DOBNS13-003-GW-050**
	Date Sampled	**12/05/17**	**12/14/17**	**12/14/17**
	Screened Interval (ft bgs)	**44.8–54.8**	**32.8–42.8**	**44.8–54.8**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.12**	0.020 U	**0.046**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.039**	**0.013 J**	**0.079 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.20**	**0.055**	**0.42**
PFOS +PFOA	0.07[c]	**0.239**	**0.068 J**	**0.499 J**

Sample ID		**DOBNS13-004-GW-052**	**DOBNS13-005-GW-053**	**DOBNS13-005-GW-953 (dup)**
	Date Sampled	**12/05/17**	**12/11/17**	**11/29/17**
	Screened Interval (ft bgs)	**44.7–54.7**	**51–55**	**51–55**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**4.9**	**0.79**	**0.70**
Perfluorooctanoic acid (PFOA)	0.07[b]	**1.0**	**0.40**	**0.40**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**34**	**4.4 J**	**6.7 J**
PFOS +PFOA	0.07[c]	**35.0**	**4.80 J**	**7.10 J**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
U = analyte was not detected above the reported value
AFFF = aqueous film forming foam
dup = duplicate
GW = groundwater
ID = identification

3.15.5 Conclusions

Releases of AFFF at the spray test area have resulted in impacts to the environment. Media impacted at concentrations above screening values include surface soil (PFOS) and groundwater (PFOS, PFOA, and combined PFOS + PFOA).

3.16 BIG LAKE (OT-04) – AFFF AREA 14

3.16.1 Sample Locations

To assess possible PFAS impacts from a known release of AFFF to Big Lake from Building (Hangar) 5 (AFFF Area 3), one surface soil sample, two subsurface soil samples (one primary and one duplicate), six groundwater samples (five primary and one duplicate), two sediment samples, and three surface water samples (two primary and one duplicate) were collected. Surface and subsurface soil samples were collected from soil boring DOBNS14-001 and a groundwater sample was collected from a temporary monitoring well installed in the boring. Groundwater samples were also collected from existing monitoring wells D3-W24, OT004-MW02, OT004-MW03, and OT004-MW04. Collocated sediment/surface water samples were collected from Big Lake near the drainage outfall from Building 5 and from the unnamed tributary below the spillway. Sample locations for AFFF Area 14 are shown on Figure 4 in Appendix A.

3.16.2 Soil Description and Lithology

Boring DOBNS14-001 encountered residual soil weathered from the underlying metamorphic bedrock and refused at a depth of 17.5 feet. The primary soil type and USCS designation encountered was lean clay (CL). A detailed boring log is included in Appendix C.

3.16.3 Groundwater Flow

Groundwater levels were gauged at one temporary monitoring well and three existing monitoring wells at Big Lake on December 13, 2017. Groundwater was detected at depths ranging from 5.78 feet to 10.65 feet btoc and at elevations ranging from 974.47 feet NAVD88 (at D3-W24) to 1005.87 feet NAVD88 (at OT004-MW02). Groundwater contours developed from these water level measurements (and from monitoring wells at adjacent Former FTA FT-02 [AFFF Area 2]) indicate shallow groundwater flows to the east/southeast, as shown on Figure 4 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.16.4 Analytical Results

Surface Soil

One surface soil sample was collected from soil boring DOBNS14-001 at Big Lake. PFBS was not detected and PFOA and PFOS were detected at concentrations below the screening level. Surface soil analytical results are summarized in Table 42 and shown on Figure 19 in Appendix A.

Table 42 Big Lake (OT-04) (AFFF Area 14) Surface Soil Analytical Results

	Sample ID	DOBNS14-001-SS-001
	Date Sampled	11/28/17
	Depth (ft bgs)	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.60 UJ
Perfluorooctanoic acid (PFOA)	126[b]	**1.8**
Perfluorooctane sulfonate (PFOS)	126[b]	**120**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
UJ = The analyte was not detected at the reported value. The reported concentration is approximate.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Two subsurface soil samples (one primary and one duplicate) were also collected from boring DOBNS14-001. PFBS was not detected in either sample. PFOA was detected in the duplicate sample and PFOS was detected in both samples, all at concentrations below the screening level. Subsurface soil analytical results are summarized in Table 43 and shown on Figure 19 in Appendix A.

Table 43 Big Lake (OT-04) (AFFF Area 14) Subsurface Soil Analytical Results

	Sample ID	DOBNS14-001-SO-016	DOBNS14-001-SO-916 (dup)
	Date Sampled	11/28/17	11/28/17
	Depth (ft bgs)	16–17	16–17
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 UJ	0.55 UJ
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	**0.57 J**
Perfluorooctane sulfonate (PFOS)	126[b]	**1.6 J**	**46 J**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
U = analyte was not detected above the reported value
J = The reported concentration is an estimated value.
UJ = The analyte was not detected at the reported value. The reported concentration is approximate.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
dup = duplicate

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from the one soil boring completed at AFFF Area 14 and analyzed for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS14-005-SS-001 was composed of soil collected from boring DOBNS14-001 at 0 to 6 inches bgs. Subsurface soil sample DOBNS14-005-SO-016 was composed of soil collected from the same boring 16 to 17 feet bgs. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Six groundwater samples (five primary and one duplicate) were collected from four existing wells and one temporary monitoring well at Big Lake. PFBS was detected in all of the samples at concentrations below the screening level. PFOA and PFOS were detected in all of the samples at individual and combined concentrations above the screening level. Groundwater analytical results are summarized in Table 44 and shown on Figure 20 in Appendix A.

Table 44 Big Lake (OT-04) (AFFF Area 14) Groundwater Analytical Results

	Sample ID	**DOBNS14-D3-W24-GW-015**	**DOBNS14-OT004-MW02**	**DOBNS14-OT004-MW03**
	Date Sampled	**12/05/17**	**12/14/17**	**12/12/17**
	Screened Interval (ft bgs)	**8–18**	**25.8–35.7**	**8.6–18.6**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40^{a}	**0.086**	**0.019 J**	**0.071**
Perfluorooctanoic acid (PFOA)	0.07^{b}	**0.48 J**	**0.14**	**0.24**
Perfluorooctane sulfonate (PFOS)	0.07^{b}	**2.0**	**0.090**	**0.97**
PFOS +PFOA	0.07^{c}	**2.48 J**	**0.230**	**1.21**

	Sample ID	**DOBNS14-OT004-MW04-GW-018**	**DOBNS14-OT004-MW04-GW-918 (dup)**	**DOBNS14-001-GW-012**
	Date Sampled	**12/05/17**	**01/10/18**	**01/10/18**
	Screened Interval (ft bgs)	**13–23**	**13–23**	**6.4–16.4**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40^{a}	**1.1 J**	**1.0 J**	**0.18**
Perfluorooctanoic acid (PFOA)	0.07^{b}	**5.6**	**5.8**	**1.8**
Perfluorooctane sulfonate (PFOS)	0.07^{b}	**26**	**28**	**16**
PFOS +PFOA	0.07^{c}	**31.6**	**33.8**	**17.8**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value
AFFF = aqueous film forming foam
dup = duplicate
GW = groundwater
ID = identification

Sediment

Two sediment samples were collected at Big Lake. PFBS and PFOA were not detected in either sample. PFOS was detected in one sample (DOBNS14-003-SD-001) at a concentration below the screening level. Sediment analytical results are summarized in Table 45 and shown on Figure 19 in Appendix A.

Table 45 Big Lake (OT-04) (AFFF Area 14) Sediment Analytical Results

	Sample ID	**DOBNS14-002-SD-001**	**DOBNS14-003-SD-001**
	Date Sampled	**11/29/17**	**11/28/17**
	Depth (ft bgs)	**0–0.5**	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 UJ	0.60 UJ
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	0.96 U
Perfluorooctane sulfonate (PFOS)	126[b]	0.88 U	**20**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram AFFF = aqueous film forming foam bgs = below ground surface ft = foot or feet
SD = sediment DOBNS = Dobbins Air Reserve Base ID = identification
U = The analyte was not detected above the reported value
UJ = The analyte was not detected at the reported value. The reported concentration is approximate.

Surface Water

Three surface water samples (two primary and one duplicate) were collected at Big Lake. PFBS was detected in all three samples at concentrations below the screening level. PFOA and PFOS were detected at individual and combined concentrations above the screening level. Surface water analytical results are summarized in Table 46 and shown on Figure 20 in Appendix A.

Table 46 Big Lake (OT-04) (AFFF Area 14) Surface Water Analytical Results

	Sample ID	**DOBNS14-002-SW-001**	**DOBNS14-002-SW-901 (dup)**	**DOBNS14-003-SW-001**
	Date Sampled	**11/29/17**	**11/29/17**	**11/28/17**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.11**	**0.11**	**0.074**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.10**	**0.10**	**0.13**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.31**	**0.27**	**0.81**
PFOS +PFOA	0.07[c]	**0.41**	**0.37**	**0.94**

Bold values indicate analyte detected at concentration indicated. Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf). [b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). [c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter AFFF = aqueous film forming foam
dup = duplicate SW = surface water
DOBNS = Dobbins Air Reserve Base ID = identification

3.16.5 Conclusions

Releases of AFFF to Big Lake from Building 5 have resulted in impacts to the environment. Media impacted at concentrations above screening levels include groundwater and surface water (PFOS, PFOA and combined PFOS + PFOA in both media).

3.17 SPILL POND 3 – AFFF AREA 15

3.17.1 Sample Locations

To assess potential PFAS impacts from a possible release of AFFF to Spill Pond 3, four surface soil samples (three primary and one duplicate), three subsurface soil samples, four groundwater samples (three primary and one duplicate), one sediment sample, and one surface water sample were collected. Surface and subsurface soil samples were collected from soil borings DOBNS15-001, DOBNS15-002, and DOBNS15-003. Groundwater samples were collected from temporary monitoring wells installed in each boring. Collocated sediment/surface water samples were collected from Spill Pond 3 at the downstream (north) end of the pond. Sample locations for AFFF Area 15 are shown on Figure 15 in Appendix A.

3.17.2 Soil Description and Lithology

Borings DOBNS15-002 and DOBNS15-003 were terminated at depths of 14.0 feet and 15.0 feet, and boring DOBNS15-001 refused at a depth of 13.1 feet. All three borings encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) with some intervals of fat clay (CH). Detailed boring logs are included in Appendix C.

3.17.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at Spill Pond 3 on December 13, 2017. Groundwater was detected at depths ranging from 3.72 feet to 5.86 feet btoc and at elevations ranging from 958.66 feet NAVD88 (at DOBNS15-003) to 959.99 feet NAVD88 (at DOBNS15-002). Groundwater contours developed from these water level measurements indicate shallow groundwater flows to the east/northeast as shown on Figure 15 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.17.4 Analytical Result

Surface Soil

Four surface soil samples (three primary and one duplicate) were collected from borings DOBNS15-001 through DOBNS15-003 at Spill Pond 3. PFBS was not detected in any of the samples. Where detected, PFOA and PFOS concentrations were below screening levels. Surface soil analytical results are summarized in Table 47 and shown on Figure 41 in Appendix A.

Table 47 Spill Pond 3 (AFFF Area 15) Surface Soil Analytical Results

	Sample ID	DOBNS15-001-SS-001	DOBNS15-001-SS-901 (dup)	DOBNS15-002-SS-001	DOBNS15-003-SS-001
	Date Sampled	12/10/17	12/10/17	12/11/17	12/10/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.65 U	0.55 U	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	**1.6**	**1.3**	0.88 U	**1.7**
Perfluorooctane sulfonate (PFOS)	126[b]	**9.1**	**6.7**	**1.3**	**4.9**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
U = analyte was not detected above the reported value
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
dup = duplicate

Subsurface Soil

Three subsurface soil samples were also collected from borings DOBNS15-001 through DOBNS15-003. PFBS and PFOA were not detected in any of the samples. PFOS was detected in two samples, both at concentrations below the screening level. Subsurface soil analytical results are summarized in Table 48 and shown on Figure 41 in Appendix A.

Table 48 Spill Pond 3 (AFFF Area 15) Subsurface Soil Analytical Results

	Sample ID	DOBNS15-001-SO-008	DOBNS15-002-SO-005	DOBNS15-003-SO-005
	Date Sampled	12/10/17	12/11/17	12/10/17
	Depth (ft bgs)	8–9	4–5	4.5–5.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	0.60 U	0.50 U
Perfluorooctanoic acid (PFOA)	126[b]	0.88 U	0.96 U	0.80 U
Perfluorooctane sulfonate (PFOS)	126[b]	0.88 U	**4.7**	**3.2**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).

µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
U = analyte was not detected above the reported value
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 15 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS15-005-SS-001 was composed of equal aliquots of soil collected from borings DOBNS15-001, DOBNS15-002, and DOBNS15-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS15-005-SO-005 was composed of equal aliquots of soil collected from the same borings at 8 to 9 feet bgs, 4 to 5 feet bgs, and 4.5 to 5.5 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Four groundwater samples (three primary and one duplicate) were collected from temporary monitoring wells at Spill Pond 3. PFBS was detected in all four samples at concentrations below the screening level. PFOS and PFOA were detected at individual and combined concentrations above the screening level in each of the four samples. Groundwater analytical results are summarized in Table 49 and shown on Figure 42 in Appendix A.

Table 49 Spill Pond 3 (AFFF Area 15) Groundwater Analytical Results

	Sample ID	**DOBNS15-001-GW-011**	**DOBNS15-002-GW-007**	**DOBNS15-003-GW-011**	**DOBNS15-003-GW-911 (dup)**
	Date Sampled	**12/08/17**	**12/12/17**	**12/12/17**	**12/12/17**
	Screened Interval (ft bgs)	**2.9–12.9**	**2.7–12.7**	**3.9–13.9**	**3.9–13.9**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.20**	**0.081**	**0.072**	**0.077**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.43**	**0.24**	**0.12**	**0.12**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**4.4**	**0.28**	**0.36**	**0.36**
PFOS +PFOA	0.07[c]	**4.83**	**0.52**	**0.48**	**0.48**

Bold values indicate analyte detected at concentration indicated.

Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
AFFF = aqueous film forming foam
dup = duplicate
GW = groundwater
ID = identification

Sediment

One sediment sample was collected from Spill Pond 3. PFBS was not detected in the sample; PFOA and PFOS were detected at concentrations below the screening level. Sediment analytical results are included in Table 50 and shown on Figure 41 in Appendix A.

Table 50 Spill Pond 3 (AFFF Area 15) Sediment Analytical Results

	Sample ID	**DOBNS15-004-SD-001**
	Date Sampled	**11/29/17**
	Depth (ft bgs)	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.85 UJ
Perfluorooctanoic acid (PFOA)	126[b]	**1.3 J**
Perfluorooctane sulfonate (PFOS)	126[b]	**53**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.
µg/kg = micrograms per kilogram
ID = identification
DOBNS = Dobbins Air Reserve Base
J = The reported concentration is an estimated value.
UJ = The analyte was not detected at the reported value. The reported value is approximate.
AFFF = aqueous film forming foam
SD = sediment

Surface Water

One surface water sample was collected at Spill Pond 3. PFBS was detected at a concentration below the screening level. PFOA and PFOS were detected at individual and combined concentrations above the screening level. Surface water analytical results are summarized in Table 51 and shown on Figure 42 in Appendix A.

Table 51 Spill Pond 3 (AFFF Area 15) Surface Water Analytical Results

	Sample ID	**DOBNS15-004-SW-001**
	Date Sampled	**11/29/17**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.069**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.38**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**2.0**
PFOS +PFOA	0.07[c]	**2.38**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).
[c]The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.
µg/L = micrograms per liter
ID = identification
DOBNS = Dobbins Air Reserve Base
AFFF = aqueous film forming foam
SW = surface water

3.17.5 Conclusions

An apparent release of AFFF to Spill Pond 3 has resulted in impacts to the environment. Media impacted at concentrations above screening levels include groundwater and surface water (PFOS, PFOA and combined PFOS + PFOA in both media).

3.18 SPILL POND 4 – AFFF AREA 16

3.18.1 Sample Locations

To assess possible PFAS impacts from a known release of AFFF to Spill Pond 4 from Building 731, three surface soil samples, three subsurface soil samples, three groundwater samples, one sediment sample, and one surface water sample were collected. Surface and subsurface soil samples were collected from soil borings DOBNS16-001, DOBNS16-002, and DOBNS16-003. Groundwater samples were collected from temporary monitoring wells installed in each boring. Collocated sediment/surface water samples were collected from Spill Pond 6 at the downstream (north) end of the pond. Sample locations for AFFF Area 16 are shown on Figure 16 in Appendix A.

3.18.2 Soil Description and Lithology

The three soil borings completed at Spill Pond 4 (DOBNS16-001, DOBNS16-002, and DOBNS16-003) were terminated at depths of 15.0 feet, 20.0 feet, and 25.0 feet, respectively, and encountered residual and saprolitic soil weathered from the underlying metamorphic bedrock. Soil types and USCS designations encountered primarily consisted of lean clay (CL) with some intervals of clayey silt (ML). Detailed boring logs are included in Appendix C.

3.18.3 Groundwater Flow

Groundwater levels were gauged at three temporary monitoring wells at Spill Pond 4 on December 13, 2017. Groundwater was detected at depths ranging from 5.06 feet to 9.89 feet btoc and at elevations ranging from 970.33 feet NAVD88 (at DOBNS16-001) to 973.96 feet NAVD88 (at DOBNS16-002). Groundwater contours developed from these water level measurements indicate shallow groundwater flows northwest, as shown on Figure 16 in Appendix A. Groundwater level measurements and elevations are summarized in Table F-1 in Appendix F.

3.18.4 Analytical Results

Surface Soil

Three surface soil samples were collected from borings DOBNS16-001 through DOBNS16-003 at Spill Pond 4. Where detected, PFBS, PFOA, and PFOS concentrations were below screening levels. Surface soil analytical results are summarized in Table 52 and shown on Figure 43 in Appendix A.

Table 52 Spill Pond 4 (AFFF Area 16) Surface Soil Analytical Results

	Sample ID	DOBNS16-001-SS-001	DOBNS16-002-SS-001	DOBNS16-003-SS-001
	Date Sampled	12/08/17	12/08/17	12/08/17
	Depth (ft bgs)	0–0.5	0–0.5	0–0.5
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.55 U	**0.63 J**	0.55 U
Perfluorooctanoic acid (PFOA)	126[b]	**1.4**	**3.3**	**10**
Perfluorooctane sulfonate (PFOS)	126[b]	**22**	**60**	**38**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SS = surface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Subsurface Soil

Three subsurface soil samples were also collected from borings DOBNS16-001 through DOBNS16-003. Where detected, PFBS, PFOA, and PFOS concentrations were below screening levels. Subsurface soil analytical results are summarized in Table 53 and shown on Figure 43 in Appendix A.

Table 53 Spill Pond 4 (AFFF Area 16) Subsurface Soil Analytical Results

	Sample ID	DOBNS16-001-SO-006	DOBNS16-002-SO-006	DOBNS16-003-SO-015
	Date Sampled	12/08/17	12/08/17	12/08/17
	Depth (ft bgs)	6–7	6–7	15–16
Analyte	Screening Level (µg/kg)	Result (µg/kg)	Result (µg/kg)	Result (µg/kg)
Perfluorobutane sulfonate (PFBS)	130,000[a]	7.5 U	**0.48 J**	**0.73 J**
Perfluorooctanoic acid (PFOA)	126[b]	12 U	**7.6**	**1.9**
Perfluorooctane sulfonate (PFOS)	126[b]	12 U	**75**	**1.7**

Bold values indicate analyte detected at concentration indicated.
[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).
[b]Screening level calculated using the EPA RSL calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search).
µg/kg = micrograms per kilogram
bgs = below ground surface
SO = subsurface soil
ID = identification
J = reported concentration is an estimated value
U = the analyte was not detected above the reported value.
AFFF = aqueous film forming foam
ft = foot or feet
DOBNS = Dobbins Air Reserve Base

Soil Physiochemical Analyses

To provide basic soil parameter information, composite surface and subsurface soil samples were collected from AFFF Area 16 soil borings for pH, TOC, percent solids, and grainsize analysis. Surface soil sample DOBNS16-005-SS-001 was composed of equal aliquots of soil collected from borings DOBNS16-001, DOBNS16-002, and DOBNS16-003 at 0 to 6 inches bgs. Subsurface soil sample DOBNS16-005-SO-015 was composed of equal aliquots of soil collected from the same borings at 6 to 7 feet bgs, 6 to 7 feet bgs, and 15 to 16 feet bgs, respectively. Table E-1 summarizing the physiochemical data and supporting laboratory data sheets are included in Appendix E.

Groundwater

Three groundwater samples were collected from temporary monitoring wells at Spill Pond 4. PFBS was detected in all three samples at concentrations below the screening level. PFOS and PFOA were detected at individual and combined concentrations above the screening level in each of the three samples. Groundwater analytical results are summarized in Table 54 and shown on Figure 44 in Appendix A.

Table 54 Spill Pond 4 (AFFF Area 16) Groundwater Analytical Results

	Sample ID	**DOBNS16-001-GW-012**	**DOBNS16-002-GW-015**	**DOBNS16-003-GW-020**
	Date Sampled	**12/14/17**	**12/14/17**	**12/14/17**
	Screened Interval (ft bgs)	**4.8–14.8**	**8.9–18.9**	**14.4–24.4**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**	**Result (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.98**	**0.62**	**1.4**
Perfluorooctanoic acid (PFOA)	0.07[b]	**2.4 J**	**1.6 J**	**5.6 J**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.90**	**8.2**	**5.7**
PFOS +PFOA	0.07[c]	**3.30 J**	**9.8 J**	**11.3 J**

Bold values indicate analyte detected at concentration indicated.

Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
bgs = below ground surface
ft = foot or feet
DOBNS = Dobbins Air Reserve Base
J = reported concentration is an estimated value

AFFF = aqueous film forming foam
ID = identification
GW = groundwater

Sediment

One sediment sample was collected from Spill Pond 4. PFBS was not detected in the sample; PFOA and PFOS were detected at concentrations below the screening level. Sediment analytical results are included in Table 55 and shown on Figure 43 in Appendix A.

Table 55 Spill Pond 3 (AFFF Area 16) Sediment Analytical Results

	Sample ID	**DOBNS16-004-SD-001**
	Date Sampled	**11/29/17**
	Depth (ft bgs)	**0–0.5**
Analyte	**Screening Level (µg/kg)**	**Result (µg/kg)**
Perfluorobutane sulfonate (PFBS)	130,000[a]	0.70 UJ
Perfluorooctanoic acid (PFOA)	126[b]	**1.9**
Perfluorooctane sulfonate (PFOS)	126[b]	**13**

Bold values indicate analyte detected at concentration indicated.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/kg = micrograms per kilogram
ID = identification
DOBNS = Dobbins Air Reserve Base
UJ = The analyte was not detected at the reported value. The reported value is approximate.

AFFF = aqueous film forming foam
SD = sediment

Surface Water

One surface water sample was collected at Spill Pond 4. PFBS was detected at a concentration below the screening level. PFOA and PFOS were detected at individual and combined concentrations above the screening level. Surface water analytical results are summarized in Table 56 and shown on Figure 44 in Appendix A.

Table 56 Spill Pond 4 (AFFF Area 16) Surface Water Analytical Results

	Sample ID	**DOBNS16-004-SW-001**
	Date Sampled	**11/29/17**
Analyte	**Screening Level (µg/L)**	**Result (µg/L)**
Perfluorobutane sulfonate (PFBS)	40[a]	**0.085**
Perfluorooctanoic acid (PFOA)	0.07[b]	**0.14**
Perfluorooctane sulfonate (PFOS)	0.07[b]	**0.33**
PFOS +PFOA	0.07[c]	**0.47**

Bold values indicate analyte detected at concentration indicated.
Shaded results indicate value exceeds screening criteria.

[a] EPA Regional Screening Levels (May 2018) (https://semspub.epa.gov/work/HQ/197235.pdf).

[b] EPA, May 2016a. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS) and EPA, May 2016b. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).

[c] The EPA Health Advisory value for drinking water of 0.07 µg/L applies to the combined detected concentrations of PFOS and PFOA.

µg/L = micrograms per liter
ID = identification
DOBNS = Dobbins Air Reserve

AFFF = aqueous film forming foam
SW = surface water

3.18.5 Conclusions

An apparent release of AFFF to Spill Pond 4 has resulted in impacts to the environment. Media impacted at concentrations above screening levels include groundwater and surface water (PFOA, PFOS, and PFOA + PFOS) in both media.

3.19 INVESTIGATION-DERIVED WASTE

The QAPP addendum (ASL, October 2017) included prescribed work procedures for the handling and chemical analysis of investigation-derived waste (IDW) generated during the SI. After the QAPP addendum was approved, the Air Force provided revised guidance for IDW disposal to minimize waste generation. In accordance with this guidance, the minimal soil and water generated after sampling was completed was placed on the ground adjacent to, and downgradient from, each sampling location. General waste—such as paper, plastic, trash, and PPE—was placed in plastic garbage bags and placed in an on-site dumpster for disposal.

4.0 GROUNDWATER PATHWAY

The objectives of groundwater sampling during the SI were to

- determine if groundwater in the individual areas has been impacted by the release of AFFF,
- determine if concentrations of PFOA and PFOS in groundwater are above the EPA HA of 0.07 µg/L and/or if concentrations of PFBS in groundwater are above the RSL of 40 µg/L, and
- identify potential receptor pathways with immediate impacts to human health.

4.1 BASE GEOLOGY AND HYDROGEOLOGY

Surficial deposits at Dobbins ARB consist of residual soil (also known as saprolite) derived from the in-place weathering of the underlying igneous and metamorphic bedrock. There is a gradual transition between the saprolite and the underlying bedrock, becoming stiffer at greater depths. Depth to competent rock is variable across the base due to the irregular weathered erosional surface of the rock. The residuum thickness across Dobbins ARB ranges from zero (due to rock outcrops) to over 100 feet (Parsons, May 1995).

Bedrock beneath Dobbins ARB consists of metamorphic and some igneous rocks of late Precambrian to middle Paleozoic age in wide northeast-trending belts that are the result of repeated periods of structural deformation. Rock units beneath Dobbins ARB are the New Georgia Group and the Sandy Springs Group (Figure 45, Appendix A). The New Georgia Group is interpreted to be intermingled metamorphosed felsic and mafic volcanic rocks, plutonic rocks, and some sedimentary rocks. It consists of amphibolites, hornblende gneiss, and magnetite quartzite, with minor schists. Overlying the New Georgia Group is the Sandy Springs Group, consisting of the Powers Ferry Formation (interbedded gneisses, schists, and amphibolites), the Chattahoochee Palisades Quartzite (quartzite, locally feldspathic or micaceous), and the Factory Shoals Formation (interbedded metagraywacke and kyanite quartz schist) (Parsons, May 1995).

Groundwater at Dobbins ARB occurs under unconfined conditions within the saprolite and underlying crystalline metamorphic bedrock. The primary porosity and permeability of the crystalline rocks are extremely low. Groundwater movement occurs primarily through secondary permeability zones (fault planes, joints, fractures, shear zones, planes of schistosity, and foliation resulting from folding). The water table depth is highly variable and is dependent on surface topography, soil permeability, rainfall/evapotranspiration, and underlying structure.

Although the water table generally mimics surface topography, horizontal joints or parting planes within the crystalline rock tend to result in the drainage of groundwater from beneath hills and the accumulation of groundwater beneath valleys. Infiltration of rainfall or seepage from creek bottoms and surface impoundments recharge the water table aquifer. Because of the low to very low permeability of the residual soil, infiltration rates are low and runoff rates high. Groundwater near Dobbins ARB generally flows southeast toward the Chattahoochee River, with localized shallow groundwater flowing toward the nearest major surface water drainage. Groundwater flow velocities in the saprolite vary from 17 to 70 feet per year (Parsons, May 1995).

Groundwater is not used as a drinking water source at Dobbins ARB and does not appear to be used in the immediate surrounding area. Based on the Environmental Data Resources, Inc. (EDR) GeoCheck® Report for Dobbins ARB (EDR, August 2015), there are numerous wells within 4 miles of the base; however, none appear to be used for drinking water. Drinking water for the base and surrounding areas is obtained from surface water, as discussed in Section 5.0. There is one public water supply (PWS) well (EDR record 119; PWS ID GA2950055) listed in the EDR report 2–3 miles northwest of the base, but the well location shown is incorrect. The well is actually in Dalton, Georgia, approximately 75 miles northwest of the base. The location shown in the EDR report is the mailing address of the well operator rather than the actual location of the well. A second PWS well (PWS ID GA0670038) at Life University north of the base (exact well location unknown) is listed as inactive on the Georgia Drinking Water Watch website (Gadrinkingwater.net, May 2018).

4.2 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

Combined PFOA and PFOS concentrations in the surficial aquifer at Former FTA FT-02 (AFFF Area 1) exceeded the screening level as shown on Figure 18 in Appendix A. Shallow groundwater at the site flows southwest toward an unnamed tributary of Poor House Creek. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 1 is incomplete based on current drinking water receptors.

4.3 FORMER FTA FT-03 – AFFF AREA 2

Combined PFOA and PFOS concentrations in the surficial aquifer at Former FTA FT-03 (AFFF Area 2) exceeded the screening level as shown on Figure 20 in Appendix A. Shallow groundwater at the site flows to the east/southeast toward an unnamed tributary of Rottenwood Creek. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 2 is incomplete based on current drinking water receptors.

4.4 BUILDING 5 (HANGAR) – AFFF AREA 3

Combined PFOA and PFOS concentrations in the surficial aquifer at Building 5 (AFFF Area 3) equaled the screening level based on the one groundwater sample collected as shown on Figure 22 in Appendix A. Three other temporary monitoring wells were dry, including DOBNS03-004 installed near the former location of the leaking tank. Shallow groundwater at the site is presumed to flow to the east/southeast.

Since PFOA and PFAS concentrations did not exceed the screening level, the human ingestion exposure pathway for AFFF Area 3 is incomplete.

4.5 BUILDING 731 (HANGAR) – AFFF AREA 4

Combined PFOA and PFOS concentrations in the surficial aquifer at Building 731 (AFFF Area 4) exceeded the screening level as shown on Figure 24 in Appendix A. Shallow groundwater at the site flows northwest. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 4 is incomplete based on current drinking water receptors.

4.6 BUILDING 746 (HANGAR) – AFFF AREA 5

Combined PFOA and PFOS concentrations in the surficial aquifer at Building 746 (AFFF Area 5) exceeded the screening level as shown on Figure 26 in Appendix A. Shallow groundwater at the site flows northeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 5 is incomplete based on current drinking water receptors.

4.7 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

Combined PFOA and PFOS concentrations in the surficial aquifer at Building 745 (AFFF Area 6) exceeded the screening level as shown on Figure 26 in Appendix A. Shallow groundwater at the site flows northeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 6 is incomplete based on current drinking water receptors.

4.8 C-5A GALAXY FIRE – AFFF AREA 7

Combined PFOA and PFOS concentrations in the surficial aquifer at the Galaxy C-5A fire site (AFFF Area 7) exceeded the screening level as shown on Figure 28 in Appendix A. Shallow groundwater at the site flows southeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 7 is incomplete based on current drinking water receptors.

4.9 L-188CF ELECTRA CRASH – AFFF AREA 8

Combined PFOA and PFOS concentrations in the surficial aquifer at both the primary and alternate L-188CF Electra crash sites (AFFF Area 8) exceeded the screening level as shown on Figure 30 in Appendix A. Shallow groundwater flows north at the primary crash site and northwest at the alternate crash site. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 8 is incomplete based on current drinking water receptors.

4.10 L-100-20 HERCULES CRASH – AFFF AREA 9

Combined PFOA and PFOS concentrations in the surficial aquifer at the L-100-20 Hercules crash site (AFFF Area 9) exceeded the screening level as shown on Figure 32 in Appendix A. Shallow groundwater at the site is presumed to flow to the southeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 9 is incomplete based on current drinking water receptors.

4.11 F-18 TIRE FIRE – AFFF AREA 10

Combined PFOA and PFOS concentrations in the surficial aquifer at the F-18 tire fire site (AFFF Area 10) did not exceed the screening level as shown on Figure 34 in Appendix A. Shallow groundwater at the site flows southeast. Since PFAS concentrations in groundwater are below the screening level at AFFF Area 10, the human ingestion exposure pathway for groundwater is incomplete.

4.12 E-2 TIRE FIRE – AFFF AREA 11

Combined PFOA and PFOS concentrations in the surficial aquifer at the E-2 tire fire site (AFFF Area 11) did not exceed the screening level as shown on Figure 36 in Appendix A. Shallow groundwater at the site flows southeast, as shown on Figure 12 in Appendix A. Since PFAS concentrations in groundwater are below the screening level at AFFF Area 11, the human ingestion exposure pathway for groundwater is incomplete.

4.13 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

Combined PFOA and PFOS concentrations in the surficial aquifer at Building 516 (AFFF Area 12) exceeded the screening level as shown on Figure 38 in Appendix A. Shallow groundwater at the site is presumed to flow to the southeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 12 is incomplete based on current drinking water receptors.

4.14 AFFF SPRAY TEST AREA – AFFF AREA 13

Combined PFOA and PFOS concentrations in the surficial aquifer at the AFFF spray test area (AFFF Area 13) exceeded the screening level as shown on Figure 40 in Appendix A. Shallow groundwater at the site flows south/southwest. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 13 is incomplete based on current drinking water receptors.

4.15 BIG LAKE (OT-04) – AFFF AREA 14

Combined PFOA and PFOS concentrations in the surficial aquifer at Big Lake (AFFF Area 14) exceeded the screening level as shown on Figure 20 in Appendix A. Shallow groundwater at the site flows to the east/southeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 14 is incomplete based on current drinking water receptors.

4.16 SPILL POND 3 – AFFF AREA 15

Combined PFOA and PFOS concentrations in the surficial aquifer at Spill Pond 3 (AFFF Area 15) exceeded the screening level as shown on Figure 42 in Appendix A. Shallow groundwater at the site flows to the east/northeast. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 15 is incomplete based on current drinking water receptors.

4.17 SPILL POND 4 – AFFF AREA 16

Combined PFOA and PFOS concentrations in the surficial aquifer at Spill Pond 4 (AFFF Area 16) exceeded the screening level as shown on Figure 44 in Appendix A. Shallow groundwater at the site flows northwest. Since there are no known drinking water wells in use within 4 miles of the base, the human ingestion exposure pathway for PFAS-impacted groundwater at AFFF Area 16 is incomplete based on current drinking water receptors.

5.0 SURFACE WATER PATHWAY

The objectives of groundwater sampling during the SI were to

- determine if surface water in the individual areas has been impacted by the release of AFFF,
- determine if concentrations of PFOA and PFOS in surface water are above the EPA drinking water HA of 0.07 µg/L and/or if concentrations of PFBS in surface water are above the drinking water RSL of 40 µg/L, and
- identify potential receptor pathways with immediate impacts to human health.

5.1 BASE HYDROLOGIC SETTING

Surface water drainage at Dobbins ARB is directed towards Rottenwood Creek to the northeast and Poor House Creek to the southeast by the storm drainage system. Rottenwood Creek and Poor House Creek are tributaries of the Chattahoochee River. On-base surface retention areas include Big Lake and Little Lake. Big Lake is a dammed artificial lake. Little Lake is formed by a small dike across a tributary of Rottenwood Creek. Both lakes receive surface drainage from the base as well as AFP 6 (Parsons, May 1995). Spill containment Ponds 3 and 4 in the central portion of the base (south of Atlantic Avenue) provide a gravity system to intercept and retain polluted surface runoff, while unpolluted runoff is allowed to pass through the existing drainage system and ultimately discharge to Rottenwood Creek.

5.2 SURFACE WATER DRINKING WATER SOURCES

There are six active PWS systems in Cobb County (gadrinkingwater.net, May 2018). These systems include the Cobb County-Marietta Water Authority (CCMWA) (PWS GA0670002), the city of Austell (PWS GA0670001), Cobb County (PWS GA0670003), the city of Marietta (PWS GA0670005), the city of Powder Springs (PWS GA0670006), and the city of Smyrna (PWS GA0670007).

The CCMWA operates two water treatment plants, the Wyckoff and Quarles water plants and provides drinking water to the other PWS systems listed above. The Wyckoff Water Plant draws raw water from Lake Allatoona on the Etowah River. The Quarrels Water Plant draws raw water from the Chattahoochee River, approximately 6.3 miles upstream from the confluence of Rottenwood Creek and the Chattahoochee River and upstream of possible PFAS surface water impacts from Dobbins ARB.

The City of Atlanta operates a raw water intake on the Chattahoochee River 3.8 miles downstream from the confluence of Rottenwood Creek and downstream of possible PFAS surface water impacts. Raw water from the intake is routed to the Chattahoochee and Hemphill Water Plants and provides drinking water to Fulton County, Georgia. There are no other surface water intakes within 15 miles downstream from the base.

PFAS has not been detected in drinking water at the Chattahoochee or Hemphill Water Treatment Plants. Unregulated Contaminant Monitoring Rule 3 (UCMR 3) sampling and analysis of finished tap water for PFAS were conducted at both treatment plants in 2013 and 2014. The analysis included PFBS, PFOA, and PFOS as well as perfluoroheptanoic acid (PHFpA), perfluorononanoic acid (PFNA), and perfluorohexanesulfonic acid (PFHxS). All tap water analytical results were below method reporting limits. Similarly, UCMR 3 sampling and analysis of finished tap water collected from the CCMWA, the City of Marietta, and the City of Smyrna conducted in 2013 also indicated each of the six PFAS analytes were below reporting limits (EPA, April 2018).

5.3 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

Surface water was identified as a medium of concern at AFFF Area 1; however, surface water was not present at the site during the SI fieldwork and could not be sampled.

5.4 FORMER FTA FT-03 – AFFF AREA 2

Surface water was identified as a medium of concern at AFFF Area 2; however, surface water samples were collected as part of the Big Lake (OT-04) SI and are discussed in Section 5.14.

5.5 BUILDING 5 (HANGAR) – AFFF AREA 3

There are no surface water bodies near Building 5. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.6 BUILDING 731 (HANGAR) – AFFF AREA 4

There are no surface water bodies near Building 731. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.7 BUILDING 746 (HANGAR) – AFFF AREA 5

There are no surface water bodies near Building 746. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.8 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

There are no surface water bodies near Building 745. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.9 C-5A GALAXY FIRE – AFFF AREA 7

There are no surface water bodies near the C-5A Galaxy fire site. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.10 L-188CF ELECTRA CRASH – AFFF AREA 8

There are no surface water bodies near the L-188CF Electra crash site. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.11 L-100-20 HERCULES CRASH – AFFF AREA 9

There are no surface water bodies near the L-100-20 Hercules crash site. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.12 F-18 TIRE FIRE – AFFF AREA 10

There are no surface water bodies near the F-18 tire fire site. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.13 E-2 TIRE FIRE – AFFF AREA 11

There are no surface water bodies near the E-2 tire fire site. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.14 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

There are no surface water bodies near Building 516. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.15 AFFF SPRAY TEST AREA – AFFF AREA 13

There are no surface water bodies near the AFFF spray test area. Surface water was not identified as a medium of concern and no surface water samples were collected.

5.16 BIG LAKE (OT-04) – AFFF AREA 14

One known release of AFFF to Big Lake occurred when an accidental AFFF release at Building 5 flowed into the stormwater drainage system and into Big Lake in the 1990s. AFFF was observed on the lake surface and the AFFF ultimately flowed off-base in an unnamed tributary of Rottenwood Creek. Surface water analytical results (for samples collected during the SI) confirm that Big Lake has been impacted by PFOS and PFOA at concentrations above screening levels.

There is one surface water intake within 15 miles downstream of Big Lake. Rottenwood Creek flows into the Chattahoochee River approximately 7.8 stream-channel miles downstream from Big Lake. The City of Atlanta raw water intake on the Chattahoochee is 3.8 stream-channel miles downstream from the confluence of Rottenwood Creek and approximately 11.6 stream-channel miles downstream from Big Lake.

Although the Atlanta Chattahoochee River drinking water intake represents a potentially complete human exposure pathway for PFAS-impacted surface water from Big Lake, PFAS has not been detected in drinking water at the Chattahoochee Water Treatment Plant. Samples collected in 2013 and 2014 for UCMR 3 sampling and analysis (which included PFBS, PFOA, and PFOS) indicated all analytes were below method reporting limits. All samples were collected from finished tap water (EPA, April 2018). Based on the UCMR 3 results, there is no potential receptor pathway with immediate impacts to human health via consumption of drinking water, and surface water is not impacting drinking water at the Chattahoochee Water Plants.

5.17 SPILL POND 3 – AFFF AREA 15

The PA reported that at some point in the past (date unknown), foam of unknown source, type, and quantity was observed in Spill Pond 3. Surface water analytical results for a sample collected during this SI confirm that the pond has been impacted by PFOS and PFOA at concentrations above screening levels.

There is one surface water intake within 15 miles downstream of Spill Pond 3. Rottenwood Creek flows into the Chattahoochee River approximately 7.3 stream-channel miles downstream from the pond. The City of Atlanta raw water intake is 3.8 stream-channel miles downstream from the confluence of Rottenwood Creek and approximately 11.1 stream-channel miles downstream from Spill Pond 3.

Although the Atlanta Chattahoochee River drinking water intake represents a potentially complete human exposure pathway for PFAS-impacted surface water from Spill Pond 3, PFAS has not been detected in drinking water at the Chattahoochee Water Treatment Plant. Samples collected in 2013 and 2014 for UCMR 3 sampling and analysis (which included PFBS, PFOA, and PFOS) indicated all analytes were below method reporting limits. All samples were collected from finished tap water (EPA, April 2018). Based on the UCMR 3 results, there is no potential receptor pathway with immediate impacts to human health via consumption of drinking water, and surface water is not impacting drinking water at the Chattahoochee Water Plants.

5.18 SPILL POND 4 – AFFF AREA 16

An AFFF release at Building 731 in 1999 eventually entered the stormwater drainage system and flowed into Pond 4. Surface water analytical results confirm that the pond has been impacted by PFOS and PFOA at concentrations above screening levels.

There is one surface water intake within 15 miles downstream of Spill Pond 4. Rottenwood Creek flows into the Chattahoochee River approximately 7.4 stream-channel miles downstream from the pond. The City of Atlanta raw water intake is 3.8 stream-channel miles downstream from the confluence of Rottenwood Creek and approximately 11.2 stream-channel miles downstream from Spill Pond 4.

Although the Atlanta Chattahoochee River drinking water intake represents a potentially complete human exposure pathway for PFAS-impacted surface water from Spill Pond 4, PFAS has not been detected in drinking water at the Chattahoochee Water Treatment Plant. Samples collected in 2013 and 2014 for UCMR 3 sampling and analysis (which included PFBS, PFOA, and PFOS) indicated all analytes were below method reporting limits. All samples were collected from finished tap water (EPA, April 2018). Based on the UCMR 3 results, there is no potential receptor pathway with immediate impacts to human health via consumption of drinking water, and surface water is not impacting drinking water at the Chattahoochee Water Plants.

6.0 SOIL AND SEDIMENT EXPOSURE AND AIR PATHWAYS

The objectives of soil and sediment sampling during the SI were to

- determine if soil and sediment in the individual areas has been impacted by the release of AFFF;
- determine if concentrations of PFBS, PFOA, and PFOS in soil and sediment are above RSLs; and
- identify potential receptor pathways with immediate impacts to human health.

6.1 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

PFOS was detected in surface soil above the screening level at Former FTA FT-02. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil were below screening levels. Sediment was identified as a medium of concern at AFFF Area 1, but sediment was not present; a surface soil sample was collected in lieu of the planned sediment sample. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to surface water (i.e., during heavy rain events impacting the unnamed tributary of Poor House Creek) and/or groundwater.

6.2 FORMER FTA FT-03 – AFFF AREA 2

PFOS was detected in surface and subsurface soil above the screening level at Former FTA FT-03. The area is well vegetated, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. Sediment was identified as a medium of concern at AFFF Area 2 but was sampled as part of the SI conducted at Big Lake. As indicated in Section 6.14, PFAS concentrations in sediment were below the screening level. Although a complete human ingestion pathway is unlikely, PFAS-impacted soil (surface and subsurface) could represent an ongoing source to surface water (i.e., during heavy rain events impacting the unnamed tributary of Rottenwood Creek) and/or groundwater.

6.3 BUILDING 5 (HANGAR) – AFFF AREA 3

PFOS was detected in surface soil above the screening level at Building 5. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil at AFFF Area 3 were below screening levels and sediment was not identified as a medium of concern. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to groundwater.

6.4 BUILDING 731 (HANGAR) – AFFF AREA 4

PFOS was detected in surface soil above the screening level at Building 731. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil were below screening levels at AFFF Area 4 and sediment was not identified as a medium of concern. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to groundwater.

6.5 BUILDING 746 (HANGAR) – AFFF AREA 5

Where detected, PFAS concentrations in surface and subsurface soil samples collected at Building 746 were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the human ingestion pathway is incomplete at AFFF Area 5. Sediment was not a medium of concern at AFFF Area 5.

6.6 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

PFOS was detected in surface soil above the screening level at Building 745. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil were below screening levels at AFFF Area 6 and sediment was not identified as a medium of concern. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to groundwater.

6.7 C-5A GALAXY FIRE – AFFF AREA 7

Where detected, PFAS concentrations in surface and subsurface soil samples collected at the C-5A Galaxy fire site were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the human ingestion pathway is incomplete at AFFF Area 7. Sediment was not a medium of concern at AFFF Area 7.

6.8 L-188CF ELECTRA CRASH – AFFF AREA 8

Where detected, PFAS concentrations in surface and subsurface soil samples collected at the L-188CF Electra crash site were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the human ingestion pathway is incomplete at AFFF Area 8. Sediment was not a medium of concern at AFFF Area 8.

6.9 L-100-20 HERCULES CRASH – AFFF AREA 9

PFOS was detected in surface soil above the screening level at the L-100-20 Hercules crash site. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil were below screening levels at AFFF Area 9 and sediment was not identified as a medium of concern. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to groundwater.

6.10 F-18 TIRE FIRE – AFFF AREA 10

Where detected, PFAS concentrations in surface and subsurface soil samples collected at the F-18 tire fire site were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the human ingestion pathway is incomplete at AFFF Area 10. Sediment was not a medium of concern at AFFF Area 10.

6.11 E-2 TIRE FIRE – AFFF AREA 11

Where detected, PFAS concentrations in surface and subsurface soil samples collected at the E-2 tire fire site were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the human ingestion pathway is incomplete at AFFF Area 11. Sediment was not a medium of concern at AFFF Area 11.

6.12 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

PFOS was detected in surface and subsurface soil above the screening level at Building 516. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. Sediment was not identified as a medium of concern at AFFF Area 12. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface and subsurface soil could represent an ongoing source to groundwater.

6.13 AFFF SPRAY TEST AREA – AFFF AREA 13

PFOS was detected in surface soil above the screening level at the AFFF spray test area. The area is well vegetated or paved, however, which would inhibit fugitive dust emissions. Human ingestion through exposure to the soil is also unlikely. PFAS concentrations in subsurface soil were below screening levels at AFFF Area 13 and sediment was not identified as a medium of concern. Although a complete human ingestion pathway is unlikely, PFAS-impacted surface soil could represent an ongoing source to groundwater.

6.14 BIG LAKE (OT-04) – AFFF AREA 14

Where detected, PFAS concentrations in surface soil, subsurface soil, and sediment samples collected at Big Lake were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the soil, sediment, and air pathways are incomplete at AFFF Area 14.

6.15 SPILL POND 3 – AFFF AREA 15

Where detected, PFAS concentrations in surface soil, subsurface soil, and sediment samples collected at Spill Pond 3 were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the soil, sediment, and air pathways are incomplete at AFFF Area 15.

6.16 SPILL POND 4 – AFFF AREA 16

Where detected, PFAS concentrations in surface soil, subsurface soil, and sediment samples collected at Spill Pond 4 were below screening levels. Lacking concentrations of PFAS above soil screening levels (calculated using EPA's RSL calculator), the soil, sediment, and air pathways are incomplete at AFFF Area 16.

7.0 UPDATES TO CONCEPTUAL SITE MODELS

The following sections contain updates to the conceptual site models (CSMs) for AFFF Areas 1 through 16 as presented in the QAPP addendum (ASL, October 2017). The discussions address PFOA and PFOS in soil, groundwater, surface water, and sediment. Based on analytical results presented in Sections 3.0, all PFBS detections in all media were below screening levels. PFBS, therefore, has been eliminated as a contaminant of concern and will not be discussed further.

7.1 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, sediment, and surface water as media potentially impacted by previous releases of AFFF at Former FTA FT-02 during training activities. Surface soil, subsurface soil, and groundwater were sampled; sediment and surface water were not present during the investigation and were not sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.1, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.2, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 1, surface soil and groundwater remain media of concern at Former FTA FT-02.

7.2 FORMER FTA FT-03 – AFFF AREA 2

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, sediment, and surface water as media potentially impacted by previous releases of AFFF at Former FTA FT-03 during training activities. Surface soil, subsurface soil, and groundwater were sampled at FT-03; sediment and surface water were sampled as part of the SI conducted at Big Lake (AFFF Area 14) and are discussed in Section 7.14. PFOS concentrations in surface and subsurface soil at FT-03 were above screening levels. However, as discussed in Section 6.2, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.3, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 2, soil (surface and subsurface) and groundwater remain media of concern at Former FTA FT-03.

7.3 BUILDING 5 (HANGAR) – AFFF AREA 3

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by previous releases of AFFF at Building 5. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.3, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. As discussed in Section 4.4, the combined PFOS and PFOA concentration in groundwater equaled the screening level in the one well sampled. Since the PFOS and PFOA concentration did not exceed the screening level, the groundwater pathway for human ingestion is incomplete (based on current investigation results). Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 3, surface soil and groundwater remain media of concern at Building 5.

7.4 BUILDING 731 (HANGAR) – AFFF AREA 4

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by previous releases of AFFF at Building 731. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.4, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.5, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 4, surface soil and groundwater remain media of concern at Building 731.

7.5 BUILDING 746 (HANGAR) – AFFF AREA 5

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by previous releases of AFFF at Building 746. Surface soil, subsurface soil, and groundwater were sampled. As discussed in Section 6.5, PFOS and PFOA concentrations in surface and subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater, however, were above the screening level. However, as discussed in Section 4.6, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 5, groundwater remains a medium of concern at Building 746.

7.6 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by previous releases of AFFF at Building 745. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.6, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.7, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 6, surface soil and groundwater remain media of concern at Building 745.

7.7 C-5A GALAXY FIRE – AFFF AREA 7

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by use of AFFF at the C-5A Galaxy fire site. Surface soil, subsurface soil, and groundwater were sampled. As discussed in Section 6.7, PFOS and PFOA concentrations in surface and subsurface soil were below the screening level. PFOS (and combined PFOS and PFOA) concentrations in groundwater were above the screening level. However, as discussed in Section 4.8, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 7, groundwater remains a medium of concern at the C-5A Galaxy fire site.

7.8 L-188CF ELECTRA CRASH – AFFF AREA 8

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by use of AFFF at the L-188CF Electra crash site. Surface soil, subsurface soil, and groundwater were sampled. As discussed in Section 6.8, PFOS and PFOA concentrations in surface and subsurface soil were below the screening level. Combined PFOS and PFOA concentrations in groundwater, however, were above the screening level at both the primary and alternate crash sites. However, as discussed in Section 4.9, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 8, groundwater remains a medium of concern at the L-188CF crash site.

7.9 L-100-20 HERCULES CRASH – AFFF AREA 9

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by use of AFFF at the L-100-20 Hercules crash site. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.9, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.10, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 9, surface soil and groundwater remain media of concern at the L-100-20 Hercules crash site.

7.10 F-18 TIRE FIRE – AFFF AREA 10

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by use of AFFF at the F-18 tire fire site. Surface soil, subsurface soil, and groundwater were sampled. As discussed in Sections 6.10 and 4.11, PFOS and PFOA concentrations in surface soil, subsurface soil, and groundwater were all below screening levels. Lacking contaminant levels above screening levels, human exposure pathways are incomplete and no media remain a concern at the F-18 tire fire site.

7.11 E-2 TIRE FIRE – AFFF AREA 11

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by use of AFFF at the E-2 tire fire site. Surface soil, subsurface soil, and groundwater were sampled. As discussed in Sections 6.11 and 4.12, PFOS and PFOA concentrations in surface soil, subsurface soil, and groundwater were all below screening levels. Lacking contaminant levels above screening levels, human exposure pathways are incomplete and no media remain a concern at the E-2 tire fire site.

7.12 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, as media potentially impacted by a release of AFFF at Building 516. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface and subsurface soil at Building 516 were above screening levels. However, as discussed in Section 6.12, human ingestion of impacted surface soil and subsurface soil is unlikely. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.13, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 12, soil (surface and subsurface) and groundwater remain media of concern at Building 516.

7.13 AFFF SPRAY TEST AREA – AFFF AREA 13

The QAPP addendum CSM identified surface soil, subsurface soil, and groundwater as media potentially impacted by previous releases of AFFF at the AFFF spray test area. Surface soil, subsurface soil, and groundwater were sampled. PFOS concentrations in surface soil were above screening levels. However, as discussed in Section 6.13, human ingestion of impacted surface soil is unlikely. PFOS and PFOA concentrations in subsurface soil were below the screening level. PFOS and PFOA concentrations in groundwater were also above screening levels. However, as discussed in Section 4.14, the human exposure pathway for ingestion of impacted groundwater is incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 13, surface soil and groundwater remain media of concern at the AFFF spray test area.

7.14 BIG LAKE (OT-04) – AFFF AREA 14

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, sediment, and surface water as media potentially impacted by a release of AFFF at Building 5 that ultimately flowed to Big Lake. Surface soil, subsurface soil, groundwater, sediment, and surface water were sampled. As discussed in Section 6.14, PFOS and PFOA concentrations in surface soil, subsurface soil, and sediment were below screening levels. PFOS and PFOA concentrations in groundwater and surface water were above screening levels. However, as discussed in Sections 4.15 and 5.14, the human exposure pathways for ingestion of impacted groundwater and surface water through drinking water are incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 14, groundwater and surface water remain media of concern at Big Lake.

7.15 SPILL POND 3 – AFFF AREA 15

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, sediment, and surface water as media potentially impacted by an apparent release of AFFF (source unknown) that flowed to Spill Pond 3. Surface soil, subsurface soil, groundwater, sediment, and surface water were sampled. As discussed in Section 6.15, PFOS and PFOA concentrations in surface soil, subsurface soil, and sediment were below screening levels. PFOS and PFOA concentrations in groundwater and surface water were above screening levels. However, as discussed in Sections 4.16 and 5.15, the human exposure pathways for ingestion of impacted groundwater and surface water through drinking water are incomplete. Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 15, groundwater and surface water remain media of concern at Spill Pond 3.

7.16 SPILL POND 4 – AFFF AREA 16

The QAPP addendum CSM identified surface soil, subsurface soil, groundwater, sediment, and surface water as media potentially impacted by a previous release of AFFF at Building 731 that flowed to Spill Pond 4. Surface soil, subsurface soil, groundwater, sediment, and surface water were sampled. As discussed in Section 6.16, PFOS and PFOA concentrations in surface soil, subsurface soil, and sediment were below screening levels. PFOS and PFOA concentrations in groundwater and surface water were above screening levels. However, as discussed in Sections 4.17 and 5.16, the human exposure pathways for ingestion of impacted groundwater and surface water through drinking water are incomplete.

Although no human ingestion pathways have been identified for PFAS impacts at AFFF Area 16, groundwater and surface water remain media of concern at Spill Pond 4.

8.0 CONCLUSIONS AND RECOMMENDATIONS

ASL completed SIs at 16 known or suspected areas of AFFF releases at Dobbins ARB as detailed in the site-specific QAPP addendum (ASL, October 2017). The areas inspected included the following.

Former FTA Area FT-02	AFFF Area 1
Former FTA FT-03	AFFF Area 2
Building 5 (Hangar)	AFFF Area 3
Building 731 (Hangar)	AFFF Area 4
Building 746 (Hangar)	AFFF Area 5
Current Fire Station (Building 745)	AFFF Area 6
C-5A Galaxy Fire	AFFF Area 7
L-188CF Electra Crash	AFFF Area 8
L-100-20 Hercules Crash	AFFF Area 9
F-18 Tire Fire	AFFF Area 10
E-2 Tire Fire	AFFF Area 11
Motor Pool Facility (Building 516)	AFFF Area 12
AFFF Spray Test Area	AFFF Area 13
Big Lake (OT-04)	AFFF Area 14
Spill Pond 3	AFFF Area 15
Spill Pond 4	AFFF Area 16

The objectives of the SIs were to

- determine if a confirmed release of PFOS, PFOA, or PFBS has occurred at the areas selected for inspection;
- determine if PFOS and PFOA are present in groundwater or surface water at the inspection areas at concentrations exceeding the EPA lifetime HA for drinking water;
- determine if PFBS is present in soil, sediment, groundwater, or surface water at the inspection areas at concentrations exceeding generic RSLs;
- determine if PFOA and PFOS are present in soil or sediment at the inspection areas at concentrations exceeding calculated RSLs; and
- identify potential receptor pathways with immediate impacts to human health.

Surface soil, subsurface soil, and groundwater were sampled at each of the 16 AFFF areas; sediment and surface water were also sampled in three of those areas (Big Lake [AFFF Area 14], Spill Pond 3 [AFFF Area 15], and Spill Pond 4 [AFFF Area 16]). Sampling was primarily limited to the immediate areas of known or suspected AFFF releases and biased toward locations most likely to have been impacted by the releases.

All samples were analyzed for 18 PFAS compounds—including PFBS, PFOA, and PFOS—using modified EPA Method 537. Analytical results for PFBS in soil, sediment, groundwater, and surface water were compared to published EPA RSLs (HQ=0.1). Analytical results for PFOA and PFOS in soil and sediment were compared to calculated RSLs (126 µg/kg for both PFOA and PFOS; HQ=0.1). Analytical results for PFOA and PFOS in groundwater and surface water were compared to the EPA HA of 0.07 µg/L (for the individual and combined concentrations of PFOA and PFOS) for drinking water.

AFFF use at the base has resulted in PFOA and/or PFOS concentrations above screening levels in groundwater at 13 of 16 AFFF areas and in surface water at each of the three AFFF areas sampled. Groundwater exposure pathways for ingestion of impacted groundwater and surface water are incomplete for all AFFF areas and no immediate risks to human health were identified. PFOA and PFOS concentrations were also detected above screening levels in surface soil (at eight of 16 AFFF areas) and in subsurface soil at two of those areas. A complete human ingestion exposure pathway for PFAS-impacted soil is unlikely but could represent a continuing source for groundwater and/or surface water impacts. PFOA and PFOS were not detected above screening levels in sediment at the three AFFF areas sampled. PFBS was not detected above screening levels in any media. Of the 16 AFFF areas, 14 are recommended for remedial investigations based on PFAS exceedances in one or more sampled media. The F-18 tire fire site (AFFF Area 10) and the E-2 tire fire site (AFFF Area 11) are recommended for a determination of "No Further Response Action Planned" (NFRAP) since PFAS were not detected above screening levels in any sampled media.

Table 57 (at the end of this section) summarizes detected concentrations of PFBS, PFOA, and PFOS for media sampled at each area. Brief summaries of key findings, conclusions, and recommendations for each area (focusing on PFOA and PFOS exceedances) are included in Sections 8.1 through 8.16.

8.1 FORMER FIRE TRAINING AREA FT-02 – AFFF AREA 1

Use of AFFF during training activities at Former FTA FT-02 has resulted in PFAS impacts to surface soil and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 200 µg/kg and combined PFOS and PFOA was detected in groundwater at a maximum concentration of 80.77 µg/L.

The presence of PFAS in surface soil and groundwater at FT-02, however, does not represent an immediate risk to human health. As indicated in Section 6.1, human ingestion of PFOS-impacted surface soil is unlikely; as indicated in Section 4.2, the human exposure pathway for impacted groundwater is incomplete. Surface soil and groundwater remain media of concern at Former FTA FT-02, and a remedial investigation is recommended.

8.2 FORMER FTA FT-03 – AFFF AREA 2

Use of AFFF during training activities at Former FTA FT-03 has resulted in PFAS impacts to surface soil, subsurface soil, and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 270 µg/kg and in subsurface soil at a maximum concentration of 5,300 µg/kg. Combined PFOS and PFOA was detected in groundwater at a maximum concentration of 52 µg/L.

The presence of PFAS in surface soil, subsurface soil, and groundwater at FT-03, however, does not represent an immediate risk to human health. As indicated in Section 6.2, human ingestion of PFOS-impacted soil is unlikely; as indicated in Section 4.3, the human exposure pathway for impacted groundwater is incomplete. Surface soil, subsurface soil, and groundwater remain media of concern at Former FTA FT-03, however, and a remedial investigation is recommended.

8.3 BUILDING 5 (HANGAR) – AFFF AREA 3

Previous releases of AFFF at Building 5 have resulted in PFAS impacts to surface soil above screening levels. PFOS was detected in surface soil at a maximum concentration of 220 µg/kg. The maximum combined PFOS and PFOA concentration detected in groundwater was 0.07 µg/L, equaling the screening level.

As indicated in Section 6.3, human ingestion of PFOS-impacted surface soil is unlikely and as indicated in Section 4.3, the presence of PFAS in groundwater at Building 5 does not represent an immediate risk to human health. Although the combined PFOS and PFOA concentration in groundwater did not exceed the screening level, three of four temporary wells were dry (including one well installed near the former location of the tank that leaked 600 gallons of AFFF concentrate). Since only one groundwater sample was collected, further assessment of groundwater at AFFF Area 3 is warranted. Both surface soil and groundwater remain media of concern at Former Building 5, and a remedial investigation is recommended.

8.4 BUILDING 731 (HANGAR) – AFFF AREA 4

Previous releases of AFFF at Building 731 have resulted in PFAS impacts to surface soil and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 190 µg/kg and combined PFOS and PFOA was detected in groundwater at a maximum estimated concentration of 2.81 µg/L.

The presence of PFAS in surface soil and groundwater at Building 731, however, does not represent an immediate risk to human health. As indicated in Section 6.4, human ingestion of PFOS-impacted surface soil is unlikely; as indicated in Section 4.5, the human exposure pathway for impacted groundwater is incomplete. Surface soil and groundwater remain media of concern at Building 731, however, and a remedial investigation is recommended.

8.5 BUILDING 746 (HANGAR) – AFFF AREA 5

Previous releases of AFFF at Building 746 have resulted in PFAS impacts to groundwater above screening levels; combined PFOS and PFOA was detected in groundwater at a maximum concentration of 3.87 µg/L. The presence of PFAS in groundwater at Building 746, however, does not represent an immediate risk to human health. As indicated in Section 4.6, the human exposure pathway for impacted groundwater is incomplete. Groundwater remains a medium of concern at Building 746, however, and a remedial investigation is recommended.

8.6 CURRENT FIRE STATION (BUILDING 745) – AFFF AREA 6

Previous releases of AFFF at Building 745 have resulted in PFAS impacts to surface soil and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 22,000 µg/kg and combined PFOS and PFOA was detected in groundwater at a maximum concentration of 38.7 µg/L.

The presence of PFAS in surface soil and groundwater at Building 745, however, does not represent an immediate risk to human health. As indicated in Section 6.6, human ingestion of PFOS-impacted surface soil is unlikely; as indicated in Section 4.7, the human exposure pathway for impacted groundwater is incomplete. Surface soil and groundwater remain media of concern at Building 745, however, and a remedial investigation is recommended.

8.7 C-5A GALAXY FIRE – AFFF AREA 7

Use of AFFF at the C-A Galaxy fire site has resulted in PFAS impacts to groundwater above screening levels; combined PFOS and PFOA was detected in groundwater at a maximum concentration of 0.162 µg/L. The presence of PFAS in groundwater at C-5A Galaxy fire site, however, does not represent an immediate risk to human health. As indicated in Section 4.8, the human exposure pathway for impacted groundwater is incomplete. Groundwater remains a medium of concern at the fire site, however, and a remedial investigation is recommended.

8.8 L-188CF ELECTRA CRASH – AFFF AREA 8

Use of AFFF at the L-188CF Electra crash site has resulted in PFAS impacts to groundwater above screening levels; combined PFOS and PFOA was detected in groundwater at a maximum estimated concentration of 0.147 µg/L. The presence of PFAS in groundwater at the crash site, however, does not represent an immediate risk to human health. As indicated in Section 4.9, the human exposure pathway for impacted groundwater is incomplete. Groundwater remains a medium of concern at the crash site, however, and a remedial investigation is recommended.

8.9 L-100-20 HERCULES CRASH – AFFF AREA 9

Use of AFFF at the L-100-20 Hercules crash site has resulted in PFAS impacts to surface soil and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 410 µg/kg and combined PFOS and PFOA was detected in groundwater at a maximum concentration of 39.4 µg/L.

The presence of PFAS in surface soil and groundwater at crash site, however, does not represent an immediate risk to human health. As indicated in Section 6.9, human ingestion of PFOS-impacted surface soil is unlikely; as indicated in Section 4.10, the human exposure pathway for impacted groundwater is incomplete. Surface soil and groundwater remain media of concern at the crash site, however, and a remedial investigation is recommended.

8.10 F-18 TIRE FIRE – AFFF AREA 10

As discussed in Sections 6.10 and 4.11, use of AFFF at the F-18 tire fire site has not resulted in PFAS impacts to surface soil, subsurface soil, or groundwater above screening levels. Lacking concentrations of PFAS above screening levels, there are no complete exposure pathways, and a determination of NFRAP is recommended.

8.11 E-2 TIRE FIRE – AFFF AREA 11

As discussed in Sections 6.11 and 4.12, use of AFFF at the E-2 tire fire site has not resulted in PFAS impacts to surface soil, subsurface soil, or groundwater above screening levels. Lacking concentrations of

PFAS above screening levels, there are no complete exposure pathways, and a determination of NFRAP is recommended.

8.12 MOTOR POOL FACILITY (BUILDING 516) – AFFF AREA 12

A release of AFFF at Building 516 has resulted in PFAS impacts to surface soil, subsurface soil, and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 150 µg/kg and in subsurface soil at a maximum concentration of 220 µg/kg. Combined PFOS and PFOA was detected in groundwater at a maximum estimated concentration of 1.07 µg/L.

The presence of PFAS in surface soil, subsurface soil, and groundwater at Building 516, however, does not represent an immediate risk to human health. As indicated in Section 6.12, human ingestion of PFOS-impacted soil is unlikely; as indicated in Section 4.13, the human exposure pathway for impacted groundwater is incomplete. Surface soil, subsurface soil, and groundwater remain media of concern at Building 516, however, and a remedial investigation is recommended.

8.13 AFFF SPRAY TEST AREA – AFFF AREA 13

Previous releases of AFFF at the AFFF spray test area have resulted in PFAS impacts to surface soil and groundwater above screening levels. PFOS was detected in surface soil at a maximum concentration of 1,900 µg/kg and combined PFOS and PFOA was detected in groundwater at a maximum concentration of 35.0 µg/L.

The presence of PFAS in surface soil and groundwater at crash site, however, does not represent an immediate risk to human health. As indicated in Section 6.13, human ingestion of PFOS-impacted surface soil is unlikely; as indicated in Section 4.14, the human exposure pathway for impacted groundwater is incomplete. Surface soil and groundwater remain media of concern at the spray test area, however, and a remedial investigation is recommended.

8.14 BIG LAKE (OT-04) – AFFF AREA 14

A release of AFFF at Building 5 that ultimately flowed to Big Lake has resulted in PFAS impacts to groundwater and surface water above screening levels. PFOS and PFOA were detected in groundwater and surface water at maximum combined concentrations of 33.8 µg/L and 0.94 µg/L, respectively.

The presence of PFAS in groundwater and surface water at Big Lake, however, does not represent an immediate risk to human health. As indicated in Sections 4.15 and 5.14, the human exposure pathways for impacted groundwater and surface water are incomplete. Groundwater and surface water remain media of concern at Big Lake, however, and a remedial investigation is recommended.

8.15 SPILL POND 3 – AFFF AREA 15

An apparent release of AFFF that flowed to Spill Pond 3 has resulted in PFAS impacts to groundwater and surface water above screening levels. PFOS and PFOA were detected in groundwater and surface water at maximum combined concentrations of 4.83 µg/L and 2.38 µg/L, respectively.

The presence of PFAS in groundwater and surface water at Spill Pond 3, however, does not represent an immediate risk to human health. As indicated in Sections 4.16 and 5.15, the human exposure pathways for impacted groundwater and surface water are incomplete. Groundwater and surface water remain media of concern at Spill Pond 3, however, and a remedial investigation is recommended.

8.16 SPILL POND 4 – AFFF AREA 16

A previous release of AFFF at Building 731 that flowed to Spill Pond 4 has resulted in PFAS impacts to groundwater and surface water above screening levels. PFOS and PFOA were detected in groundwater and surface water at maximum combined concentrations of 11.3 µg/L (estimated) and 0.47 µg/L, respectively.

The presence of PFAS in groundwater and surface water at Spill Pond 4, however, does not represent an immediate risk to human health. As indicated in Sections 4.17 and 5.16, the human exposure pathways for impacted groundwater and surface water are incomplete. Groundwater and surface water remain media of concern at Spill Pond 4, however, and a remedial investigation is recommended.

Table 57 Summary of PFBS, PFOA, and PFOS Detections and Screening Level Exceedances[1]

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
AFFF Area 1 Former FTA FT-02	**FT-02**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	1.1 J	130,000	4/0	No	No	Advance area to RI
		PFOA	6.9	126	4/0	No		
		PFOS	**200**	126	**4/1**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	1.1	130,000	3/0	No		
		PFOA	28	126	3/0	No		
		PFOS	0.45 J	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.92 J	40	5/0	No		
		PFOA	**80**	0.07	**5/5**	**Yes**		
		PFOS	**5.3**	0.07	**5/5**	**Yes**		
		PFOA + PFOS	**80.77**[2]	0.07	**5/5**	**Yes**		
AFFF Area 2 Former FTA FT-03	**FT-03**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.59 J	130,000	3/0	No	No	Advance area to RI
		PFOA	7.3 J	126	3/0	No		
		PFOS	**270**	126	**3/2**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	9.4 J	130,000	3/0	No		
		PFOA	19 J	126	3/0	No		
		PFOS	**5,300**	126	**3/1**	**Yes**		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	2.0	40	5/0	No		
		PFOA	**18**	0.07	**5/5**	**Yes**		
		PFOS	**34**	0.07	**5/5**	**Yes**		
		PFOA + PFOS	**52**	0.07	**5/5**	**Yes**		
AFFF Area 3 Building 5 (Hangar)	New Site	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	4/0	No	No	Advance area to RI[3]
		PFOA	0.77 J	126	4/0	No		
		PFOS	**220**	126	**4/1**	**Yes**		

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.73 J	130,000	4/0	No		
		PFOA	9.5	126	4/0	No		
		PFOS	16	126	4/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.026	40	1/0	No		
		PFOA	0.019 J	0.07	1/0	No		
		PFOS	0.051	0.07	1/0	No		
		PFOA + PFOS	0.070 J	0.07	1/0	No		
AFFF Area 4 Building 731 (Hangar)	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.45 J	130,000	3/0	No	No	Advance area to RI
		PFOA	2.2 J	126	3/0	No		
		PFOS	**190^3**	126	**3/1**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No		
		PFOA	ND	126	3/0	No		
		PFOS	0.56 J	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	2.4	40	3/0	No		
		PFOA	**0.96**	0.07	**3/3**	**Yes**		
		PFOS	**2.5**	0.07	**3/2**	**Yes**		
		PFOA + PFOS	**2.81 J^2**	0.07	**3/3**	**Yes**		
AFFF Area 5 Building 746 (Hangar)	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.43 J	130,000	3/0	No	No	Advance area to RI
		PFOA	2.3	126	3/0	No		
		PFOS	72	126	3/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	1.5	130,000	3/0	No		
		PFOA	4.4	126	3/0	No		
		PFOS	1.3	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.24	40	3/0	No		
		PFOA	**0.19**	0.07	**3/2**	**Yes**		
		PFOS	**3.7**	0.07	**3/2**	**Yes**		

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		PFOA + PFOS	**3.87**[2]	0.07	**3/2**	**Yes**		
AFFF Area 6 Building 745 (Hangar)	New Site	**Surface Soil**	**(µg/kg)**	**(µg/kg)**			No	Advance area to RI
		PFBS	27 J	130,000	3/0	No		
		PFOA	95	126	3/0	No		
		PFOS	**22,000**	126	**3/3**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	8.6	130,000	3/0	No		
		PFOA	90	126	3/0	No		
		PFOS	0.38 J	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	10	40	3/0	No		
		PFOA	**37**	0.07	**3/2**	**Yes**		
		PFOS	**19**	0.07	**3/3**	**Yes**		
		PFOA + PFOS	**38.7**[2]	0.07	**3/3**	**Yes**		
AFFF Area 7 C-5A Galaxy Fire	New Site	**Surface Soil**	**(µg/kg)**	**(µg/kg)**			No	Advance area to RI
		PFBS	ND	130,000	8/0	No		
		PFOA	ND	126	8/0	No		
		PFOS	0.82 J	126	8/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	8/0	No		
		PFOA	ND	126	8/0	No		
		PFOS	ND	126	8/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.0075 J	40	8/0	No		
		PFOA	0.0091 J	0.07	8/0	No		
		PFOS	**0.15**	0.07	**8/1**	**Yes**		
		PFOA + PFOS	**0.162**[2]	0.07	**8/1**	**Yes**		
AFFF Area 8 L-188CF Electra Crash	New Site	**Surface Soil**	**(µg/kg)**	**(µg/kg)**			No	Advance area to RI
		PFBS	ND	130,000	6/0	No		
		PFOA	1.0 J	126	6/0	No		
		PFOS	16	126	6/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	6/0	No		
		PFOA	ND	126	6/0	No		

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		PFOS	ND	126	6/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.75	40	6/0	No		
		PFOA	**0.13**	0.07	**6/1**	**Yes**		
		PFOS	0.063	0.07	6/0	No		
		PFOA + PFOS	**0.147 J^2**	0.07	**6/2**	**Yes**		
AFFF Area 9 L-100-20 Hercules Crash	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**			No	Advance area to RI
		PFBS	ND	130,000	3/0	No		
		PFOA	18 J	126	3/0	No		
		PFOS	**410**	126	**3/2**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.51 J	130,000	3/0	No		
		PFOA	0.99 J	126	3/0	No		
		PFOS	120	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	2.5	40	2/0	No		
		PFOA	**2.4**	0.07	**2/2**	**Yes**		
		PFOS	**37**	0.07	**2/2**	**Yes**		
		PFOA + PFOS	**39.4**	0.07	**2/2**	**Yes**		
AFFF Area 10 F-18 Tire Fire	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**			No	NFRAP
		PFBS	ND	130,000	3/0	No		
		PFOA	1.7	126	3/0	No		
		PFOS	12	126	3/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No		
		PFOA	ND	126	3/0	No		
		PFOS	ND	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.21	40	3/0	No		
		PFOA	0.024	0.07	3/0	No		
		PFOS	0.013 J	0.07	3/0	No		
		PFOA + PFOS	0.037 J	0.07	3/0	No		
AFFF Area 11	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No	No	NFRAP

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
E-2 Tire Fire		PFOA	0.63 J	126	3/0	No		
		PFOS	11	126	3/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No		
		PFOA	ND	126	3/0	No		
		PFOS	ND	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.012 J	40	3/0	No		
		PFOA	0.024	0.07	3/0	No		
		PFOS	0.021	0.07	3/0	No		
		PFOA + PFOS	0.041 J^2	0.07	3/0	No		
AFFF Area 12 Motor Pool (Building 516)	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	2.7	130,000	3/0	No	No	Advance area to RI
		PFOA	2.0	126	3/0	No		
		PFOS	**150**	126	**3/1**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.26 J	130,000	3/0	No		
		PFOA	2.5	126	3/0	No		
		PFOS	**220^4**	126	**3/1**	**Yes**		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	0.24	40	1/0	No		
		PFOA	**0.23 J**	0.07	**1/1**	**Yes**		
		PFOS	**0.84**	0.07	**1/1**	**Yes**		
		PFOA + PFOS	**1.07 J**	0.07	**1/1**	**Yes**		
AFFF Area 13 AFFF Spray Test Area	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	180	130,000	5/0	No	No	Advance area to RI
		PFOA	18	126	5/0	No		
		PFOS	**1,900**	126	**5/4**	**Yes**		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	5/0	No		
		PFOA	ND	126	5/0	No		
		PFOS	1.8	126	5/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	4.9	40	5/0	No		

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		PFOA	**1.0**	0.07	**5/3**	**Yes**		
		PFOS	**34**	0.07	**5/4**	**Yes**		
		PFOA + PFOS	**35.0**	0.07	**5/4**	**Yes**		
AFFF Area 14 Big Lake	OT-04	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	1/0	No	No	Advance area to RI
		PFOA	1.8	126	1/0	No		
		PFOS	120	126	1/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	1/0	No		
		PFOA	$0.57\ J^{3}$	126	1/0	No		
		PFOS	$46\ J^{3}$	126	1/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	1.1 J	40	5/0	No		
		PFOA	**5.8^{3}**	0.07	**5/5**	**Yes**		
		PFOS	**28^{3}**	0.07	**5/5**	**Yes**		
		PFOA + PFOS	**33.8^{3}**	0.07	**5/5**	**Yes**		
		Sediment	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	2/0	No		
		PFOA	ND	126	2/0	No		
		PFOS	20	126	2/0	No		
		Surface Water	**(µg/L)**	**(µg/L)**				
		PFBS	0.11	40	2/0	No		
		PFOA	**0.13**	0.07	**2/2**	**Yes**		
		PFOS	**0.81**	0.07	**2/2**	**Yes**		
		PFOA + PFOS	**0.94**	0.07	**2/2**	**Yes**		
AFFF Area 15 Spill Pond 3	New Site	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No	No	Advance area to RI
		PFOA	1.7	126	3/0	No		
		PFOS	9.1	126	3/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	3/0	No		
		PFOA	ND	126	3/0	No		
		PFOS	4.7	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		PFBS	0.20	40	3/0	No		
		PFOA	**0.43**	0.07	**3/3**	**Yes**		
		PFOS	**4.4**	0.07	**3/3**	**Yes**		
		PFOA + PFOS	**4.83**	0.07	**3/3**	**Yes**		
		Sediment	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	1/0	No		
		PFOA	1.3 J	126	1/0	No		
		PFOS	53	126	1/0	No		
		Surface Water	**(µg/L)**	**(µg/L)**				
		PFBS	0.069	40	1/0	No		
		PFOA	**0.38**	0.07	**1/1**	**Yes**		
		PFOS	**2.0**	0.07	**1/1**	**Yes**		
		PFOA + PFOS	**2.38**	0.07	**1/1**	**Yes**		
AFFF Area 16 Spill Pond 4	**New Site**	**Surface Soil**	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.63 J	130,000	3/0	No	No	Advance area to RI
		PFOA	10	126	3/0	No		
		PFOS	60	126	3/0	No		
		Subsurface Soil	**(µg/kg)**	**(µg/kg)**				
		PFBS	0.73 J	130,000	3/0	No		
		PFOA	7.6	126	3/0	No		
		PFOS	75	126	3/0	No		
		Groundwater	**(µg/L)**	**(µg/L)**				
		PFBS	1.4	40	3/0	No		
		PFOA	**5.6 J**	0.07	**3/3**	**Yes**		
		PFOS	**8.2**	0.07	**3/3**	**Yes**		
		PFOA + PFOS	**11.3 J**^{2}	0.07	**3/3**	**Yes**		
		Sediment	**(µg/kg)**	**(µg/kg)**				
		PFBS	ND	130,000	1/0	No		
		PFOA	1.9	126	1/0	No		
		PFOS	13	126	1/0	No		
		Surface Water	**(µg/L)**	**(µg/L)**				
		PFBS	0.085	40	1/0	No		
		PFOA	**0.14**	0.07	**1/1**	**Yes**		
		PFOS	**0.33**	0.07	**1/1**	**Yes**		

AFFF Area	Associated Existing IRP ID	Parameter	Maximum Detected Concentration	Screening Level	Number of Samples / Number of Exceedances	Exceeds Screening Level	Potentially Complete DW Exposure Pathway	Recommendation
		PFOA + PFOS	**0.47**	0.07	**1/1**	**Yes**		

[1] Includes only primary samples unless an exceedance only occurred in a duplicate sample. In those instances, only the duplicate is included.

[2] Maximum PFOA + PFOS concentration shown is the highest combined PFOA and PFOS concentration detected in a specific groundwater or surface water sample and in this instance is not the sum of the individual maximum PFOA and PFOS concentrations listed as they occurred in two separate samples.

[3] RI recommended due to PFOS exceedance in soil and the need for additional groundwater sampling, as discussed in Section 8.3.

[4] Duplicate result.

Bold values exceed screening levels.
µg/kg = micrograms per kilogram
AFFF = aqueous film forming foam
FTA = fire training area
IRP = Installation Restoration Program
ND = not detected
PFOA = perfluorooctanoic acid
RI = remedial investigation
NFRAP = no further response action planned
µg/L = micrograms per liter
DW = drinking water
ID = identification
J = the reported concentration is an estimated value.
PFBS = perfluorobutane sulfonate
PFOS = perfluorooctane sulfonate

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Appendix A

Figures

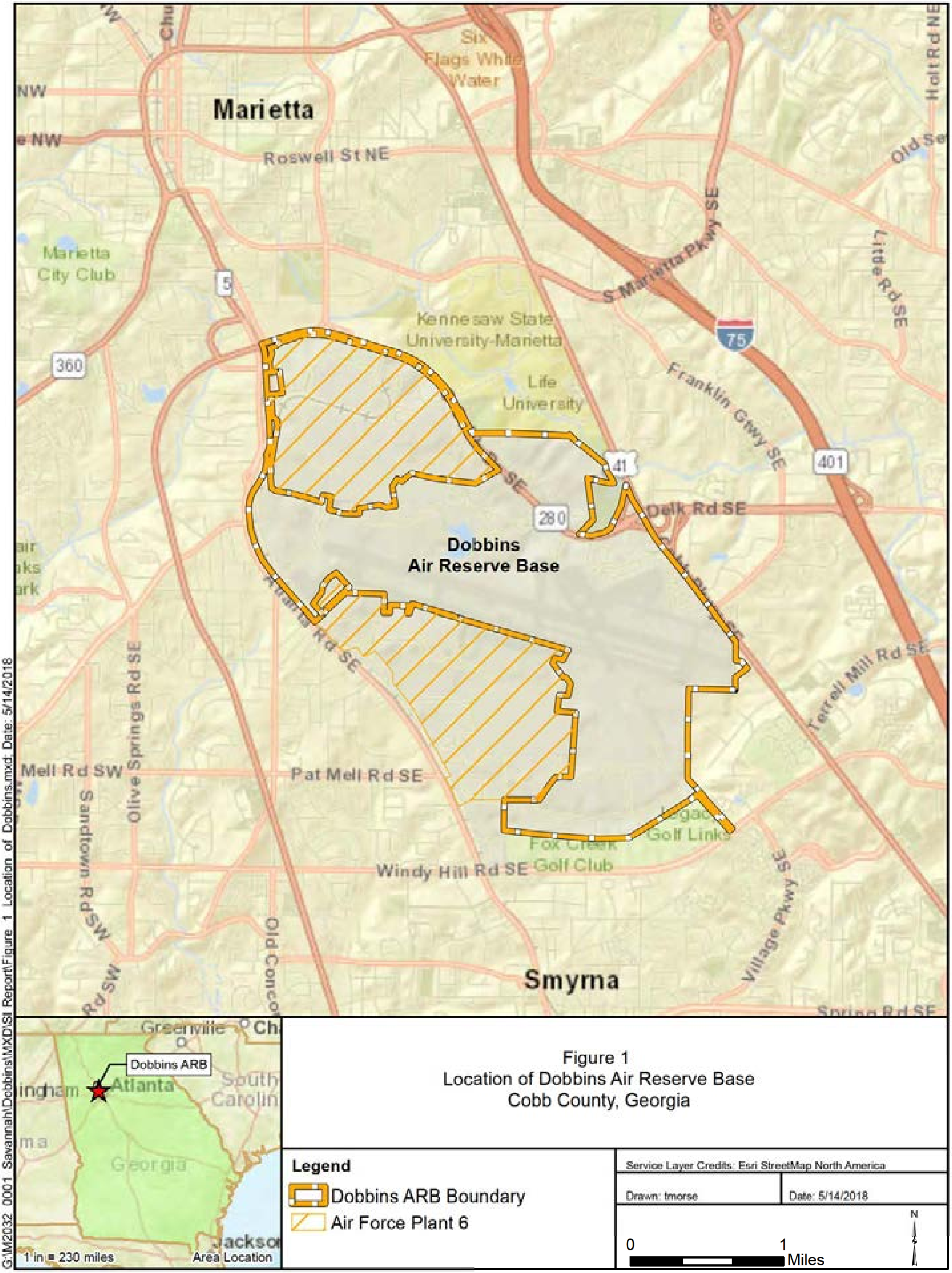


Figure 1
Location of Dobbins Air Reserve Base
Cobb County, Georgia

Legend

▭ Dobbins ARB Boundary

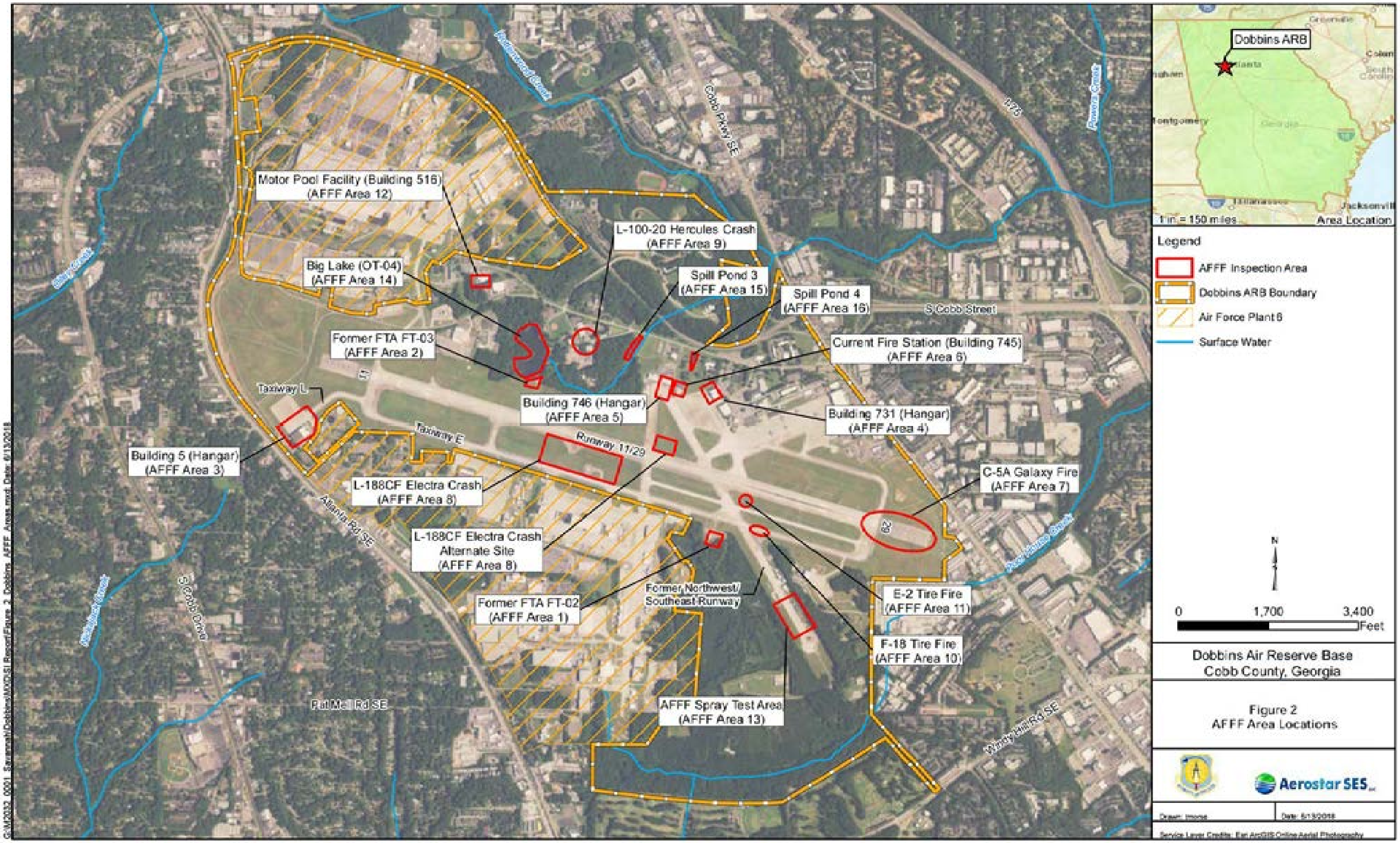
▨ Air Force Plant 6

Service Layer Credits: Esri StreetMap North America

Drawn: tmorse

Date: 5/14/2018

G:\M2032_0001 Savannah\Dobbins\MXD\SI Report\Figure 1 Location of Dobbins.mxd Date: 5/14/2018



Legend

- 🟥 AFFF Inspection Area
- 🟧 Dobbins ARB Boundary
- ▨ Air Force Plant 6
- — Surface Water

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 2
AFFF Area Locations

Aerostar SES

Drawn: imorse
Date: 6/13/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure_2_Dobbins_AFFF_Areas.mxd Date: 6/13/2018

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 3
Former Fire Training Area FT-02
(AFFF Area 1) Sample Locations
and Potentiometric Contours

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ⊕ Existing Groundwater Monitoring Well Sampled
- ◆ Surface Water and Sediment Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Surface Water
- — Groundwater Elevation Contour
- → Storm Sewer Line
- ← Groundwater Flow Direction

DOBNS14-001
(993.87) = Groundwater Elevation
(ft NAVD 88) Measured on
December 13, 2017.

0 75 150
Feet

* Wells OT004-MW02, OT004-MW03, and OT004-MW04 were installed by CH2M as part of an ongoing remedial investigation at Big Lake.

NM - Not Measured

Only existing wells sampled are shown.

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 4
Former FTA FT-03 (AFFF Area 2)
and Big Lake (OT-04) (AFFF Area 14)
Sample Locations and
Potentiometric Contours

Aerostar SES

Drawn: lmorse
Date: 6/19/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- ← Presumed Groundwater Flow Direction

DOBNS03-001
(1057.70) = Groundwater Elevation
(ft NAVD 88) Measured on
December 13, 2017.

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 5
Building 5 (Hangar)
(AFFF Area 3) Sample Locations

Aerostar SES

Drawn: lmorse
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure_6_Dobbins_Area_3_SI.mxd Date: 6/29/2018

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- — Groundwater Elevation Contour
- ← Groundwater Flow Direction

DOBNS04-001
(977.62) = Groundwater Elevation
(ft NAVD 88) Measured on
December 13, 2017.

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 6
Building 731 (Hangar)
(AFFF Area 4) Sample Locations
and Potentiometric Contours

Aerostar SES

Drawn: [illegible]
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure_6_Dobbins_Area_4_SI.mxd Date: 5/29/2018

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- - - Surface Drainage
- — Groundwater Elevation Contour
- ← Groundwater Flow Direction

DOBNS05-001
(988.46) = Groundwater Elevation
(ft NAVD 88) Measured on
December 13, 2017.

N

0 50 100
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 7
Building 746 (Hangar) (AFFF Area 5)
and Current Fire Station (Building 745)
(AFFF Area 6) Sample Locations
and Potentiometric Contours

Aerostar SES

Drawn: lmorse | Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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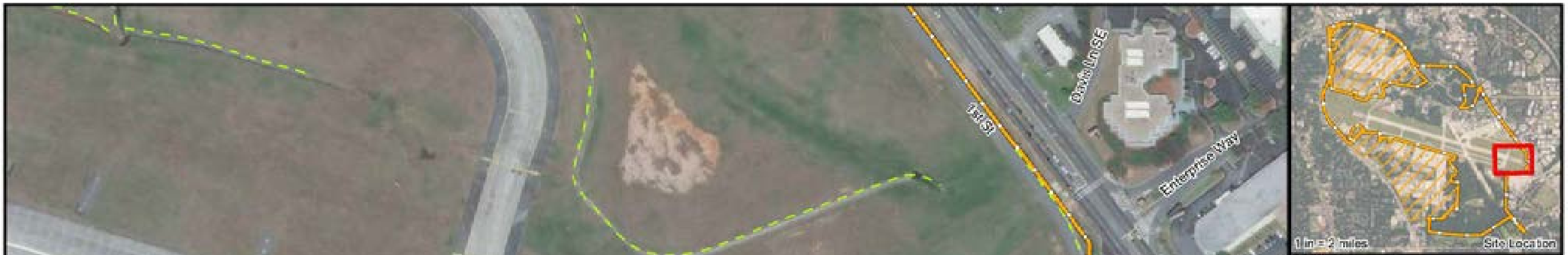

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- -- Surface Drainage
- — Groundwater Elevation Contour
- ← Groundwater Flow Direction

DOBNS07-001
(970.82) = Groundwater Elevation
(ft NAVD 88) Measured on
December 13, 2017.

N

0 100 200
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 8
C-5A Galaxy Fire (AFFF Area 7)
Sample Locations and
Potentiometric Contours

Aerostar SES

Drawn: lmossa | Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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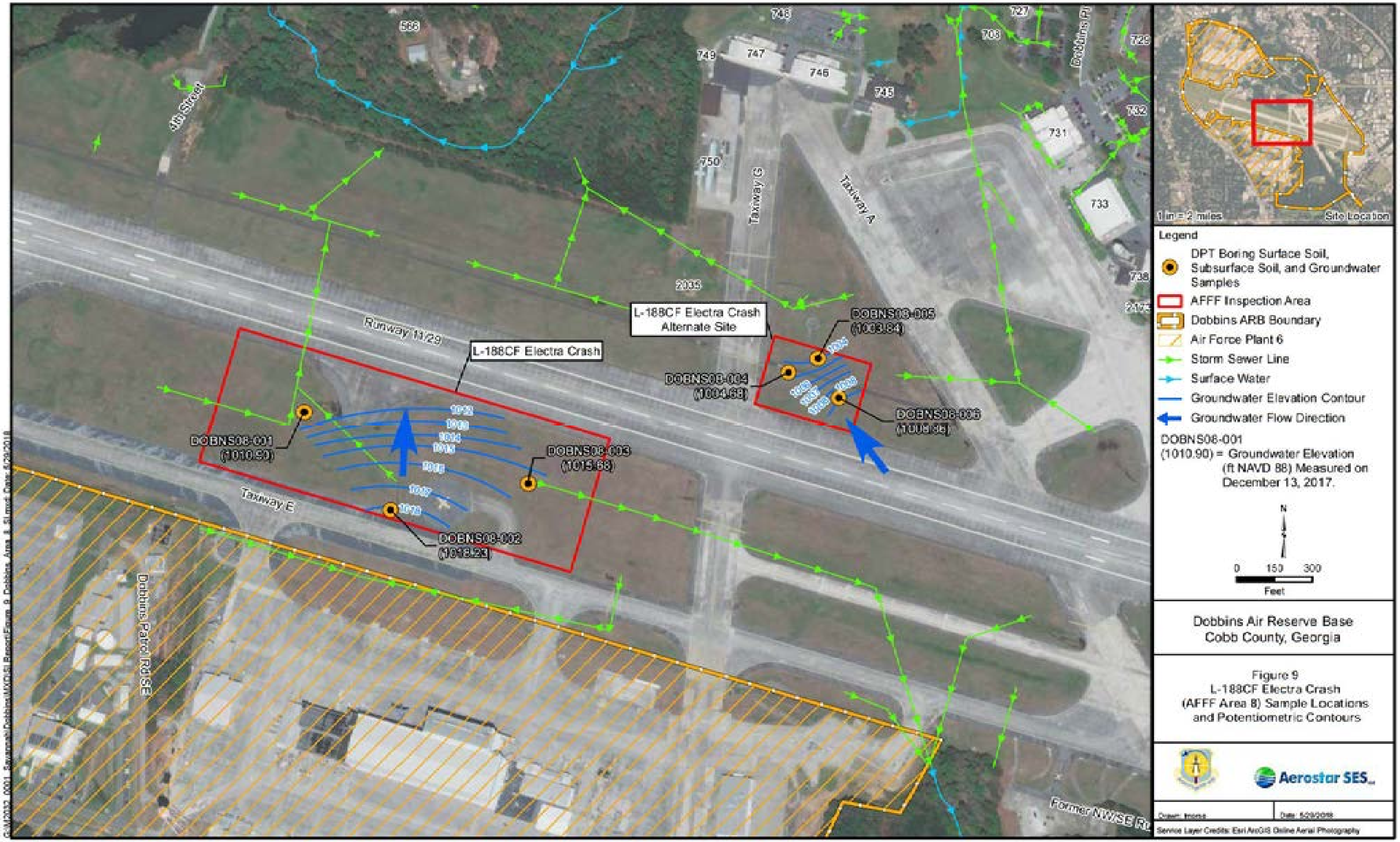


Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- → Surface Water
- — Groundwater Elevation Contour
- ← Groundwater Flow Direction

DOBNS08-001
(1010.90) = Groundwater Elevation (ft NAVD 88) Measured on December 13, 2017.

Dobbins Air Reserve Base
Cobb County, Georgia

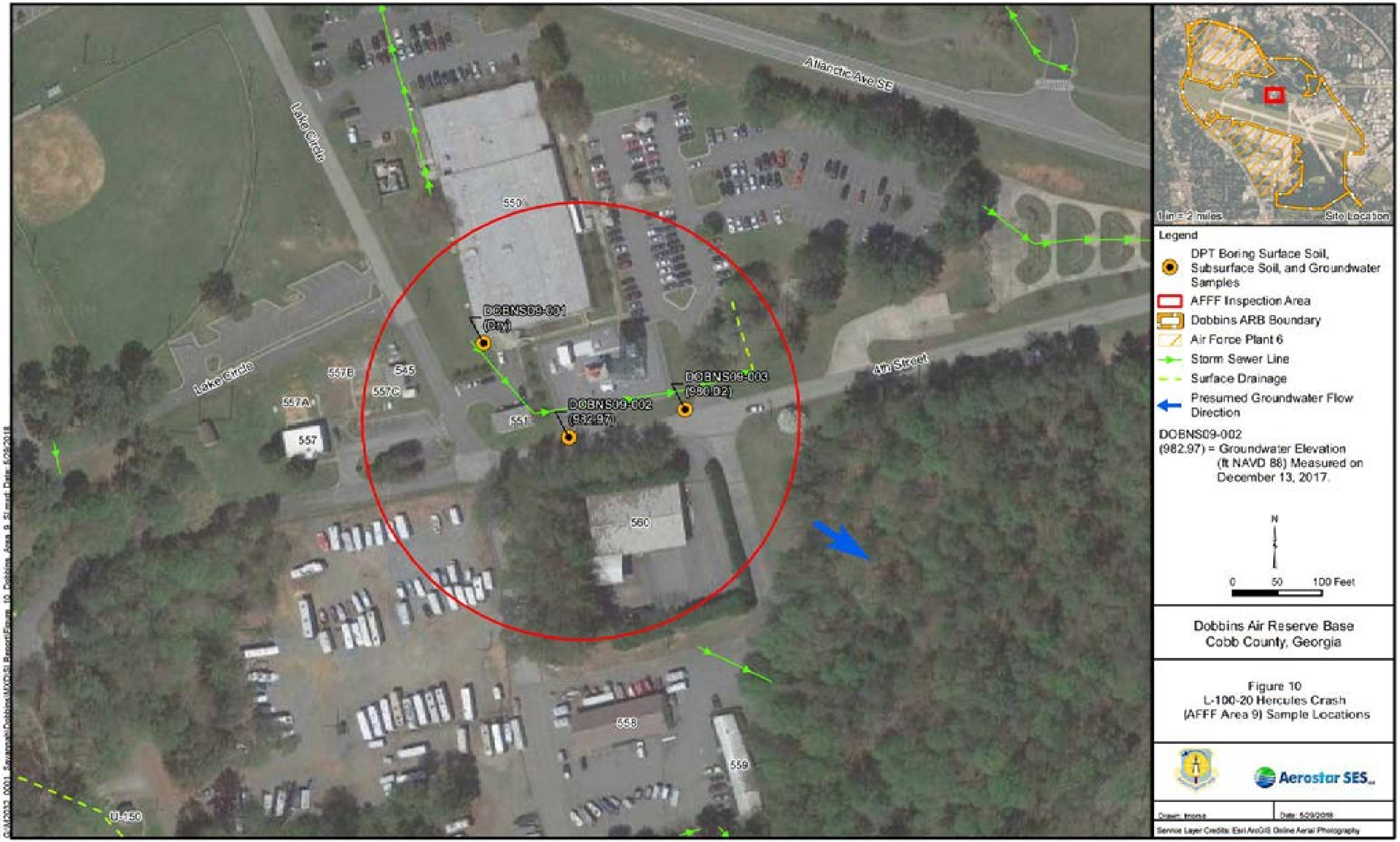
Figure 9
L-188CF Electra Crash
(AFFF Area 8) Sample Locations
and Potentiometric Contours

Aerostar SES

Drawn: [illegible]
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure 9 Dobbins Area 8 SI.mxd Date: 5/29/2018



Dobbins Air Reserve Base
Cobb County, Georgia

Figure 10
L-100-20 Hercules Crash
(AFFF Area 9) Sample Locations

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 11
F-18 Tire Fire (AFFF Area 10)
Sample Locations and
Potentiometric Contours

Drawn: lmorse
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\Report\Figure_11_Dobbins_Area_10_SI.mxd Date: 5/29/2018

Legend

● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples

▭ AFFF Inspection Area

▭ Dobbins ARB Boundary

▨ Air Force Plant 6

— Groundwater Elevation Contour

← Groundwater Flow Direction

DOBNS11-001
(990.01) = Groundwater Elevation (ft NAVD 88) Measured on December 13, 2017.

N

0 35 70
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 12
E-2 Tire Fire (AFFF Area 11)
Sample Locations and
Potentiometric Contours

Aerostar SES

Drawn: [illegible]
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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Dobbins Air Reserve Base
Cobb County, Georgia

Figure 13
Motor Pool Facility (Building 516)
(AFFF Area 12) Sample Locations

Drawn: lmorse
Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- Dobbins ARB Boundary
- Air Force Plant 6
- Storm Sewer Line
- Surface Drainage
- Groundwater Elevation Contour
- Groundwater Flow Direction

DOBNS13-001
(953.33) = Groundwater Elevation (ft NAVD 88) Measured on December 13, 2017.

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 14
AFFF Spray Test Area
(AFFF Area 13) Sample Locations
and Potentiometric Contours

Aerostar SES

Drawn: lmorse | Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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Dobbins Air Reserve Base
Cobb County, Georgia

Figure 15
Spill Pond 3
(AFFF Area 15)
Sample Locations and
Potentiometric Contours

Aerostar SES

Drawn: lmorse | Date: 6/19/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\Report\Figure_15_Dobbins_Area_15_SI.mxd Date: 6/19/2018

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 16
Spill Pond 4
(AFFF Area 16) Sample Locations
and Potentiometric Contours

Aerostar SES

Drawn: lmorse
Date: 6/19/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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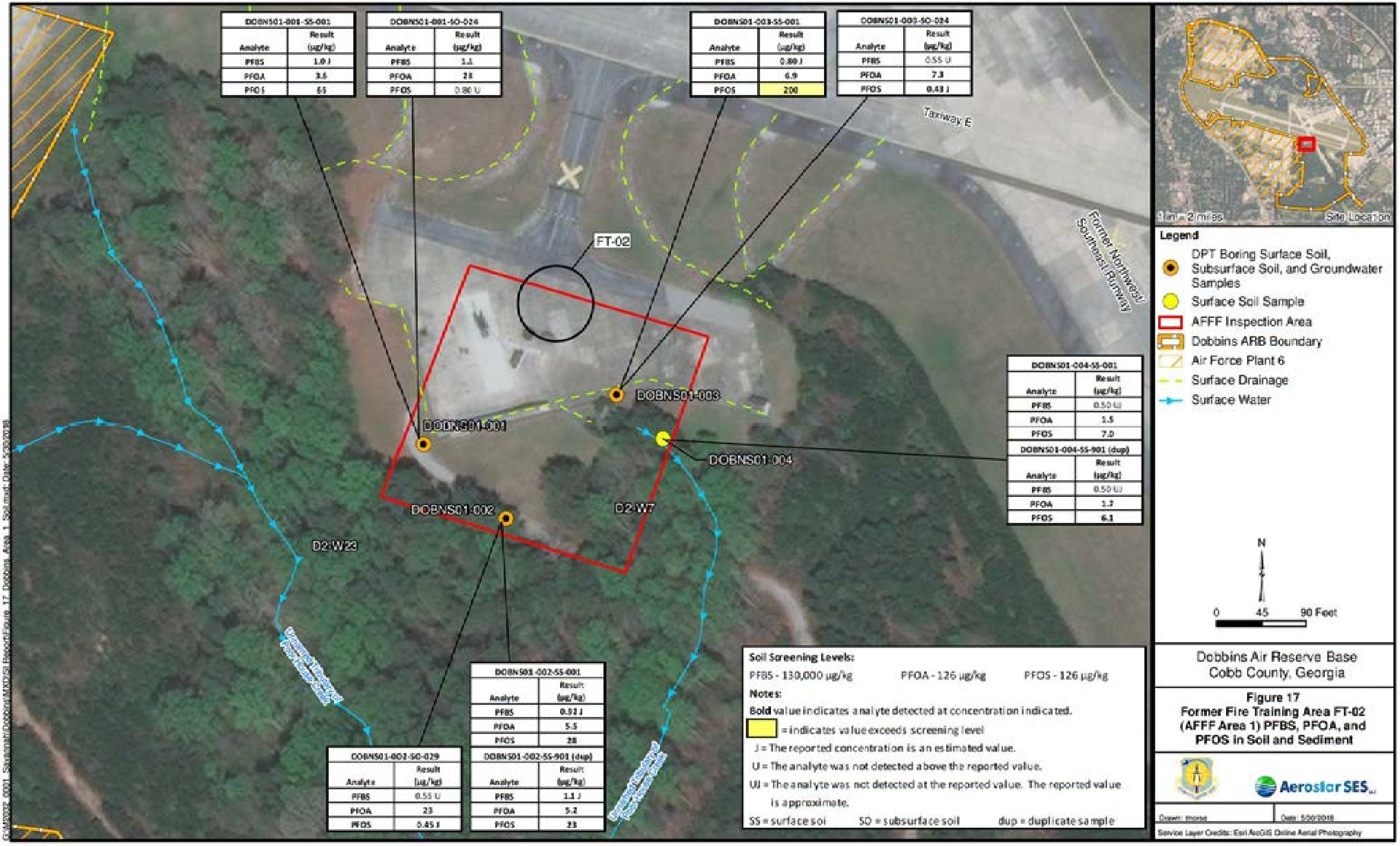

DOBNS01-001-SS-001	
Analyte	Result (µg/kg)
PFBS	1.0 J
PFOA	3.6
PFOS	65

DOBNS01-001-SO-024	
Analyte	Result (µg/kg)
PFBS	1.1
PFOA	28
PFOS	0.80 U

DOBNS01-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.80 J
PFOA	6.9
PFOS	200

DOBNS01-003-SO-024	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	7.3
PFOS	0.43 J

DOBNS01-004-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 UJ
PFOA	1.5
PFOS	7.0
DOBNS01-004-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	0.50 UJ
PFOA	1.7
PFOS	6.1

DOBNS01-002-SO-029	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	23
PFOS	0.45 J

DOBNS01-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.92 J
PFOA	5.5
PFOS	28
DOBNS01-002-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	1.1 J
PFOA	5.2
PFOS	23

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SS = surface soil SO = subsurface soil dup = duplicate sample

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 17
Former Fire Training Area FT-02 (AFFF Area 1) PFBS, PFOA, and PFOS in Soil and Sediment

Aerostar SES

Drawn: lmorse Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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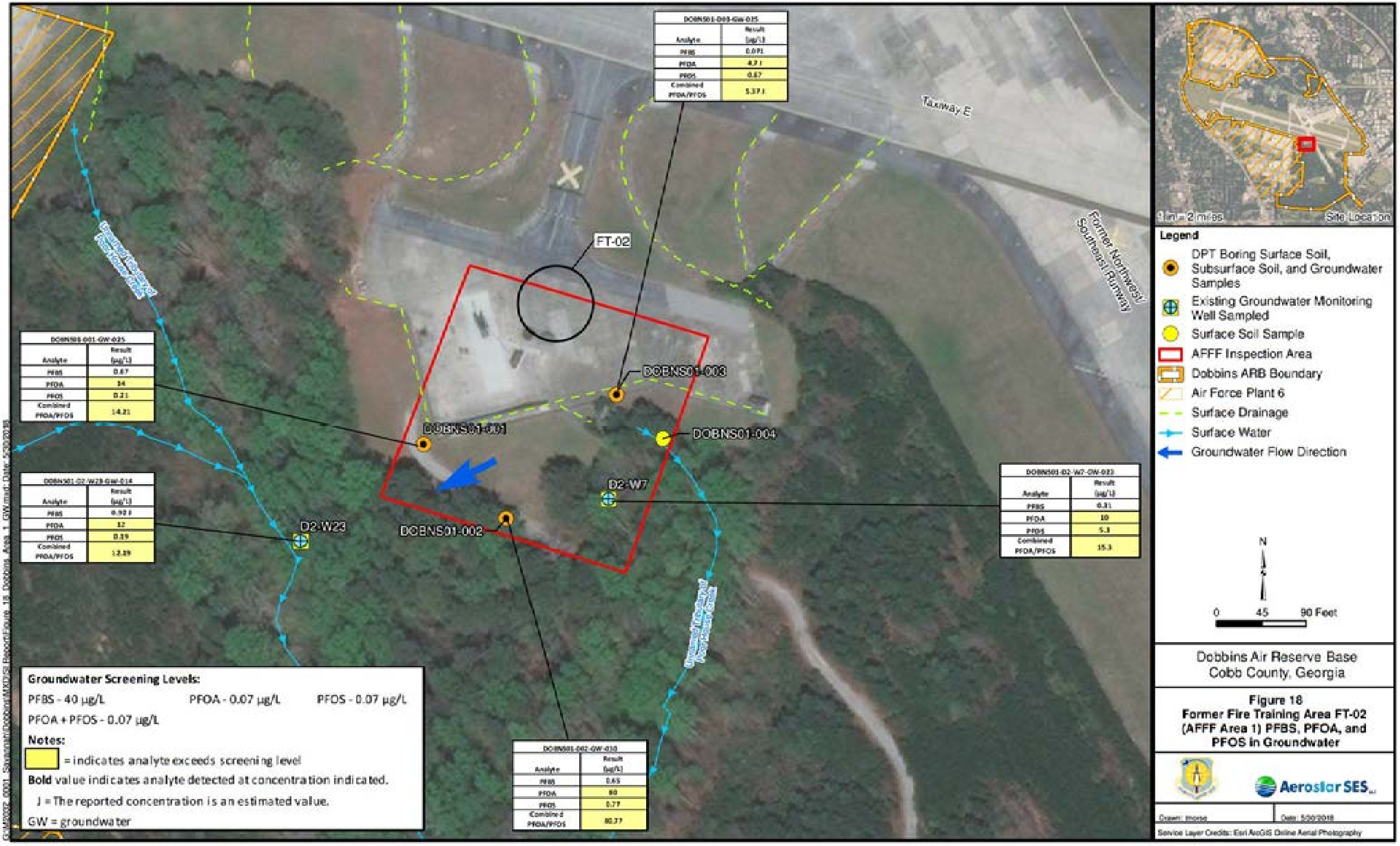


Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ⊕ Existing Groundwater Monitoring Well Sampled
- ● Surface Soil Sample
- ☐ AFFF Inspection Area
- ☐ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- - - Surface Drainage
- → Surface Water
- ← Groundwater Flow Direction

DOBNS01-003-GW-025	
Analyte	Result (µg/L)
PFBS	0.091
PFOA	**4.7 J**
PFOS	**0.67**
Combined PFOA/PFOS	**5.37 J**

DOBNS01-001-GW-025	
Analyte	Result (µg/L)
PFBS	0.67
PFOA	**14**
PFOS	**0.21**
Combined PFOA/PFOS	**14.21**

DOBNS01-D2-W23-GW-014	
Analyte	Result (µg/L)
PFBS	0.92 J
PFOA	**12**
PFOS	**0.29**
Combined PFOA/PFOS	**12.29**

DOBNS01-D2-W7-GW-023	
Analyte	Result (µg/L)
PFBS	0.31
PFOA	**10**
PFOS	**5.3**
Combined PFOA/PFOS	**15.3**

DOBNS01-002-GW-030	
Analyte	Result (µg/L)
PFBS	0.65
PFOA	**80**
PFOS	**0.77**
Combined PFOA/PFOS	**80.77**

Groundwater Screening Levels:

PFBS - 40 µg/L
PFOA - 0.07 µg/L
PFOS - 0.07 µg/L
PFOA + PFOS - 0.07 µg/L

Notes:

🟨 = indicates analyte exceeds screening level

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

GW = groundwater

Dobbins Air Reserve Base
Cobb County, Georgia

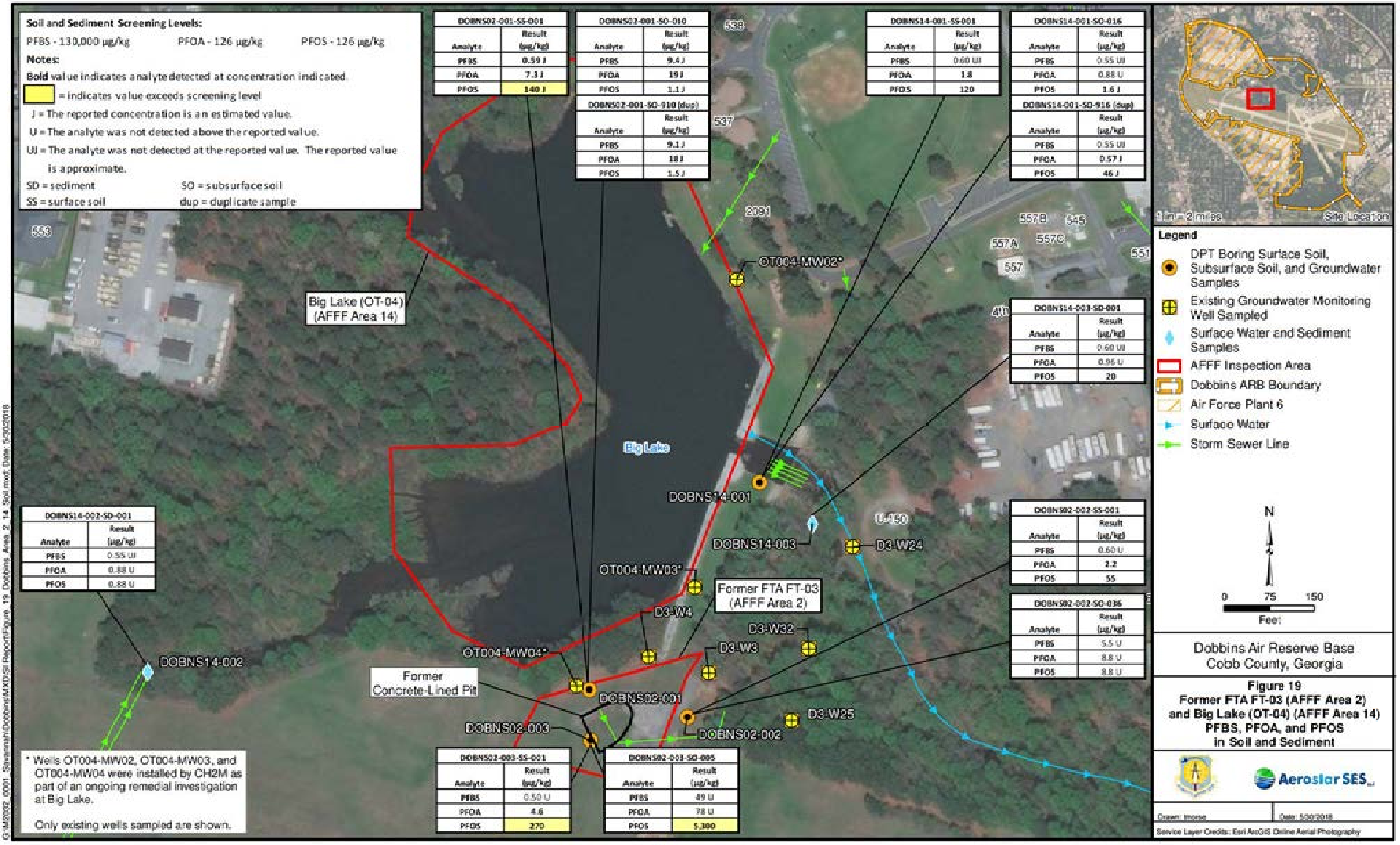
Figure 18
Former Fire Training Area FT-02 (AFFF Area 1) PFBS, PFOA, and PFOS in Groundwater

Aerostar SES LLC

Drawn: lmorse
Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure 18 Dobbins Area 1 GW.mxd Date: 5/30/2018



Soil and Sediment Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SD = sediment SO = subsurface soil

SS = surface soil dup = duplicate sample

DOBNS02-001-SS-001	
Analyte	Result (µg/kg)
PFBS	**0.59 J**
PFOA	**7.3 J**
PFOS	**140 J**

DOBNS02-001-SO-010	
Analyte	Result (µg/kg)
PFBS	**9.4 J**
PFOA	**19 J**
PFOS	**1.1 J**

DOBNS02-001-SO-910 (dup)	
Analyte	Result (µg/kg)
PFBS	**9.1 J**
PFOA	**18 J**
PFOS	**1.5 J**

DOBNS14-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 UJ
PFOA	**1.8**
PFOS	**120**

DOBNS14-001-SO-016	
Analyte	Result (µg/kg)
PFBS	0.55 UJ
PFOA	0.88 U
PFOS	**1.6 J**

DOBNS14-001-SO-916 (dup)	
Analyte	Result (µg/kg)
PFBS	0.55 UJ
PFOA	**0.57 J**
PFOS	**46 J**

DOBNS14-003-SD-001	
Analyte	Result (µg/kg)
PFBS	0.60 UJ
PFOA	0.96 U
PFOS	**20**

DOBNS02-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**2.2**
PFOS	**55**

DOBNS02-002-SO-036	
Analyte	Result (µg/kg)
PFBS	5.5 U
PFOA	8.8 U
PFOS	8.8 U

DOBNS14-002-SD-001	
Analyte	Result (µg/kg)
PFBS	0.55 UJ
PFOA	0.88 U
PFOS	0.88 U

DOBNS02-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	**4.6**
PFOS	**270**

DOBNS02-003-SO-005	
Analyte	Result (µg/kg)
PFBS	49 U
PFOA	78 U
PFOS	**5,300**

* Wells OT004-MW02, OT004-MW03, and OT004-MW04 were installed by CH2M as part of an ongoing remedial investigation at Big Lake.

Only existing wells sampled are shown.

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ⊕ Existing Groundwater Monitoring Well Sampled
- ◆ Surface Water and Sediment Samples
- ▭ AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- ➤ Surface Water
- ➤ Storm Sewer Line

Dobbins Air Reserve Base
Cobb County, Georgia

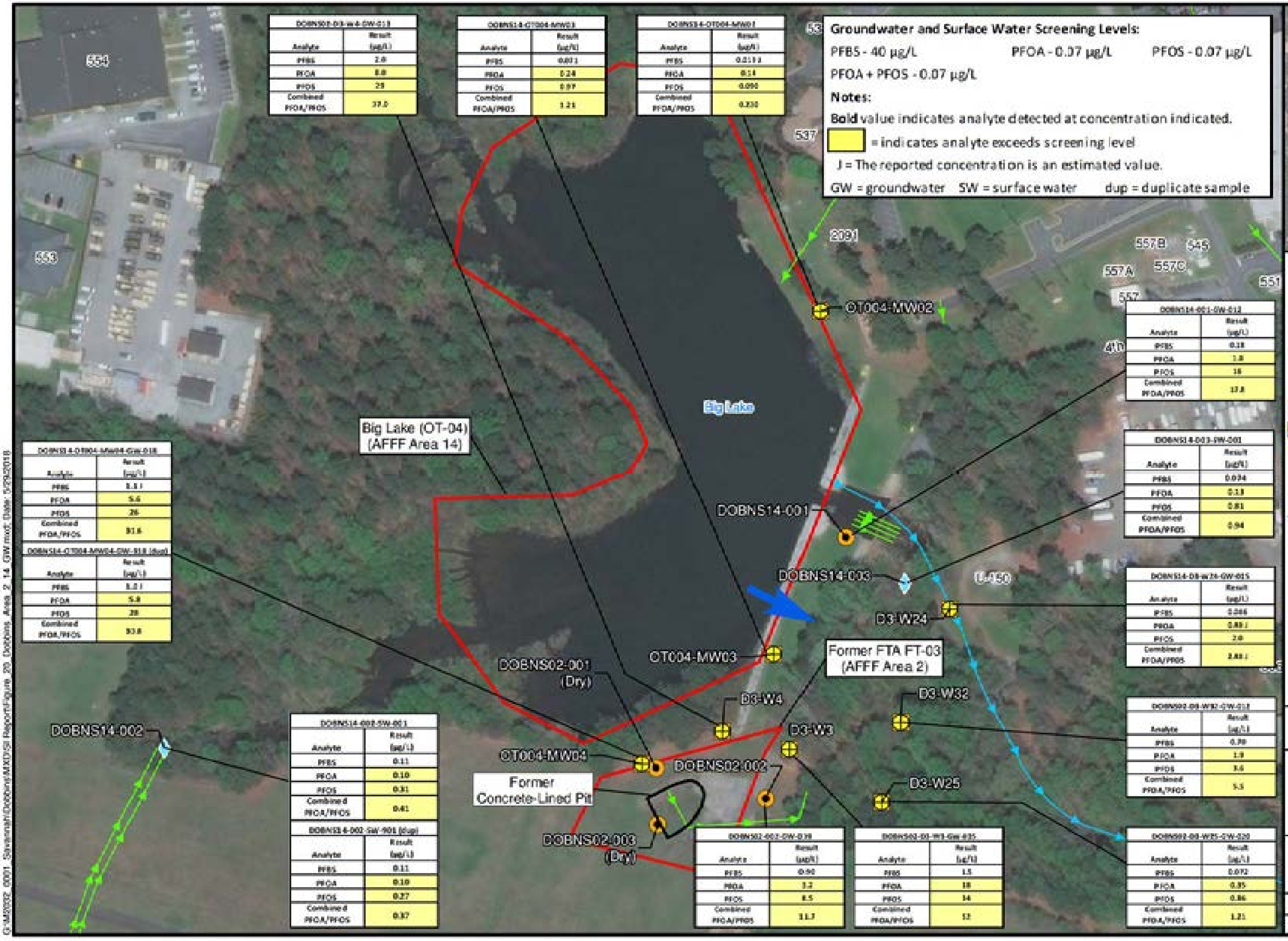
Figure 19
Former FTA FT-03 (AFFF Area 2)
and Big Lake (OT-04) (AFFF Area 14)
PFBS, PFOA, and PFOS
in Soil and Sediment

Aerostar SES

Drawn: lmorse Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure_19_Dobbins_Area_2_14_Soil.mxd Date: 5/30/2018



Groundwater and Surface Water Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

J = The reported concentration is an estimated value.

GW = groundwater SW = surface water dup = duplicate sample

DOBNS02-D3-W4-GW-018	
Analyte	Result (µg/L)
PFBS	2.0
PFOA	8.0
PFOS	29
Combined PFOA/PFOS	37.0

DOBNS14-OT004-MW03	
Analyte	Result (µg/L)
PFBS	0.071
PFOA	0.24
PFOS	0.97
Combined PFOA/PFOS	1.21

DOBNS14-OT004-MW02	
Analyte	Result (µg/L)
PFBS	0.013 J
PFOA	0.14
PFOS	0.090
Combined PFOA/PFOS	0.230

DOBNS14-OT004-MW04-GW-018	
Analyte	Result (µg/L)
PFBS	1.1 J
PFOA	5.6
PFOS	26
Combined PFOA/PFOS	31.6

DOBNS14-OT004-MW04-GW-918 (dup)	
Analyte	Result (µg/L)
PFBS	1.2 J
PFOA	5.8
PFOS	28
Combined PFOA/PFOS	33.8

DOBNS14-002-SW-001	
Analyte	Result (µg/L)
PFBS	0.11
PFOA	0.10
PFOS	0.31
Combined PFOA/PFOS	0.41

DOBNS14-002-SW-901 (dup)	
Analyte	Result (µg/L)
PFBS	0.11
PFOA	0.10
PFOS	0.27
Combined PFOA/PFOS	0.37

DOBNS02-002-GW-038	
Analyte	Result (µg/L)
PFBS	0.90
PFOA	3.2
PFOS	8.5
Combined PFOA/PFOS	11.7

DOBNS02-D3-W3-GW-035	
Analyte	Result (µg/L)
PFBS	1.5
PFOA	18
PFOS	14
Combined PFOA/PFOS	32

DOBNS14-001-GW-012	
Analyte	Result (µg/L)
PFBS	0.18
PFOA	1.8
PFOS	16
Combined PFOA/PFOS	17.8

DOBNS14-003-SW-001	
Analyte	Result (µg/L)
PFBS	0.034
PFOA	0.13
PFOS	0.81
Combined PFOA/PFOS	0.94

DOBNS14-D3-W24-GW-015	
Analyte	Result (µg/L)
PFBS	0.066
PFOA	0.88 J
PFOS	2.0
Combined PFOA/PFOS	2.88 J

DOBNS02-D3-W32-GW-012	
Analyte	Result (µg/L)
PFBS	0.70
PFOA	1.9
PFOS	3.6
Combined PFOA/PFOS	5.5

DOBNS02-D3-W25-GW-020	
Analyte	Result (µg/L)
PFBS	0.072
PFOA	0.35
PFOS	0.86
Combined PFOA/PFOS	1.21

Legend

- DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- Existing Groundwater Monitoring Well Sampled
- Surface Water and Sediment Samples
- AFFF Inspection Area
- Dobbins ARB Boundary
- Air Force Plant 6
- Surface Water
- Storm Sewer Line
- Groundwater Flow Direction

N

0 75 150

Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 20
Former FTA FT-03 (AFFF Area 2)
and Big Lake (OT-04) (AFFF Area 14)
PFBS, PFOA, and PFOS in
Groundwater and Surface Water

Aerostar SES

Drawn: tmorse Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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DOBNS03-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	**5.7**

DOBNS03-001-SO-020	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**0.59 J**

DOBNS03-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**0.48 J**
PFOS	**22**

DOBNS03-002-SO-024	
Analyte	Result (µg/kg)
PFBS	0.49 U
PFOA	0.78 U
PFOS	0.78 U

DOBNS03-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	**7.4**

DOBNS03-003-SO-015	
Analyte	Result (µg/kg)
PFBS	0.42 U
PFOA	0.67 U
PFOS	0.67 U

DOBNS03-004-SS-001	
Analyte	Result (µg/kg)
PFBS	0.47 U
PFOA	**0.77 J**
PFOS	**220** 🟨

DOBNS03-004-SO-020	
Analyte	Result (µg/kg)
PFBS	**0.73 J**
PFOA	**9.5**
PFOS	**16**

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil SO = subsurface soil

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ▭ AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line

N

0 60 120
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 21
Building 5 (Hangar) (AFFF Area 3) PFBS, PFOA, and PFOS in Soil

Aerostar SES

Drawn: lmorse Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

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DOBNS03-001-GW-019	
Analyte	Result (µg/L)
PFBS	0.026
PFOA	0.0091 J
PFOS	0.061
Combined PFOA/PFOS	0.070 J

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

GW = groundwater

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- ← Presumed Groundwater Flow Direction

N

0 60 120
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

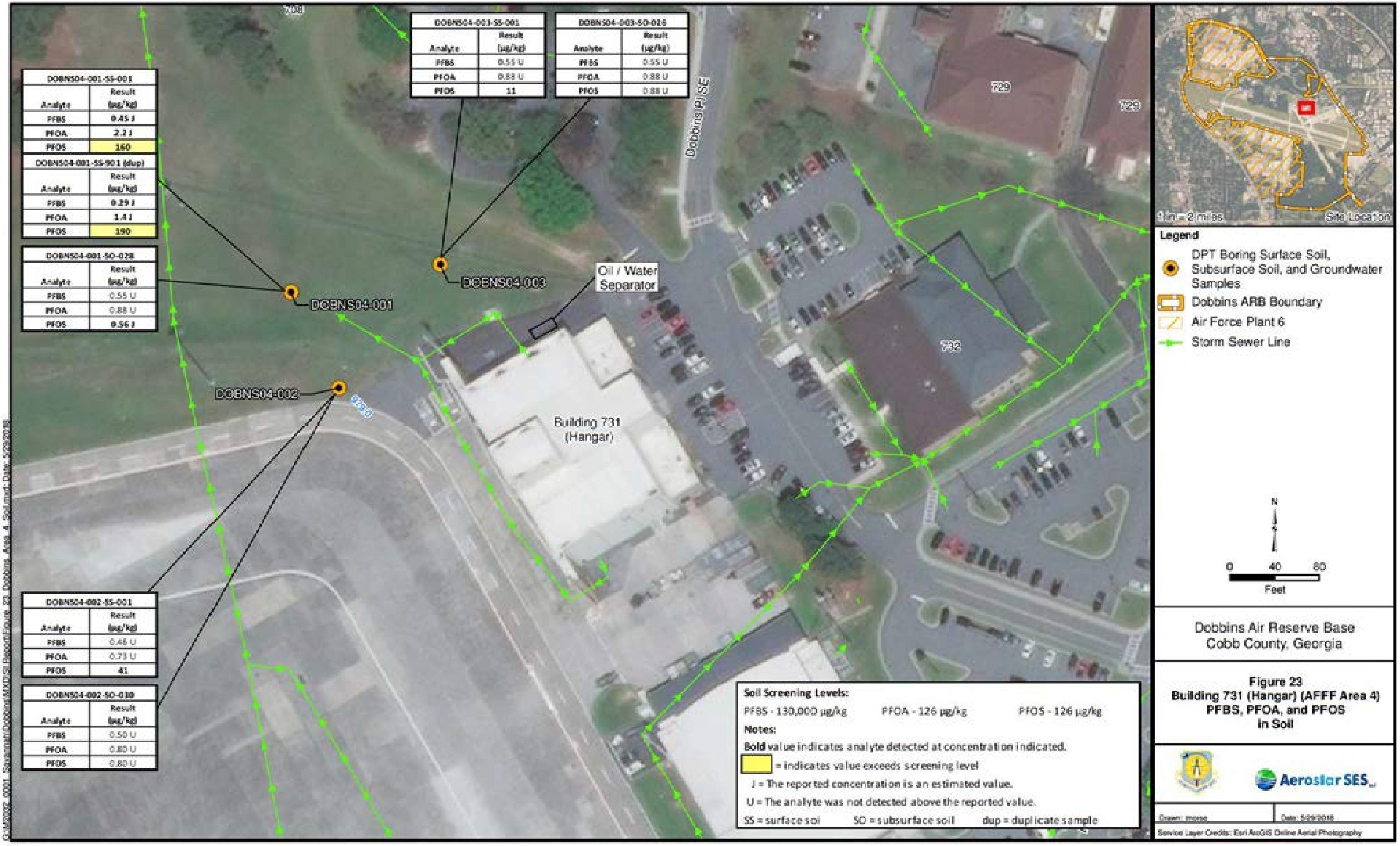
Figure 22
Building 5 (Hangar) (AFFF Area 3)
PFBS, PFOA, and PFOS
in Groundwater

Aerostar SES

Drawn: lmorse | Date: 5/17/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032.0001_Savannah\Dobbins\MXDs\Report\Figure 22_Dobbins_Area_3_GW.mxd Date: 5/17/2018



DOBNS04-001-SS-001	
Analyte	Result (µg/kg)
PFBS	**0.45 J**
PFOA	**2.2 J**
PFOS	**160**

DOBNS04-001-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	**0.29 J**
PFOA	**1.4 J**
PFOS	**190**

DOBNS04-001-SO-028	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**0.56 J**

DOBNS04-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**11**

DOBNS04-003-SO-026	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS04-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.46 U
PFOA	0.73 U
PFOS	**41**

DOBNS04-002-SO-030	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	0.80 U

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil SO = subsurface soil dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line

Dobbins Air Reserve Base
Cobb County, Georgia

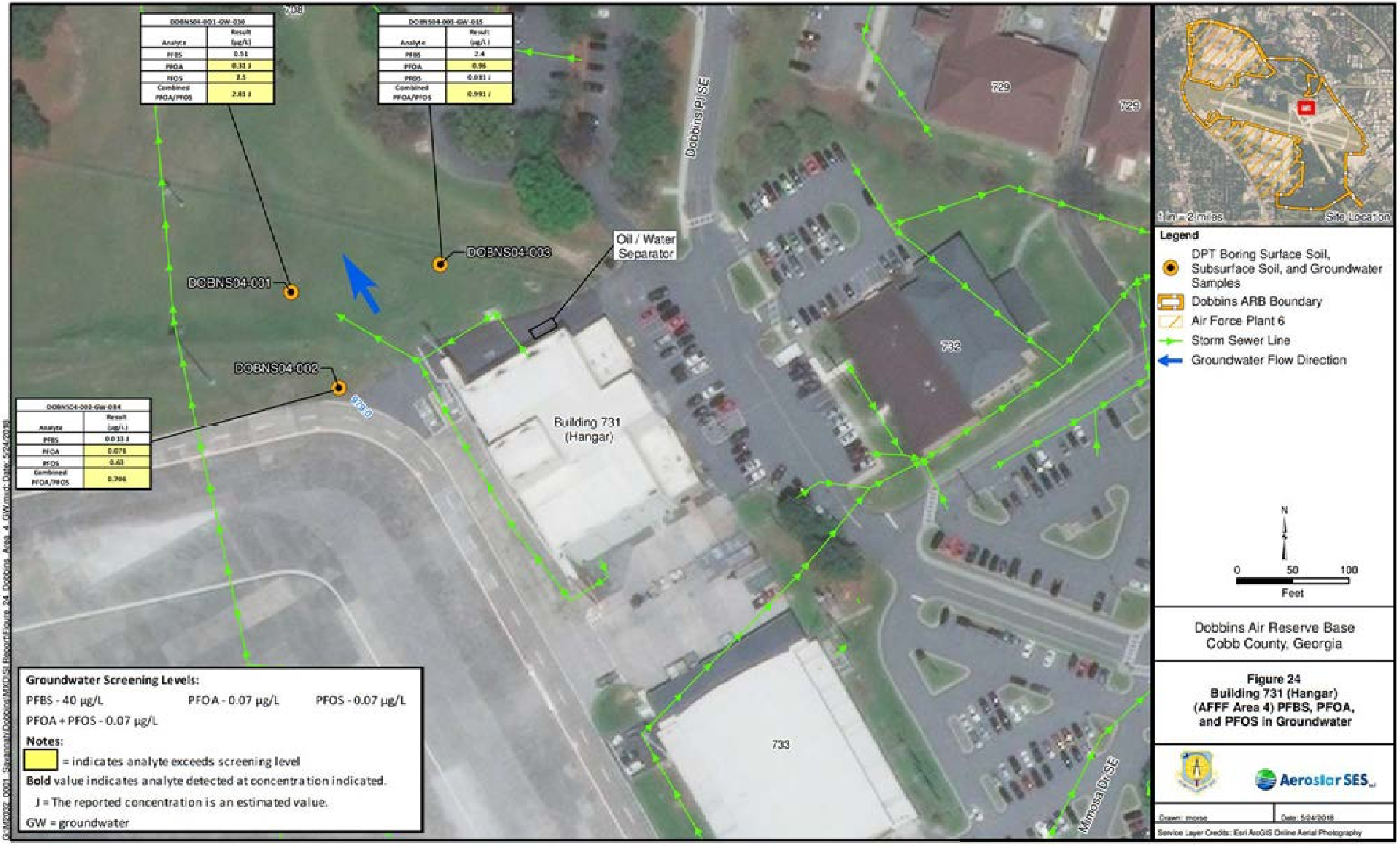
Figure 23
Building 731 (Hangar) (AFFF Area 4)
PFBS, PFOA, and PFOS
in Soil

AerostarSES

Drawn: lmorse Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure 23_Dobbins_Area_4_Soil.mxd; Date: 5/29/2018



DOBNS04-001-GW-030	
Analyte	Result (µg/L)
PFBS	0.51
PFOA	**0.33 J**
PFOS	**2.5**
Combined PFOA/PFOS	**2.83 J**

DOBNS04-003-GW-015	
Analyte	Result (µg/L)
PFBS	2.4
PFOA	**0.96**
PFOS	0.031 J
Combined PFOA/PFOS	**0.991 J**

DOBNS04-002-GW-034	
Analyte	Result (µg/L)
PFBS	0.013 J
PFOA	**0.076**
PFOS	**0.63**
Combined PFOA/PFOS	**0.706**

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- ← Groundwater Flow Direction

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

🟨 = indicates analyte exceeds screening level

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

GW = groundwater

Dobbins Air Reserve Base
Cobb County, Georgia

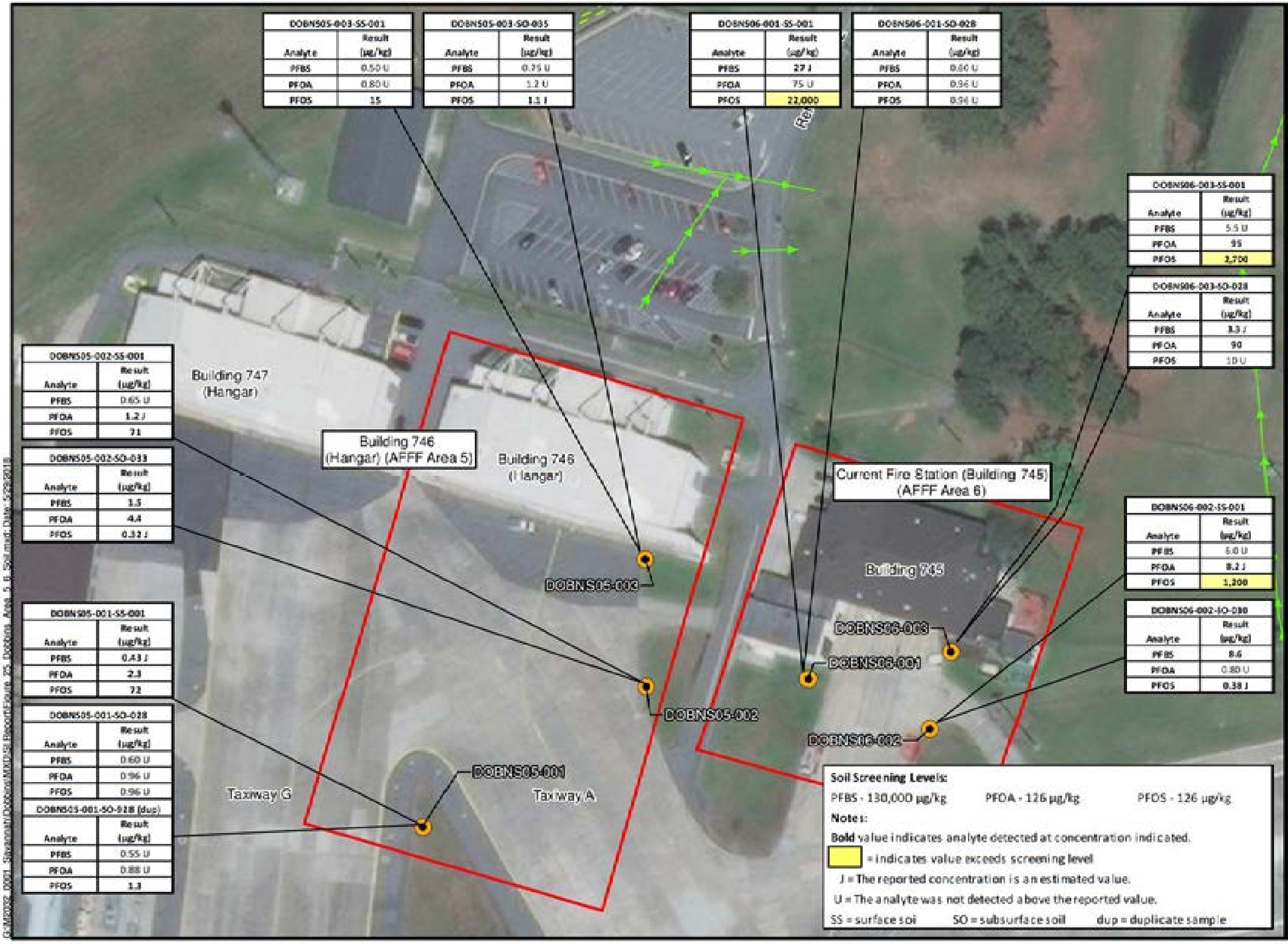
Figure 24
Building 731 (Hangar)
(AFFF Area 4) PFBS, PFOA,
and PFOS in Groundwater

Aerostar SES LLC

Drawn: lmorse Date: 5/24/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure 24_Dobbins_Area_4_GW.mxd; Date: 5/24/2018



DOBNS05-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	**15**

DOBNS05-003-SO-035	
Analyte	Result (µg/kg)
PFBS	0.75 U
PFOA	1.2 U
PFOS	**1.1 J**

DOBNS06-001-SS-001	
Analyte	Result (µg/kg)
PFBS	**27 J**
PFOA	75 U
PFOS	**22,000**

DOBNS06-001-SO-028	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	0.96 U

DOBNS05-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	**1.2 J**
PFOS	**71**

DOBNS05-002-SO-033	
Analyte	Result (µg/kg)
PFBS	**1.5**
PFOA	**4.4**
PFOS	**0.32 J**

DOBNS05-001-SS-001	
Analyte	Result (µg/kg)
PFBS	**0.43 J**
PFOA	**2.3**
PFOS	**72**

DOBNS05-001-SO-028	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	0.96 U

DOBNS05-001-SO-028 (dup)	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**1.3**

DOBNS06-003-SS-001	
Analyte	Result (µg/kg)
PFBS	5.5 U
PFOA	**95**
PFOS	**2,700**

DOBNS06-003-SO-028	
Analyte	Result (µg/kg)
PFBS	**3.3 J**
PFOA	**90**
PFOS	10 U

DOBNS06-002-SS-001	
Analyte	Result (µg/kg)
PFBS	6.0 U
PFOA	**8.2 J**
PFOS	**1,200**

DOBNS06-002-SO-030	
Analyte	Result (µg/kg)
PFBS	**8.6**
PFOA	0.80 U
PFOS	**0.38 J**

Soil Screening Levels:

PFBS - 130,000 µg/kg   PFOA - 126 µg/kg   PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil   SO = subsurface soil   dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- -- Surface Drainage

N

0 40 80
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

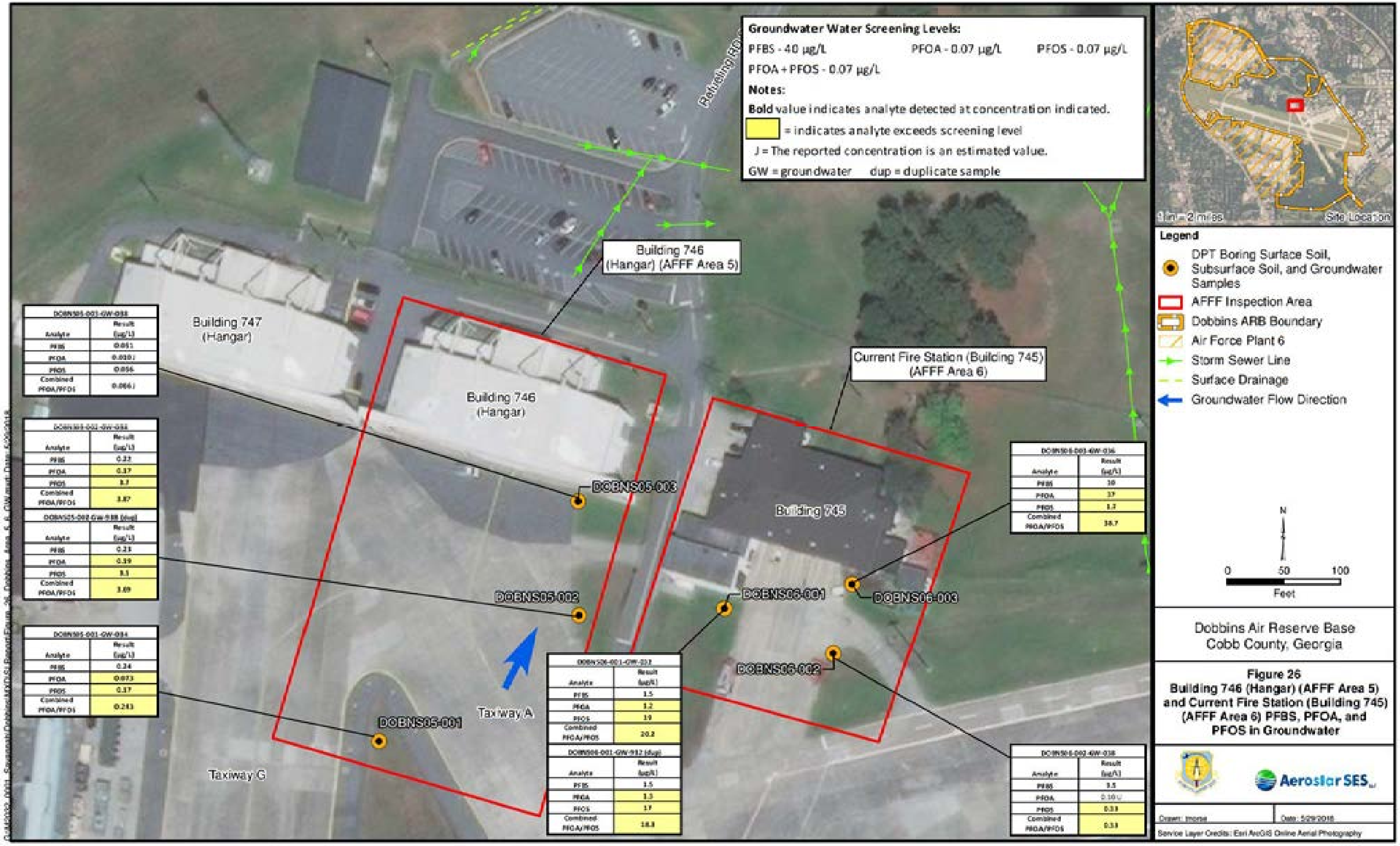
Figure 25
Building 746 (Hangar) (AFFF Area 5) and Current Fire Station (Building 745) (AFFF Area 6) PFBS, PFOA, and PFOS in Soil

AerostarSES LLC

Drawn: lmorse   Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure 25_Dobbins_Area_5_6_Soil.mxd Date: 5/29/2018



Groundwater Water Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

J = The reported concentration is an estimated value.

GW = groundwater dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- -- Surface Drainage
- ← Groundwater Flow Direction

DOBNS05-003-GW-038

Analyte	Result (µg/L)
PFBS	0.051
PFOA	0.030 J
PFOS	0.056
Combined PFOA/PFOS	0.086 J

DOBNS05-002-GW-036

Analyte	Result (µg/L)
PFBS	0.22
PFOA	0.17
PFOS	3.7
Combined PFOA/PFOS	3.87

DOBNS05-002-GW-938 (dup)

Analyte	Result (µg/L)
PFBS	0.23
PFOA	0.19
PFOS	3.5
Combined PFOA/PFOS	3.69

DOBNS05-001-GW-034

Analyte	Result (µg/L)
PFBS	0.24
PFOA	0.073
PFOS	0.17
Combined PFOA/PFOS	0.243

DOBNS06-001-GW-032

Analyte	Result (µg/L)
PFBS	1.5
PFOA	1.2
PFOS	19
Combined PFOA/PFOS	20.2

DOBNS06-001-GW-932 (dup)

Analyte	Result (µg/L)
PFBS	1.5
PFOA	1.3
PFOS	17
Combined PFOA/PFOS	18.3

DOBNS06-003-GW-036

Analyte	Result (µg/L)
PFBS	10
PFOA	37
PFOS	1.7
Combined PFOA/PFOS	38.7

DOBNS06-002-GW-038

Analyte	Result (µg/L)
PFBS	3.5
PFOA	0.10 U
PFOS	0.38
Combined PFOA/PFOS	0.38

Dobbins Air Reserve Base
Cobb County, Georgia

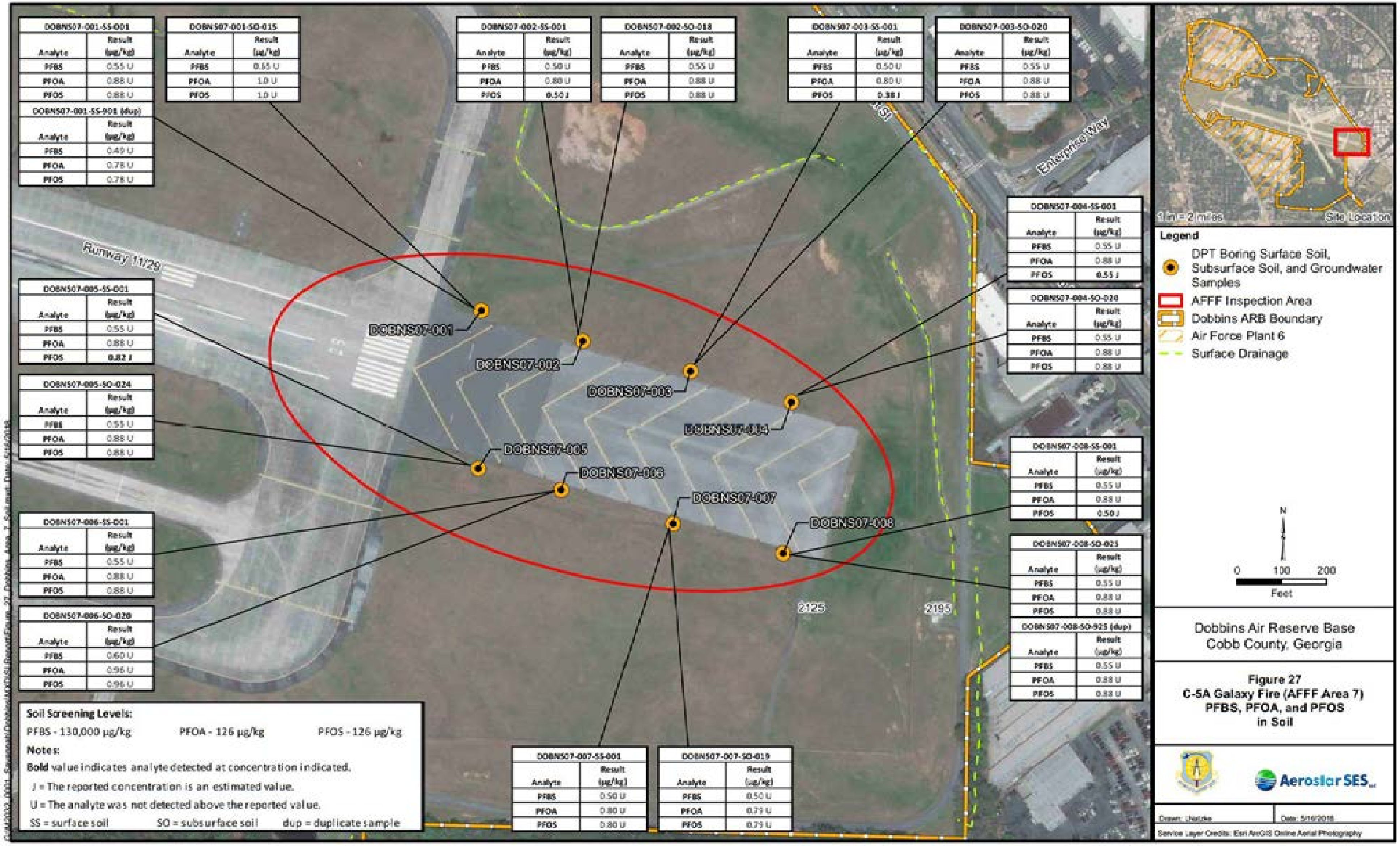
Figure 26
Building 746 (Hangar) (AFFF Area 5) and Current Fire Station (Building 745) (AFFF Area 6) PFBS, PFOA, and PFOS in Groundwater

AerostarSES LLC

Drawn: lmorse
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure_26_Dobbins_Area_5_6_GW.mxd Date: 5/29/2018



DOBNS07-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-001-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	0.49 U
PFOA	0.78 U
PFOS	0.78 U

DOBNS07-001-SO-015	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	1.0 U
PFOS	1.0 U

DOBNS07-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	**0.50 J**

DOBNS07-002-SO-018	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	**0.38 J**

DOBNS07-003-SO-020	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-004-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**0.55 J**

DOBNS07-004-SO-020	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-005-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**0.82 J**

DOBNS07-005-SO-024	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-006-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-006-SO-020	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	0.96 U

DOBNS07-007-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	0.80 U

DOBNS07-007-SO-019	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.79 U
PFOS	0.79 U

DOBNS07-008-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**0.50 J**

DOBNS07-008-SO-025	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS07-008-SO-925 (dup)	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil SO = subsurface soil dup = duplicate sample

Legend

● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples

🟥 AFFF Inspection Area

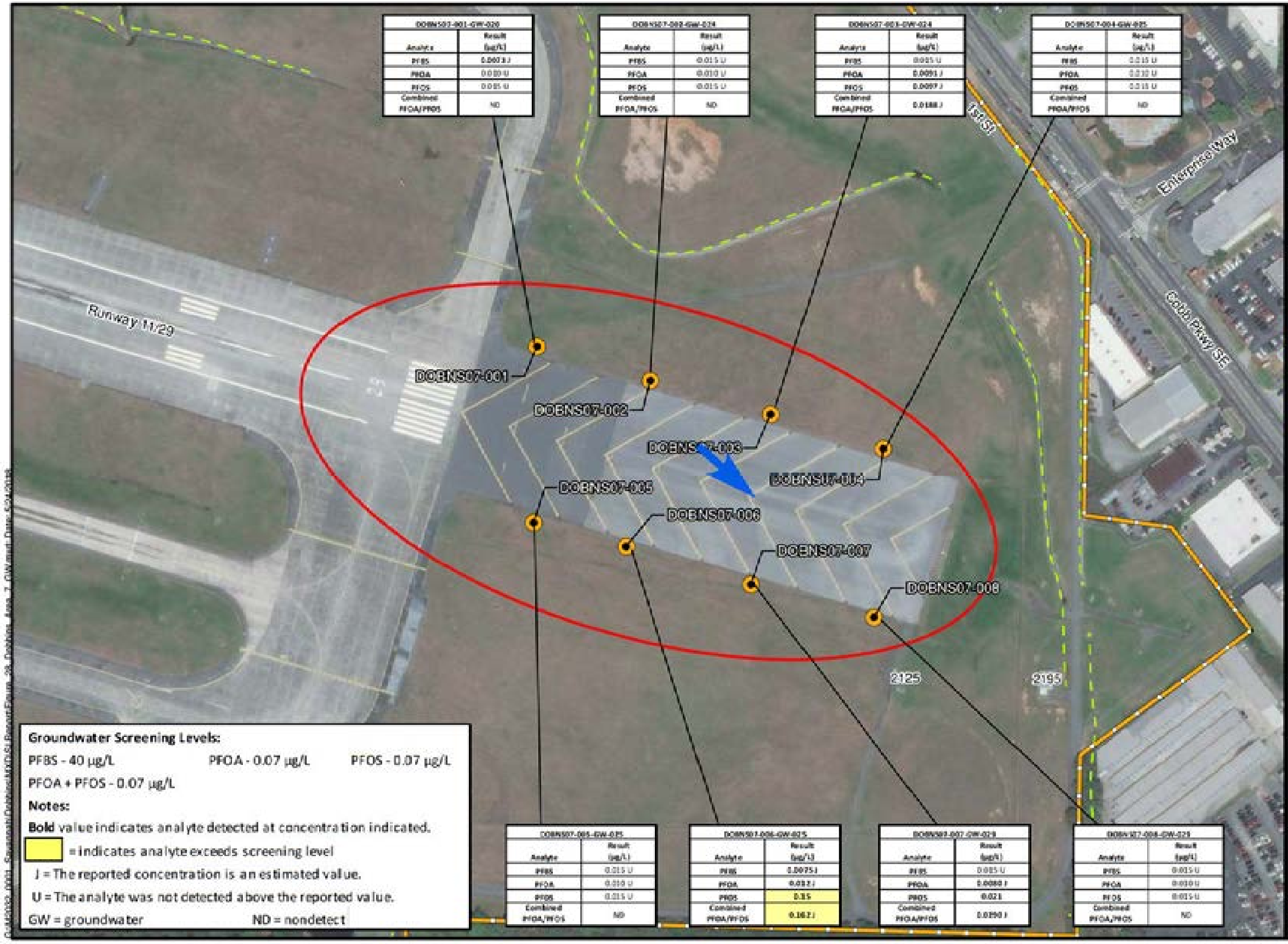
▨ Dobbins ARB Boundary

▨ Air Force Plant 6

- - Surface Drainage

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 27
C-5A Galaxy Fire (AFFF Area 7)
PFBS, PFOA, and PFOS
in Soil



DOBNS07-001-GW-020	
Analyte	Result (µg/L)
PFBS	0.0603 J
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS07-002-GW-024	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS07-003-GW-024	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.0091 J
PFOS	0.0097 J
Combined PFOA/PFOS	0.0188 J

DOBNS07-004-GW-025	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS07-005-GW-025	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS07-006-GW-025	
Analyte	Result (µg/L)
PFBS	0.0075 J
PFOA	0.012 J
PFOS	**0.15**
Combined PFOA/PFOS	**0.162 J**

DOBNS07-007-GW-029	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.0080 J
PFOS	0.021
Combined PFOA/PFOS	0.0290 J

DOBNS07-008-GW-023	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

Groundwater Screening Levels:

PFBS - 40 µg/L
PFOA - 0.07 µg/L
PFOS - 0.07 µg/L
PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.
🟨 = indicates analyte exceeds screening level
J = The reported concentration is an estimated value.
U = The analyte was not detected above the reported value.
GW = groundwater
ND = nondetect

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- - - Surface Drainage
- ← Groundwater Flow Direction

N
0 100 200
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

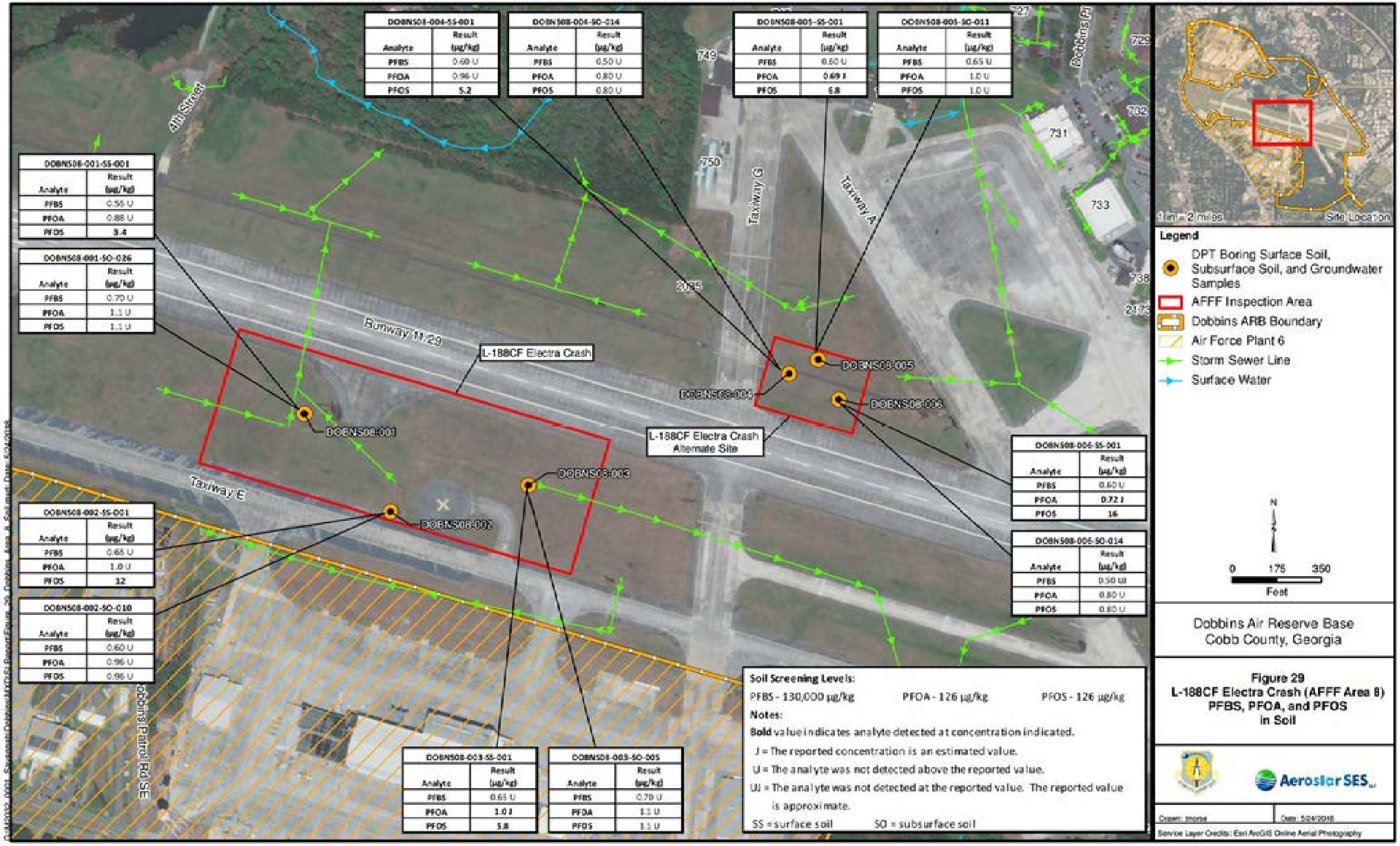
Figure 28
C-5A Galaxy Fire (AFFF Area 7) PFBS, PFOA, and PFOS in Groundwater

AerostarSES LLC

Drawn: Imorse
Date: 5/24/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

M2032.0001



Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- Storm Sewer Line
- Surface Water

DOBNS08-004-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	**5.2**

DOBNS08-004-SO-014	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	0.80 U

DOBNS08-005-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**0.69 J**
PFOS	**6.8**

DOBNS08-005-SO-011	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	1.0 U
PFOS	1.0 U

DOBNS08-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**3.4**

DOBNS08-001-SO-026	
Analyte	Result (µg/kg)
PFBS	0.70 U
PFOA	1.1 U
PFOS	1.1 U

DOBNS08-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	1.0 U
PFOS	**12**

DOBNS08-002-SO-010	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	0.96 U

DOBNS08-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	**1.0 J**
PFOS	**5.8**

DOBNS08-003-SO-005	
Analyte	Result (µg/kg)
PFBS	0.70 U
PFOA	1.1 U
PFOS	1.1 U

DOBNS08-006-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**0.72 J**
PFOS	**16**

DOBNS08-006-SO-014	
Analyte	Result (µg/kg)
PFBS	0.50 UJ
PFOA	0.80 U
PFOS	0.80 U

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SS = surface soil SO = subsurface soil

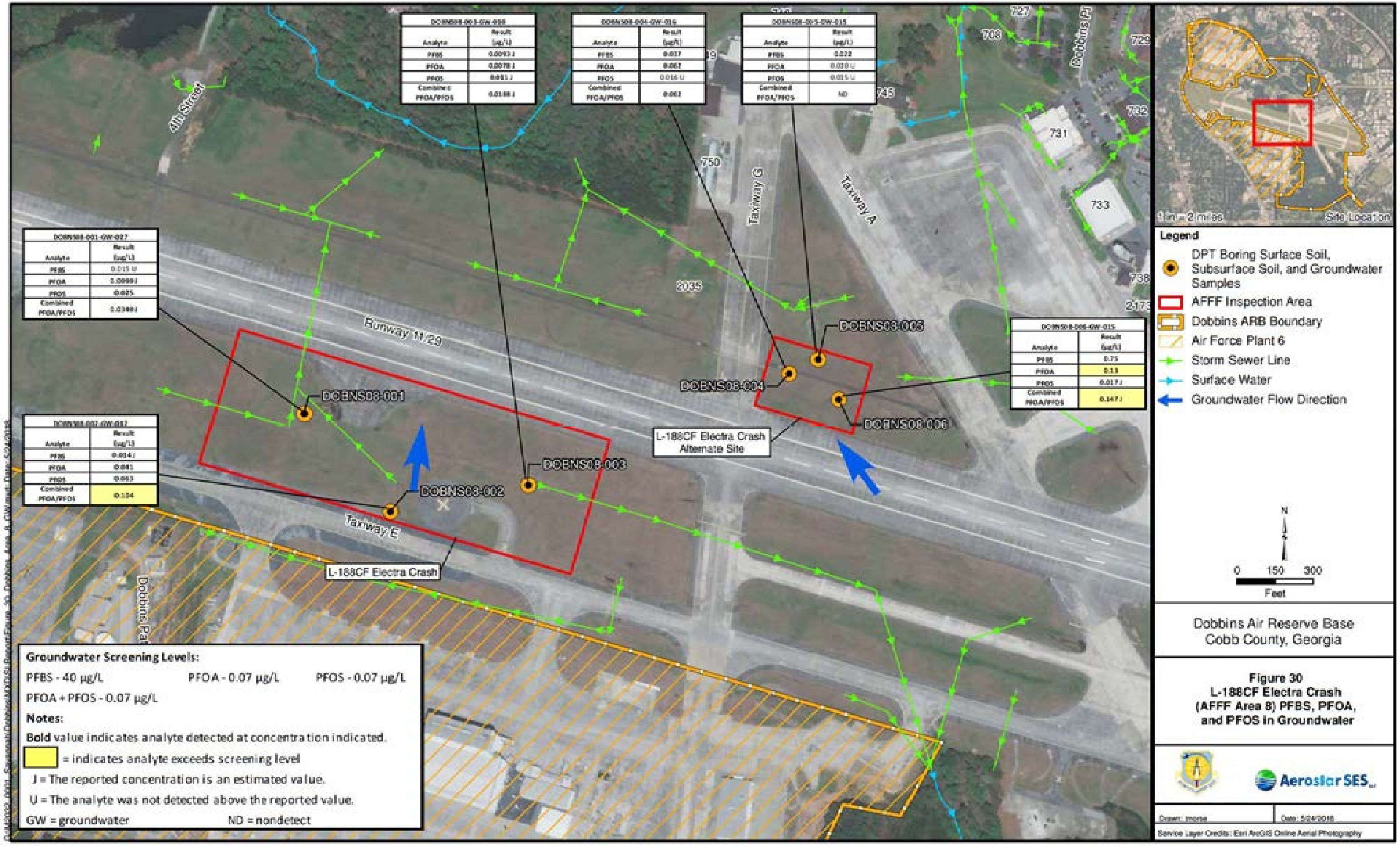
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 29
L-188CF Electra Crash (AFFF Area 8)
PFBS, PFOA, and PFOS
in Soil

AeroStar SES LLC

Drawn: imorse | Date: 5/24/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS08-001-GW-027	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.00989 J
PFOS	0.025
Combined PFOA/PFOS	0.03489 J

DOBNS08-002-GW-032	
Analyte	Result (µg/L)
PFBS	0.014 J
PFOA	0.041
PFOS	0.063
Combined PFOA/PFOS	0.104

DOBNS08-003-GW-030	
Analyte	Result (µg/L)
PFBS	0.0093 J
PFOA	0.0078 J
PFOS	0.011 J
Combined PFOA/PFOS	0.0188 J

DOBNS08-004-GW-016	
Analyte	Result (µg/L)
PFBS	0.037
PFOA	0.062
PFOS	0.016 U
Combined PFOA/PFOS	0.062

DOBNS08-005-GW-015	
Analyte	Result (µg/L)
PFBS	0.022
PFOA	0.020 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS08-006-GW-015	
Analyte	Result (µg/L)
PFBS	0.75
PFOA	0.13
PFOS	0.017 J
Combined PFOA/PFOS	0.147 J

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

GW = groundwater ND = nondetect

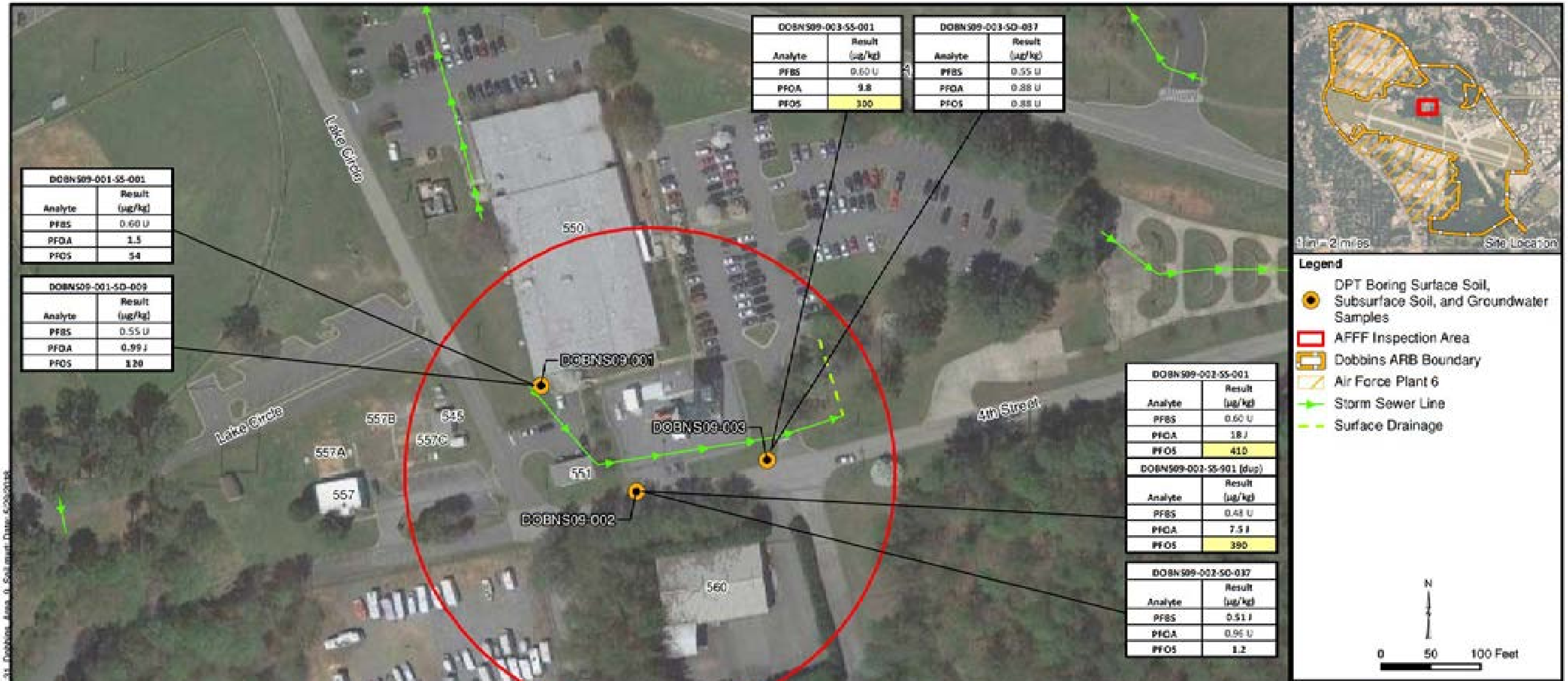
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 30
L-188CF Electra Crash
(AFFF Area 8) PFBS, PFOA,
and PFOS in Groundwater

AerostarSES LLC

Drawn: lmorse Date: 5/24/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- AFFF Inspection Area
- Dobbins ARB Boundary
- Air Force Plant 6
- Storm Sewer Line
- Surface Drainage

DOBNS09-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**1.5**
PFOS	**54**

DOBNS09-001-SD-009	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**0.99 J**
PFOS	**120**

DOBNS09-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**9.8**
PFOS	**300**

DOBNS09-003-SD-037	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS09-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	**18 J**
PFOS	**410**

DOBNS09-002-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	0.48 U
PFOA	**7.5 J**
PFOS	**390**

DOBNS09-002-SD-037	
Analyte	Result (µg/kg)
PFBS	**0.51 J**
PFOA	0.96 U
PFOS	**1.2**

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil SD = subsurface soil dup = duplicate sample

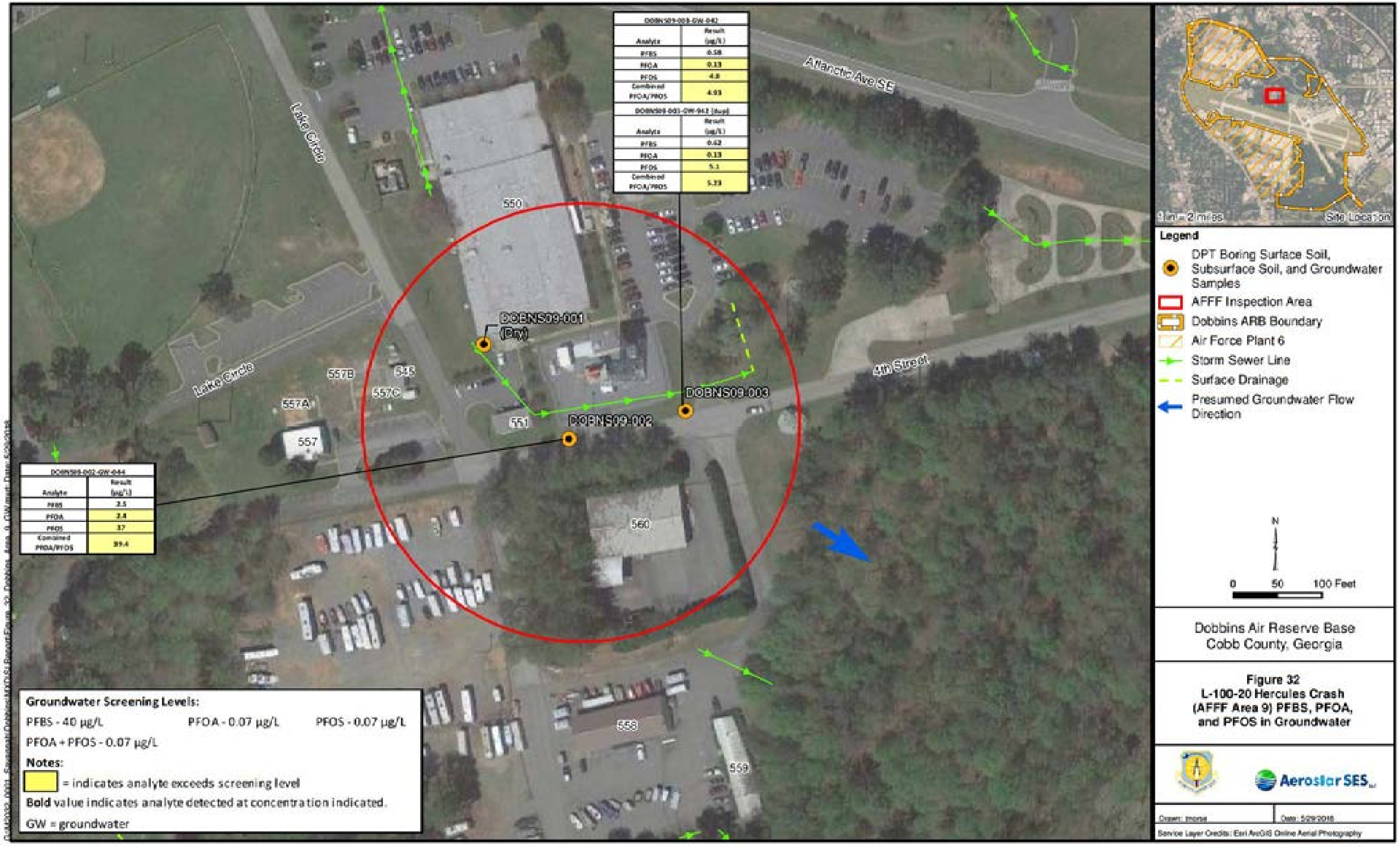
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 31
L-100-20 Hercules Crash (AFFF Area 9)
PFBS, PFOA, and PFOS
Soil

AerostarSES LLC

Drawn: lmorse
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS09-003-GW-042	
Analyte	Result (µg/L)
PFBS	0.58
PFOA	0.13
PFOS	4.8
Combined PFOA/PFOS	4.93

DOBNS09-003-GW-942 (dup)	
Analyte	Result (µg/L)
PFBS	0.62
PFOA	0.13
PFOS	5.1
Combined PFOA/PFOS	5.23

DOBNS09-002-GW-044	
Analyte	Result (µg/L)
PFBS	2.5
PFOA	2.4
PFOS	37
Combined PFOA/PFOS	39.4

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

🟨 = indicates analyte exceeds screening level

Bold value indicates analyte detected at concentration indicated.

GW = groundwater

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- - - Surface Drainage
- ← Presumed Groundwater Flow Direction

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 32
L-100-20 Hercules Crash (AFFF Area 9) PFBS, PFOA, and PFOS in Groundwater

Aerostar SES LLC

Drawn: lmorse | Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

DOBNS10-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	**7.2**

DOBNS10-001-SO-019	
Analyte	Result (µg/kg)
PFBS	0.70 U
PFOA	1.1 U
PFOS	1.1 U

DOBNS10-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**2.9**

DOBNS10-003-SO-024	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS10-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**1.7**
PFOS	**12**

DOBNS10-002-SO-024	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U
DOBNS10-002-SO-024 (dup)	
Analyte	Result (µg/kg)
PFBS	0.75 U
PFOA	1.2 U
PFOS	1.2 U

Soil Screening Levels:

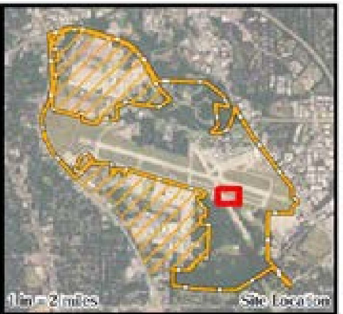
PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

U = The analyte was not detected above the reported value.

SS = surface soil SO = subsurface soil dup = duplicate sample



Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- - - Surface Drainage

N

0 45 90

Feet

Dobbins Air Reserve Base
Cobb County, Georgia

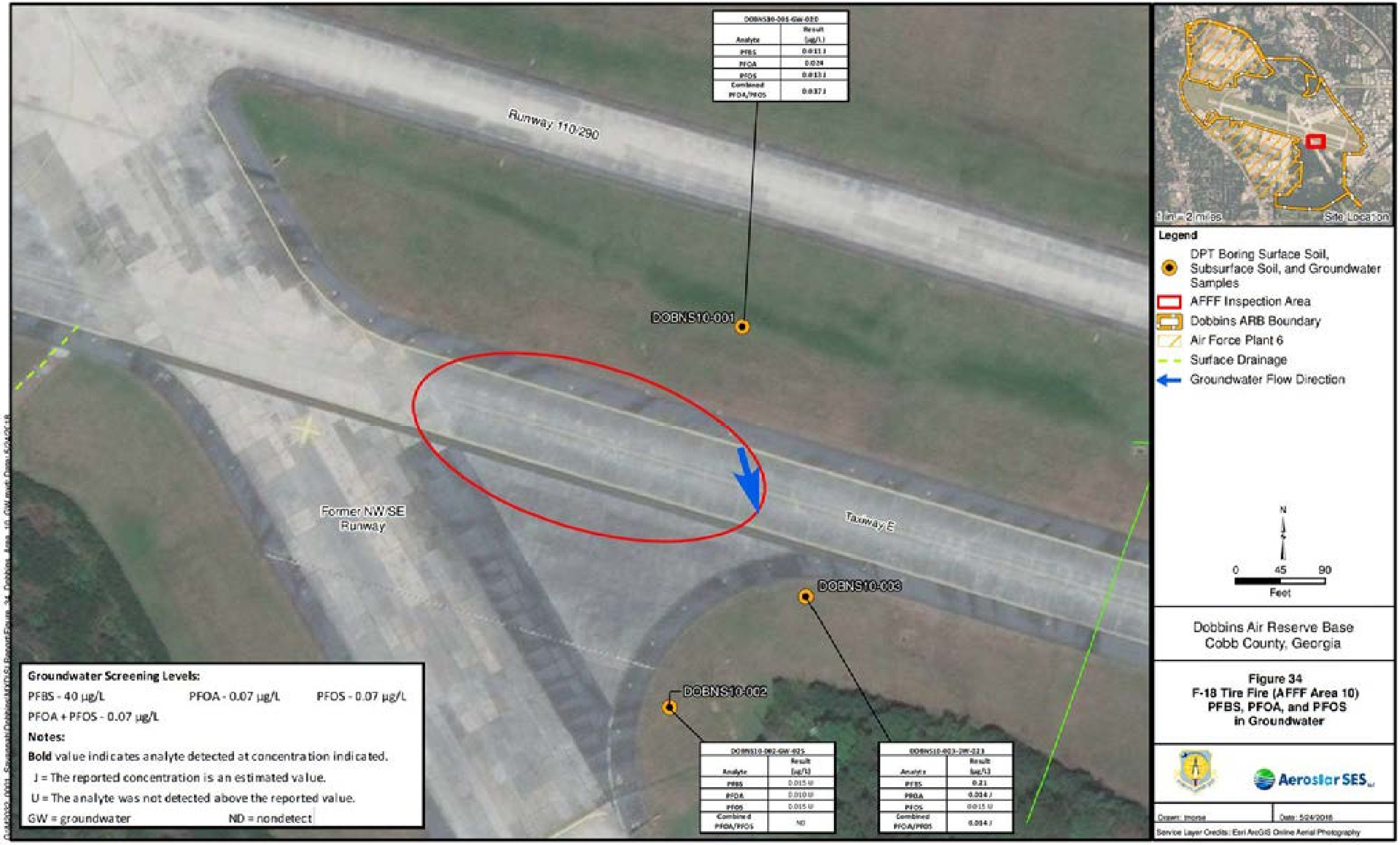
Figure 33
F-18 Tire Fire (AFFF Area 10)
PFBS, PFOA, and PFOS
in Soil

Aerostar SES LLC

Drawn: [illegible]

Date: 5/10/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS10-001-GW-020	
Analyte	Result (µg/L)
PFBS	**0.011 J**
PFOA	**0.024**
PFOS	**0.013 J**
Combined PFOA/PFOS	**0.037 J**

DOBNS10-002-GW-025	
Analyte	Result (µg/L)
PFBS	0.015 U
PFOA	0.010 U
PFOS	0.015 U
Combined PFOA/PFOS	ND

DOBNS10-003-GW-023	
Analyte	Result (µg/L)
PFBS	**0.21**
PFOA	**0.014 J**
PFOS	0.015 U
Combined PFOA/PFOS	**0.014 J**

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

GW = groundwater ND = nondetect

Legend

● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples

🟥 AFFF Inspection Area

Dobbins ARB Boundary

▨ Air Force Plant 6

Surface Drainage

← Groundwater Flow Direction

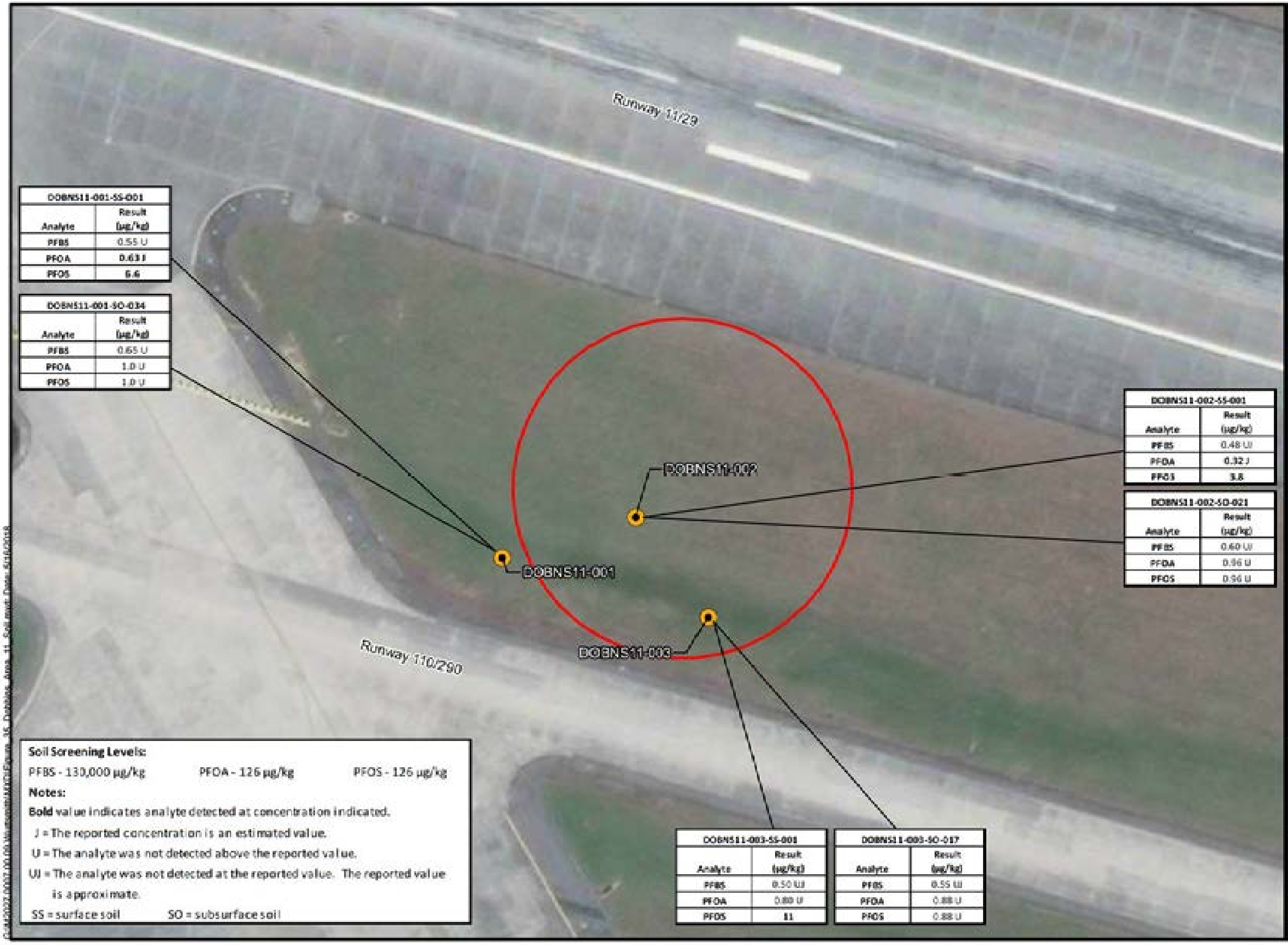
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 34
F-18 Tire Fire (AFFF Area 10)
PFBS, PFOA, and PFOS
in Groundwater

AerostarSES LLC

Drawn: lmorse Date: 5/24/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS11-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**0.63 J**
PFOS	**6.6**

DOBNS11-001-SO-034	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	1.0 U
PFOS	1.0 U

DOBNS11-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.48 UJ
PFOA	**0.32 J**
PFOS	**3.8**

DOBNS11-002-SO-021	
Analyte	Result (µg/kg)
PFBS	0.60 UJ
PFOA	0.96 U
PFOS	0.96 U

DOBNS11-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.50 UJ
PFOA	0.80 U
PFOS	**11**

DOBNS11-003-SO-017	
Analyte	Result (µg/kg)
PFBS	0.55 UJ
PFOA	0.88 U
PFOS	0.88 U

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

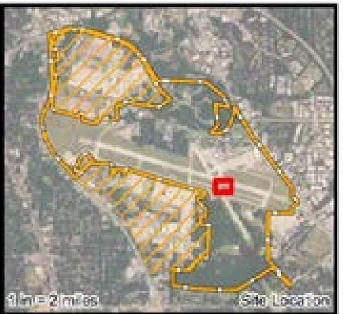
Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SS = surface soil SO = subsurface soil



Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6

N

0 35 70
Feet

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 35
E-2 Tire Fire (AFFF Area 11)
PFBS, PFOA, and PFOS
in Soil

Aerostar SES LLC

Drawn: Lhatzke Date: 5/16/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

DOBNS11-002-GW-002	
Analyte	Result (µg/L)
PFBS	0.010 J
PFOA	**0.024**
PFOS	0.015 U
Combined PFOA/PFOS	**0.024**

DOBNS11-001-GW-004	
Analyte	Result (µg/L)
PFBS	0.011 J
PFOA	0.010 J
PFOS	**0.021**
Combined PFOA/PFOS	0.031 J

DOBNS11-003-GW-018	
Analyte	Result (µg/L)
PFBS	0.012 J
PFOA	**0.023**
PFOS	0.020 J
Combined PFOA/PFOS	0.041 J

DOBNS11-003-GW-018 (dup)	
Analyte	Result (µg/L)
PFBS	0.010 J
PFOA	**0.020**
PFOS	0.017 J
Combined PFOA/PFOS	0.037 J

Groundwater Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

GW = groundwater

Legend

● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples

🟥 AFFF Inspection Area

▭ Dobbins ARB Boundary

▨ Air Force Plant 6

← Groundwater Flow Direction

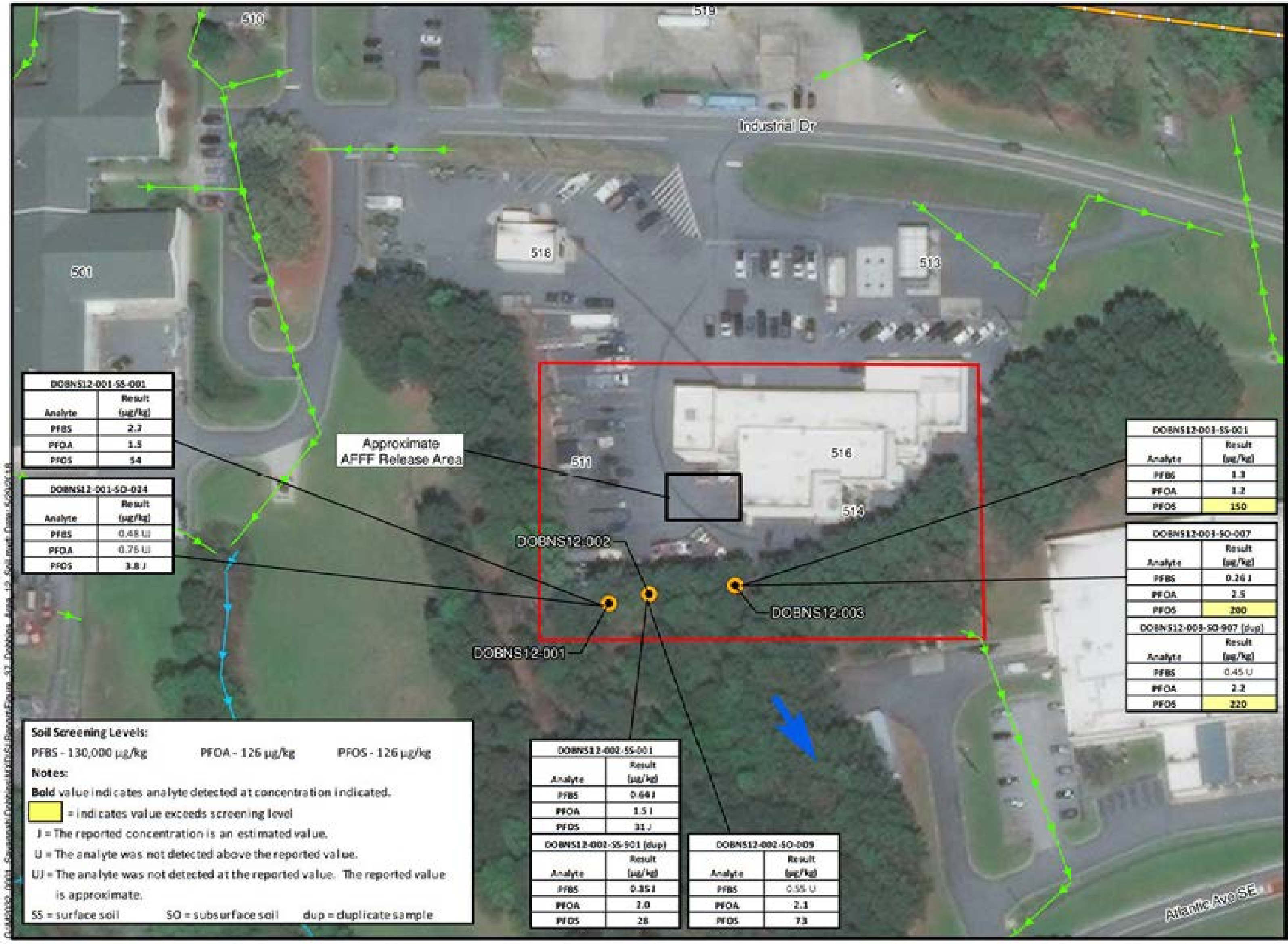
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 36
E-2 Tire Fire (AFFF Area 11)
PFBS, PFOA, and PFOS
in Groundwater

AerostarSES LLC

Drawn: lmorse | Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS12-001-SS-001	
Analyte	Result (µg/kg)
PFBS	2.7
PFOA	1.5
PFOS	54

DOBNS12-001-SO-024	
Analyte	Result (µg/kg)
PFBS	0.48 UJ
PFOA	0.76 UJ
PFOS	3.8 J

DOBNS12-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.64 J
PFOA	1.5 J
PFOS	31 J
DOBNS12-002-SS-901 (dup)	
Analyte	Result (µg/kg)
PFBS	0.35 J
PFOA	2.0
PFOS	28

DOBNS12-002-SO-009	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	2.1
PFOS	73

DOBNS12-003-SS-001	
Analyte	Result (µg/kg)
PFBS	1.3
PFOA	1.2
PFOS	150

DOBNS12-003-SO-007	
Analyte	Result (µg/kg)
PFBS	0.26 J
PFOA	2.5
PFOS	200
DOBNS12-003-SO-907 (dup)	
Analyte	Result (µg/kg)
PFBS	0.45 U
PFOA	2.2
PFOS	220

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates value exceeds screening level

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SS = surface soil SO = subsurface soil dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ☐ AFFF Inspection Area
- ☐ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- → Surface Water
- ← Presumed Groundwater Flow Direction

N

0 40 80 Feet

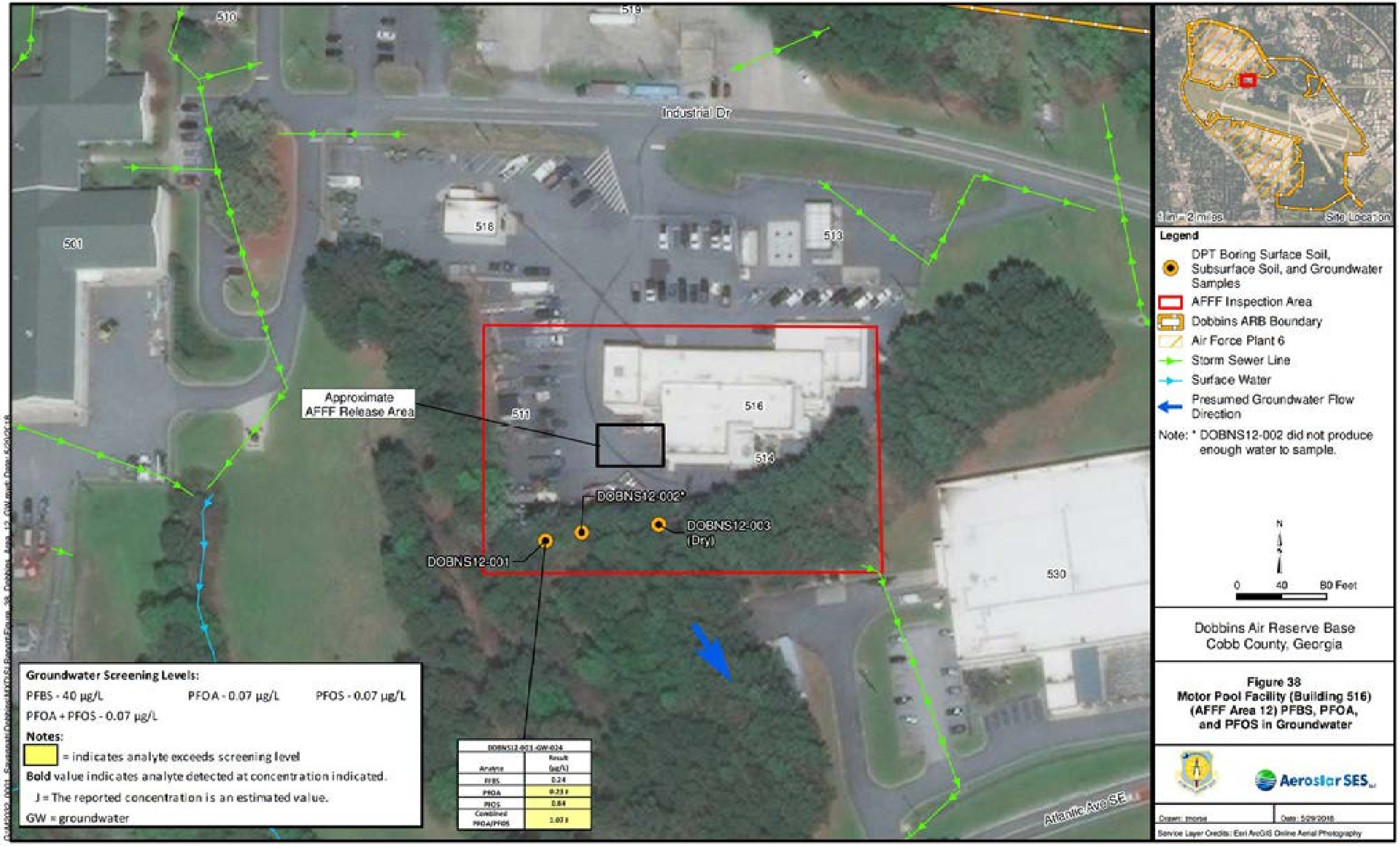
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 37
Motor Pool Facility (Building 516) (AFFF Area 12) PFBS, PFOA, and PFOS in Soil

AerostarSES LLC

Drawn: lmorse Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



Legend

● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples

🟥 AFFF Inspection Area

Dobbins ARB Boundary

Air Force Plant 6

Storm Sewer Line

Surface Water

Presumed Groundwater Flow Direction

Note: * DOBNS12-002 did not produce enough water to sample.

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 38
Motor Pool Facility (Building 516)
(AFFF Area 12) PFBS, PFOA,
and PFOS in Groundwater

Drawn: imorse
Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

DOBNS12-001-GW-024	
Analyte	Result (µg/L)
PFBS	0.24
PFOA	**0.23 J**
PFOS	**0.84**
Combined PFOA/PFOS	**1.07 J**

Groundwater Screening Levels:

PFBS - 40 µg/L
PFOA - 0.07 µg/L
PFOS - 0.07 µg/L
PFOA + PFOS - 0.07 µg/L

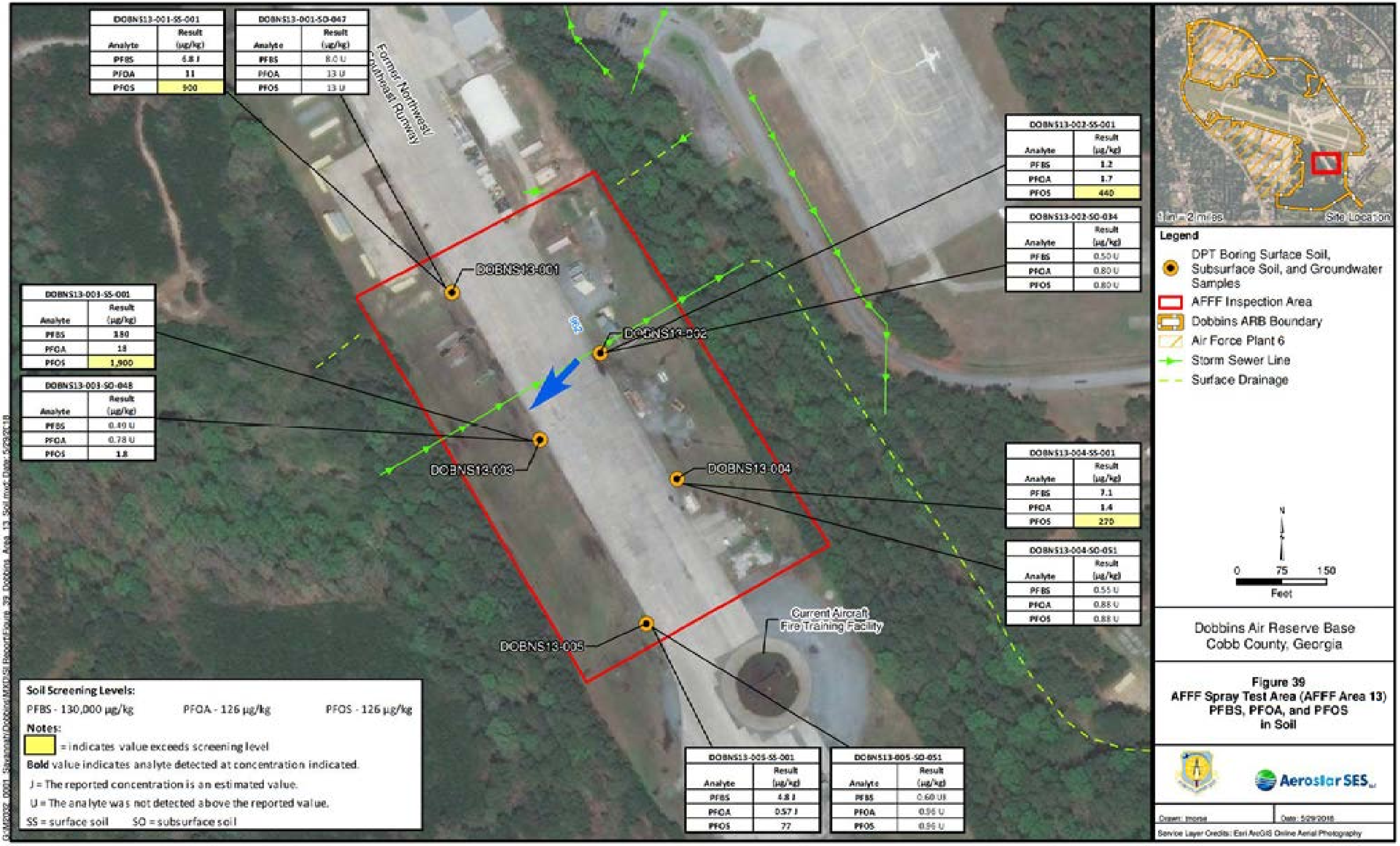
Notes:

🟨 = indicates analyte exceeds screening level

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

GW = groundwater



DOBNS13-001-SS-001	
Analyte	Result (µg/kg)
PFBS	6.8 J
PFOA	11
PFOS	900

DOBNS13-001-SO-047	
Analyte	Result (µg/kg)
PFBS	8.0 U
PFOA	13 U
PFOS	13 U

DOBNS13-003-SS-001	
Analyte	Result (µg/kg)
PFBS	180
PFOA	18
PFOS	1,900

DOBNS13-003-SO-048	
Analyte	Result (µg/kg)
PFBS	0.49 U
PFOA	0.78 U
PFOS	1.8

DOBNS13-002-SS-001	
Analyte	Result (µg/kg)
PFBS	1.2
PFOA	1.7
PFOS	440

DOBNS13-002-SO-034	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	0.80 U

DOBNS13-004-SS-001	
Analyte	Result (µg/kg)
PFBS	7.1
PFOA	1.4
PFOS	270

DOBNS13-004-SO-051	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS13-005-SS-001	
Analyte	Result (µg/kg)
PFBS	4.8 J
PFOA	0.57 J
PFOS	77

DOBNS13-005-SO-051	
Analyte	Result (µg/kg)
PFBS	0.60 UJ
PFOA	0.96 U
PFOS	0.96 U

Soil Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

🟨 = indicates value exceeds screening level

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

SS = surface soil SO = subsurface soil

Dobbins Air Reserve Base
Cobb County, Georgia

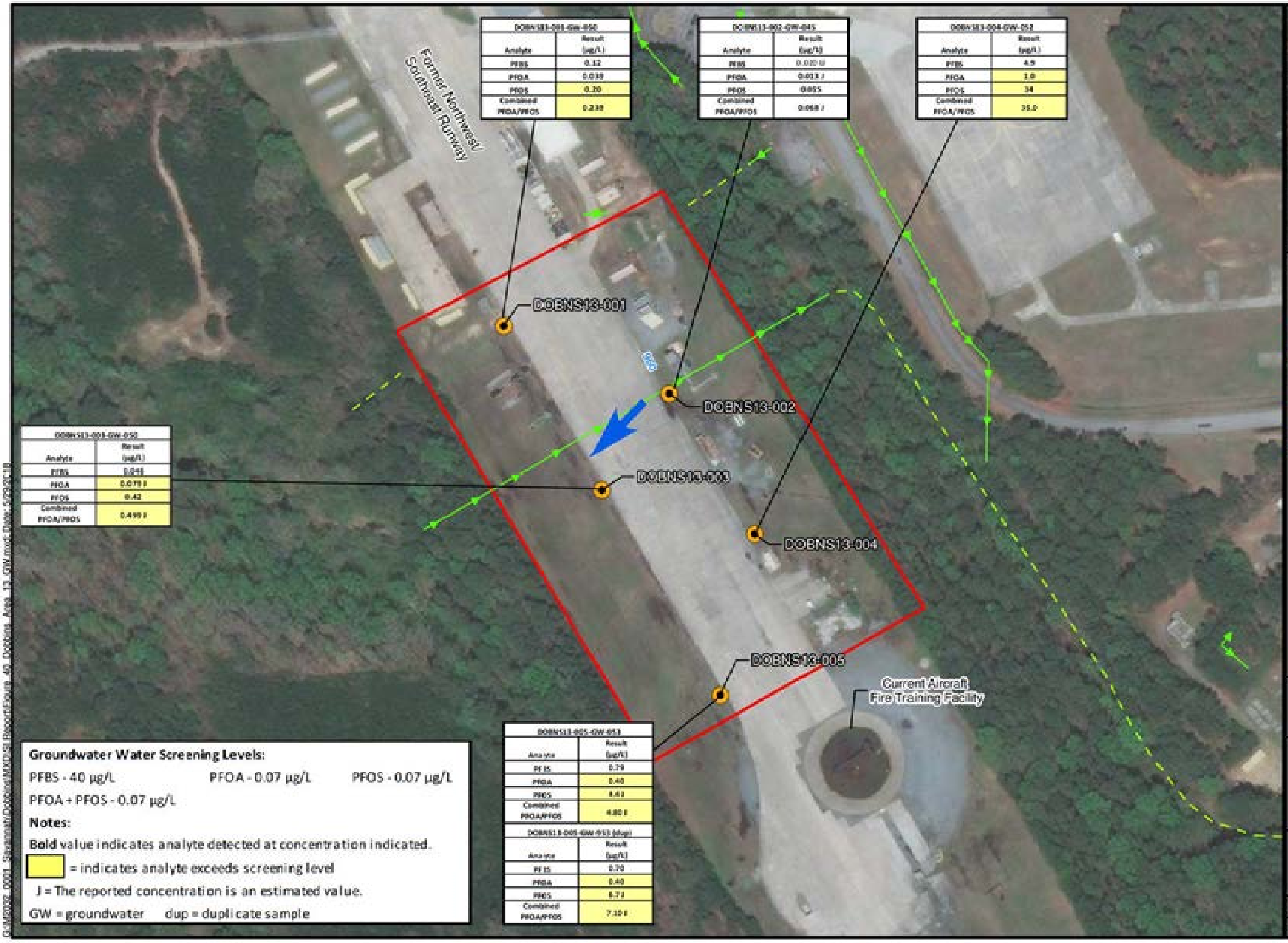
Figure 39
AFFF Spray Test Area (AFFF Area 13)
PFBS, PFOA, and PFOS
in Soil

AerostarSES

Drawn: lmorse Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure_39_Dobbins_Area_13_Soil.mxd Date: 5/29/2018



DOBNS13-001-GW-050

Analyte	Result (µg/L)
PFBS	0.12
PFOA	0.019
PFOS	0.20
Combined PFOA/PFOS	0.219

DOBNS13-002-GW-045

Analyte	Result (µg/L)
PFBS	0.020 U
PFOA	0.013 J
PFOS	0.055
Combined PFOA/PFOS	0.068 J

DOBNS13-004-GW-052

Analyte	Result (µg/L)
PFBS	4.9
PFOA	1.0
PFOS	34
Combined PFOA/PFOS	35.0

DOBNS13-003-GW-050

Analyte	Result (µg/L)
PFBS	0.048
PFOA	0.079 J
PFOS	0.42
Combined PFOA/PFOS	0.499 J

DOBNS13-005-GW-053

Analyte	Result (µg/L)
PFBS	0.79
PFOA	0.40
PFOS	4.40
Combined PFOA/PFOS	4.80 J

DOBNS13-005-GW-953 (dup)

Analyte	Result (µg/L)
PFBS	0.70
PFOA	0.40
PFOS	6.70
Combined PFOA/PFOS	7.10 J

Groundwater Water Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

J = The reported concentration is an estimated value.

GW = groundwater dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- - - Surface Drainage
- ← Groundwater Flow Direction

Dobbins Air Reserve Base
Cobb County, Georgia

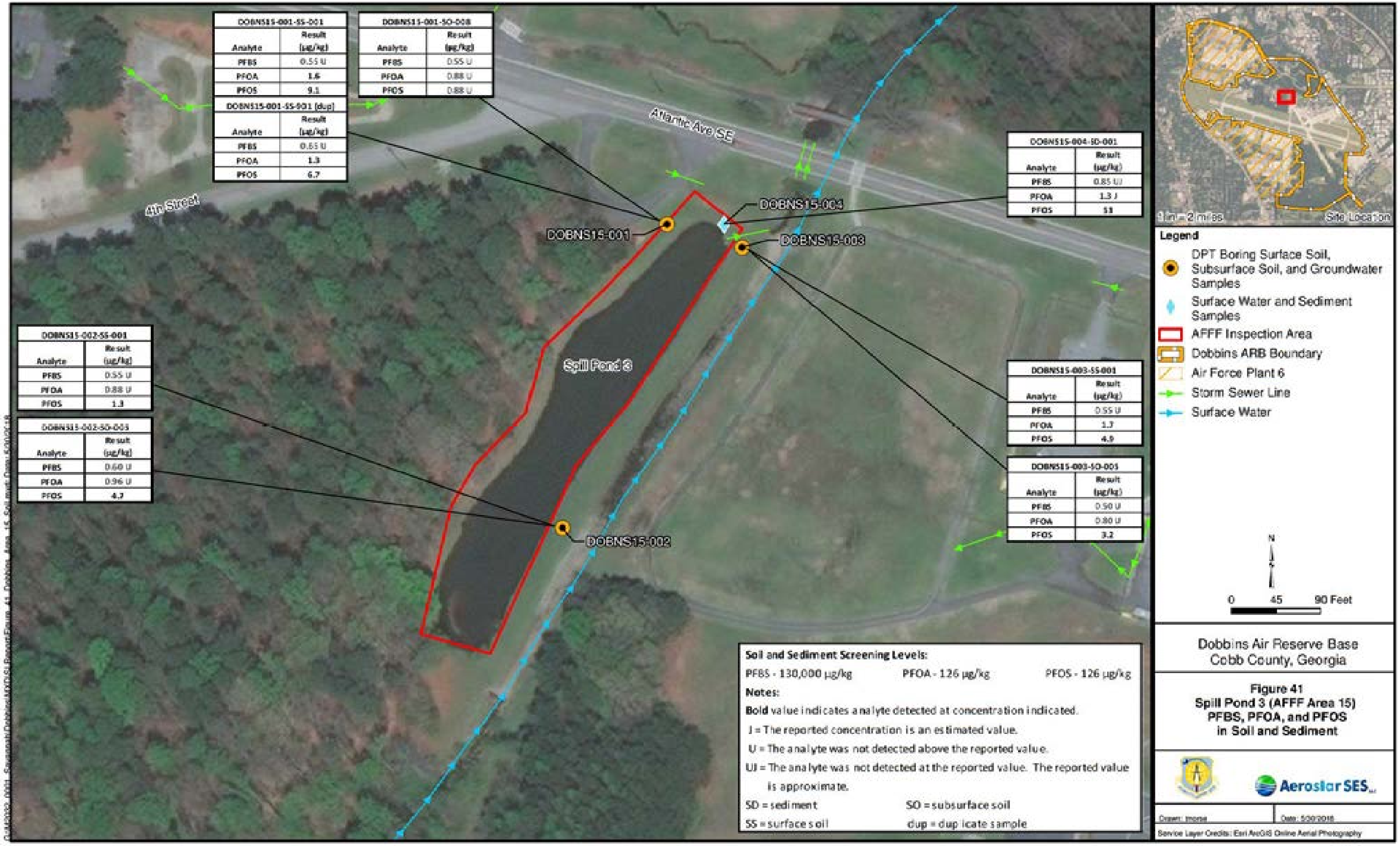
Figure 40
AFFF Spray Test Area (AFFF Area 13) PFBS, PFOA, and PFOS in Groundwater

Aerostar SES LLC

Drawn: lmorse	Date: 5/29/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\SI Report\Figure 40_Dobbins_Area_13_GW.mxd Date: 5/29/2018



DOBNS15-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**1.6**
PFOS	**9.1**

DOBNS15-001-SS-001 (dup)	
Analyte	Result (µg/kg)
PFBS	0.65 U
PFOA	**1.3**
PFOS	**6.7**

DOBNS15-001-SO-008	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	0.88 U

DOBNS15-004-SD-001	
Analyte	Result (µg/kg)
PFBS	0.85 UJ
PFOA	**1.3 J**
PFOS	**53**

DOBNS15-002-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	0.88 U
PFOS	**1.3**

DOBNS15-002-SO-003	
Analyte	Result (µg/kg)
PFBS	0.60 U
PFOA	0.96 U
PFOS	**4.7**

DOBNS15-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**1.7**
PFOS	**4.9**

DOBNS15-003-SO-003	
Analyte	Result (µg/kg)
PFBS	0.50 U
PFOA	0.80 U
PFOS	**3.2**

Soil and Sediment Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SD = sediment SO = subsurface soil

SS = surface soil dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ◆ Surface Water and Sediment Samples
- ☐ AFFF Inspection Area
- ☐ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- → Surface Water

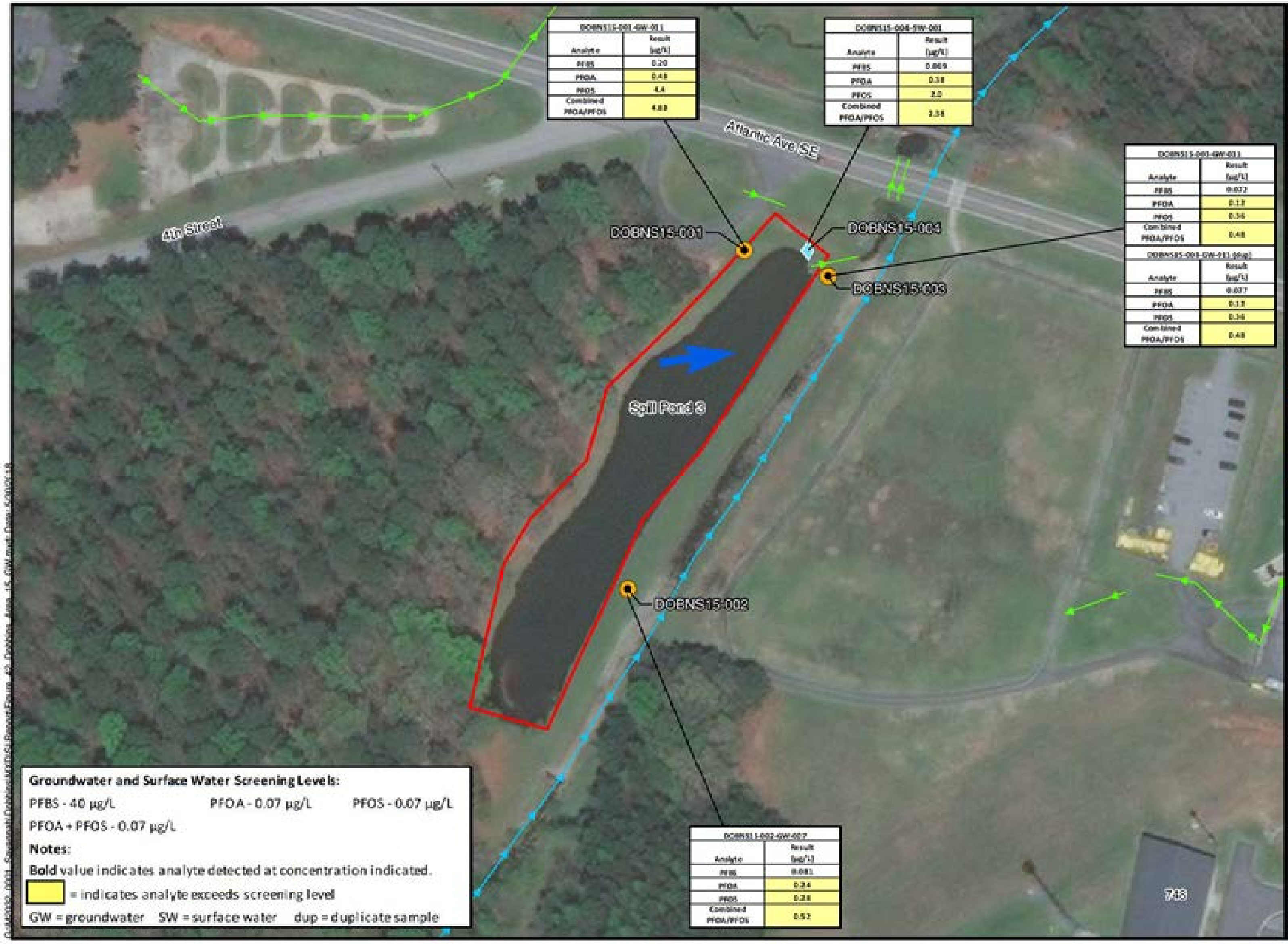
Dobbins Air Reserve Base
Cobb County, Georgia

Figure 41
Spill Pond 3 (AFFF Area 15) PFBS, PFOA, and PFOS in Soil and Sediment

Aerostar SES LLC

Drawn: lmorse
Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



DOBNS15-001-GW-011	
Analyte	Result (µg/L)
PFBS	0.20
PFOA	0.48
PFOS	4.4
Combined PFOA/PFOS	4.88

DOBNS15-004-SW-001	
Analyte	Result (µg/L)
PFBS	0.069
PFOA	0.38
PFOS	2.0
Combined PFOA/PFOS	2.38

DOBNS15-003-GW-011	
Analyte	Result (µg/L)
PFBS	0.072
PFOA	0.12
PFOS	0.36
Combined PFOA/PFOS	0.48

DOBNS15-003-GW-011 (dup)	
Analyte	Result (µg/L)
PFBS	0.077
PFOA	0.12
PFOS	0.36
Combined PFOA/PFOS	0.48

DOBNS15-002-GW-007	
Analyte	Result (µg/L)
PFBS	0.081
PFOA	0.24
PFOS	0.28
Combined PFOA/PFOS	0.52

Groundwater and Surface Water Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

GW = groundwater SW = surface water dup = duplicate sample

Legend

- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ◆ Surface Water and Sediment Samples
- ☐ AFFF Inspection Area
- ☐ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- → Storm Sewer Line
- → Surface Water
- ← Groundwater Flow Direction

N

0 45 90 Feet

Dobbins Air Reserve Base
Cobb County, Georgia

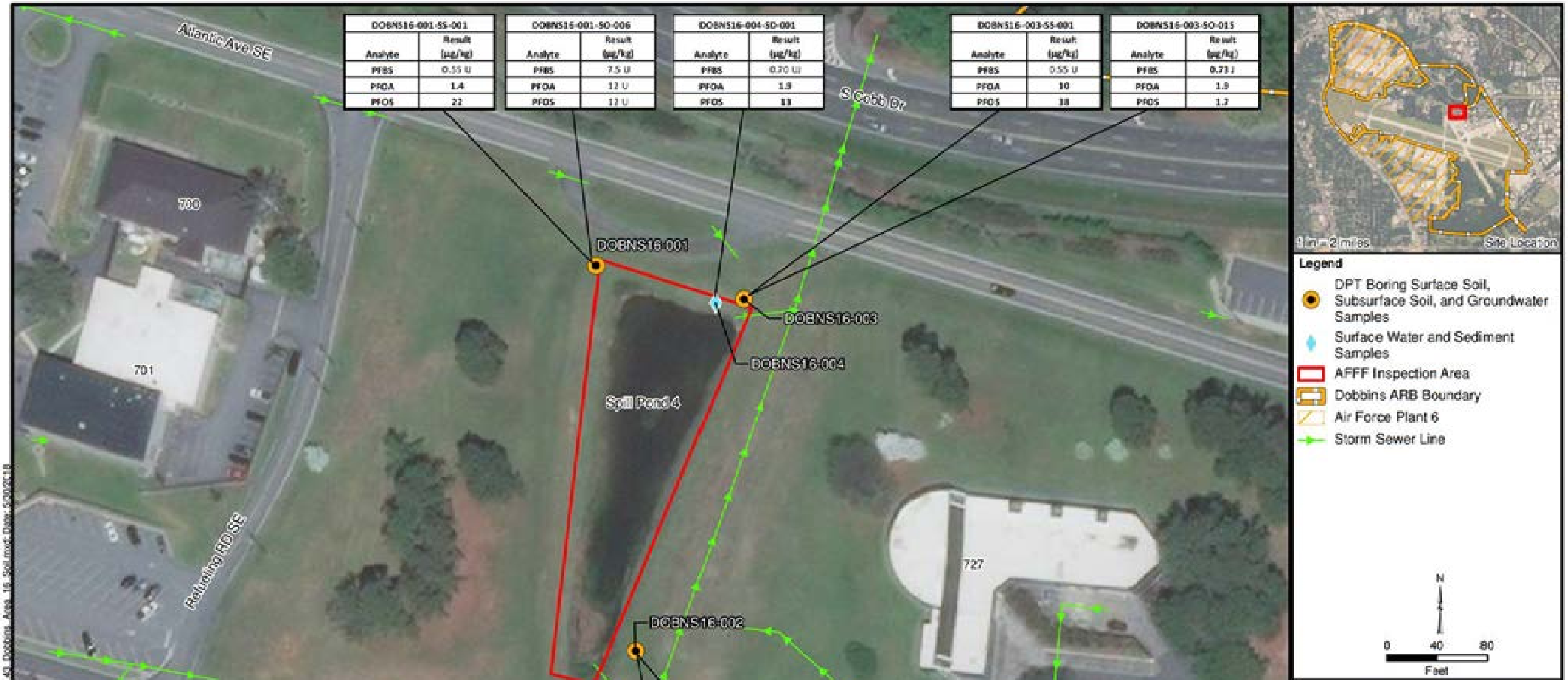
Figure 42
Spill Pond 3
(AFFF Area 15) PFBS, PFOA,
and PFOS in Groundwater
and Surface Water

Aerostar SES LLC

Drawn: Imorse

Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography



Legend
- ● DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
- ♦ Surface Water and Sediment Samples
- 🟥 AFFF Inspection Area
- ▭ Dobbins ARB Boundary
- ▨ Air Force Plant 6
- ➝ Storm Sewer Line

DOBNS16-001-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**1.4**
PFOS	**22**

DOBNS16-001-SO-006	
Analyte	Result (µg/kg)
PFBS	7.5 U
PFOA	12 U
PFOS	12 U

DOBNS16-004-SD-001	
Analyte	Result (µg/kg)
PFBS	0.70 UJ
PFOA	**1.9**
PFOS	**13**

DOBNS16-003-SS-001	
Analyte	Result (µg/kg)
PFBS	0.55 U
PFOA	**10**
PFOS	**18**

DOBNS16-003-SO-015	
Analyte	Result (µg/kg)
PFBS	**0.71 J**
PFOA	**1.9**
PFOS	**1.2**

DOBNS16-002-SS-001	
Analyte	Result (µg/kg)
PFBS	**0.63 J**
PFOA	**1.3**
PFOS	**60**

DOBNS16-002-SO-006	
Analyte	Result (µg/kg)
PFBS	**0.48 J**
PFOA	**7.6**
PFOS	**75**

Soil and Sediment Screening Levels:

PFBS - 130,000 µg/kg PFOA - 126 µg/kg PFOS - 126 µg/kg

Notes:

Bold value indicates analyte detected at concentration indicated.

J = The reported concentration is an estimated value.

U = The analyte was not detected above the reported value.

UJ = The analyte was not detected at the reported value. The reported value is approximate.

SS = surface soil SO = subsurface soil SD = sediment

Dobbins Air Reserve Base
Cobb County, Georgia

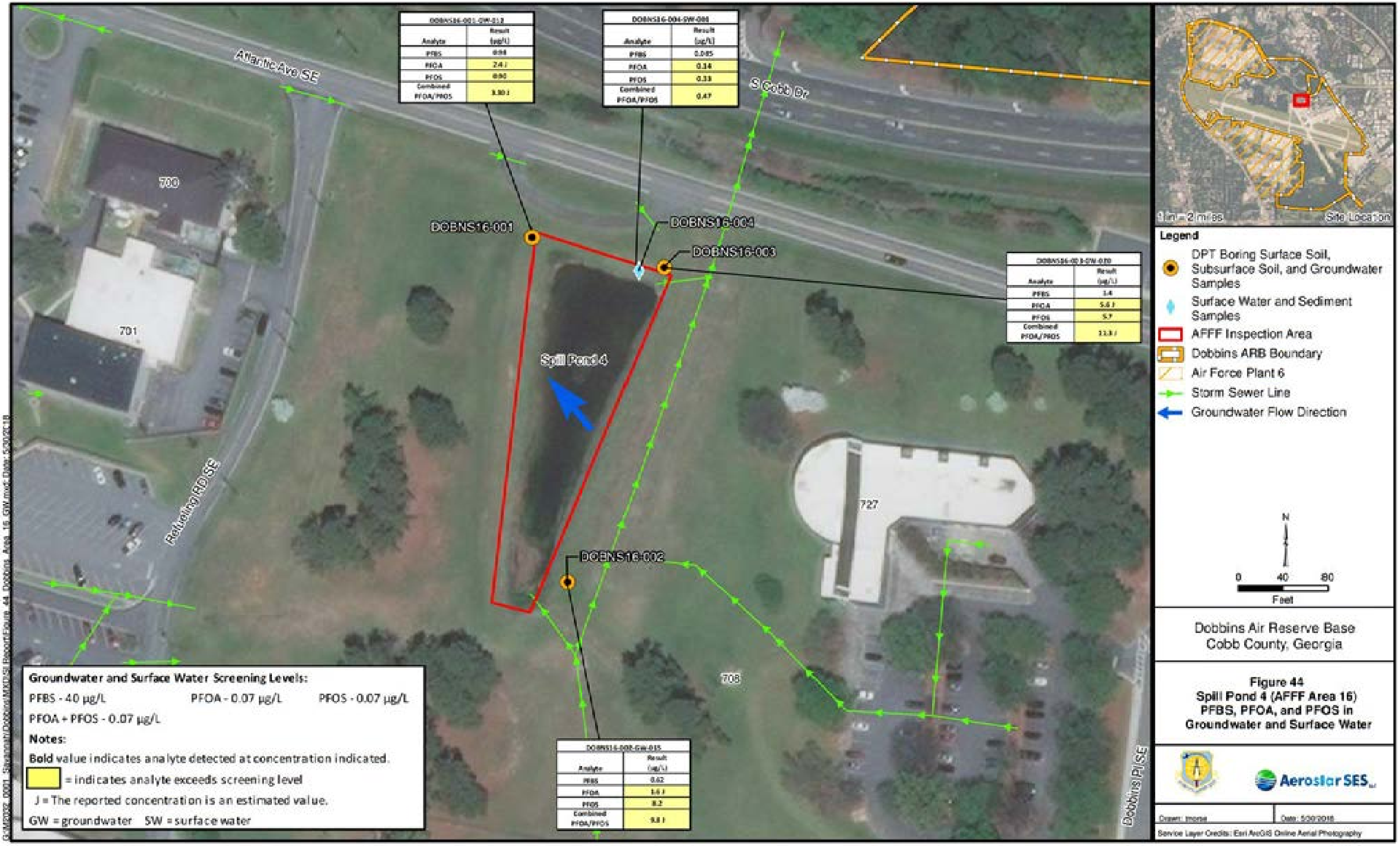
Figure 43
Spill Pond 4 (AFFF Area 16) PFBS, PFOA, and PFOS in Soil and Sediment

AerostarSES LLC

Drawn: mporse
Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXDs\Report\Figure_43_Dobbins_Area_16_Soil.mxd Date: 5/30/2018



DOBNS16-001-GW-012	
Analyte	Result (µg/L)
PFBS	0.98
PFOA	2.4 J
PFOS	0.90
Combined PFOA/PFOS	3.30 J

DOBNS16-004-SW-008	
Analyte	Result (µg/L)
PFBS	0.085
PFOA	0.14
PFOS	0.33
Combined PFOA/PFOS	0.47

DOBNS16-003-GW-020	
Analyte	Result (µg/L)
PFBS	1.4
PFOA	5.6 J
PFOS	5.7
Combined PFOA/PFOS	11.3 J

DOBNS16-002-GW-015	
Analyte	Result (µg/L)
PFBS	0.62
PFOA	1.6 J
PFOS	8.2
Combined PFOA/PFOS	9.8 J

Groundwater and Surface Water Screening Levels:

PFBS - 40 µg/L PFOA - 0.07 µg/L PFOS - 0.07 µg/L

PFOA + PFOS - 0.07 µg/L

Notes:

Bold value indicates analyte detected at concentration indicated.

🟨 = indicates analyte exceeds screening level

J = The reported concentration is an estimated value.

GW = groundwater SW = surface water

Legend

●	DPT Boring Surface Soil, Subsurface Soil, and Groundwater Samples
◆	Surface Water and Sediment Samples
🟥	AFFF Inspection Area
▭	Dobbins ARB Boundary
▨	Air Force Plant 6
→	Storm Sewer Line
←	Groundwater Flow Direction

Dobbins Air Reserve Base
Cobb County, Georgia

Figure 44
Spill Pond 4 (AFFF Area 16)
PFBS, PFOA, and PFOS in
Groundwater and Surface Water

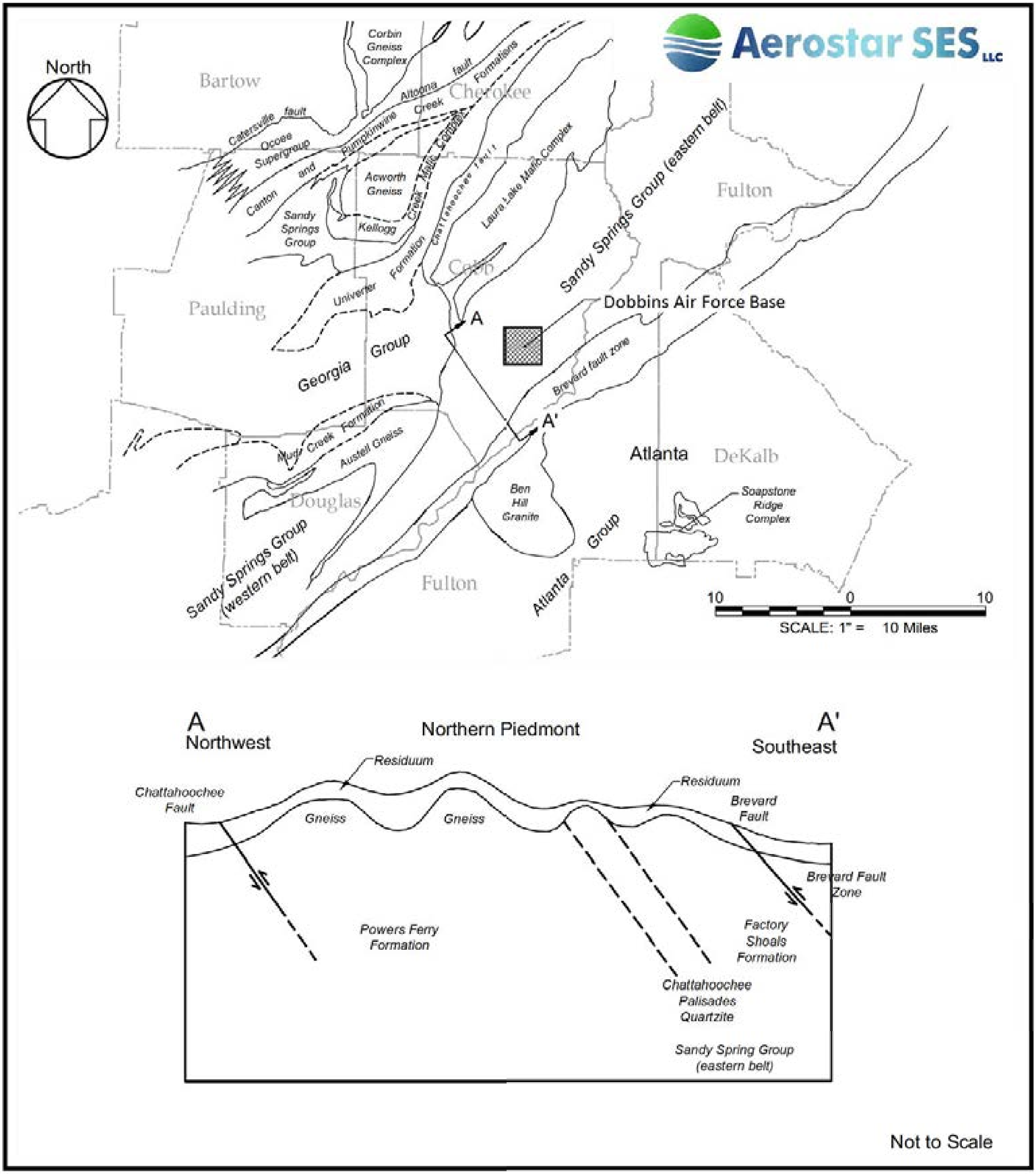
AerostarSES LLC

Drawn: jmoore | Date: 5/30/2018

Service Layer Credits: Esri ArcGIS Online Aerial Photography

G:\M2032_0001_Savannah\Dobbins\MXD\SI Report\Figure 44 Dobbins Area 16 GW.mxd Date: 5/30/2018

Aerostar SES LLC



Legend

⇅	Fault
– – –	Gradational Contact Between Geologic Units

Source: Black & Veatch Waste Science, Inc. March 1994

Figure 45 Conceptual Geologic Cross-Section

Dobbins Air Force Base, Cobb County, Georgia

R:\Projects\M2032.0001 Site Insp of AFFF Areas (Savannah Dist)\Dobbins Air Reserve Base\Graphics\Dobbins AFB Geology Section.dwg

Appendix B

RSL Calculation

Default
Resident Equation Inputs for Soil

Variable	Value
THQ (target hazard quotient) unitless	0.1
TR (target risk) unitless	1E-06
LT (lifetime) years	70
ET_{res} (exposure time) hours/day	24
ET_{res-c} (child exposure time) hours/day	24
ET_{res-a} (adult exposure time) hours/day	24
ET_{0-2} (mutagenic exposure time) hours/day	24
ET_{2-6} (mutagenic exposure time) hours/day	24
ET_{6-16} (mutagenic exposure time) hours/day	24
ET_{16-26} (mutagenic exposure time) hours/day	24
ED_{res} (exposure duration) years	26
ED_{res-c} (exposure duration - child) years	6
ED_{res-a} (exposure duration - adult) years	20
ED_{0-2} (mutagenic exposure duration) years	2
ED_{2-6} (mutagenic exposure duration) years	4
ED_{6-16} (mutagenic exposure duration) years	10
ED_{16-26} (mutagenic exposure duration) years	10
BW_{res-c} (body weight - child) kg	15
BW_{res-a} (body weight - adult) kg	80
BW_{0-2} (mutagenic body weight) kg	15
BW_{2-6} (mutagenic body weight) kg	15
BW_{6-16} (mutagenic body weight) kg	80
BW_{16-26} (mutagenic body weight) kg	80
SA_{res-c} (skin surface area - child) cm ^{2}/day	2373
SA_{res-a} (skin surface area - adult) cm ^{2}/day	6032
SA_{0-2} (mutagenic skin surface area) cm ^{2}/day	2373
SA_{2-6} (mutagenic skin surface area) cm ^{2}/day	2373
SA_{6-16} (mutagenic skin surface area) cm ^{2}/day	6032
SA_{16-26} (mutagenic skin surface area) cm ^{2}/day	6032
EF_{res} (exposure frequency) days/year	350
EF_{res-c} (exposure frequency - child) days/year	350
EF_{res-a} (exposure frequency - adult) days/year	350

Output generated 15FEB2018:16:21:12

Default
Resident Equation Inputs for Soil

Variable	Value
EF_{0-2} (mutagenic exposure frequency) days/year	350
EF_{2-6} (mutagenic exposure frequency) days/year	350
EF_{6-16} (mutagenic exposure frequency) days/year	350
EF_{16-26} (mutagenic exposure frequency) days/year	350
$IFS_{res-adj}$ (age-adjusted soil ingestion factor) mg/kg	36750
$IFSM_{res-mut}$ (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.3
IRS_{res-c} (soil intake rate - child) mg/day	200
IRS_{res-a} (soil intake rate - adult) mg/day	100
IRS_{0-2} (mutagenic soil intake rate) mg/day	200
IRS_{2-6} (mutagenic soil intake rate) mg/day	200
IRS_{6-16} (mutagenic soil intake rate) mg/day	100
IRS_{16-26} (mutagenic soil intake rate) mg/day	100
AF_{res-a} (skin adherence factor - adult) mg/cm^2	0.07
AF_{res-c} (skin adherence factor - child) mg/cm^2	0.2
AF_{0-2} (mutagenic skin adherence factor) mg/cm^2	0.2
AF_{2-6} (mutagenic skin adherence factor) mg/cm^2	0.2
AF_{6-16} (mutagenic skin adherence factor) mg/cm^2	0.07
AF_{16-26} (mutagenic skin adherence factor) mg/cm^2	0.07
$DFS_{res-adj}$ (age-adjusted soil dermal factor) mg/kg	103390
$DFSM_{res-mut}$ (mutagenic age-adjusted soil dermal factor) mg/kg	428260
AT_{res} (averaging time - resident carcinogenic)	365
$City_{PEF}$ (Climate Zone) Selection	Default
A_s (PEF acres)	0.5
Q/C_{wind} (g/m^2-s per kg/m^3)	93.77
PEF (particulate emission factor) m^3/kg	1359344438
A (PEF Dispersion Constant)	16.2302
B (PEF Dispersion Constant)	18.7762
C (PEF Dispersion Constant)	216.108
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.69
U_t (equivalent threshold value)	11.32
F(x) (function dependent on U_m/U_t) unitless	0.194

Output generated 15FEB2018:16:21:12

Default

Resident Equation Inputs for Soil

Variable	Value
$City_{vf}$ (Climate Zone) Selection	Default
A_s (VF acres)	0.5
Q/C_{vol} (g/m²-s per kg/m³)	68.18
foc (fraction organic carbon in soil) g/g	0.006
p_b (dry soil bulk density) g/cm³	1.5
p_s (soil particle density) g/cm³	2.65
n (total soil porosity) L_{pore}/L_{soil}	0.43396
$Theta_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396
$Theta_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	819936000
A (VF Dispersion Constant)	11.911
B (VF Dispersion Constant)	18.4385
C (VF Dispersion Constant)	209.7845
$City_{VF\ mass-loading}$ (Climate Zone) Selection	Default
VF_{ml} (volitization factor - mass-limit) m³/kg	.
Q/C_{vol} (g/m²-s per kg/m³)	68.18
A_s (VF mass-limit acres)	0.5
T (exposure interval) yr	26
d_s (depth of source) m	.
p_b (dry soil bulk density) g/cm³	1.5
A (VF Dispersion Constant - Mass Limit)	11.911
B (VF Dispersion Constant - Mass Limit)	18.4385
C (VF Dispersion Constant - Mass Limit)	209.7845
T_w (groundwater temperature) Celsius	25

Output generated 15FEB2018:16:21:12

Default

Resident Risk-Based Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); U = User-provided

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF (mg/kg-day)$^{-1}$	SFO Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA	Soil Saturation Concentration (mg/kg)	S (mg/L)
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	No	No	-		-		2.00E-05	D	-		1	0.1	1	-	6.80E+02
Perfluorooctanoic acid (PFOA)	335-67-1	No	No	7.00E-02	D	-		2.00E-05	D	-		1	0.1	1	-	9.50E+03

K_{oc} (cm3/g)	K_d (cm³/g)	HLC (atm-m^3/mole)	Henry's Law Constant (unitless)	H` and HLC Ref	Normal Boiling Point T_{boil} (K)	BP Ref	Critical Temperature T_{crit} (K)	T_{crit} Ref	D_{ia} (cm^2/s)	D_{iw} (cm^2/s)	D_A (cm^2/s)	Particulate Emission Factor (m^3/kg)	Volatilization Factor (m^3/kg)
3.72E+02	-	-	-		532.15	PHYSPROP	-		2.07E-02	5.25E-06	-	1.36E+09	-
1.15E+02	-	-	-		465.55	PHYSPROP	-		2.26E-02	5.79E-06	-	1.36E+09	-

Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=0.1 (mg/kg)	Dermal SL Child THQ=0.1 (mg/kg)	Inhalation SL Child THQ=0.1 (mg/kg)	Noncarcinogenic SL Child THI=0.1 (mg/kg)	Ingestion SL Adult THQ=0.1 (mg/kg)	Dermal SL Adult THQ=0.1 (mg/kg)	Inhalation SL Adult THQ=0.1 (mg/kg)	Noncarcinogenic SL Adult THI=0.1 (mg/kg)	Screening Level (mg/kg)
-	-	-	-	1.56E-01	6.59E-01	-	1.26E-01	1.67E+00	3.95E+00	-	1.17E+00	1.26E-01 nc
9.93E+00	3.53E+01	-	7.75E+00	1.56E-01	6.59E-01	-	1.26E-01	1.67E+00	3.95E+00	-	1.17E+00	1.26E-01 nc

Output generated 15FEB2018:16:21:12

Inhalation Unit Risk Toxicity Metadata

Chemical	CASNUM	Inhalation Unit Risk (µg/m ^{3})$^{-1}$	Toxicity Source	EPA Cancer Classification	Inhalation Unit Risk Tumor Type	Inhalation Unit Risk Target Organ	Inhalation Unit Risk Species	Inhalation Unit Risk Method	Inhalation Unit Risk Route	Inhalation Unit Risk Treatment Duration	Inhalation Unit Risk Study Reference	Inhalation Unit Risk Notes
Perfluorooctane sulfonic acid (PFOS)	1763-23-1											
Perfluorooctanoic acid (PFOA)	335-67-1											

Oral Slope Factor Toxicity Metadata

Chemical	CASNUM	Oral Slope Factor (mg/kg-day) $^{-1}$	Toxicity Source	EPA Cancer Classification	Oral Slope Factor Tumor Type	Oral Slope Factor Target Organ	Oral Slope Factor Species	Oral Slope Factor Method	Oral Slope Factor Route	Oral Slope Factor Treatment Duration	Oral Slope Factor Study Reference	Oral Slope Factor Notes
Perfluorooctane sulfonic acid (PFOS)	1763-23-1											
Perfluorooctanoic acid (PFOA)	335-67-1	7.00E-02	DWSHA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Output generated 15FEB2018:16:21:12

Oral Chronic Toxicity Metadata

Chemical	CASNUM	Chronic Oral Reference Dose (mg/kg-day)	Toxicity Source	Oral Chronic Reference Dose Basis	Oral Chronic Reference Dose Confidence Level	Oral Chronic Reference Dose Critical Effect
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	2.00E-05	DWSHA	NA	NA	NA
Perfluorooctanoic acid (PFOA)	335-67-1	2.00E-05	DWSHA	NA	NA	NA

Oral Chronic Reference Dose Target Organ	Oral Chronic Reference Dose Modifying Factor	Oral Chronic Reference Dose Uncertainty Factor	Oral Chronic Reference Dose Species	Oral Chronic Reference Dose Route	Oral Chronic Reference Dose Study Duration	Oral Chronic Reference Dose Study Reference	Oral Chronic Reference Dose Notes
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

Output generated 15FEB2018:16:21:12

Inhalation Chronic Toxicity Metadata

Chemical	CASNUM	Chronic Inhalation Reference Concentration (mg/m³)	Toxicity Source	Inhalation Chronic Reference Concentration Basis	Inhalation Chronic Reference Concentration Confidence Level	Inhalation Chronic Reference Concentration Critical Effect	Inhalation Chronic Reference Concentration Target Organ
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	-					
Perfluorooctanoic acid (PFOA)	335-67-1	-					

Inhalation Chronic Reference Concentration Modifying Factor	Inhalation Chronic Reference Concentration Uncertainty Factor	Inhalation Chronic Reference Concentration Species	Inhalation Chronic Reference Concentration Route	Inhalation Chronic Reference Concentration Study Duration	Inhalation Chronic Reference Concentration Study Reference	Inhalation Chronic Reference Concentration Notes

Output generated 15FEB2018:16:21:12

Appendix C

Readiness Review Forms, Field Forms, and Boring Logs

SES FIELD READINESS REVIEW FORM

Employee Name: Ash Willis

Job Number: M2032.0001

Job Location: Dobbins ARB

Job Tasks:

Surface sampling, groundwater sampling, soil sampling – surface soil and subsurface soil, soil boring logging, surface water and sediment sampling, mobe/demobe tasks.

Equipment Needed:

Soil boring: Munsell charts, tape measure, pens, soil boring forms, USCS table.

GW Sampling: YSI, peristaltic pump, multiRAE, sample containers etc.

Sediment Sampling: Sample containers, spoons.

SW Sampling: Sample containers, SW collection device.

Proper PPE for all above tasks is a minimum Level D, plus nitriles.

Documents Needed:

Field forms: Boring log, GW sampling log, sample log, log book, calibration sheets – Meshew to print copies 11-27

Site Specific Notes:

At Dobbins, we have 58 soil borings to install and several existing wells to sample. In addition, there is one remaining site at AFP 6 that we'll be completing sometime during the work at Dobbins just off of the airfield. The C-5 Engine Fire which has three soil borings/temp wells to install. We will travel on Monday the 27th of November and begin work on Tuesday November 28th. I expect work will be complete on or around December 8th. Depending on progress, we MIGHT break this work into two shifts but that decision won't be made until we have an idea of how fast we're going. As we approach the ten day mark, I'll be talking with you guys and Brian to come up with a game plan.

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- The surveyor for this job is Wellston Associates (same guys we're using at Plant 6). The POC is Spencer Johnson (478-973-7161).

Equipment Packed for travel on: Ordered 11/21/17 – Packed 11/27/17 – Most in storage unit near installation

Travel Dates:

Site Supervisor Signature

SES FIELD READINESS REVIEW FORM

Employee Name: Franklin Johnson

Job Number: M2032.0001

Job Location: Dobbins ARB

Job Tasks:

Surface sampling, groundwater sampling, soil sampling – surface soil and subsurface soil, soil boring logging, surface water and sediment sampling, mobe/demobe tasks.

Equipment Needed:

Soil boring: Munsell charts, tape measure, pens, soil boring forms, USCS table.

GW Sampling: YSI, peristaltic pump, multiRAE, sample containers etc.

Sediment Sampling: Sample containers, spoons.

SW Sampling: Sample containers, SW collection device.

Proper PPE for all above tasks is a minimum Level D, plus nitriles.

Documents Needed:

Field forms: Boring log, GW sampling log, sample log, log book, calibration sheets – Meshew to print copies 11-27

Site Specific Notes:

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Travel Dates:

Site Supervisor Signature

SES FIELD READINESS REVIEW FORM

Employee Name: Jeremy Meshew

Job Number: M2032.0001

Job Location: Dobbins ARB

Job Tasks:

Surface sampling, groundwater sampling, soil sampling – surface soil and subsurface soil, soil boring logging, surface water and sediment sampling, mobe/demobe tasks.

Equipment Needed:

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Travel Dates:

Site Supervisor Signature

SES FIELD READINESS REVIEW FORM

Employee Name: Justin Vojak

Job Number: M2032.0001

Job Location: Dobbins ARB

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Travel Dates:

Site Supervisor Signature

Aerostar SES LLC

BORING LOG - DOBNS01-001

(Page 1 of 1)

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/02/17
End Date : 12/02/17
Northing : 1422699.25
Easting : 2192067.59
Surface Elev. (ft)* : 994.53
Total Depth (ft)** : 30.0

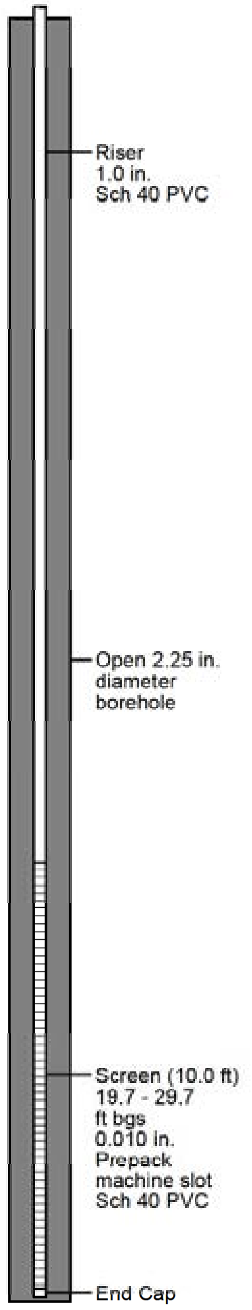
Site Name : Area 1
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 25.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 6.0) LEAN CLAY, 2.5YR 6/8, light red, medium to high density, abundant mica, slightly moist	0	CL			SS	DOBNS01-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80		0					
			(6.0 - 10.0) LEAN CLAY, 2.5YR 6/8, light red, medium density, abundant mica, dry		CL				
10	3	80	(10.0 - 18.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, low density, abundant mica, slightly moist	0	ML				
15	4	80		0					
			(18.0 - 19.0) SILTY SAND, 2.5YR 7/3, light reddish brown, fine to coarse, angular to sub-round, slightly moist		SM				
			(19.0 - 23.0) LEAN CLAY, 2.5YR 7/3, light reddish brown, mottled 2.5YR 7/8, light red with trace 10YR 9.5/2, pale orange yellow, low to medium density, abundant mica, moist		CL				
20	5	80		0					
			(23.0 - 24.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, low density, abundant mica, damp		ML				
			(24.0 - 25.0) LEAN CLAY, 2.5YR 7/3, light reddish brown, mottled 2.5YR 7/8, light red with trace 10YR 9.5/2, pale orange yellow, low to medium density, abundant mica, moist		CL			SO	DOBNS01-001-SO-024 Note: Interval 24.0 - 25.0 ft
25	6	80	(25.0 - 30.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, mottled 2.5YR 7/8, light red with trace 10YR 9.5/2, pale orange yellow, low to medium density, trace to abundant mica, moist	0	ML		▼		
30			End of Borehole 30.0 ft bgs						

Temporary Well:
DOBNS01-001
Elev (TOC): 994.81



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS01-002
(Page 1 of 1)

Start Date : 12/02/17
End Date : 12/02/17
Northing : 1422624.84
Easting : 2192150.37
Surface Elev. (ft)* : 991.53
Total Depth (ft)** : 35.1

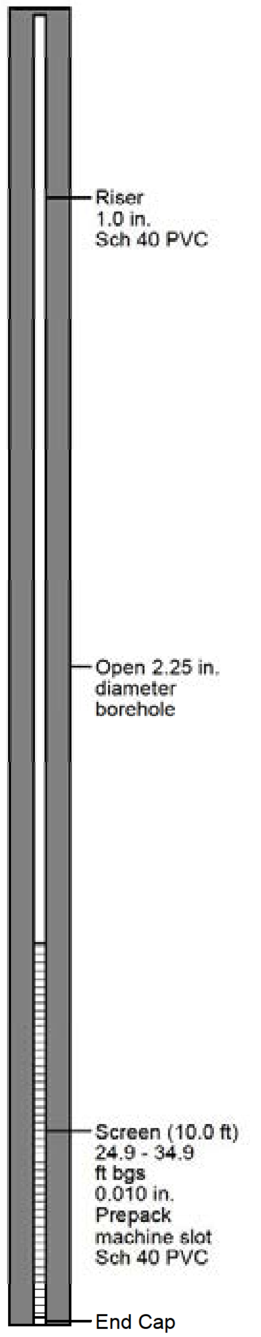
Site Name : Area 1
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 30.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well:
DOBNS01-002
Elev (TOC): 991.36

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 6/8, light red, medium to high density, abundant mica, slightly moist	0	CL			SS	DOBNS01-002-SS-001 DOBNS01-002-SS-901 Note: Interval 0.0 - 0.5 ft
5	2	70	(5.0 - 10.0) LEAN CLAY, 2.5YR 7/6, light red, medium density, abundant mica, dry	0	CL				
10	3	70	(10.0 - 11.0) SILT, 5YR 6/3, light reddish brown, low density, non-plastic, dry (11.0 - 12.0) SILT, 5YR 6/8, reddish yellow, low density, non-plastic, dry (12.0 - 15.0) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, dry	0	ML ML ML				
15	4	70	(15.0 - 25.0) CLAYEY SILT, 5YR 6/3, light reddish brown, mottled, 2.5Y 9.5/1, white, low density, abundant mica, moist						
20	5	70		0	ML				
25	6	70	(25.0 - 30.0) CLAYEY SILT, 5YR 6/3, light reddish brown, mottled, 2.5Y 9.5/1, white, low density, abundant mica, damp	0	ML			SO	DOBNS01-002-SO-029 Note: Interval 29.0 - 30.0 ft
30	7	50	(30.0 - 35.1) CLAYEY SILT, 5YR 6/3, light reddish brown, mottled, 2.5Y 9.5/1, white, low density, abundant mica, wet	0	ML		▼		
35			End of Borehole 35.1 ft bgs	0					



BORING LOG - DOBNS01-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/02/17
End Date : 12/02/17
Northing : 1422748.82
Easting : 2192261.01
Surface Elev. (ft)* : 996.58
Total Depth (ft)** : 30.0

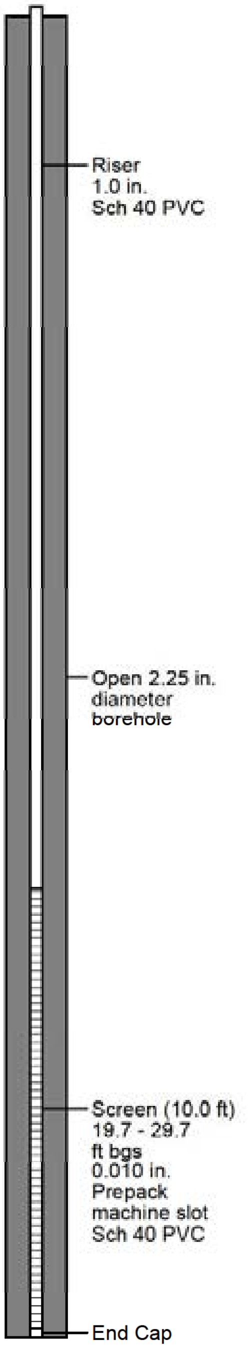
Site Name : Area 1
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 25.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 6.5) LEAN CLAY, 2.5YR 6/8, light red, medium to high density, abundant mica, slightly moist	0 0	CL			SS	DOBNS01-003-SS-001 DOBNS01-003-SS-901 Note: Interval 0.0 - 0.5 ft
5	2	100	(6.5 - 7.5) LEAN CLAY, low plasticity, 10YR 5/4, yellowish brown, high density, trace granitic gneiss @ 7.0 ft bgs, slightly moist		CL				
			(7.5 - 10.0) LEAN CLAY, low plasticity, 2.5YR 6/8, light red, high density, trace mica, slightly moist		CL				
10	3	100	(10.0 - 14.0) LEAN CLAY, 2.5YR 6/8, light red, high density, abundant mica, slightly moist	0	CL				
15	4	100	(14.0 - 19.0) CLAYEY SILT, 2.5YR 7/4, light reddish brown, low density, abundant mica, slightly moist	0	ML				
20	5	100	(19.0 - 30.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, slightly moist to moist	0	ML				
25	6	100	wet, 25.0 - 30.0 ft bgs.	0			▼	SO	DOBNS01-003-SO-024 Note: Interval 24.0 - 25.0 ft
30			End of Borehole 30.0 ft bgs	0					

Temporary Well:
DOBNS01-003
Elev (TOC): 996.80



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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS02-001

(Page 1 of 1)

Start Date	: 12/06/17
End Date	: 12/06/17
Northing	: 1425739.98
Easting	: 2188743.08
Surface Elev. (ft)*	: 1017.35
Total Depth (ft)**	: 11.0

Site Name	: Area 2
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: Dry During Drilling
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

Measurements

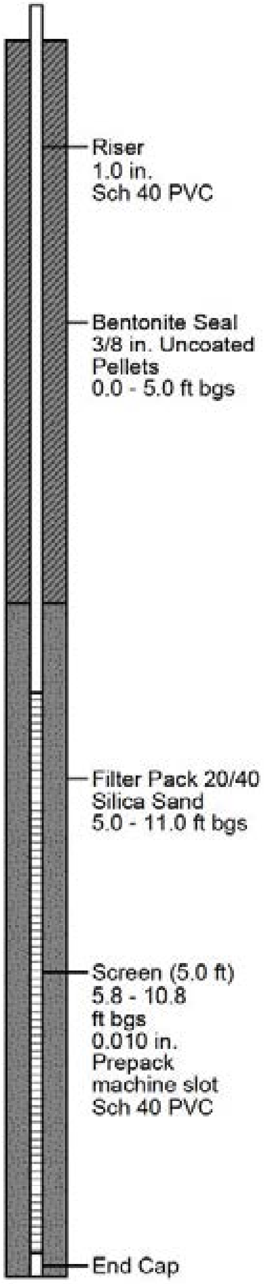
*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY, 2.5YR 4/3 to 6/4, reddish brown to light reddish brown, medium density, trace to abundant mica, slightly moist	0	CL			SS	DOBNS02-001-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 5.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled with 2.5YR 5/6, red, low density, dry		ML				
5	2	70	(5.0 - 6.0) Granitic gneiss, 2.5YR 8/1, white, dry	0					
			(6.0 - 7.0) LEAN CLAY, 2.5YR 6/8, light red, medium density, dry		CL				
			(7.0 - 8.0) Granitic gneiss, dry						
			(8.0 - 8.2) LEAN CLAY, 2.5YR 6/8, light red, medium density, dry		CL				
			(8.2 - 9.5) Granitic gneiss, dry						
			(9.5 - 9.7) LEAN CLAY, 2.5YR 6/8, light red, medium density, dry		CL				
10	3	50	(9.7 - 11.0) Granitic gneiss, dry					SO	DOBNS02-001-SO-010 DOBNS02-001-SO-910 Note: Interval 10.0 - 11.0 ft

Refusal - End of Borehole 11.0 ft bgs

Temporary Well: DOBNS02-001
Elev (TOC): 1017.68



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AFFF Areas (Savannah District)
AFFF Site Inspection
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Dobbins Air Reserve Base

BORING LOG - DOBNS02-002

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Start Date	: 12/06/17
End Date	: 12/06/17
Northing	: 1425694.33
Easting	: 2188907.55
Surface Elev. (ft)*	: 1016.49
Total Depth (ft)**	: 41.5

Site Name	: Area 2
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/05/17
DTW During Drilling (ft)	: 36.5
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, medium density, abundant mica, slightly moist	0	CL			SS	DOBNS02-002-SS-001 Note: Interval 0.0 - 0.5 ft	No temporary well installed.
5	2	80	(5.0 - 10.0) LEAN CLAY, 2.5YR 4/6, red, mottled, 2.5YR 6/8, light red, medium to high density, dry	0	CL					
10	3	80	(10.0 - 20.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled 2.5YR 6/8, light red, low density, abundant mica, dry	0						
15	4	80		0	ML					
20	5	80	(20.0 - 32.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown with depth mottled 10YR 9.5/1, white, low density, dry	0	ML					
25				0						

Aerostar SES LLC

AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS02-002

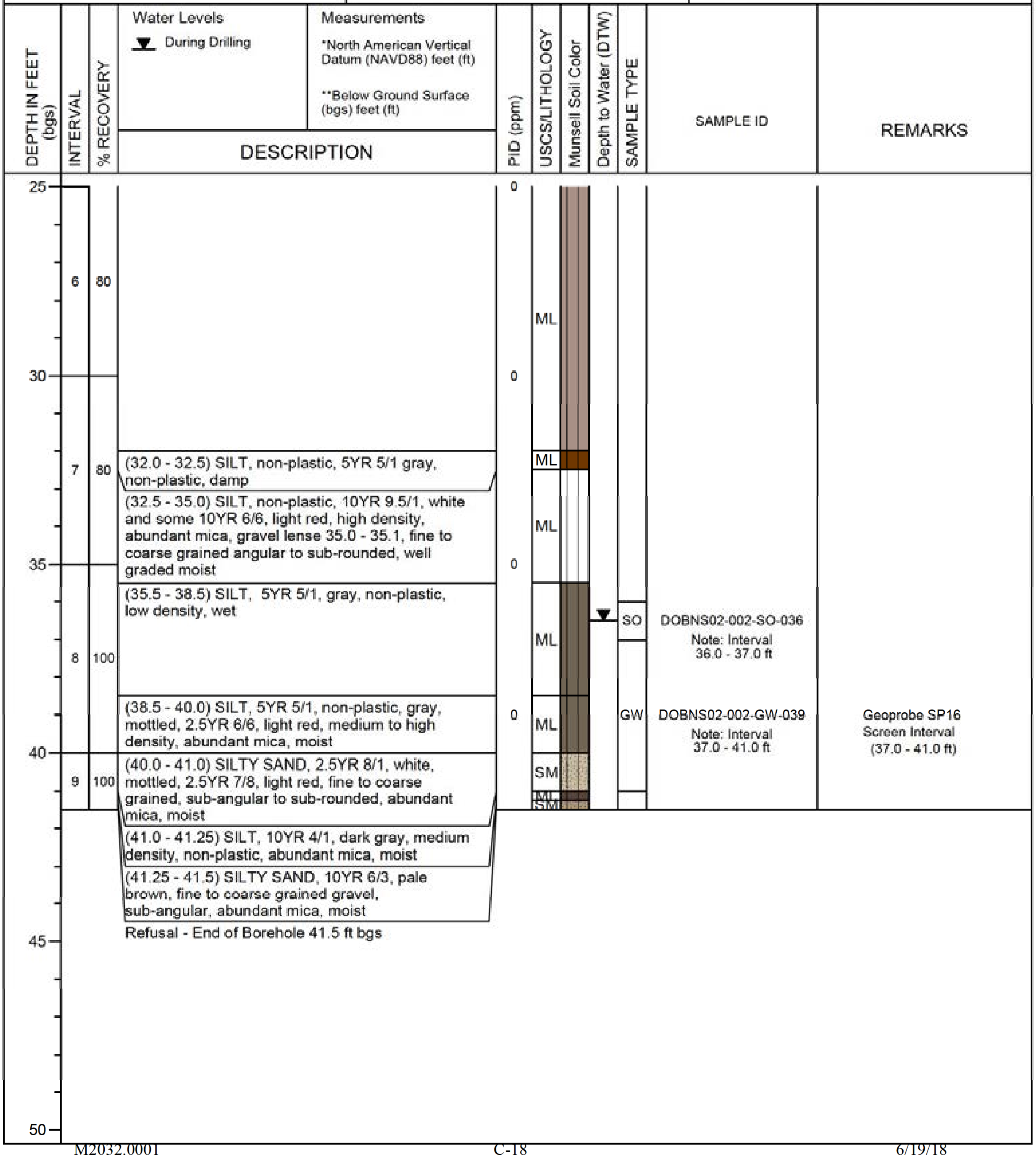
(Page 2 of 2)

Start Date : 12/06/17
End Date : 12/06/17
Northing : 1425694.33
Easting : 2188907.55
Surface Elev. (ft)* : 1016.49
Total Depth (ft)** : 41.5

Site Name : Area 2
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/05/17
DTW During Drilling (ft) : 36.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)



(32.0 - 32.5) SILT, non-plastic, 5YR 5/1 gray, non-plastic, damp

(32.5 - 35.0) SILT, non-plastic, 10YR 9.5/1, white and some 10YR 6/6, light red, high density, abundant mica, gravel lense 35.0 - 35.1, fine to coarse grained angular to sub-rounded, well graded moist

(35.5 - 38.5) SILT, 5YR 5/1, gray, non-plastic, low density, wet

(38.5 - 40.0) SILT, 5YR 5/1, non-plastic, gray, mottled, 2.5YR 6/6, light red, medium to high density, abundant mica, moist

(40.0 - 41.0) SILTY SAND, 2.5YR 8/1, white, mottled, 2.5YR 7/8, light red, fine to coarse grained, sub-angular to sub-rounded, abundant mica, moist

(41.0 - 41.25) SILT, 10YR 4/1, dark gray, medium density, non-plastic, abundant mica, moist

(41.25 - 41.5) SILTY SAND, 10YR 6/3, pale brown, fine to coarse grained gravel, sub-angular, abundant mica, moist

Refusal - End of Borehole 41.5 ft bgs

SAMPLE TYPE	SAMPLE ID	REMARKS
SO	DOBNS02-002-SO-036 Note: Interval 36.0 - 37.0 ft	
GW	DOBNS02-002-GW-039 Note: Interval 37.0 - 41.0 ft	Geoprobe SP16 Screen Interval (37.0 - 41.0 ft)

BORING LOG - DOBNS02-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/06/17
End Date : 12/06/17
Northing : 1425655.19
Easting : 2188745.70
Surface Elev. (ft)* : 1017.20
Total Depth (ft)** : 8.0

Site Name : Area 2
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : Dry During Drilling
Logged By : Justin Vojak

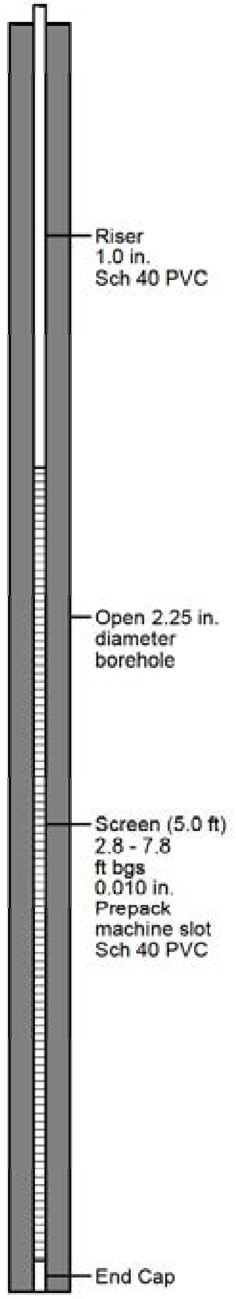
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, medium density, trace mica, slightly moist	0	ML			SS	DOBNS02-003-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 5.0) SANDY SILT, non-plastic, 2.5YR 5/3, reddish brown, medium to high density, fine grained, well graded, sand, trace mica, slightly moist	0	ML			SO	DOBNS02-003-SO-005 Note: Interval 4.0 - 5.0 ft
5	2	0	(5.0 - 8.0) No Recovery	0	NR				

Refusal - End of Borehole 8.0 ft bgs

Temporary Well:
DOBNS02-003
Elev (TOC): 1017.31



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BORING LOG - DOBNS03-001

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AFFF Areas (Savannah District)
AFFF Site Inspection
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Dobbins Air Reserve Base

Start Date : 12/10/17
End Date : 12/10/17
Northing : 1425171.40
Easting : 2184462.95
Surface Elev. (ft)* : 1075.18
Total Depth (ft)** : 20.5

Site Name : Area 3
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : Dry During Drilling
Logged By : Justin Vojak

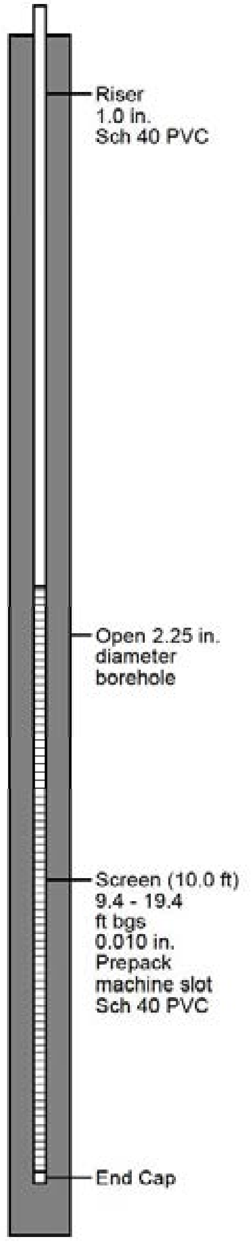
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY, 7.5YR 5/6, strong brown, low density, slightly moist	0	CL	🟫		SS	DOBNS03-001-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 5.0) SANDY SILT, non-plastic, 2.5YR 5/3, reddish brown, medium to high density, fine grained sand, trace mica, lightly moist		ML	🟫			
5	2	80	(5.0 - 12.5) CLAYEY SILT, 2.5YR 5/4, reddish brown, high density, slightly moist		ML	🟫			
10	3	80							
			(12.5 - 12.7) SAND, well graded, 10YR 9.5/1, white, fine to coarse grained, angular to sub-rounded		SW	⬜			
			(12.7 - 15.0) LEAN CLAY, 2.5YR 6/6, light red, medium density, trace mica		CL	🟫			
15	4	80	(15.0 - 18.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slight moist		ML	🟫			
			(18.0 - 20.0) SILTY GRAVEL, 2.5YR 5/3, reddish brown, mottled 10YR 6/1, gray, 40% fines, 60% gravel, fine to coarse angular to sub-rounded, dry		GM	🟫			
20	5	100	(20.0 - 20.5) GRAVELY SILT, non-plastic, 2.5YR 5/3, reddish brown, mottled 2.5YR 3/7, dark reddish brown, 80% fines, high density, 20% gravel, fine to coarse grained, angular to sub-rounded, abundant mica, moist		ML	🟫		SO	DOBNS03-001-SO-020 Note: Interval 19.5 - 20.5 ft

Refusal - End of Borehole 20.5 ft bgs

Temporary Well:
DOBNS03-001
Elev (TOC): 1075.71



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS03-002

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Start Date : 12/10/17
End Date : 12/10/17
Northing : 1424940.89
Easting : 2184497.00
Surface Elev. (ft)* : 1078.02
Total Depth (ft)** : 24.4

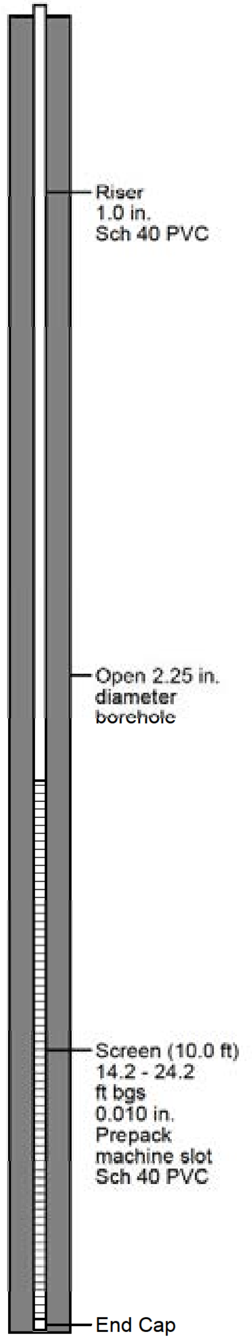
Site Name : Area 3
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : Dry During Drilling
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY, 7.5YR 5/6, strong brown, low density, slightly moist	0	CL			SS	DOBNS03-002-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 5.0) SANDY SILT, non-plastic, 2.5YR 5/3, reddish brown, medium to high density, fine grained sand, trace mica, lightly moist		ML				
5	2	80	(5.0 - 12.5) CLAYEY SILT, 2.5YR 5/4, reddish brown, high density, slightly moist	0	ML				
10	3	80		0					
			(12.5 - 12.7) SAND, well graded, 10YR 9.5/1, white, fine to coarse grained, angular to sub-rounded		SW				
			(12.7 - 15.0) LEAN CLAY, 2.5YR 6/6, light red, medium density, trace mica		CL				
15	4	80	(15.0 - 18.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slight moist		ML				
			(18.0 - 24.4) SILT, 7.5YR 5/3, brown, mottled 5YR 6/6, reddish yellow and 10YR 9.5/1, white, abundant mica, dry		ML				
20	5	50		0				SO	DOBNS03-002-SO-024 Note: Interval 23.0 - 24.0 ft
25			Refusal - End of Borehole 24.4 ft bgs						

Temporary Well:
DOBNS03-002
Elev (TOC): 1078.25



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AFFF Areas (Savannah District)
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Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS03-003

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Start Date : 12/10/17
End Date : 12/10/17
Northing : 1424711.89
Easting : 2184128.74
Surface Elev. (ft)* : 1079.33
Total Depth (ft)** : 15.1

Site Name : Area 3
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : Dry During Drilling
Logged By : Justin Vojak

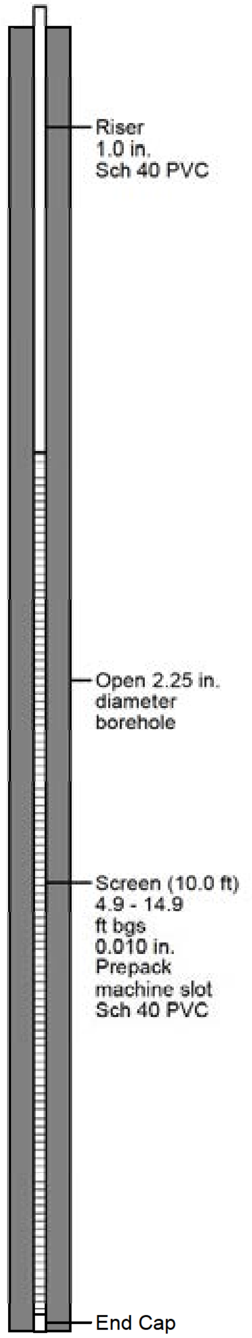
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	90	(0.0 - 4.5) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry	0	ML			SS	DOBNS03-003-SS-001 Note: Interval 0.0 - 0.5 ft
			(4.5 - 5.0) CLAYEY SAND, 10YR 7/4, very pale brown, fine to coarse grained, angular to sub-rounded, slightly moist		SC				
5	2	100	(5.0 - 8.0) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry	0	ML				
			(8.0 - 9.5) SANDY SILT, non-plastic, 10YR 7/1, light gray, high density, fine grained sand, dry		ML				
10	3	100	(9.5 - 13.0) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry	0	ML				
15			(13.0 - 15.1) SILT, non-plastic, 10YR 6/2, light brownish gray, high density, abundant mica, dry	0	ML			SO	DOBNS03-003-SO-015 Note: Interval 14.1 - 15.1 ft

Refusal - End of Borehole 15.1 ft bgs

Temporary Well:
DOBNS03-003
Elev (TOC): 1079.58



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS03-004

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Start Date	: 12/12/17
End Date	: 12/12/17
Northing	: 1424635.41
Easting	: 2184439.44
Surface Elev. (ft)*	: 1078.96
Total Depth (ft)**	: 22.2

Site Name	: Area 3
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/15/17
DTW During Drilling (ft)	: Dry During Drilling
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

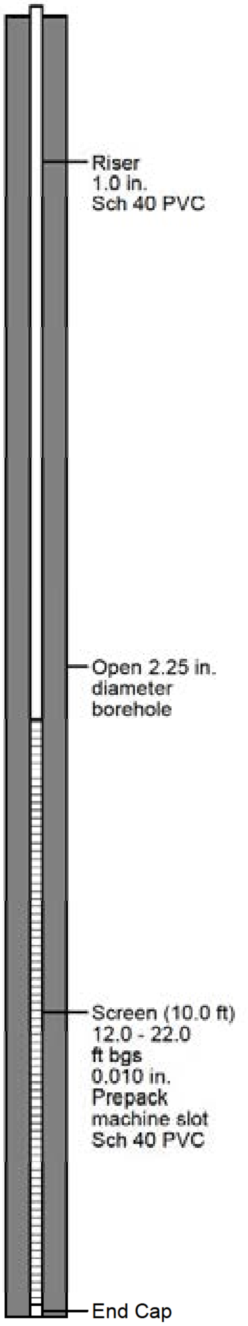
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 2.0) SILTY GRAVEL, 10YR 5/2, grayish brown, 70% gravel, 30% fines, fine to coarse gravel, well graded, angular, sub-rounded, dry (fill)	0	GM			SS	DOBNS03-004-SS-001 Note: Interval 0.0 - 0.5 ft
			(2.0 - 8.5) CLAYEY SILT, 2.5YR 4/4, reddish brown, medium density, abundant mica, slightly moist						
5	2	80		0	ML				
			(8.5 - 10.0) SILT, 2.5YR 6/3, light reddish brown, non-plastic, high density, abundant mica, dry 9.5 ft bgs - 1.0 in. gravel lense, well graded, fine to coarse, angular to sub-round		ML				
10	3	80	(10.0 - 16.0) SILT, 10YR 5/3, brown, high density, non-plastic, abundant mica, dry 11.0 ft bgs - 1.0 in. gravel lense, well graded, fine to coarse, angular to sub-rounded	0	ML				
15				0					
			(16.0 - 16.2) SILTY SAND, 10YR 8/1, white, fine to medium grained, angular to sub-rounded, dry		SM				
	4	80	(16.2 - 20.0) SILT, 10YR 5/3, brown, non-plastic, high plasticity, abundant mica, dry		ML			SO	DOBNS03-004-SO-020 Note: Interval 19.0 - 20.0 ft
20	5	0	(20.0 - 22.2) No Recovery	0	NR				
			Refusal - End of Borehole 22.2 ft bgs						

Temporary Well:
DOBNS03-004
Elev (TOC): 1079.13



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS04-001

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Start Date : 12/06/17
End Date : 12/06/17
Northing : 1425613.87
Easting : 2191950.19
Surface Elev. (ft)* : 999.77
Total Depth (ft)** : 35.0

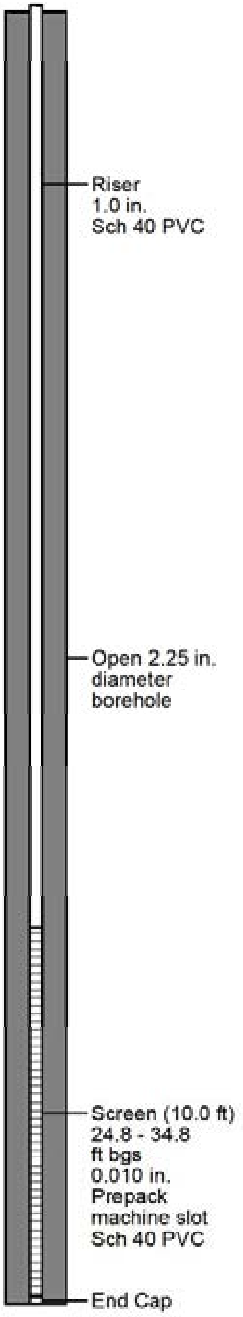
Site Name : Area 4
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 29.25
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 10.0) LEAN CLAY, 2.5YR 4/6, red, medium density, trace mica		CL			SS	DOBNS04-001-SS-001 DOBNS04-001-SS-901 Note: Interval 0.0 - 0.5 ft
5	2	20		0					
10	3	20	(10.0 - 15.0) FAT CLAY with gravel, high plasticity, 2.5YR 4/6, red, low density, trace mica, damp	0	CH				
15	4	20	(15.0 - 20.0) GRAVELY FAT CLAY, 2.5YR 4/6, red, high plasticity, low density, gravel is well graded, coarse to fine grained, angular to sub-rounded, trace mica, damp	0	CH				
20	5	50	(20.0 - 22.0) FAT CLAY, high plasticity, 2.5YR 6/3, light reddish brown, gravel lense, 26.0 ft bgs, fine to coarse gravel, well graded, angular to sub-rounded, trace mica, slightly moist	0	CH				
			(22.0 -23.0) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled, 10YR 9.5/1, abundant mica, damp		CL				
			(23.0 - 25.0) SILT, non-plastic, 10YR 4/1, low density, trace mica		ML				
25	6	80	(25.0 - 28.0) LEAN CLAY, 2.5YR 5/4, reddish brown, trace mica	0	CL				
			(28.0 - 30.0) CLAYEY SILT, 2.5YR 6/3 to 7/8, light reddish brown to light red, trace 2.5YR 8/1, white, low density, abundant mica, saturated at 29.25 ft bgs		ML		▼	SO	DOBNS04-001-SO-028 Note: Interval 28.0 - 29.0 ft
30	7	50	(30.0 - 32.0) CLAYEY SAND, 2.5YR 7/1, gray, sand, fine to coarse grained, angular to sub-rounded	0	SC				
			(32.0 - 35.0) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled 5YR 4/1, dark gray and trace 2.5YR 8/1 white, high density, abundant mica, moist		CL				
35			End of Borehole 35.0 ft bgs	0					

Temporary Well:
DOBNS04-001
Elev (TOC): 999.98



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BORING LOG - DOBNS04-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 12/07/17
End Date	: 12/07/17
Northing	: 1425528.52
Easting	: 2191992.44
Surface Elev. (ft)*	: 1011.36
Total Depth (ft)**	: 35.0

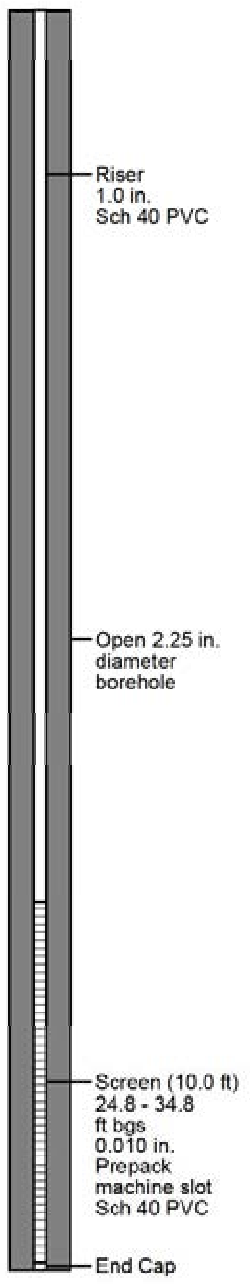
Site Name	: Area 4
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/15/17
DTW During Drilling (ft)	: 31.0
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 6/8, light red, trace mottling, 2.5YR 8/1, white, medium density, trace mica, slightly moist		CL		SS	DOBNS04-002-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	0	(5.0 - 10.0) No Recovery	0	NR			
10	3	70	(10.0 - 11.0) LEAN CLAY, 2.5YR 3/2, dusky red, mottled 2.5YR 6/3, light reddish brown, trace 10YR 9.5/1, white, low density, abundant mica, slightly moist		CL			
			(11.0 - 15.0) LEAN CLAY, 2.5YR 6/8, light red, abundant mica, slightly moist		CL			
15	4	50	(15.0 - 19.8) LEAN CLAY, 2.5YR 3/2, dusky red, medium density, abundant mica, mottled 2.5YR 4/6, red with 10YR 9.5/1 white, moist		CL			
			(19.8 - 21.0) SILTY GRAVEL, 10YR 4/3, brown, 40% fines, 60% gravel, fine to coarse grained, angular to sub-angular, well graded, slightly moist		GM			
20	5	100	(21.0 - 22.0) GRAVELY CLAY, low plasticity, 7.5YR 6/4, light brown, low to medium density, 70% fines, 30% gravel, well graded, fine to coarse, angular to sub-rounded, slightly moist		CL			
25	6	100	(22.0 - 28.5) CLAYEY SILT, 2.5YR 7/3, light reddish brown, trace mottling, 2.5YR 7/6, light red, abundant mica, moist	0	ML			
			(28.5 - 29.7) SAND, poorly graded, 2.5YR 8/2, pinkish white, coarse grained, slightly moist		SP			
30	7	100	(29.7 - 31.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, trace mottling, 2.5YR 7/6, light red and 10YR 9.5/1, white, low density, abundant mica, damp	0	ML	▼	SO	DOBNS04-002-SO-030 Note: Interval 30.0 - 31.0 ft
			(31.0 - 32.0) SANDY LEAN CLAY, 2.5YR 7/8, light red, low density, abundant mica, saturated		CL			
35			(32.0 - 35.0) CLAYEY SILT, 2.5YR 7/1, light reddish gray, mottled 10YR 9.5/1, low density, abundant mica, damp to wet	0	ML			
			End of Borehole 35.0 ft bgs					

Temporary Well: DOBNS04-002
Elev (TOC): 1011.39



Aerostar SES LLC

BORING LOG - DOBNS04-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/07/17
End Date : 12/07/17
Northing : 1425638.42
Easting : 2192082.93
Surface Elev. (ft)* : 1006.97
Total Depth (ft)** : 35.0

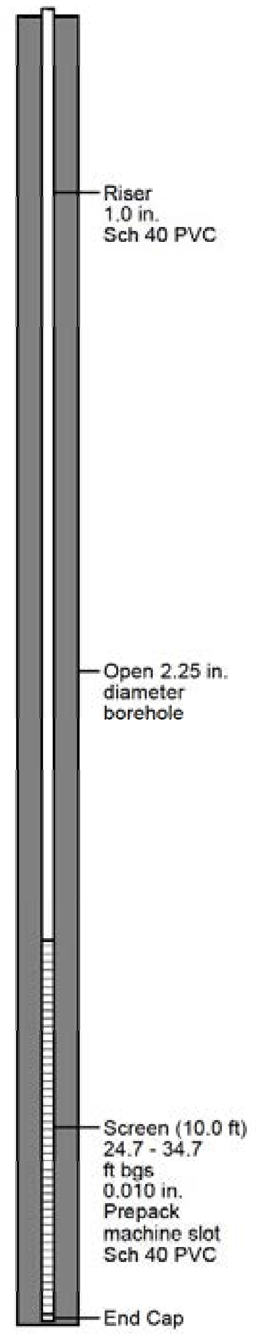
Site Name : Area 4
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 27.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY with gravel, 2.5YR 4/6, red, abundant mica, 10% gravel, coarse grained, angular to sub-rounded, poorly graded, slightly moist	0	CL	▨		SS	DOBNS04-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	50	(5.0 - 7.5) LEAN CLAY, 2.5YR 4/4, reddish brown, low density, trace mica, moist	0	CL	▨			
			(7.5 - 10.0) LEAN CLAY, 2.5YR 3/6, dark red, high density, trace mica, slightly moist		CL	▨			
10	3	100	(10.0 - 15.0) LEAN CLAY, 2.5YR 5/6, red, medium density, abundant mica, slightly moist	0	CL	▨			
15	4	100	(15.0 - 20.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown with mottling 2.5YR 6/6, light red, low density, abundant mica, slightly moist	0	CL	▨			
20	5	100	(20.0 - 30.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottling with 10YR 9.5/1, white, low density, abundant mica, slightly moist	0	ML	▨			
25	6	100	wet at 27.0 ft bgs	0			▼	SO	DOBNS04-003-SO-026 Note: Interval 26.0 - 27.0 ft
30	7	100	(30.0 - 31.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, wet	0	ML	▨			
			(31.5 - 35.0) LEAN CLAY, 2.5YR 5/3, reddish brown, mottled 2.5YR 3/3 with 10YR 9.5/1, dark reddish brown and white, low density, trace to abundant mica, wet		CL	▨			
35			End of Borehole 35.0 ft BGS	0					

Temporary Well:
DOBNS04-003
Elev (TOC): 1007.19



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS05-001

(Page 1 of 1)

Start Date : 12/05/17
End Date : 12/05/17
Northing : 1425420.14
Easting : 2191163.07
Surface Elev. (ft)* : 1018.64
Total Depth (ft)** : 35.0

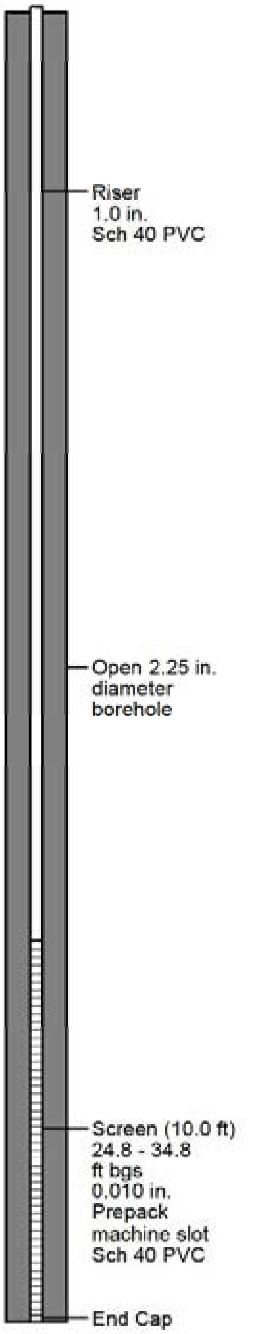
Site Name : Area 5
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 29.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, low to medium density, trace mica, slightly moist	0	CL			SS	DOBNS05-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	100	(5.0 - 8.0) LEAN CLAY, 2.5YR 5/4, reddish brown, medium density, abundant mica, slightly moist	0	CL				
			(8.0 - 9.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slightly moist		ML				
10	3	90	(9.0 - 11.0) LEAN CLAY, 2.5YR 3/6, dark red, high density, trace mica, dry	0	CL				
			(11.0 - 15.0) LEAN CLAY, 2.5YR 6/8, light red, dry		CL				
15	4	70	(15.0 - 19.5) LEAN CLAY, 2.5YR 4/4 to 6/8, reddish brown to light red, medium to high density, medium plasticity, slightly moist	0	CL				
			(19.5 - 20.0) CLAYEY SILT, 2.5YR 8/4, pink, high density, abundant mica, slightly moist		ML				
20	5	90	(20.0 - 25.5) LEAN CLAY, 2.5YR 6/8, light red, medium density, slightly moist	0	CL				
25	6	90		0					
			(25.5 - 26.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, moist		ML				
			(26.5 - 30.0) LEAN CLAY, 2.5YR 6/8, light red, medium density, mottled with 10YR 9.5/1 white, wet		CL		▼	SO	DOBNS05-001-SO-028 Note: Interval 28.0 - 29.0 ft
30	7	100	(30.0 - 35.0) LEAN CLAY, 2.5YR 6/8 light red, trace mottling with 10YR 9.5/1, white, medium density, saturated	0	CL				
35			End of Borehole 35.0 ft bgs	0					

Temporary Well: DOBNS05-001
Elev (TOC): 1018.79



BORING LOG - DOBNS05-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/05/17
End Date : 12/05/17
Northing : 1425531.95
Easting : 2191340.83
Surface Elev. (ft)* : 1017.27
Total Depth (ft)** : 40.0

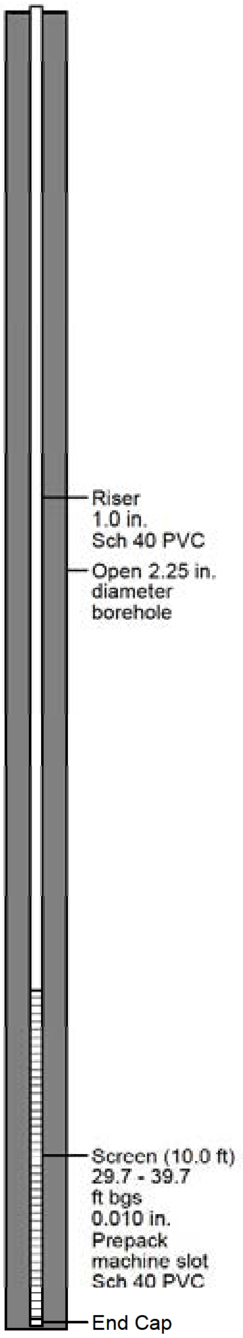
Site Name : Area 5
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 33.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, mottled 2.5YR 7/8, light red and 2.5YR 8/1 white, medium density, trace mica, slightly moist	0	CL			SS	DOBNS05-002-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 9.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slightly moist	0	ML				
10	3	80	(9.5 - 11.0) LEAN CLAY, 2.5YR 4/4 to 6/8, reddish brown to light red, medium density, trace mica, slightly moist	0	CL				
			(11.0 - 13.0) SILT, 10YR 3/3 to 4/6, dark brown to red, low to high density, trace mica, moist to dry		ML				
15	4	100	(13.0 - 20.0) LEAN CLAY, 2.5YR 4/6 to 6/8, red to light red, mottled 2.5YR 8/1 white, medium to high density, trace mica, dry	0	CL				
20	5	100	(20.0 - 21.5) CLAYEY SILT, 2.5YR 8/4, pink, low density, abundant mica, slightly moist	0	ML				
			(21.5 - 22.5) LEAN CLAY, 2.5YR 6/8, light red, medium density, slightly moist		CL				
			(22.5 - 33.5) CLAYEY SILT, 2.5YR 6/3, reddish brown, abundant mica, slightly moist		ML				
25	6	100		0					
30	7	100		0				SO	DOBNS05-002-SO-033 Note: Interval 32.5 - 33.5 ft
			(33.5 - 34.8) LEAN CLAY, 2.5YR 6/8, light red, medium density, wet		CL		▼		
35	8	100	(34.8 - 36.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, trace mica, saturated	0	ML				
			(36.5 - 40.0) SANDY SILT, 5YR 7/1, light gray, trace mottling 10YR 9.5/1, white, low density, fine grained sand, saturated		ML				
40			End of Borehole 40.0 ft bgs	0					

Temporary Well:
DOBNS05-002
Elev (TOC): 1017.45



Aerostar SES LLC

AFFF Areas (Savannah District)
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Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS05-003

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Start Date : 12/05/17
End Date : 12/05/17
Northing : 1425633.46
Easting : 2191340.30
Surface Elev. (ft)* : 1017.77
Total Depth (ft)** : 40.0

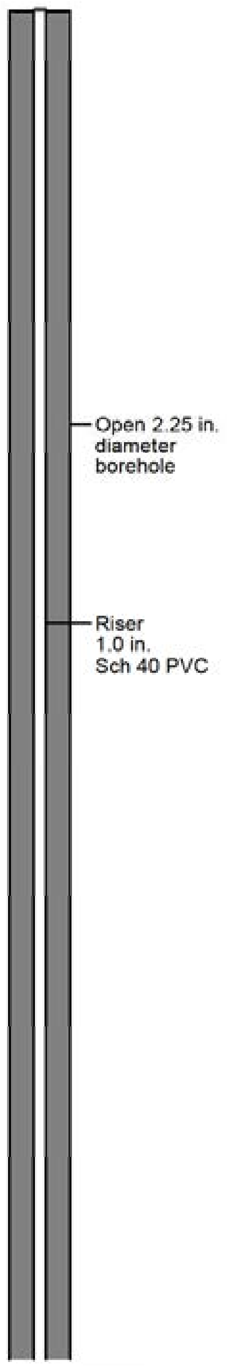
Site Name : Area 5
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 35.2
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 7.0) LEAN CLAY, low plasticity, 2.5YR 4/6, red, medium density, trace mica, slightly moist	0	CL			SS	DOBNS05-003-SS-001 Note: Interval 0.0 - 0.5 ft
5 10	2 3	100 80	(7.0 - 15.0) LEAN CLAY, 2.5YR 6/8, light red, mottled, 10YR 9.5/1 white, medium density, dry		CL				
15			(15.0 - 15.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, trace mica, dry		ML				
			(15.5 - 16.5) LEAN CLAY, 2.5YR 7/2, pale red, mottled 2.5YR 8/1, white, trace mica, dry		CL				
	4	80	(16.5 - 19.0) LEAN CLAY, 2.5YR 6/8, light red, mottled white 10YR 9.5/1, medium density, dry		CL				
			(19.0 - 19.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, dry		ML				
20			(19.5 - 21.0) LEAN CLAY, 2.5YR 6/8, light red, mottled white 10YR 9.5/1, medium density, moist		CL				
			(21.0 - 21.2) SILT, non-plastic, 2.5YR 4/4, reddish brown, low density abundant mica, slightly moist		ML				
25	5	80	(21.2 - 26.0) LEAN CLAY, 2.5YR 6/8, light red, mottled white, 10YR 9.5/1, medium density, slightly moist	0	CL				

Temporary Well:
DOBNS05-003
Elev (TOC): 1017.81



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS05-003

(Page 2 of 2)

Start Date : 12/05/17
End Date : 12/05/17
Northing : 1425633.46
Easting : 2191340.30
Surface Elev. (ft)* : 1017.77
Total Depth (ft)** : 40.0

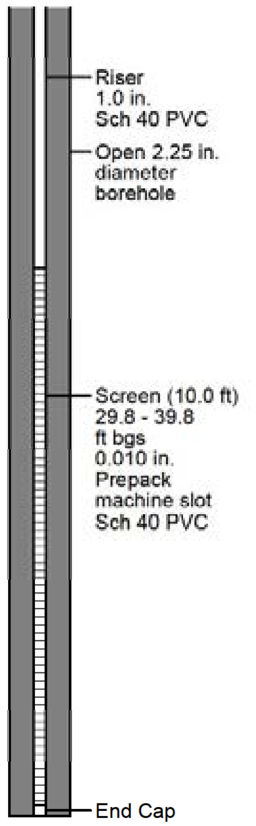
Site Name : Area 5
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 35.2
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS05-003
Elev (TOC): 1017.81

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
25	6	80		0	CL				
			(26.0 - 27.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slightly moist		ML				
			(27.5 - 30.0) LEAN CLAY, 2.5YR 6/8, light red, mottled white, 10YR 9.5/1, medium density, moist		CL				
30	7	100	(30.0 - 30.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, moist	0	ML				
			(30.5 - 35.0) LEAN CLAY, 2.5YR 6/8, light red, mottled white, 10YR 9.5/1, medium density, gravel lense at 32.0 ft bgs, fine to coarse grained angular to sub-angular, wet to saturated		CL			SO	DOBNS05-003-SO-035 Note: Interval 34.2 - 35.2 ft
35	8	100	(35.0 - 39.0) LEAN CLAY, 2.5YR 6/3 to 6/8, light red, mottled 10YR 9.5.1, white, medium density, wet to saturated, 3.5" gravel lense, at 36.0 ft bgs, fine to coarse grained, angular to sub-angular, high density, slightly moist		CL		▼		
			(39.0 - 40.0) SILT, non-plastic, 10YR 4/1, dark gray, trace mica, dry		ML				
40			End of Borehole 40.0 ft bgs	0					
45									
50									



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS06-001

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Start Date	: 12/05/17
End Date	: 12/05/17
Northing	: 1425538.12
Easting	: 2191470.22
Surface Elev. (ft)*	: 1015.37
Total Depth (ft)**	: 35.0

Site Name	: Area 6
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/15/17
DTW During Drilling (ft)	: 28.0
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 6/8, light red, medium density, trace mica, slightly moist 4.0 - 5.0 ft bgs, color grading 2.5YR 4/6 red		CL		SS	DOBNS06-001-SS-001 Note: Interval 0.0 - 0.5 ft	No temporary well installed.
5	2	90	(5.0 - 10.0) LEAN CLAY, 2.5YR 4/6, red, trace mica, slightly moist	0	CL				
10	3	80	(10.0 - 20.0) LEAN CLAY, 2.5YR 6/8, light red, medium density, trace mica, dry	0	CL				
15	4	80	trace mottling 2.5YR 8/1, white, grading to dry	0					
20	5	80	(20.0 - 20.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slightly moist (20.5 - 29.0) LEAN CLAY, 2.5YR 6/8, light red, medium plasticity, mottled white 2.5YR 8/1 with depth, slightly moist		ML CL				
25	6	90		0		▼	SO	DOBNS06-001-SO-028 Note: Interval 27.0 - 28.0 ft	
30	7	100	(29.0 - 34.0) LEAN CLAY, 2.5YR 7/8, light red with mottling 10YR 9.5/1 white, wet to saturated	0	CL		GW	DOBNS06-001-GW-032 DOBNS06-001-GW-932 Interval 31.0 - 35.0 ft	Geopobe SP-16 Screen Interval (31.0 - 35.0 ft)
35			(34.0 - 35.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, with mottled white, 10YR 9.5/1, abundant mica, slightly moist End of Borehole 35.0 ft bgs	0	ML				

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AFFF Areas (Savannah District)
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Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS06-002

(Page 1 of 1)

Start Date : 12/04/17
End Date : 12/04/17
Northing : 1425498.30
Easting : 2191567.35
Surface Elev. (ft)* : 1014.55
Total Depth (ft)** : 40.2

Site Name : Area 6
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 31.0
Logged By : Justin Vojak

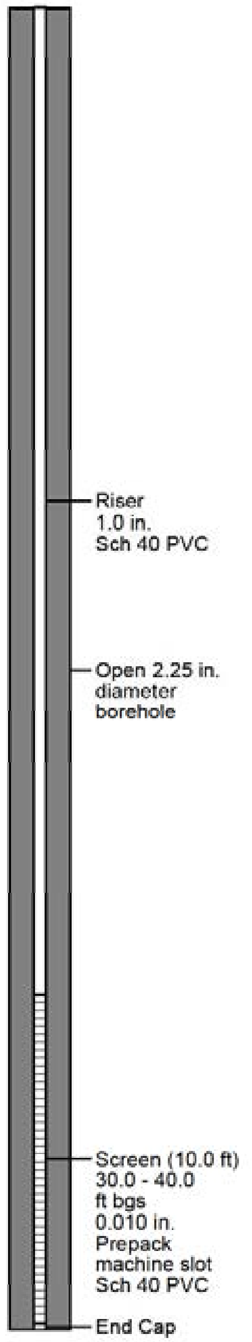
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 1.0) LEAN CLAY, 2.5YR 3/3, dark reddish brown, low density, trace mica, slightly moist		CL			SS	DOBNS06-002-SS-001 Note: Interval 0.0 - 0.5 ft
			(1.0 - 5.0) LEAN CLAY, 2.5YR 4/4, dark reddish brown, medium density, abundant mica, slightly moist		CL				
5	2	80	(5.0 - 8.5) LEAN CLAY, 2.5YR 4/6, red, mottled white 10YR 9.5/1, trace mica, medium density, slightly moist	0	CL				
			(8.5 - 10.0) LEAN CLAY, 10YR 6/1, gray, mottled white 10YR 9.5/1, medium to high density, abundant mica, dry		CL				
10	3	80	(10.0 - 15.0) LEAN CLAY, 2.5YR 7/8, light red, mottled white 10YR 9.5/1, medium density, trace mica, dry	0	CL				
15	4	60	(15.0 - 20.0) LEAN CLAY, 2.5YR 7/8, light red, mottled white 10YR 9.5/1, medium density, abundant mica, moist	0	CL				
20	5	70	(20.0 - 30.0) CLAYEY SILT, 2.5YR 4/3, weak red, mottled 2.5YR 4/6, red, low to medium density, trace mica, slightly damp	0	ML				
25	6	80		0					
30	7	90	(30.0 - 38.0) LEAN CLAY, 2.5YR 6/8, light red with mottling 10YR 9.5/1 white, low density, trace mica, damp to wet	0	ML		▼	SO	DOBNS06-002-SO-030 Note: Interval 30.0 - 31.0 ft
35	8	100		0					
			(38.0 - 40.2) CLAYEY SILT, 2.5YR 6/3, light reddish brown, with mottled white, 10YR 9.5/1, abundant mica, slightly moist		ML				
40				0					

End of Borehole 40.2 ft bgs

Temporary Well: DOBNS06-002
Elev (TOC): 1014.59



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BORING LOG - DOBNS06-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/04/17
End Date : 12/04/17
Northing : 1425559.56
Easting : 2191584.33
Surface Elev. (ft)* : 1015.32
Total Depth (ft)** : 37.6

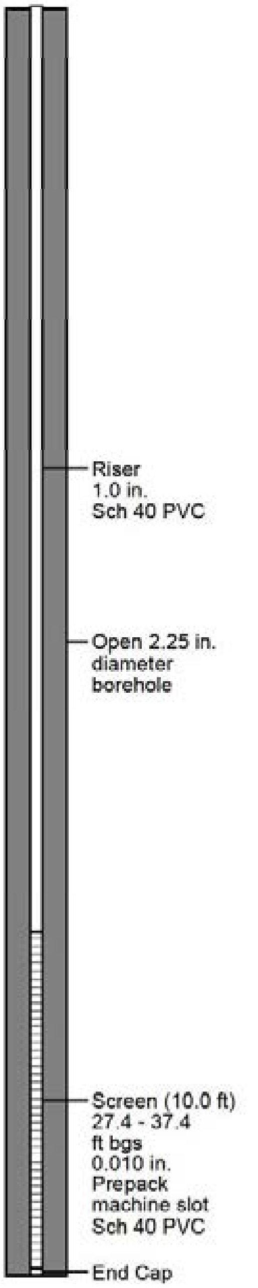
Site Name : Area 6
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 29.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS06-003
Elev (TOC): 1015.40

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.5) LEAN CLAY, 2.5YR 3/3 to 4/6, dark reddish brown to red, low to high density, abundant to trace mica, slightly moist	0 0	CL			SS	DOBNS06-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.5 - 6.5) CLAYEY SILT, 2.5YR 7/3, light reddish brown, low density, abundant mica, slightly moist		ML				
			(6.5 - 10.0) FAT CLAY, 2.5YR 4/6, red, high plasticity, medium density, trace mica, slightly moist		CH				
10	3	100	(10.0 - 15.0) LEAN CLAY, 2.5YR 6/6 to 3/6, light red to red, trace mottling with 10YR 9.5/1 white, medium density, slightly moist	0	CL				
15	4	100	(15.0 - 18.0) CLAYEY SILT, 2.5YR 4/3, reddish brown, mottled 2.5YR 4/6, red, low density, trace mica		ML				
			(18.0 - 20.0) LEAN CLAY, 2.5YR 4/8, red, mottled 10YR 9.5/1 white, medium density, dry		CL				
20	5	100	(20.0 - 27.0) CLAYEY SILT, 2.5YR 4/2, weak red with mottled 2.5YR 4/6, red, low density, trace mica, dry	0 0	ML				
25	6	100	(27.0 - 30.0) LEAN CLAY, low plasticity, 2.5YR 3/6, red with mottled 2.5YR 8/1, white, clay, low density, slightly moist		CL		▼	SO	DOBNS06-003-SO-028 Note: Interval 28.0 - 29.0 ft
30	7	100	(30.0 - 31.5) CLAYEY SILT, 2.5YR 3/4, dark reddish brown, low density, damp to wet	0	ML				
			(31.5 - 32.5) LEAN CLAY, 2.5YR 4/2, weak red, mottled, 2.5YR 4/6, red, with 10YR 9.5/1, white, low density, abundant mica, damp		CL				
35	8	160	(32.5 - 37.6) CLAYEY SILT, 2.5YR 6/3, light reddish brown with mottled 10YR 9.5/1, white, low density, abundant mica, saturated	0 0	ML				
40			End of Borehole 37.6 ft bgs						



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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS07-001

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Start Date	: 12/03/17
End Date	: 12/03/17
Northing	: 1423123.08
Easting	: 2195453.40
Surface Elev. (ft)*	: 987.12
Total Depth (ft)**	: 30.0

Site Name	: Area 7
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 16.0
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

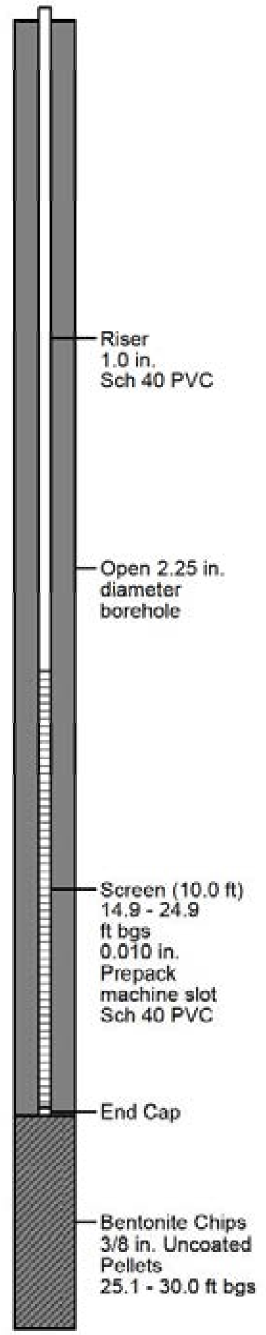
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	80	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/8, red, mottled 10YR 1/1, white, medium density, trace mica, slightly moist		CL			SS	DOBNS07-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 7.0) SILT, 2.5YR 6/4, light reddish brown, non-plastic, low density, trace mica	0	ML				
			(7.0 - 9.0) SANDY SILT, 10YR 7/2, light gray, fine grained sand, poorly graded, low plasticity, low density, trace mica, dry		ML				
			(9.0 - 10.0) CLAYEY SILT, 2.5YR 6/8, light red, low density, trace mica		ML				
10	3	80	(10.0 - 15.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, mottled 6/1, reddish gray, and 10YR 9.5/1 white, moist	0	ML				
15	4	80	(15.0 - 18.0) LEAN CLAY, 2.5YR 7/8, light red, low plasticity, wet at 16 ft bgs	0	CL		▼	SO	DOBNS07-001-SO-015 Note: Interval 15.0 - 16.0 ft
			(18.0 - 20.0) CLAYEY SILT, 2.5YR 6/8, light red, mottled 2.5YR 6/1, reddish gray and 10YR 9.5/1, white, low density, abundant mica, slightly moist		ML				
20	5	100	(20.5 - 21.5) LEAN CLAY, 2.5YR 6/8, light red, mottled 2.5YR 6/1, reddish gray and 10YR 9.5/1, white, low density, wet	0	CL				
			(21.5 - 23.5) LEAN CLAY, 2.5YR 6/8, light red, mottled 2.5YR 6/1, reddish gray and 10YR 9.5/1, white, abundant mica, moist to damp		CL				
25	6	90	(23.5 - 30.0) CLAYEY SILT, 2.5YR 6/3, low density, abundant mica, moist to damp		ML				
30			End of Borehole 30.0 ft bgs						

Temporary Well:
DOBNS07-001
Elev (TOC): 987.43



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BORING LOG - DOBNS07-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/03/17
End Date : 12/03/17
Northing : 1423054.99
Easting : 2195680.08
Surface Elev. (ft)* : 984.28
Total Depth (ft)** : 25.0

Site Name : Area 7
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 19.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	70	(0.0 - 9.5) LEAN CLAY, 2.5YR 6/3, light reddish brown, abundant mica, low density, slightly moist		CL			SS	DOBNS07-002-SS-001 Note: Interval 0.0 - 0.5 ft	No temporary well installed.
5	2	60	8.5 ft bgs, mottled 10YR 9.5/1, white	0						
10	3	60	(9.5 - 13.5) LEAN CLAY, 5Y 8/4, light pink, mottled 10YR 9.5/1, white, low density, abundant mica, slightly moist	0	CL					
15	4	80	(13.5 - 17.0) LEAN CLAY, 2.5YR 2.5/3, dark reddish brown, low density, abundant mica, moist then damp below 15.0 ft bgs 14.0 ft below ground surface, two (2) 1.0" gravel lenses (17.0 - 20.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, wet at 19.0 ft bgs		CL ML		▼	SO	DOBNS07-002-SO-018 Note: Interval 18.0 - 19.0 ft	
20	5	100	(20.0 - 21.5) SILTY SAND, 10YR 4/3, brown, fine to medium grained sand, mottled 10YR 9.5/1, white, wet (21.5 - 22.0) CLAYEY GRAVEL, 10YR 3/6, dark red, 80% gravel, 20% clay, fine to coarse, angular to sub-rounded, wet (22.0 - 25.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, mottled 5R 7/8 light red and 10YR 9.5/1, white, wet	0	SM GC ML			GW	DOBNS07-002-GW-024 Note: Interval 21.0 - 25.0 ft	Geoprobe SP16 Screen Interval (21.0 - 25.0 ft)
25			End of Borehole 25.0 ft bgs	0						

Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS07-003
(Page 1 of 1)

Start Date : 12/03/17
End Date : 12/03/17
Northing : 1422987.60
Easting : 2195920.60
Surface Elev. (ft)* : 981.40
Total Depth (ft)** : 25.0

Site Name : Area 7
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 21.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	80	(0.0 - 5.0) LEAN CLAY, 2.5YR 6/8, light red, low density, trace mica, mottled with 2.5YR 8/1, white, slightly moist		CL			SS	DOBNS07-003-SS-001 Note: Interval 0.0 - 0.5 ft	No temporary well installed.
5	2	70	(5.0 - 5.5) LEAN CLAY, low density, 2.5YR 2.5/3, dark reddish brown, abundant mica, slightly moist (5.5 - 6.0) GRAVELY LEAN CLAY, 2.5YR 7/8, light red, low density, fine, angular to sub-rounded gravel, slightly moist 6.0 - 15.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled 5R 7/8, light red, and 10YR 9.5/1, white, low density, abundant mica, slightly moist	0	CL CL					
10	3	60	10.5 - 15.0 bgs, dry	0	ML					
15	4	70	(15.0 - 25.0) CLAYEY SILT, 2.5YR 6/3. light reddish brown, mottled 2.5YR 7/8, light red, and 10YR 9.5/1, white, low density, abundant mica, moist							
20	5	90	21.0 ft bgs, no mottling, saturated below 21.0 ft	0	ML		▼	SO GW	DOBNS07-003-SO-020 Note: Interval 20.0 - 21.0 ft DOBNS07-003-GW-024 Note: Interval 21.0 - 25.0 ft	Geoprobe SP16 Screen Interval (21.0 - 25.0 ft)
25			End of Borehole 25.0 ft bgs	0						

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS07-004

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Start Date : 12/03/17
End Date : 12/03/17
Northing : 1422919.22
Easting : 2196146.03
Surface Elev. (ft)* : 979.52
Total Depth (ft)** : 30.1

Site Name : Area 7
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 11.0
Logged By : Justin Vojak

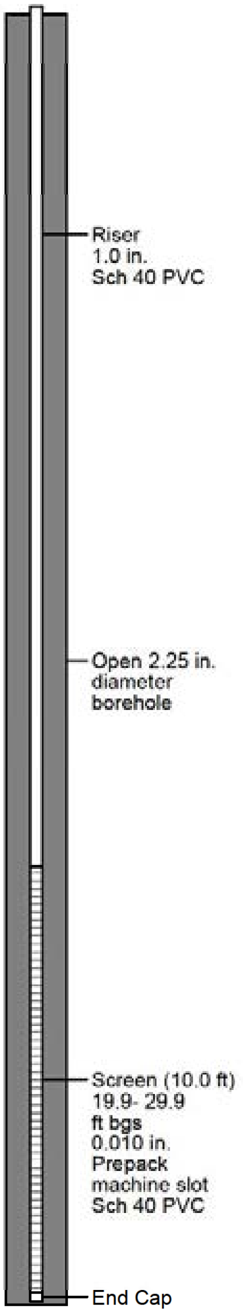
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	60	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/8, red, medium density, slightly moist		CL		SS	DOBNS07-004-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	90	(5.0 - 10.0) LEAN CLAY, 2.5YR 4/6, red, medium density, trace mottling 10YR 9.5/1, white, trace mica	0	CL			
10	3	100	(10.0 - 16.0) CLAYEY GRAVEL, 2.5YR 3/6, dark red, 80% gravel, 20% clay, fine to coarse gravel, angular to sub-rounded, wet @ 11.0 ft	0	GC	▼	SO	DOBNS07-004-SO-020 Note: Interval 10.0 - 11.0 ft
15	4	80	(16.0 - 18.5) LEAN CLAY, 2.5YR 3/6, dark red to 5R 7/6, light red, mottled 10YR 9.5/1, white, low density, abundant mica, slightly moist		CL			
			(18.5 - 20.0) CLAYEY GRAVEL, 2.5YR 3/6, dark red, 80% gravel, 20% clay, fine to coarse gravel, well graded, fine to coarse, angular to sub-round, wet		GC			
20			(20.0 - 21.0) LEAN CLAY, 2.5YR 4/6, red, low plasticity, low density, moist	0	CL			
	5	100	(21.0 - 22.5) GRAVELLY LEAN CLAY, 10YR 9.5/1, white, mottled 2.5YR 7/8, light red, 80% clay, 20% gravel, trace mica, wet		CL			
25			(22.5 - 26.0) CLAYEY GRAVEL, 2.5YR 3/6, dark red, 80% gravel, 20% fines, fine to coarse, angular to sub-rounded, well graded gravel, damp	0	GC			
	6	100	(26.0 - 27.5) GRAVELY LEAN CLAY, 10YR 9.5/1, white, mottled 2.5YR 7/8, light red, 80% fines, 20% gravel, fine to coarse, angular to sub-rounded, trace mica, wet		CL			
30			(27.5 - 30.1) LEAN CLAY, 2.5YR 3/6 to 6/8, dark red to light red with mottled, white, 10YR 9.5/1, low density, abundant mica, wet	0	CL			

End of Borehole 30.1 ft bgs

Temporary Well:
DOBNS07-004
Elev (TOC): 979.73



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BORING LOG - DOBNS07-005

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 12/2/17
End Date	: 12/2/17
Northing	: 1422771.62
Easting	: 2195446.90
Surface Elev. (ft)*	: 985.31
Total Depth (ft)**	: 30.0

Site Name	: Area 7
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 25.0
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

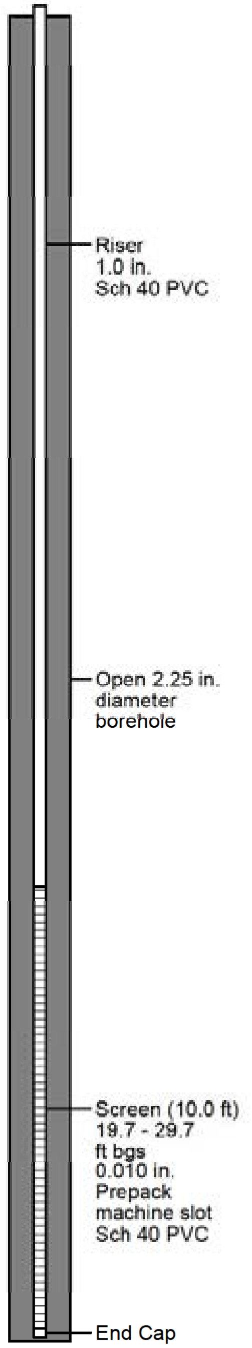
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	80	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, trace mica, high density, slightly moist 4.0 ft bgs, 2" mottled lense white 7.5YR 9.5/1		CL			SS	DOBNS07-005-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	70	(5.0 - 7.0) CLAYEY SILT, 2.5YR 4/4, reddish brown, low density, abundant mica, dry	0	ML				
			(7.0 - 10.0) CLAYEY SILT, 2.5YR 4/3, reddish brown, mottled 2.5YR 8/1, white, low density		ML				
10	3	90	(10.0 -11.5) SILT, 2.5YR 5/4, reddish brown, low density, dry	0	ML				
			(11.5 - 17.0) LEAN CLAY, 2.5YR 5/8, red, low to medium density, dry		CL				
15				0					
	4	75	(17.0 - 18.0) CLAYEY SILT, 10YR 4/3, brown, low density, slightly moist		ML				
			(18.0 - 30.0) CLAYEY SILT, 5YR 6/3, light reddish brown, mottled 5YR 8/1, white, abundant mica, slightly moist 20.0 - 25.0 ft bgs, slightly damp		ML				
20	5	100		0					
25	6	100	saturated at 25.0 ft bgs	0			▼	SO	DOBNS07-005-SO-024 Note: Interval 24.0 - 25.0 ft
30			End of Borehole 30.0 ft bgs	0					

Temporary Well:
DOBNS07-005
Elev (TOC): 985.57



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BORING LOG - DOBNS07-006
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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 12/2/17
End Date	: 12/2/17
Northing	: 1422724.45
Easting	: 2195630.94
Surface Elev. (ft)*	: 983.30
Total Depth (ft)**	: 30.0

Site Name	: Area 7
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/02/17
DTW During Drilling (ft)	: 20.5
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	80	(0.0 - 5.0) LEAN CLAY, low plasticity, 2.5YR 4/6, high density		CL			SS	DOBNS07-006-SS-001 Note: Interval 0.0 - 0.5 ft	No Temporary Well Installed
5			(5.0 - 6.0) LEAN CLAY, 2.5YR 3/3, dark reddish brown, high plasticity, dry	0	CL					
	2	90	(6.0 - 10.0) LEAN CLAY, 2.5YR 4/6, red, high density, slightly moist		CL					
10	3	60	(10.0 - 13.0) LEAN CLAY, 2.5YR 5/8, red, mottled 2.5YR 7/2, pale red, silty clay, medium density, trace mica, slightly moist	0	CL					
15	4	70	(13.0 - 20.0) CLAYEY SILT, 2.5YR 3/3, dark reddish brown, low density, abundant mica, dry mottled 2.5YR 7/4, light red at 14.5 ft bgs		ML					
20			(20.0 - 21.0) LEAN CLAY, 10YR 9.5/1, white, mottled 2.5YR 8/3, pink, low density, wet @ 20.5 ft bgs	0	CL		▼	SO	DOBNS07-006-SO-020 Note: Interval 19.5 - 20.5 ft	
25	5	90	(21.0 - 26.0) CLAYEY SILT, 5YR 6/3, light reddish brown, mottled 10YR 9.5/1, white and 2.5YR 3/4 dark reddish brown, abundant mica, damp to moist	0	ML			GW	DOBNS07-006-GW-025 Note: Interval 23.0 - 27.0 ft	Geoprobe SP-16 Screen Interval (23.0 - 27.0 ft)
			(26.0 - 27.0) CLAYEY SILT, 2.5YR 4/4, reddish brown, trace mica, wet		ML					
30	6	100	(27.0 - 30.0) LEAN CLAY, 10YR 9.5/1, white, mottled, 2.5YR 8/3, pink and 2.5YR 6/3, light reddish brown, low to medium density, damp	0	CL					

End of Borehole 30.0 ft bgs

Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS07-007

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Start Date	: 12/3/17
End Date	: 12/3/17
Northing	: 1422648.70
Easting	: 2195880.48
Surface Elev. (ft)*	: 980.37
Total Depth (ft)**	: 30.0

Site Name	: Area 7
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/03/17
DTW During Drilling (ft)	: 25.0
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0 - 5	1	70	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, slightly moist	0	CL			SS	DOBNS07-007-SS-001 Note: Interval 0.0 - 0.5 ft	No Temporary Well Installed
5 - 10	2	70	(5.0 - 10.0) CLAYEY SILT, 2.5YR 4/6, red, mottled 2.5YR 7/6, light red, dry	0	ML					
10 - 12	3	75	(10.0 - 12.0) SILT, non-plastic, 5YR 5/6, yellowish red, low density, dry		ML					
12 - 20	3 4	75 80	(12.0 - 20.0) SILT, non-plastic, 2.5YR 6/4, light reddish brown, mottled 2.5YR 4/3, reddish brown and 10YR 9.5/1, white, high density, trace mica, dry	0 0 0	ML			SO	DOBNS07-007-SO-019 Note: Interval 19.0 - 20.0 ft	
20 - 25	5	NR	(20 - 25.0) No Recovery - Broken Rod	0			▼			
25 - 30	6	40	(25.0 - 30.0) SANDY SILT, 5YR 5/4, reddish brown, medium density, trace mica, fine grained, wet	0	ML			GW	DOBNS07-007-GW-029 Note: Interval 26.0 - 30.0 ft	Geoprobe SP-16 Screen Interval (26.0 - 30.0 ft)
30			End of Borehole 30.0 ft bgs							

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BORING LOG - DOBNS07-008

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/3/17
End Date : 12/3/17
Northing : 1422583.41
Easting : 2196127.57
Surface Elev. (ft)* : 978.34
Total Depth (ft)** : 30.0

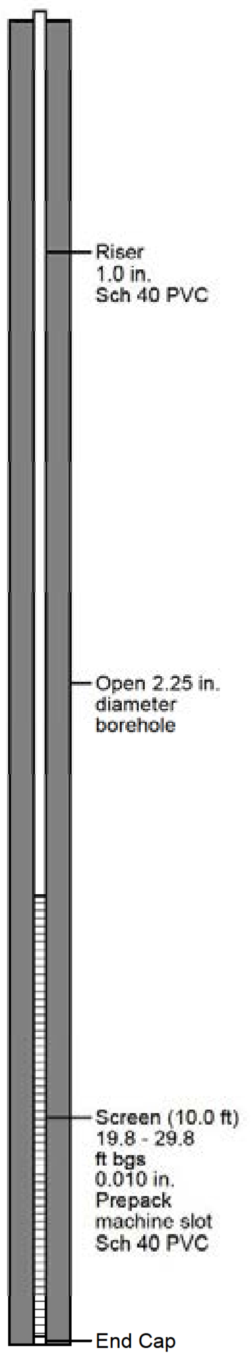
Site Name : Area 7
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 26.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	70	(0.0 - 5.0) LEAN CLAY, 2.5YR 5/8, red, medium density, trace mica, slightly moist		CL			SS	DOBNS07-008-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 6.0) SANDY SILT, 10YR 4/3, brown, medium density, fine grained, moist	0	ML				
			(6.0 - 11.0) LEAN CLAY, 2.5YR 5/8, red, medium density, slightly moist		CL				
10	3	90		0					
			(11.0 - 12.0) LEAN CLAY, 2.5YR 6/8, light red, mottled 10YR 9.5/1, white, medium to high density, trace mica, slightly moist		CL				
			(12.0 - 18.5) CLAYEY SILT, 2.5YR 6/8, light red, low density, trace mica, moist		ML				
15	4	70		0					
			(18.5 - 30.0) CLAYEY SILT, 5YR 6/3, low density, abundant mica, slightly moist 20.0 - 25.0 ft bgs, mottled 10YR9.5/1, white, moist		ML				
20	5	80		0					
25	6	80	26.0 ft bgs, saturated	0			▼	SO	DOBNS07-008-SO-025 Note: Interval 25.0 - 26.0 ft
30			End of Borehole 30.0 ft bgs	0					

Temporary Well:
DOBNS07-008
Elev (TOC): 978.55



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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS08-001

(Page 1 of 1)

Start Date	: 11/30/17
End Date	: 11/30/17
Northing	: 1424389.25
Easting	: 2189274.02
Surface Elev. (ft)*	: 1027.15
Total Depth (ft)**	: 32.2

Site Name	: Area 8
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 27.0
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY
0 - 5	1	100
5 - 10	2	80
10 - 15	3	80
15 - 20	4	80
20 - 25	5	100
25 - 30	6	100
30 - 32.2	7	100

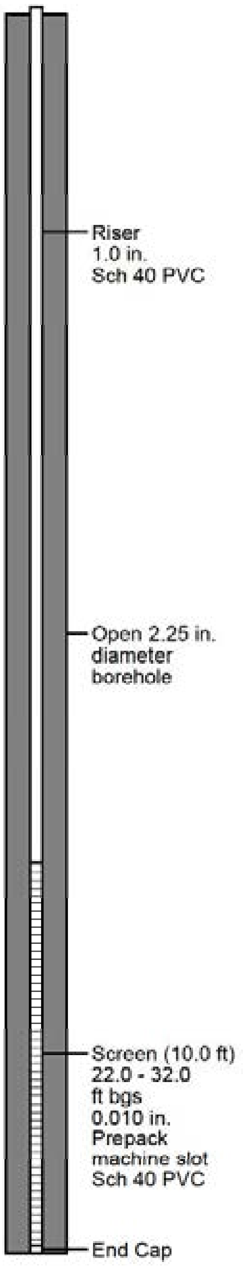
DESCRIPTION	USCS/LITHOLOGY
(0.0 - 0.5) LEAN CLAY, 2.5YR 5/6, red, low to medium density, trace mica, dry	CL
(0.5 - 6.0) LEAN CLAY, 2.5YR 3/6, dark red, high density, trace mica, dry	CL
(6.0 - 12.0) LEAN CLAY, 2.5YR 5/8, medium density, trace mica, slightly moist	CL
(12.0 - 13.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, dry	ML
(13.0 - 15.0) LEAN CLAY, 2.5YR 5/8, red, medium density, trace mica, slightly moist	CL
(15.0 - 20.0) CLAYEY SILT, 2/5YR 6/3, light reddish brown, low to medium density, abundant mica, slightly moist	ML
(20.0 - 22.0) SILTY GRAVEL, 5YR 4/3, reddish brown, fine to coarse, angular to sub-round, moist	GM
(22.0 - 32.2) CLAYEY SILT, 2.5YR 6/3, reddish brown, low to medium density, abundant mica, moist	ML

End of Borehole 32.2 ft bgs

DEPTH IN FEET (bgs)	PID (ppm)
0	0
5	0
10	0
15	0
20	0
25	0
30	0
32.2	0

Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
	SS	DOBNS08-001-SS-001 Note: Interval 0.0 - 0.5 ft
▼	SO	DOBNS08-001-SO-026 Note: Interval 26.0 - 27.0 ft

Temporary Well:
DOBNS08-001
Elev (TOC): 1027.35



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS08-002

(Page 1 of 1)

Start Date : 12/1/17
End Date : 12/1/17
Northing : 1424008.77
Easting : 2189612.27
Surface Elev. (ft)* : 1025.61
Total Depth (ft)** : 23.0

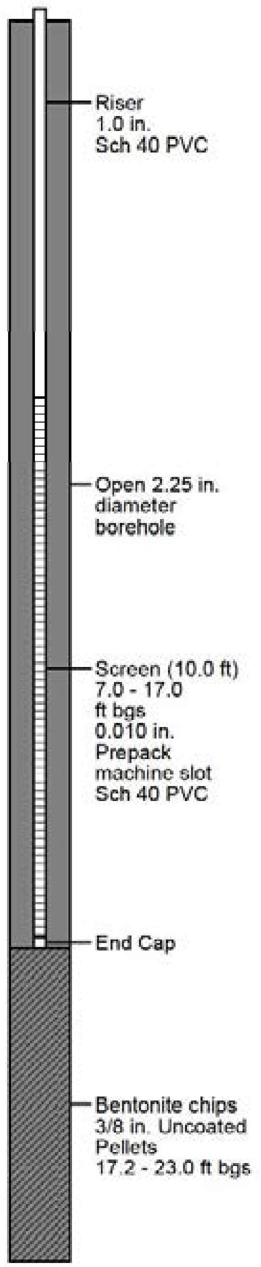
Site Name : Area 8
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 11.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 1.0) LEAN CLAY, 2.5YR 3/4, dark reddish brown, trace mica, slightly moist	0	CL	▨		SS	DOBNS08-002-SS-001 Note: Interval 0.0 - 0.5 ft
			(1.0 - 5.0) LEAN CLAY, 2.5YR 5/6, red, medium density, slightly moist		CL	▨			
5	2	95	(5.0 - 6.0) SANDY LEAN CLAY, 2.5YR 6/8, light red, high density, moist	0	CL	▨			
			(6.0 - 8.5) SANDY LEAN CLAY, 10YR 7/1, light gray, high density, slightly moist		CL	▨			
			(8.5 - 10.0) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica,		ML	▨			
10	3	40	(10.0 - 15.0) CLAYEY SAND, 5YR 6/3, light reddish brown, low density, abundant mica, damp Mottled red 2.5YR 5/8, 1" lense of clayey gravel, fine to coarse, angular	0	SC	▨	▼	SO	DOBNS08-002-SO-010 Note: Interval 10.0 - 11.0 ft
15	4	80	(15.0 - 20.0) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly damp	0	ML	▨			
20	5	70	(20.0 - 23.0) CLAYEY SAND, 5YR 6/3, light reddish brown, low to medium density, trace mica, slightly moist	0	SC	▨			
				0					
25			End of Borehole 23.0 ft bgs						

Temporary Well:
DOBNS08-002
Elev (TOC): 1025.84



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BORING LOG - DOBNS08-003

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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

Start Date : 11/30/17
End Date : 11/30/17
Northing : 1424111.28
Easting : 2190147.66
Surface Elev. (ft)* : 1021.29
Total Depth (ft)** : 17.5

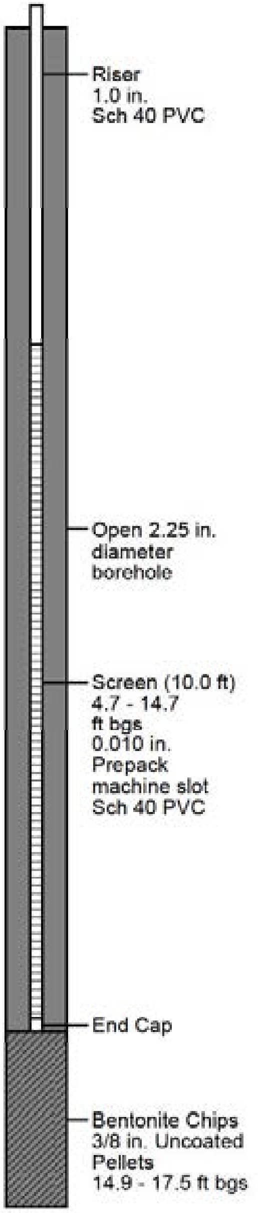
Site Name : Area 8
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 6.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 0.5) LEAN CLAY, 2.5YR 3/6, light red, slightly moist	0	CL			SS	DOBNS08-003-SS-001 Note: Interval 0.0 - 0.5 ft
			(0.5 - 5.0) LEAN CLAY, 2.5YR 6/8, light red, high density, dry		CL				
5	2	80	(5.0 - 8.0) LEAN CLAY, 2.5YR 4/6, red, medium density, wet	0	CL		▼	SO	DOBNS08-003-SO-005 Note: Interval 5.0 - 6.0 ft
			(8.0 - 9.0) SILTY GRAVEL, 10YR 4/1, dark gray, coarse, angular to sub-angular gravel, slightly moist		GM				
			(9.0 - 10.0) CLAYEY SILT, 2.5YR 4/6, red, medium density, moist		ML				
10	3	70	(10.0 - 15.0) CLAYEY SILT, 2.5YR 6/6, light red, mottled 10YR 6/2, light brownish gray, high density, trace mica, moist	0	ML				
15	4	100	(15.0 - 17.5) SILT,10YR 4/1, dark gray, medium density, non-plastic, dry	0 0	ML				
			End of Borehole 17.5 ft bgs						
20									

Temporary Well:
DOBNS08-003
Elev (TOC): 1021.65



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Dobbins Air Reserve Base

BORING LOG - DOBNS08-004

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Start Date	: 12/1/17
End Date	: 12/1/17
Northing	: 1424545.30
Easting	: 2191164.45
Surface Elev. (ft)*	: 1018.60
Total Depth (ft)**	: 21.5

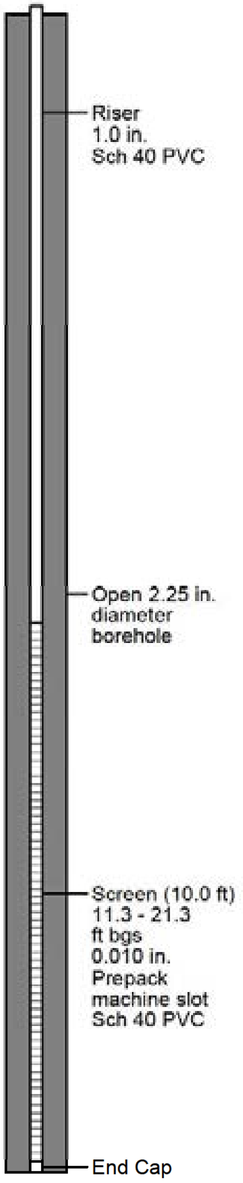
Site Name	: Area 8
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 15.5
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 1.0) LEAN CLAY, 2.5YR 3/4, dark reddish brown, trace mica, slightly moist	0	CL		SS	DOBNS08-004-SS-001 Note: Interval 0.0 - 0.5 ft
			(1.0 - 5.0) LEAN CLAY, 2.5YR 4/8, red, medium to high density, abundant mica, slightly moist		CL			
5	2	70	(5.0 - 5.5) LEAN CLAY, low plasticity, 2.5YR 3/6, dark red, high density, trace mica, slightly moist		CL			
			(5.5 - 5.9) SILTY SAND, 10YR 6/6, brownish yellow, fine grained sand, sub-rounded to rounded, damp		SM			
			(5.9 - 10.0) LEAN CLAY, 5YR 6/6, reddish yellow, medium density, slightly moist		CL			
10	3	80	(10.0 - 13.0) LEAN CLAY, 7.5YR 2/2, pale yellowish pink, mottled 5YR 6/8, reddish yellow, 5YR 3/3, dark reddish brown, medium density, slightly moist		CL			
			(13.0 - 21.5) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, moist		ML		SO	DOBNS08-004-SO-014 Note: Interval 14.0 - 15.0 ft
15	4	80	Wet at 15.5 ft bgs	0		▼		
20	5	100		0 0				
			End of Borehole 21.5 ft bgs					
25								

Temporary Well:
DOBNS08-004
Elev (TOC): 1018.76



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Dobbins Air Reserve Base

BORING LOG - DOBNS08-005

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Start Date	: 12/1/17
End Date	: 12/1/17
Northing	: 1424600.17
Easting	: 2191276.55
Surface Elev. (ft)*	: 1016.67
Total Depth (ft)**	: 20.0

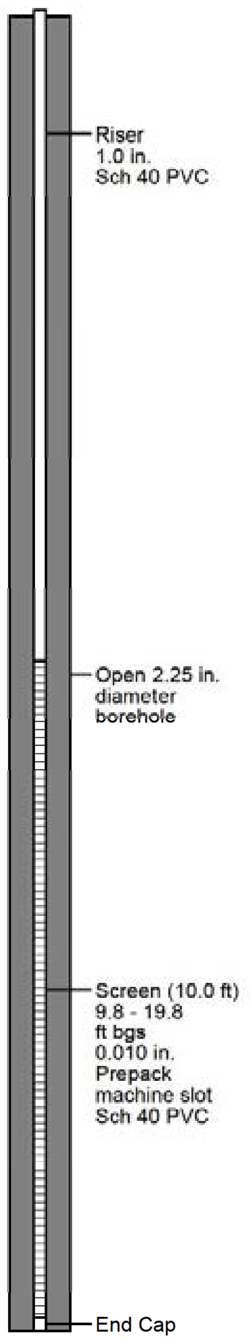
Site Name	: Area 8
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 12.5
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 1.0) LEAN CLAY, 2.5YR 3/4, dark reddish brown, medium density, trace mica, slightly moist	0	CL			SS	DOBNS08-005-SS-001 Note: Interval 0.0 - 0.5 ft
			(1.0 - 5.0) SANDY LEAN CLAY, 2.5YR 6/8, light red, high density, fine to coarse grained sand, angular to sub-rounded		CL				
5	2	80	(5.0 - 8.0) LEAN CLAY, 2.5Y 3/2, pale yellow, low density, trace mica, slightly moist	0	CL				
			(8.0 - 9.0) LEAN CLAY, 5YR 7/8, reddish yellow, low density, moist		CL				
10			(9.0 - 12.0) CLAYEY SILT, 2.5YR 3/2, dusky red, abundant mica, medium density, slightly damp	0	ML			SO	DOBNS08-005-SO-011 Note: Interval 11.0 - 12.0 ft
	3	80	(12.0 - 14.0) CLAYEY GRAVEL, 2.5Y 3/2, pale yellow, 60% gravel, 40% clay, fine to coarse, angular to sub-angular, wet		GC		▼		
15	4	100	(14.0 - 20.0) CLAYEY SILT, 2.5YR 3/2, dusky red, medium density, abundant mica	0 0	ML				
20			End of Borehole 20.0 ft bgs						

Temporary Well:
DOBNS08-005
Elev (TOC): 1016.77



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AFFF Areas (Savannah District)
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Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS08-006

(Page 1 of 1)

Start Date : 12/1/17
End Date : 12/1/17
Northing : 1424445.45
Easting : 2191357.19
Surface Elev. (ft)* : 1017.13
Total Depth (ft)** : 20.0

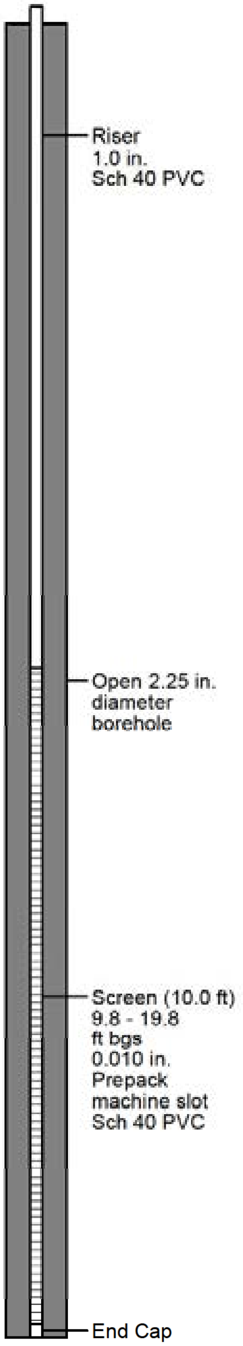
Site Name : Area 8
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 15.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS08-006
Elev (TOC): 1017.41

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 1.0) LEAN CLAY, medium density, trace mica, slightly moist	0	CL			SS	DOBNS08-006-SS-001 Note: Interval 0.0 - 0.5 ft
			(1.0 - 10.0) CLAYEY SILT, 2.5YR 3/2, dusky red, low density, slightly damp						
5	2	70		0	ML				
10	3	100	(10.0 - 17.0) CLAYEY SILT, 2.5YR 3/2, dusky red, low density, slightly damp	0					
			2 Clay lenses ~ 1.0" thick, reddish yellow, 5YR 6/8, moist		ML			SO	DOBNS08-006-SO-0014 Note: Interval 14.0 - 15.0 ft
15				0			▼		
	4	100	(17.0 - 20.0) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, damp		ML				
20			End of Borehole 20.0 ft bgs						



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AFFF Areas (Savannah District)
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Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS09-001

(Page 1 of 1)

Start Date : 12/11/17
End Date : 12/11/17
Northing : 1426552.67
Easting : 2189647.36
Surface Elev. (ft)* : 1026.03
Total Depth (ft)** : 9.1

Site Name : Area 9
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : Not Encountered
Logged By : Justin Vojak

Water Levels
▼ During Drilling

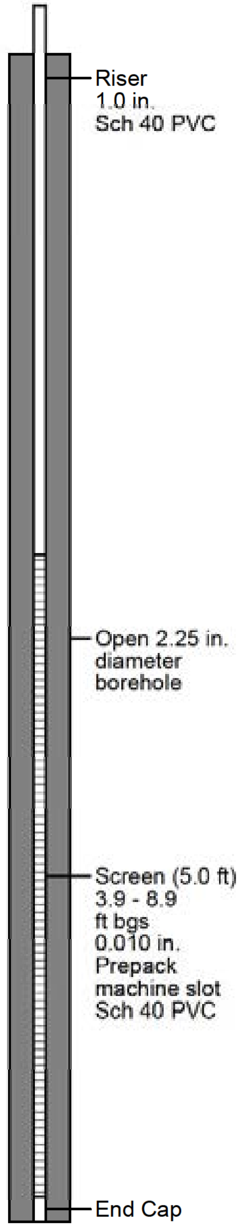
Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 4.0) SILT, non-plastic, 10YR 5/3, brown, medium density, trace mica, dry	0	ML			SS	DOBNS09-001-SS-001 Note: Interval 0.0 - 0.5 ft
			(4.0 - 5.0) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry		ML				
5	2	100	(5.0 - 9.1) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry	0 0	ML			SO	DOBNS09-001-SO-009 Note: Interval 8.0 - 9.0 ft

Refusal - End of Borehole 9.1 ft bgs

10

Temporary Well:
DOBNS09-001
Elev (TOC): 1027.14



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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS09-002

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Start Date	: 12/11/17
End Date	: 12/11/17
Northing	: 1426447.76
Easting	: 2189742.36
Surface Elev. (ft)*	: 1024.83
Total Depth (ft)**	: 44.2

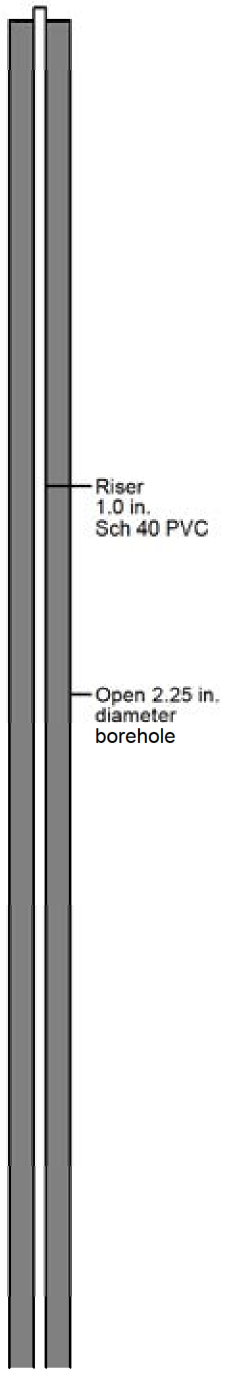
Site Name	: Area 9
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Brian Thomas
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 38.0
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well:
DOBNS09-002
Elev (TOC): 1025.08

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 8.0) LEAN CLAY, 2.5YR 4/6 to 5/6, red, medium density, trace mica, slightly moist	0	CL			SS	DOBNS09-002-SS-001 DOBNS09-002-SS-901 Note: Interval 0.0 - 0.5 ft
5	2	90		0					
			(8.0 - 10.0) LEAN CLAY, 2.5YR 6/6 light red, mottled, 2.5YR 8/1, white, medium density, abundant mica		CL				
10	3	80	(10.0 - 13.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, low density, abundant mica, slightly moist, trace mottling 10YR 9.5/1, white, at 12.5	0	ML				
			(13.0 - 15.0) CLAYEY SILT, medium density, abundant mica, slightly moist		ML				
15	4	80	(15.0 - 16.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, low density, abundant mica, slightly moist	0	ML				
			(16.5 - 19.5) LEAN CLAY, 7.5Y 6/4, pale red, high density, abundant mica, mottled 10YR 9.5/1, white and trace 2.5YR 4/3, reddish brown, moist		CL				
			(19.5 - 21.0) CLAYEY SILT, 2.5YR 5/3, reddish brown, low density, abundant mica		ML				
20	5	100		0					
			(21.0 - 25.0) SILT, 10YR 5/3, brown, medium to high density, non-plastic, abundant mica, dry		ML				
25				0					



Aerostar SES LLC

BORING LOG - DOBNS09-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 12/11/17
End Date	: 12/11/17
Northing	: 1426447.76
Easting	: 2189742.36
Surface Elev. (ft)*	: 1024.83
Total Depth (ft)**	: 44.2

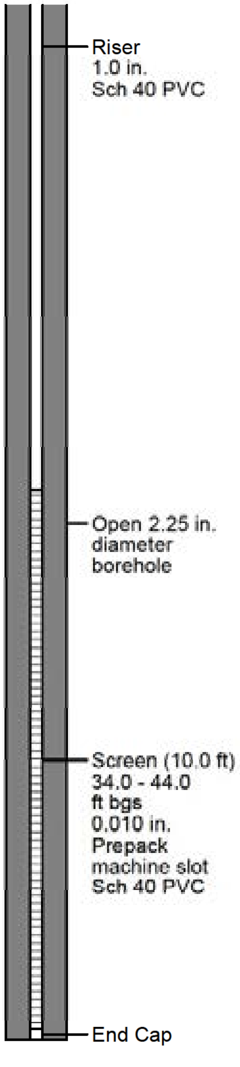
Site Name	: Area 9
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Brian Thomas
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 38.0
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
25	6	100	(25.0 - 27.0) CLAYEY SILT, 10YR 5/3, brown, trace mottling, 10YR 9.5/1, white, low density, abundant mica	0	ML				
			(27.0 - 30.0) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled white, 10YR 9.5/1, medium to high density, abundant mica, slightly moist		CL				
30	7	100	(30.0 - 37.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, medium density, abundant mica, slightly moist	0	ML				
35				0					
	8	100	(37.5 - 40.0) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled white 10YR 9.5/1, medium to high density, abundant mica, trace biotite, damp at 38.0 ft bgs	0	CL		▼	SO	DOBNS09-002-SO-037 Note: Interval 37.0 - 38.0 ft
40	9	100	(40.0 - 44.2) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled white 10YR 9.5/1, low to high density, abundant mica, trace biotite, damp	0	CL				
45			Refusal - End of Borehole 44.2 ft bgs						
50									

Temporary Well:
DOBNS09-002
Elev (TOC): 1025.08



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS09-003

(Page 1 of 2)

Start Date : 12/11/17
End Date : 12/11/17
Northing : 1426478.78
Easting : 2189872.50
Surface Elev. (ft)* : 1018.80
Total Depth (ft)** : 45.0

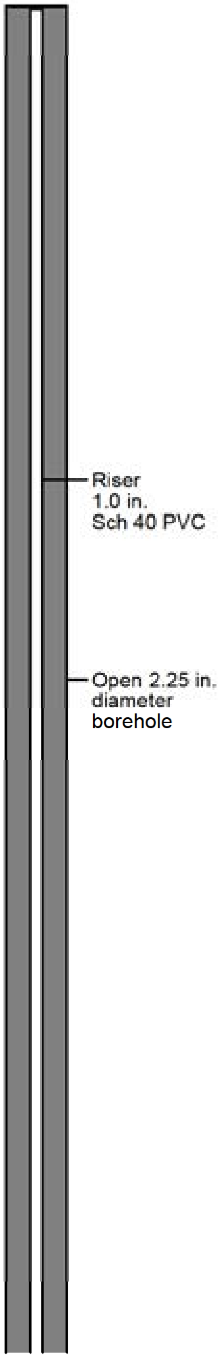
Site Name : Area 9
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 38.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS09-003
Elev (TOC): 1018.75

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, clay, medium density, trace mica, slightly moist	0	CL			SS	DOBNS09-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 8.0) LEAN CLAY, 2.5YR 5/6, red, clay, medium density, abundant mica, slightly moist	0	CL				
			(8.0 - 10.0) SILT, non-plastic, 2.5YR 4/2, weak red, mottled 2.5YR 8/1, white, medium plasticity, dry		ML				
10	3	80	(10.0 - 15.0) SILT, 2.5YR 6/3, light reddish brown, low density, non-plastic, abundant mica, dry	0	ML				
15	4	80	(15.0 - 30.5) SILT, 2.5YR 4/2, weak red, mottled 2.5YR 7/8, light red, 2.5YR 8/1, white, abundant mica, trace biotite, slightly moist	0	ML				
20	5	90			ML				
25									



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS09-003

(Page 2 of 2)

Start Date : 12/11/17
End Date : 12/11/17
Northing : 1426478.78
Easting : 2189872.50
Surface Elev. (ft)* : 1018.80
Total Depth (ft)** : 45.0

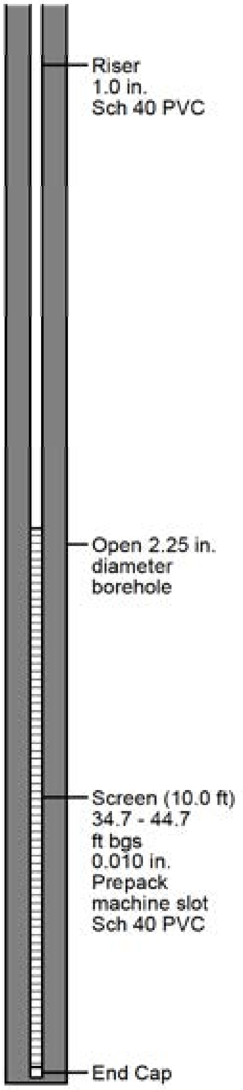
Site Name : Area 9
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 38.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
25	6	80			ML				
30	7	100	(30.5 - 35.0) LEAN CLAY, 2.5YR 6/3, light reddish brown, mottled 10YR 9.5/1, white, medium density, abundant mica, slightly moist		CL				
35	8	100	(35.0 - 38.0) SANDY LEAN CLAY, 10YR 9.5/1, white, mottled 2.5YR 6/3, light reddish brown, 80% clay, 20% sand, poorly graded, coarse, sub-angular, abundant mica, slightly moist	0	CL		▼	SO	DOBNS09-003-SO-037 Note: Interval 37.0 - 38.0 ft
			(38.0 - 40.0) LEAN CLAY, 2.5YR 6/8, light red, low to medium density, wet at 38.0 ft bgs		CL				
40	9	100	43.0 - 45.0 ft bgs, trace mica, damp	0	CL				
45			End of Borehole 45.0 ft bgs	0					
50									

Temporary Well: DOBNS09-003
Elev (TOC): 1018.75



BORING LOG - DOBNS10-001

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 12/11/17
End Date	: 12/11/17
Northing	: 1423005.16
Easting	: 2193196.53
Surface Elev. (ft)*	: 997.36
Total Depth (ft)**	: 25.0

Site Name	: Area 10
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 20.2
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

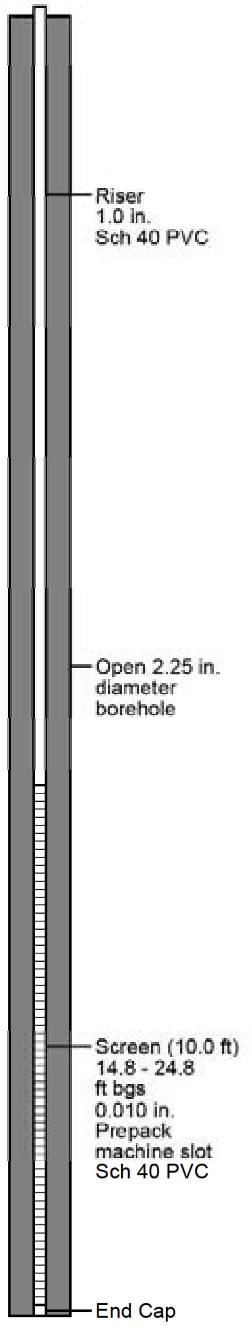
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 5/8, light red, trace mica, dry	0	CL			SS	DOBNS10-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 8.0) LEAN CLAY, 2.5YR 5/8, red, medium density, abundant mica, slightly moist	0	CL				
			(8.0 - 15.5) CLAYEY SILT, 2.5YR 7/4, light reddish brown, low density, abundant mica, slightly moist		ML				
10	3	70	13.5 ft bgs, 1.0 in. coarse grained sand lense	0					
15	4	100	(15.5 - 17.5) CLAYEY SILT, 2.5YR 6/1, reddish gray, low density, abundant mica, moist to wet	0	ML				
			(17.5 - 25.0) CLAYEY SILT, 2.5YR 7/4, light reddish brown, low density, slightly moist, abundant mica		ML				
20	5	100	saturated at 20.2 ft bgs	0			▼	SO	DOBNS10-001-SO-019 Note: Interval 19.0 - 20.0 ft
25			End of Borehole 25.0 ft bgs						

Temporary Well:
DOBNS10-001
Elev (TOC): 997.55



Aerostar SES LLC

BORING LOG - DOBNS10-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 11/30/17
End Date : 11/30/17
Northing : 1422623.98
Easting : 2193123.40
Surface Elev. (ft)* : 1000.10
Total Depth (ft)** : 30.0

Site Name : Area 10
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 25.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

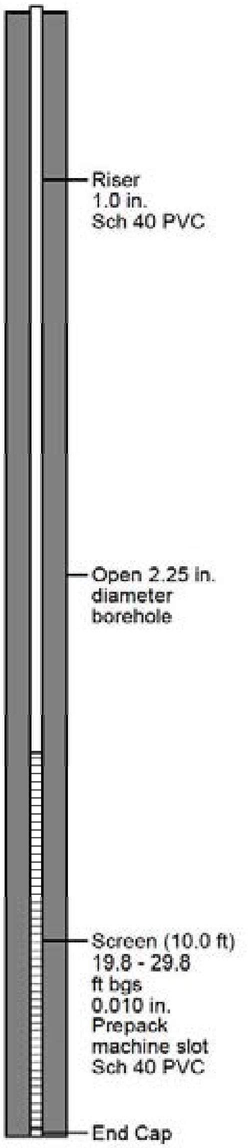
DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	PID (ppm)
0	1	100	0
5	2	60	0
10	3	40	0
15	4	70	0
20	5	60	0
25	6	100	
30			
35			

DESCRIPTION	USCS/LITHOLOGY	SAMPLE TYPE	SAMPLE ID
(0.0 - 4.0) LEAN CLAY, 5YR 6/6, reddish yellow, medium density, slightly moist	CL	SS	DOBNS10-002-SS-001 Note: Interval 0.0 - 0.5 ft
(4.0 - 5.0) LEAN CLAY, 2.5YR 4/6, red, high density, dry	CL		
(5.0 - 12.0) SANDY LEAN CLAY, 2.5YR 4/6 to 7/3, red to light reddish brown, high density, slightly moist	CL		
(12.0 - 17.0) LEAN CLAY, 2.5YR 5/6, red, medium to high density, abundant mica, slightly moist	CL		
(17.0 - 23.0) LEAN CLAY, 10YR 6/4, light yellowish brown, high density, trace mica, slightly moist	CL		
(23.0 - 24.5) CLAYEY SILT, 7.5YR 6/4, light brown, medium density, slightly moist	ML	SO	DOBNS10-002-SO-024 DOBNS10-002-SO-924 Note: Interval 24.0 - 25.0 ft
(24.5 - 25.0) LEAN CLAY, 7.5Y 9.5/1, white, medium density, moist	CL		
(25.0 - 25.5) CLAYEY GRAVEL, 5YR 6/6 reddish yellow, coarse angular to sub-angular, wet	GC		
(25.5 - 26.5) CLAYEY SILT, 7.5YR 7/2, pinkish gray, medium density, abundant mica, saturated	ML		
(26.5 - 27.5) SANDY LEAN CLAY, 7.5YR 7/2, pinkish gray, fine to medium grained sand, saturated	CL		
(27.5 - 28.5) CLAYEY SILT, 7.5YR 7/2, pinkish gray, abundant mica, saturated	ML		
(28.5 - 30.0) CLAYEY SILT, 7.5YR 5/3, brown, medium density, abundant mica, saturated	ML		

End of Borehole 30.0 ft bgs

Depth to Water (DTW): ▼ 25.5

Temporary Well:
DOBNS10-002
Elev (TOC): 1000.26



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BORING LOG - DOBNS10-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 11/30/17
End Date : 11/30/17
Northing : 1422734.94
Easting : 2193260.68
Surface Elev. (ft)* : 997.16
Total Depth (ft)** : 30.0

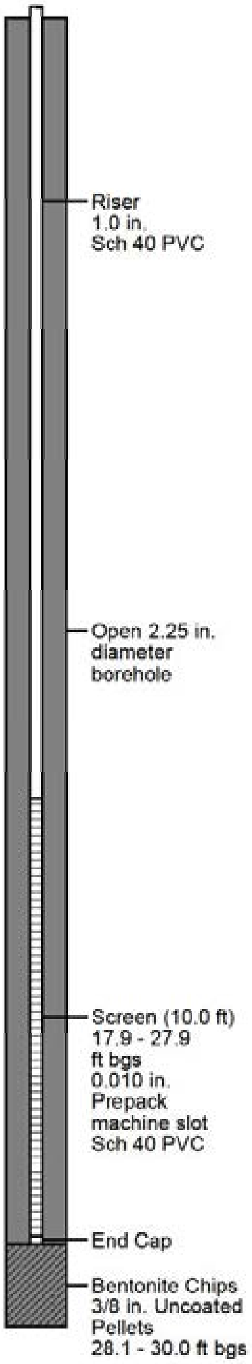
Site Name : Area 10
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 25.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100 100	(0.0 - 5.0) LEAN CLAY, 2.5YR 3/4 to 6/8, dark reddish brown to light red, trace mica, dry to slightly moist	0	CL			SS	DOBNS10-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 9.5) LEAN CLAY, 2.5YR 5/8, red, high density, trace mica, moist		CL				
10	3	70	(9.5 - 9.8) LEAN CLAY, medium plasticity, 2.5YR 3/2, dusk red, medium to high density, slightly moist	0	CL				
			(9.8 - 14.0) LEAN CLAY, 2.5YR 5/8, red, medium density, trace mica, slightly moist		CL				
15	4	100	(14.0 - 16.5) LEAN CLAY, medium plasticity, 10YR 6/2, light grayish brown, high density, slightly moist	0	CL				
			(16.5 - 20.0) SANDY LEAN CLAY, 10YR 7/1, light gray, high density, fine grained sand, slightly moist		CL				
20	5	80	(20.0 - 30.0) CLAYEY SILT, 10YR 6/2, light brownish gray, medium density, abundant mica, moist	0					
25	6	100	saturated at 25.0 ft bgs	0	ML		▼	SO	DOBNS10-003-SO-024 Note: Interval 24.0 - 25.0 ft
30			End of Borehole 30.0 ft bgs	0					

Temporary Well:
DOBNS10-003
Elev (TOC): 997.45



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS11-001

(Page 1 of 1)

Start Date : 11/30/17
End Date : 11/30/17
Northing : 1423402.20
Easting : 2192657.31
Surface Elev. (ft)* : 1008.26
Total Depth (ft)** : 40.0

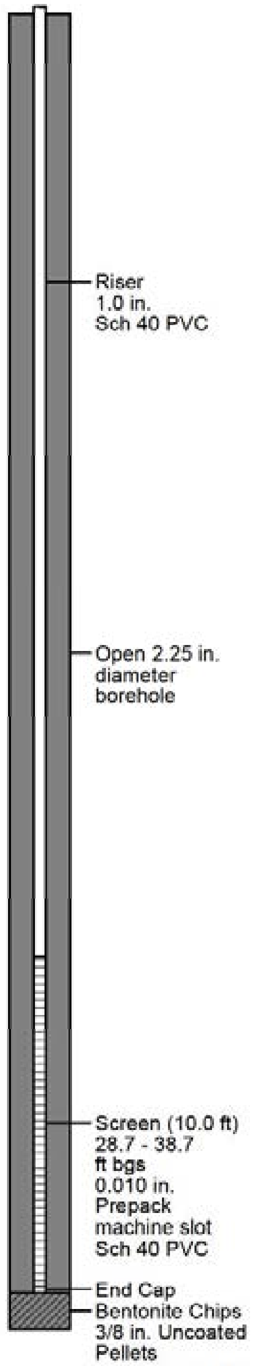
Site Name : Area 11
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 35.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 4.0) LEAN CLAY, 2.5YR 4/6, red, medium density, slightly moist	0	CL			SS	DOBNS11-001-SS-001 Note: Interval 0.0 - 0.5 ft
5			(4.0 - 5.5) LEAN CLAY, 7.5YR 6/6, reddish yellow, medium to high density, slightly moist	0	CL				
	2	100	(5.5 - 10.0) LEAN CLAY, 7.5YR 7/1, light gray, mottled 78.5YR 7/6, reddish yellow, high density, trace mica, slightly moist		CL				
10	3	80	(10.0 - 15.0) LEAN CLAY, 7.5YR 7/1, light gray, mottled 7.5YR 7/6, reddish yellow, medium density, trace mica, slightly moist	0	CL				
15	4	76	(15.0 - 20.0) CLAYEY SILT, 5YR 6/6, reddish yellow, low density, slightly moist 19.5 ft bgs, abundant mica, 2.0" lense of coarse grain sand, angular to sub-rounded		ML				
20	5	90	(20.0 - 40.0) CLAYEY SILT, 10YR 6/2, light brownish gray, low density, abundant mica, slightly moist						
25	6	90		0					
30	7	100	moist at 30.0 ft bgs	0	ML				
35	8	100	saturated @ 35.0 ft bgs	0			▼	SO	DOBNS11-001-SO-034 Note: Interval 34.0 - 35.0 ft
40			End of Borehole 40.0 ft bgs	0					

Temporary Well:
DOBNS11-001
Elev (TOC): 1008.51



Aerostar SES LLC

BORING LOG - DOBNS11-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 11/29/17
End Date : 11/29/17
Northing : 1423430.45
Easting : 2192750.38
Surface Elev. (ft)* : 1005.98
Total Depth (ft)** : 28.0

Site Name : Area 11
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 22.5
Logged By : Justin Vojak

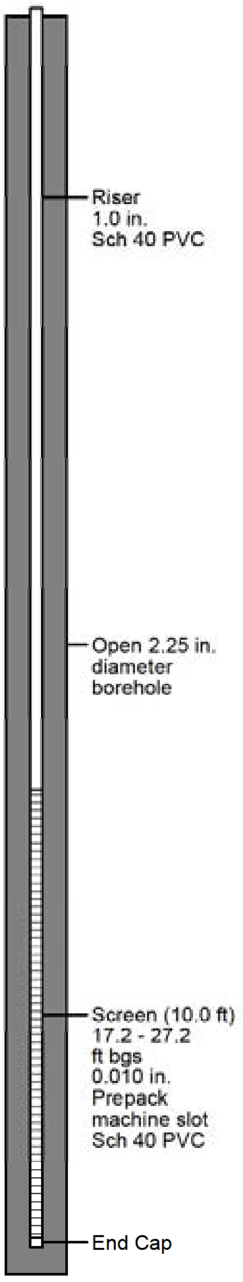
Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS11-002
Elev (TOC): 1006.17

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0 - 5	1	100	(0.0 - 5.0) LEAN CLAY, low plasticity, 10YR 5/6, yellowish brown, slightly moist	0	CL	▨		SS	DOBNS11-002-SS-001 Note: Interval 0.0 - 0.5 ft
5 - 10	2	100	(5.0 - 10.0) LEAN CLAY, 10YR 6/2, light brownish gray, mottled 2.5YR 6/6, light red, trace mica, slightly moist	0	CL	▨			
10 - 15	3	70	(10.0 - 28.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, abundant mica, slightly moist	0		▨			
15 - 20	4	76		0	ML	▨			
20 - 25	5	80	20.5 ft bgs, 2.0 in. lense of well graded, fine to coarse, angular to sub-rounded, gravel	0		▨	▼	SO	DOBNS11-002-SO-021 Note: Interval 21.0 - 22.0 ft
25 - 28	6	66		0		▨			

End of Borehole 28.0 ft bgs



Aerostar SES LLC

BORING LOG - DOBNS11-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date	: 11/29/17
End Date	: 11/29/17
Northing	: 1423360.72
Easting	: 2192800.89
Surface Elev. (ft)*	: 1005.53
Total Depth (ft)**	: 25.0

Site Name	: Area 11
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 17.5
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

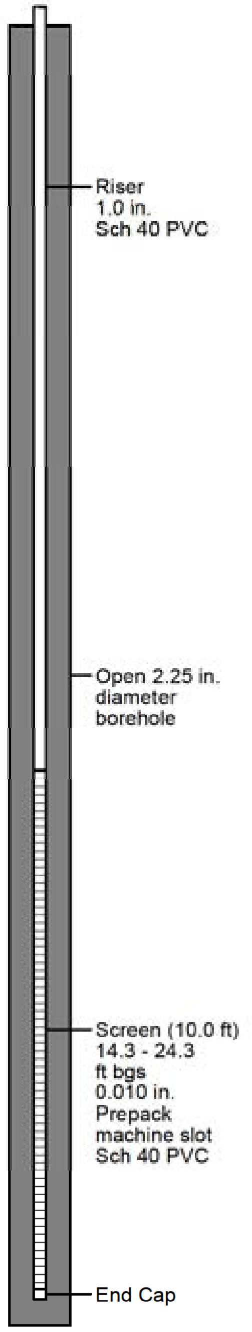
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0			(0.0 - 5.0) LEAN CLAY, low plasticity, 10YR 5/6, yellowish brown, slightly moist		CL			SS	DOBNS11-003-SS-001 Note: Interval 0.0 - 0.5 ft
	1	100							
5	2	100	(5.0 - 14.0) LEAN CLAY, 10YR 6/2,, light brownish gray, mottled 2.5YR 6/8, light red, trace mica, slightly moist	0	CL				
10	3	80		0					
			(14.0 - 25.0) CLAYEY SILT, 2.5YR 7/3, light reddish brown, abundant mica, slightly moist 15.0 ft bgs , damp		ML				
15	4	100	17.5 ft bgs, wet	0			▼	SO	DOBNS11-003-SO-017 Note: Interval 16.5 - 17.5 ft
20	5	100		0					
25			End of Borehole 25.0 ft bgs	0					

Temporary Well:
DOBNS11-003
Elev (TOC): 1005.92



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS12-001

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Start Date	: 12/7/17
End Date	: 12/7/17
Northing	: 1427529.06
Easting	: 2187645.03
Surface Elev. (ft)*	: 1065.76
Total Depth (ft)**	: 24.0

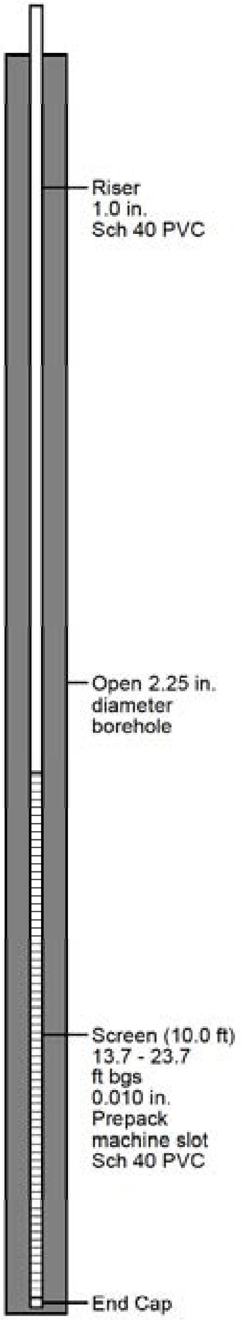
Site Name	: Area 12
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Brian Thomas
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: Not Encountered
Logged By	: Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 3/6, dark red, low density, slightly moist	0	CL			SS	DOBNS12-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 9.0) SILT, 2.5YR 5/3, non-plastic, reddish brown, high density, trace to abundant mica, dry	0	ML				
10	3	80	(9.0 - 14.0) SILT, non-plastic, 10YR 5/3, brown, high density, abundant mica, dry	0	ML				
			(14.0 - 14.5) CLAYEY SILT, 2.5YR 5/4, reddish brown, high density, abundant mica, dry		ML				
			(14.5 - 15.0) SILT, 10YR 5/3, brown, high density, abundant mica, dry		ML				
15	4	90	(15.0 - 20.0) CLAYEY SILT, 2.5YR 5/4, reddish brown, high density, slightly moist		ML				
20	5	100	(20.0 - 24.0) SILT, 10YR 4/3, brown, abundant mica, slightly moist 20.0 - 21.0 ft bgs, then dry	0 0	ML			SO	DOBNS12-001-SO-024 Note: Interval 23.0 - 24.0 ft
25			Refusal - End of Borehole 24.0 ft bgs						

Temporary Well:
DOBNS12-001
Elev (TOC): 1067.00



BORING LOG - DOBNS12-002

(Page 1 of 1)

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/7/17
End Date : 12/7/17
Northing : 1427536.51
Easting : 2187677.36
Surface Elev. (ft)* : 1066.15
Total Depth (ft)** : 9.0

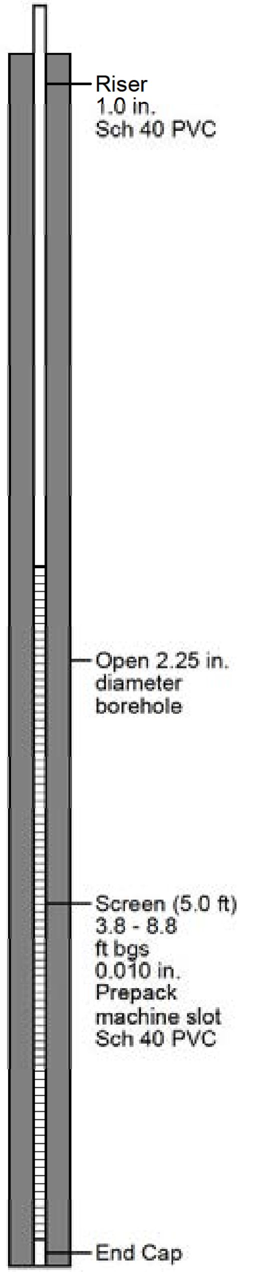
Site Name : Area 12
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : Not Encountered
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 4.0) LEAN CLAY, 2.5YR 3/6, dark red, low density, slightly moist		CL			SS	DOBNS12-002-SS-001 Note: Interval 0.0 - 0.5 ft
5			(4.0 - 6.0) SILT, 2.5YR 5/3, non-plastic, reddish brown, high density, abundant mica, dry	0 0	ML				
	2	80	(6.0 - 9.0) SILT, non-plastic, 2.5YR 5/3, reddish brown, high density, dry		ML			SO	DOBNS12-002-SO-009 Note: Interval 8.0 - 9.0 ft
10			Refusal - End of Borehole 9.0 ft bgs						

Temporary Well: DOBNS12-002
Elev (TOC): 1067.30



BORING LOG - DOBNS12-003

(Page 1 of 1)

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/7/17
End Date : 12/7/17
Northing : 1427543.31
Easting : 2187745.87
Surface Elev. (ft)* : 1067.31
Total Depth (ft)** : 7.7

Site Name : Area 12
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : Not Encountered
Logged By : Justin Vojak

Water Levels

▼ During Drilling

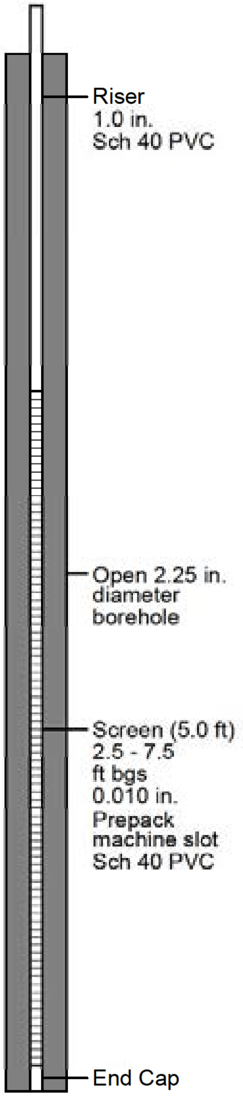
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, medium plasticity, 2.5YR 5/6, red, medium density, abundant mica, slightly moist	0	CL	▨		SS	DOBNS12-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	100	(5.0 - 6.0) SILT, non-plastic, 2.5YR 5/3, reddish brown, high density, abundant mica, dry	0	ML	▨			
			(6.0 - 7.7) LEAN CLAY, 2.5YR 5/6, red, high density, abundant mica, slightly moist		CL	▨		SO	DOBNS12-003-SO-007 DOBNS12-003-SO-907 Note: Interval 6.7 - 7.7 ft
			Refusal - End of Borehole 7.7 ft bgs						
10									

Temporary Well:
DOBNS12-003
Elev (TOC): 1069.72



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS13-001

(Page 1 of 2)

Start Date : 12/12/17
End Date : 12/12/17
Northing : 1421494.08
Easting : 2193481.77
Surface Elev. (ft)* : 996.55
Total Depth (ft)** : 55.0

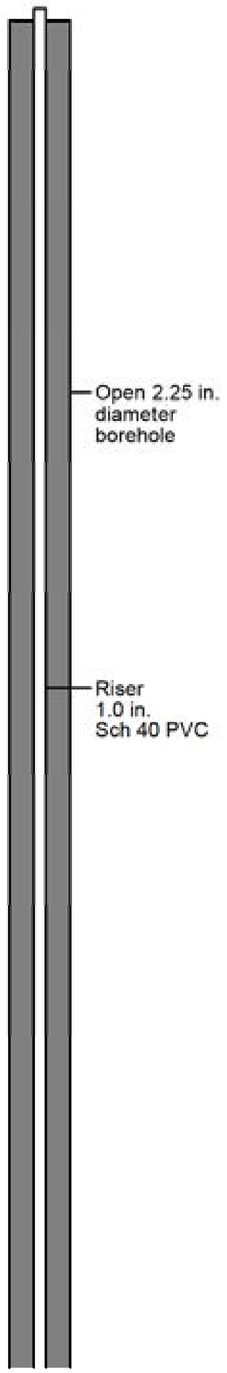
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/15/17
DTW During Drilling (ft) : 48.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, low plasticity, 2.5YR 4/6 to 6/6, red to light red, medium density, abundant mica, slightly moist		CL			SS	DOBNS13-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 14.0) CLAYEY SILT, 2.5YR 4/4, reddish brown, low density, abundant mica, dry	0	ML				
10	3	80		0					
			(14.0 - 18.5) LEAN CLAY, 2.5YR 5/6, red, trace mica, slightly moist		CL				
15	4	80		0					
			(18.5 - 19.0) LEAN CLAY, 10YR 5/3, brown, high density, slightly moist		CL				
			(19.0 - 20.0) LEAN CLAY, low plasticity, 2.5YR 5/6, red, high density, abundant mica		CL				
20	5	80	(20.0 - 25.0) CLAYEY SILT, 2.5YR 5/3, reddish brown, medium density, abundant mica, slightly moist, trace mottling with 2.5YR 7/8, light red from 23.0 - 23.5 ft bgs		ML				
25	6	80	(25.0 - 30.0) LEAN CLAY, 2.5YR 5/6, red, low to medium density, trace mica, slightly moist	0	CL				
30				0					

Temporary Well:
DOBNS13-001
Elev (TOC): 996.83



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS13-001

(Page 2 of 2)

Start Date	: 12/12/17
End Date	: 12/12/17
Northing	: 1421494.08
Easting	: 2193481.77
Surface Elev. (ft)*	: 996.55
Total Depth (ft)**	: 55.0

Site Name	: Area 13
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Brian Thomas
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/15/17
DTW During Drilling (ft)	: 48.0
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

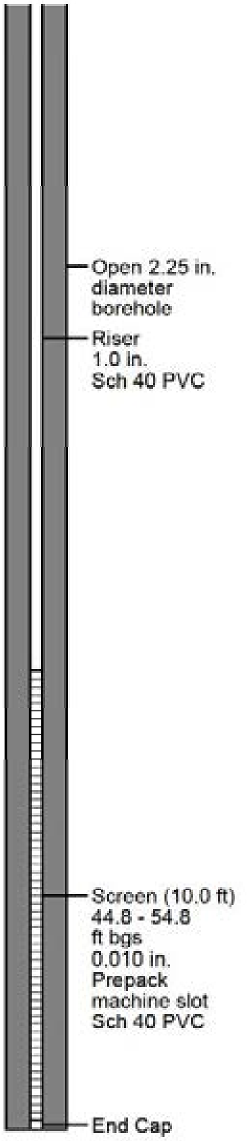
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
30	7	80	(30.0 - 33.0) LEAN CLAY, 2.5YR 4/6, red, low to medium density, trace mica, slightly moist	0	CL				
			(33.0 - 35.0) LEAN CLAY, 2.5YR 4/6, red, high density, dry		CL				
35	8	90	(35.0 - 38.0) LEAN CLAY, medium plasticity, 2.5YR 4/6, red, medium density, slightly moist		CL				
			(38.0 - 38.5) SILTY SAND, 10YR 5/3, brown, high density, fine grained sand, poorly graded, slightly moist		SM				
			(38.5 - 39.0) LEAN CLAY, 2.5YR 4/6, red, medium density, medium plasticity, trace mica, slightly moist		CL				
			(39.0 - 40.0) CLAYEY SILT, 10YR 6/1, gray, high density, slightly moist		ML				
40	9	100	(40.0 - 45.0) SANDY LEAN CLAY, 5YR 5/4, reddish brown, medium density, poorly graded sand, fine grained, slightly moist	0	CL				
45			(45.0 - 46.5) LEAN CLAY, 10YR 6/1, gray, medium density, moist	0	CL				
	10	100	(46.5 - 49.5) CLAYEY SILT, 2.5YR 7/8 to 6/3, light red to light reddish brown, low to medium density, abundant mica, moist		ML		▼	SO	DOBNS13-001-SO-047 Note: Interval 47.0 - 48.0 ft
			(49.5 - 50.0) SILT, non-plastic, 10YR 4/1, dark gray, low density, abundant mica, wet		ML				
50	11	100	(50.0 - 53.0) SANDY LEAN CLAY, 10YR 6/3, pale brown, low density, trace mica, 60% fines, 40% sand, wet to saturated	0	CL				
			(53.0 - 55.0) SANDY LEAN CLAY, 5YR 6/8, reddish yellow, low density, 60% fines, 40% sand, fine grained, trace mica, wet	0	CL				
55			End of Borehole 55.0 ft bgs						
60									

Temporary Well:
DOBNS13-001
Elev (TOC): 996.83



Aerostar SES LLC

BORING LOG - DOBNS13-002

(Page 1 of 2)

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/12/17
End Date : 12/12/17
Northing : 1421392.94
Easting : 2193730.08
Surface Elev. (ft)* : 996.91
Total Depth (ft)** : 47.1

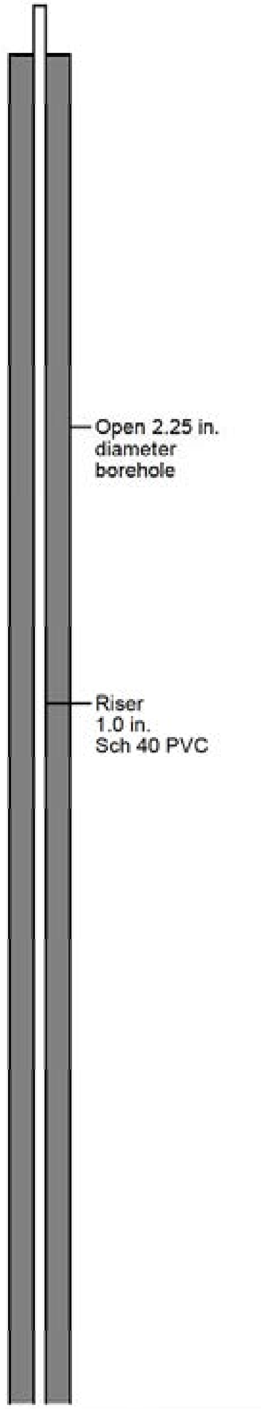
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 35.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 5/8, red, medium density, trace mica, slightly moist		CL			SS	DOBNS13-002-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	80	(5.0 - 8.0) LEAN CLAY, 2.5YR 4/6, red, medium density, abundant mica, slightly moist	0	CL				
10			(8.0 - 11.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled, 2.5YR 3/2, dusky red, medium density, abundant mica, very moist	0	ML				
			(11.0 - 12.0) CLAYEY SILT, 2.5YR 5/6, red, medium density, trace mica, slightly moist, trace mottling ~ 1.0 in. 10YR 9.5/1, white at 11.5 ft bgs		ML				
15	3	80	(12.0 - 15.5) CLAYEY SILT, 2.5YR 7/4, light reddish brown, low density, abundant mica, dry	0	ML				
			(15.5 - 16.5) LEAN CLAY, 2.5YR 3/3, dark reddish brown, high density, trace mica, slightly moist		CL				
			(16.5 - 17.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, abundant mica, slightly moist		ML				
	4	80	(17.5 - 18.5) LEAN CLAY, 2.5YR 5/4, red, high density		CL				
20			(18.5 - 19.0) SANDY LEAN CLAY, 10YR 5/3, brown, low plasticity, 70% clay, 30% sand. high density, slightly moist, organics (tree/wood)	0	CL				
	5	80	(19.0 - 24.0) LEAN CLAY, 2.5YR 5/4, reddish brown, high density, trace to abundant mica, mottling with white 10YR/9.5/1, from 21.0 - 21.2		CL				
25			(24.0 - 25.0) LEAN CLAY, 2.5YR 5/8, red, medium to high density, trace mica, moist	0	CL				

Temporary Well:
DOBNS13-002
Elev (TOC): 999.22



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS13-002

(Page 2 of 2)

Start Date : 12/12/17
End Date : 12/12/17
Northing : 1421392.94
Easting : 2193730.08
Surface Elev. (ft)* : 996.91
Total Depth (ft)** : 47.1

Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 35.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

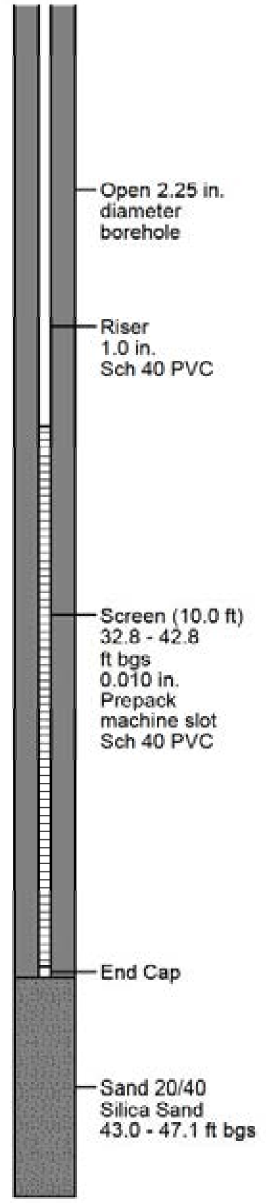
Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
25	6	100	(25.0 - 26.5) SANDY LEAN CLAY, 10YR 5/3, brown, high density, fine grained sand, dry	0	CL	▨			
			(26.5 - 27.5) LEAN CLAY, 2.5YR 5/3, brown, medium density, abundant mica, slightly moist		CL	▨			
			(27.5 - 28.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled, 2.5YR 7/6, light red and trace white 10YR 9.5/1, medium density, abundant mica, slightly moist		ML	▨			
			(28.0 - 30.0) LEAN CLAY, low plasticity, 2.5YR 3/6, dark red, high density, dry		CL	▨			
30	7	90	(30.0 - 35.0) CLAYEY SILT, 2.5YR 5/3, reddish brown, medium to high density, abundant mica, slightly moist, 34.5 - 35.0 ft bgs, slightly damp	0	ML	▨		SO	DOBNS13-002-SO-034 Note: Interval 34.0 - 35.0 ft
35	8	70	(35.0 - 36.0) SANDY LEAN CLAY, 10YR 5/3, brown, 70% fines, 30% sand, fine grained, poorly graded, high density, trace to abundant mica, moist	0	CL	▨	▼		
			(36.0 - 47.1) LEAN CLAY, 2.5YR 4/6, red, trace mottling white, 10YR 9.5/1, medium to high density, trace to abundant mica, slightly moist to dry		CL	▨			
40	9	80		0					
45	10	100		0					
				0					

Refusal - End of Borehole 47.1 ft bgs

50

Temporary Well:
DOBNS13-002
Elev (TOC): 999.22



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS13-003

(Page 1 of 2)

Start Date : 12/12/17
End Date : 12/12/17
Northing : 1421248.77
Easting : 2193628.24
Surface Elev. (ft)* : 996.58
Total Depth (ft)** : 55.0

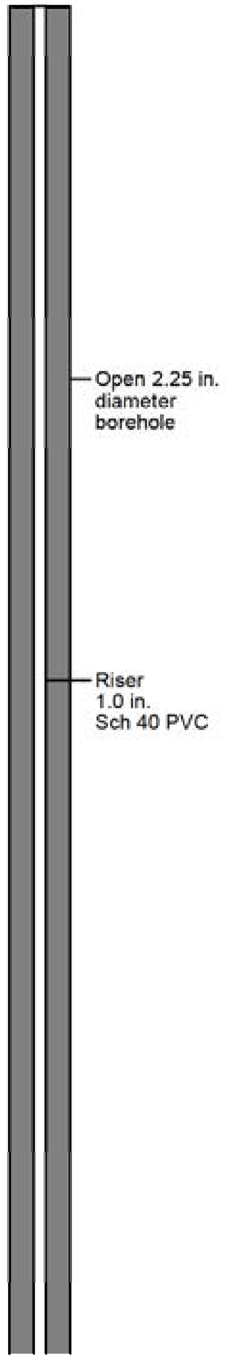
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 48.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0 5	1	100	(0.0 - 6.5) LEAN CLAY, 2.5YR 4/6, red, low to medium density, abundant mica, slightly moist	0	CL			SS	DOBNS13-003-SS-001 Note: Interval 0.0 - 0.5 ft
	2	80	(6.5 - 9.0) LEAN CLAY, 2.5YR 6/6, light red, mottled, 2.5YR 3/2, dusk red, and trace 2.5YR 8/1 white, medium density, trace mica, dry		CL				
10			(9.0 - 10.0) LEAN CLAY, 2.5YR 5/4, reddish brown, medium density, abundant mica, moist -9.5 ft bgs, 2 in. angular, poorly graded, gravel lense	0	CL				
	3	80	(10.0 - 12.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled 2.5YR 8/1, white, trace to abundant mica, dry		ML				
			(12.0 - 12.5) LEAN CLAY, 2.5YR 6/8, light red, medium to high density, slightly moist		CL				
15			(12.5 - 15.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled, 2.5YR 6/8, light red, abundant mica, slightly moist	0	ML				
			(15.0 - 16.0) CLAYEY SILT, 2.5YR 5/4, reddish brown, trace mica, slightly moist		ML				
	4	80	(16.0 - 19.0) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, slightly moist		CL				
20			(19.0 - 19.5) CLAYEY SILT, 2.5YR 6/3, light reddish brown, mottled 2.5YR 3/2, dusky red, medium density, abundant mica, slightly moist	0	ML				
			(19.5 - 20.0) LEAN CLAY, 10YR 3/3, dark brown, high density, slightly moist		CL				
	5	80	(20.0 - 23.0) CLAYEY SILT, 2.5YR 5/3, reddish brown, low density, abundant mica, slightly moist		ML				
25			(23.0 - 25.0) LEAN CLAY, 10YR 3/3, dark brown, high density, slightly moist	0	CL				
			(25.0 - 27.0) CLAYEY SILT, 2.5YYR 4/4, reddish brown, low density, abundant mica, slightly moist		ML				
	6	80	(27.0 - 27.5) SILTY SAND,10YR 7/2, light gray, fine grained, trace mica, slightly moist		SM				
30			(27.5 - 31.0) CLAYEY SILT, 2.5YR 4/3, reddish brown, mottled 2.5YR 5/8, red and 2.5YR 8/1, white, medium density, abundant mica, slightly moist	0	ML				

Temporary Well:
DOBNS13-003
Elev (TOC): 996.60



BORING LOG - DOBNS13-003

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/12/17
End Date : 12/12/17
Northing : 1421248.77
Easting : 2193628.24
Surface Elev. (ft)* : 996.58
Total Depth (ft)** : 55.0

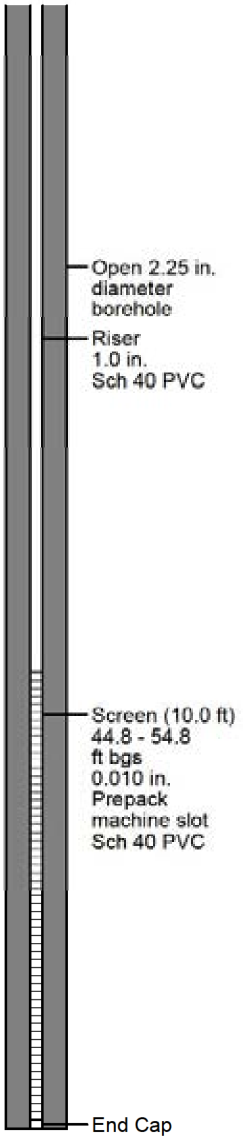
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 48.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
30	7	100		0	ML				
			(31.0 - 32.0) SANDY SILT, non-plastic, 2.5YR 7/8, light red, low density, 70% fines, 30% sand, slightly moist		ML				
			(32.0 - 33.5) LEAN CLAY, 2.5YR 3/3, dark reddish brown, high density, trace mica, slightly moist		CL				
			(33.5 - 35.0) CLAYEY SAND, 2.5YR 7/8, light red, fine grained, sub-rounded, slightly moist		SC				
35	8	80	(35.0 - 36.0) CLAYEY SILT, 2.5YR 4/4, reddish brown, abundant mica, slightly moist	0	ML				
			(36.0 - 40.0) LEAN CLAY, 2.5YR 5/5, red, high density, abundant mica, slightly moist		CL				
40	9	80	(40.0 - 42.0) LEAN CLAY, medium plasticity, 2.5YR 3/4, dark reddish brown, high density, slightly moist	0	CL				
			(42.0 - 45.0) LEAN CLAY, 2.5YR 6/6, light red, high density, abundant mica, slightly moist		CL				
45	10	90	(45.0 - 46.0) FAT CLAY, high plasticity, 2.5YR 4/6, red, medium density, high plasticity, slightly moist	0	CH				
			(46.0 - 48.5) LEAN CLAY, low plasticity, 10YR 5/2, grayish brown, high density, moist		CL		▼	SO	DOBNS13-003-SO-048 Note: Interval 47.5 - 48.5 ft
			(48.5 - 50.0) SANDY CLAY, low plasticity, 10YR 5/2, grayish brown, 70% clay, 30% sand, fine grained sand, medium density, wet -grades to damp with depth below 48.5 ft		CL				
50	11	80	(50.0 -51.0) LEAN CLAY, medium plasticity, 10YR 7/1, light gray, high density, damp		CL				
			(51.0 - 54.0) LEAN CLAY, 10YR 7/1, light gray, low density, trace mica, damp to wet		CL				
			(54.0 - 55.0) CLAYEY SILT, 2.5YR 6/8, light red, mottled, 10YR 5/3, brown, medium density, trace mica, moist to damp		ML				
55			End of Borehole 55.0 ft bgs	0					
60									

Temporary Well:
DOBNS13-003
Elev (TOC): 996.60



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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS13-004

(Page 1 of 2)

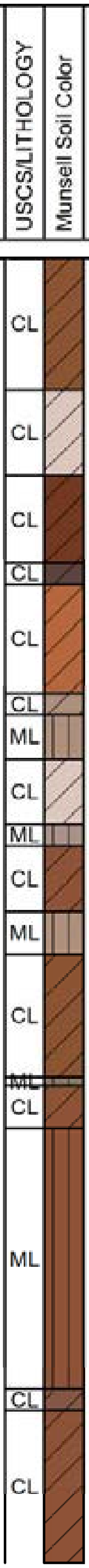
Start Date : 12/02/17
End Date : 12/02/17
Northing : 1421183.17
Easting : 2193857.25
Surface Elev. (ft)* : 996.80
Total Depth (ft)** : 55.0

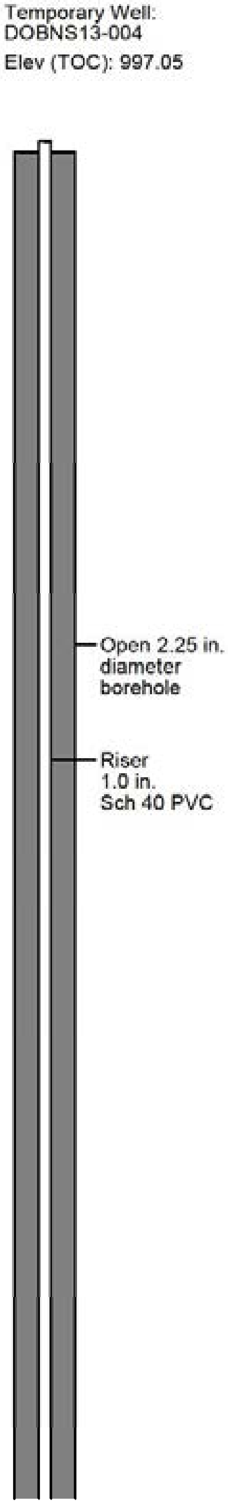
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 52.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY,5YR 4/6, yellowish red, medium density, trace mica, slightly moist			SS	DOBNS13-004-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 5.0) LEAN CLAY, low to medium plasticity, high density, slightly moist				
5			(5.0 - 7.0) LEAN CLAY, 2.5YR 3/6, dark red, high density, trace mica, slightly moist	0			
	2	100	(7.0 - 7.5) LEAN CLAY, 2.5YR 3/2, dusky red, mottled, white, 7.5YR 9.5/1, abundant mica, low density, moist				
			(7.5 - 10.0) LEAN CLAY, 2.5YR 5/8, red, medium density, trace mica, slightly moist				
10			(10.0 - 10.5) LEAN CLAY, 2.5YR 3/2, dusky red, mottled 2.5YR 8/1, white and 2.5YR 7/8, light red, abundant mica, low to medium density, slightly moist				
	3	100	(10.5 - 11.5) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly moist				
15			(11.5 - 13.0) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, slightly moist	0			
			(13.0 - 13.5) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly moist				
	4	100	(13.5 - 15.0) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, slightly moist				
20			(15.0 - 16.0) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly moist	0			
			(16.0 - 18.8) LEAN CLAY, 5YR 4/6, red, mottled white, 10YR 9.5/1, low to medium density, trace mica, slightly moist				
	5	100	(18.8 - 19.0) CLAYEY SILT, 10YR 5/2, grayish brown, low density, dry				
			(19.0 - 20.0) LEAN CLAY, low plasticity, 2.5YR 4/6, red, high density, slightly moist				
25			(20.0 - 26.0) CLAYEY SILT, 2.5YR 4/6, red, medium density, abundant mica, slightly moist	0			
			(26.0 - 26.5) LEAN CLAY, low plasticity, 2.5YR 4/3, reddish brown, high density, dry				
30	6	80	(26.5 - 30.0) LEAN CLAY, 2.5YR 4/6 to 3/2, red to dusky red, mottled white 7.5YR 1/1, medium to high density, abundant mica, slightly moist	0			





BORING LOG - DOBNS13-004

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/02/17
End Date : 12/02/17
Northing : 1421183.17
Easting : 2193857.25
Surface Elev. (ft)* : 996.80
Total Depth (ft)** : 55.0

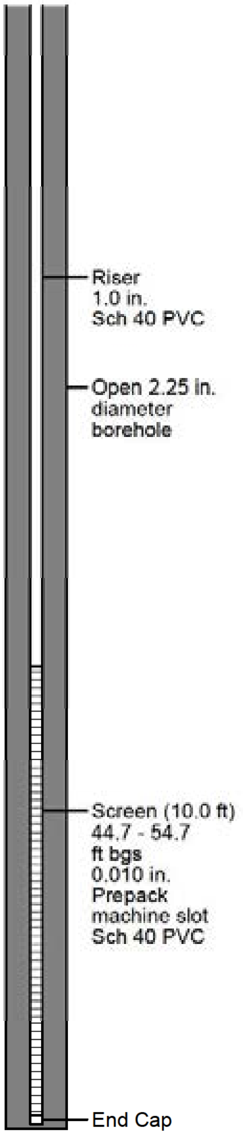
Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 52.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well:
DOBNS13-004
Elev (TOC): 997.05

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
30	7	80 100	(30.0 - 35.5) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, dry	0	CL				
35	8	100		0					
			(35.5 - 36.5) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly moist		ML				
			(36.5 - 39.5) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, dry		CL				
			(39.5 - 40.0) LEAN CLAY, 2.5YR 4/1, dark reddish gray, high density, dry		CL				
40	9	80	(40.0 - 42.5) LEAN CLAY, 2.5YR 4/6, red, high density, trace mica, dry to slightly moist	0	CL				
			(42.5 - 45.5) CLAYEY SILT, 5YR 6/3, light reddish brown, low density, abundant mica, slightly moist		ML				
45	10	100							
			(45.5 - 46.5) SILT, non-plastic, 7.5YR 3/2, dark brown, low density, damp		ML				
			(46.5 - 47.5) FAT CLAY, high plasticity, 7.5YR 4/2, brown, medium density, moist		CH				
			(47.5 - 50.0) CLAYEY SILT, 5YR 6/3, light reddish brown, abundant mica, slightly moist		ML				
50	11	100	(50.0 -52.0) CLAYEY SILT, 7.5YR 7/6, reddish yellow, low density, moist	0	ML		▼	SO	DOBNS13-004-SO-051 Note: Interval 51.0 - 52.0 ft
			(52.0 - 54.5) SILT, non-plastic, 5YR 5/6, yellowish red, low density, wet		ML				
			(54.5 - 55.0) CLAYEY SILT, 7.5YR 9.5/1, white, mottled 2.5YR 6/8, red, low density, damp	0	ML				
55			End of Borehole 55.0 ft bgs						
60									



Aerostar SES LLC

BORING LOG - DOBNS13-005

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 11/29/17
End Date : 11/29/17
Northing : 1420941.73
Easting : 2193805.43
Surface Elev. (ft)* : 997.15
Total Depth (ft)** : 55.0

Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 11/29/17
DTW During Drilling (ft) : 52.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
0	1	100	(0.0 - 0.5) SILTY GRAVEL, 2.5YR 4/2, dark grayish brown, 60% gravel, 40% fines, angular to sub-rounded, fine to coarse, dry	0	GM			SS	DOBNS13-005-SS-001 Note: Interval 0.0 - 0.5 ft	No temporary well installed.
			(0.5 - 5.0) LEAN CLAY, low plasticity, 2.5YR 4/6, red, slightly moist, slightly moist		CL					
5	2	94	(5.0 - 9.0) LEAN CLAY, low plasticity, 2.5YR 4/6 to 6/6, red to light red, slightly moist to dry with depth		CL					
			(9.0 - 10.0) LEAN CLAY, low plasticity, 2.5YR 4/6, red, dry		CL					
10	3	80	(10.0 - 16.0) LEAN CLAY, 2.5YR 5/4, reddish brown, dry	0	CL					
15	4	100		0						
			(16.5 - 22.0) SILT, 5YR 5/8 to 2.5YR 4/6, red, yellowish red, non-plastic, trace mica, dry to slightly moist	0	ML					
20	5	100		0						
			(22.0 - 24.0) FAT CLAY, high plasticity, 2.5YR 4/6, red, trace mica, slightly moist		CH					
			(24.0 - 30.5) LEAN CLAY, 2.5YR 5/6, red, trace mica, dry		CL					
25	6	100		0						
			Grading pale brown, 10YR 6/3, dry, fine grained sands, dry, 30.0 - 30.5 ft bgs							
30				0						

BORING LOG - DOBNS13-005

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 11/29/17
End Date : 11/29/17
Northing : 1420941.73
Easting : 2193805.43
Surface Elev. (ft)* : 997.15
Total Depth (ft)** : 55.0

Site Name : Area 13
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 11/29/17
DTW During Drilling (ft) : 52.0
Logged By : Justin Vojak

Water Levels

▼ During Drilling

Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID	REMARKS
30				0	CL					
	7	100	(30.5 - 42.5) LEAN CLAY, 2.5YR 5/4, red, slightly moist							
35				0	CL					
	8	100	37.0 - 39.0 ft bgs, grading 10YR 5/1, gray							
40				0						
	9	100	(42.5 - 45.0) LEAN CLAY, 2.5YR 5/4, reddish brown, medium plasticity, trace mica		CL					
45			(45.0 - 48.5) LEAN CLAY, low to medium plasticity, red, slightly moist	0	CL					
	10	100								
			(48.5 - 52.0) LEAN CLAY, 10YR 4/2, dark grayish brown, slightly moist to moist							
50				0	CL					
							▼	SO	DOBNS13-005-SO-051 Note: Interval 51.0 - 52.0 ft	
	11	100	(52.0 - 54.5) SAND, poorly graded, 10YR 4/1 to 7/1 dark gray to light gray, fine to coarse grained, saturated		SP			GW	DOBNS13-005-GW-053 DOBNS13-005-GW-953 Note: Interval 51.0 - 55.0 ft	Geoprobe SP16 Screen Interval (51.0 - 55.0 ft)
55			(54.5 - 55.0) LEAN CLAY, low plasticity, 10YR 6/1, gray, moist		CL					
			End of Borehole 55.0 ft bgs							
60										

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AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS14-001

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Start Date	: 11/28/17
End Date	: 11/28/17
Northing	: 1426085.99
Easting	: 2189027.98
Surface Elev. (ft)*	: 1001.64
Total Depth (ft)**	: 17.5

Site Name	: Area 14
Drilling Company	: CASCADE
Drilling Method	: DPT
Driller	: Nate Mainard
Borehole Diameter	: 2.25 in.
Boring Completion	: Abandoned with Bentonite Chips
Abandonment Date	: 12/14/17
DTW During Drilling (ft)	: 17.0
Logged By	: Justin Vojak

Water Levels

▼ During Drilling

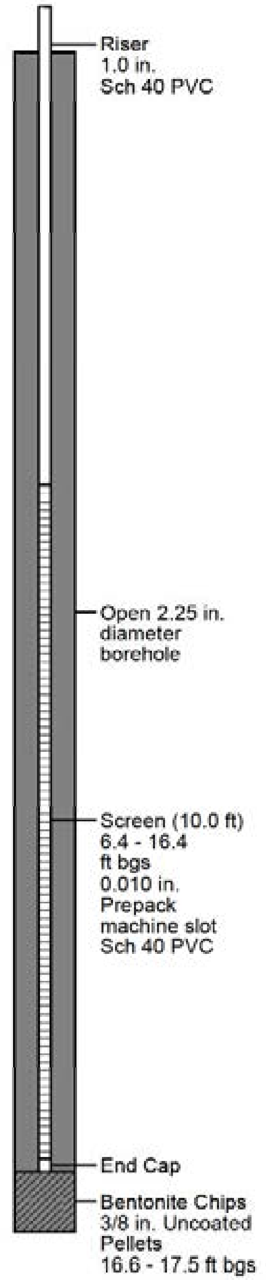
Measurements

*North American Vertical Datum (NAVD88) feet (ft)

**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, low plasticity, 2.5YR 3/6, dark red, slightly moist		CL			SS	DOBNS14-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	70	(5.0 - 6.0) LEAN CLAY with gravel, low plasticity, 2.5YR 3/6, dark red, low density, angular, fine to coarse, organics (wood), slightly moist	0	CL				
			(6.0 - 7.0) SILTY GRAVEL, 10YR 3/1, very dark gray, poorly graded gravel, fine to coarse angular to sub-rounded, slightly moist		GM				
			(7.0 - 10.0) LEAN CLAY, low plasticity, 2.5YR 3/6, dark red, rounded to sub-rounded, trace fine gravel, trace mica, slightly moist		CL				
10	3	55	(10.0 - 15.0) LEAN CLAY, medium plasticity, 2.5YR 4/6, red, medium to high density, trace mica, moist	0	CL				
15	4	80	(15.0 - 17.0) LEAN CLAY, medium plasticity, 2.5YR 4/6, red, low density, trace mica, moist	0	CL		▼	SO	DOBNS14-001-SO-016 Note: Interval 16.0 - 17.0 ft
			(17.0 - 17.5) Granitic gneiss, bedrock	0					
			Refusal - End of Borehole 17.5 ft bgs						
20									

Temporary Well:
DOBNS14-001
Elev (TOC): 1002.33



AFFF Areas (Savannah District)
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Dobbins Air Reserve Base

BORING LOG - DOBNS15-001

(Page 1 of 1)

Start Date : 12/10/17
End Date : 12/10/17
Northing : 1426547.39
Easting : 2190750.47
Surface Elev. (ft)* : 964.96
Total Depth (ft)** : 13.1

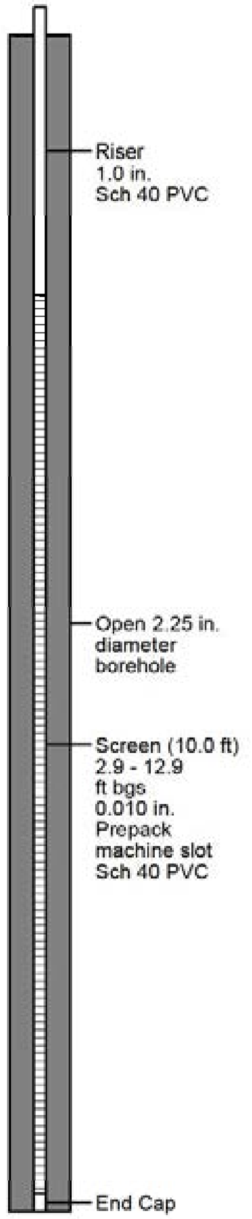
Site Name : Area 15
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 8.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 5/6, red, trace mica, medium density, slightly moist	0	CL		SS	DOBNS15-001-SS-001 DOBNS15-001-SS-901 Note: Interval 0.0 - 0.5 ft
5	2	50	(5.0 - 7.0) LEAN CLAY, 2.5YR 5/6, red, medium density, trace mica, moist		CL			
			(7.0 - 8.0) FAT CLAY, high plasticity, 10YR 5/2, grayish brown, low density, damp		CH			
			(8.0 - 10.0) SANDY LEAN CLAY, 10YR 5/2, grayish brown, low plasticity, fine grained, poorly graded sand, wet	0	CL	▼	SO	DOBNS15-001-SO-008 Note: Interval 8.0 - 9.0 ft
10	3	50	(10.0 - 11.0) CLAYEY SAND, 2.5YR 6/6, light red, fine grained, poorly graded sand, wet		SC			
			(11.0 - 13.1) Granitic gneiss, moist	0				
			Refusal - End of Borehole 13.1 ft bgs					
15								

Temporary Well:
DOBNS15-001
Elev (TOC): 965.28



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS15-002

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Start Date : 12/11/17
End Date : 12/11/17
Northing : 1426243.62
Easting : 2190645.82
Surface Elev. (ft)* : 963.40
Total Depth (ft)** : 14.0

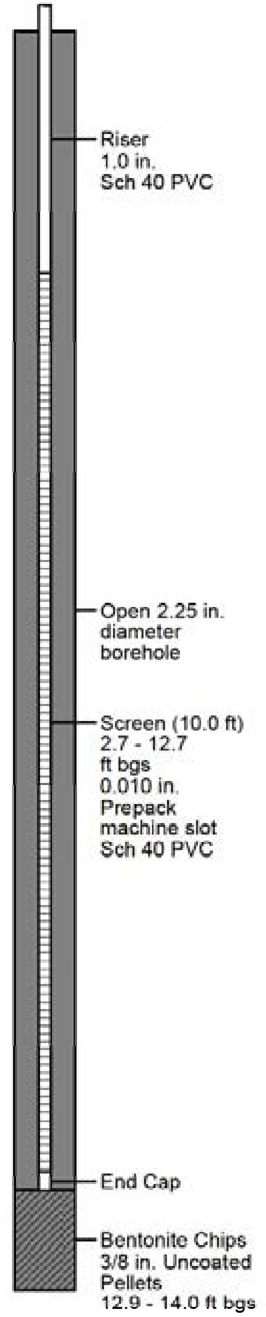
Site Name : Area 15
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 5.0
Logged By : Frank Johnson

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS15-002
Elev (TOC): 963.71

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY, 7.5YR 4/4, brown, soft, slightly moist		CL			SS	DOBNS15-002-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 8.5) SANDY CLAY, low plasticity, 7.5YR 4/2, brown, fine to medium grained sand, soft, moist		CL			SO	DOBNS15-002-SO-005 Note: Interval 4.0 - 5.0 ft
5	2	74		0			▼		
			(8.5 - 10.0) CLAYEY SAND, 10YR 5/2, grayish brown, medium stiff, 30% fines, 70% sand, medium to fine grained, wet		SC				
10	3	74	(10.0 - 14.0) SAND, poorly graded with gravel, 10YR 5/2, grayish brown, 40% gravel, 60% sand, medium to fine angular gravels, medium to fine sand	0	SP				
				0					
			End of Borehole 14.0 ft bgs						
15									



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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS15-003

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Start Date : 12/10/17
End Date : 12/10/17
Northing : 1426524.07
Easting : 2190825.74
Surface Elev. (ft)* : 963.80
Total Depth (ft)** : 15.0

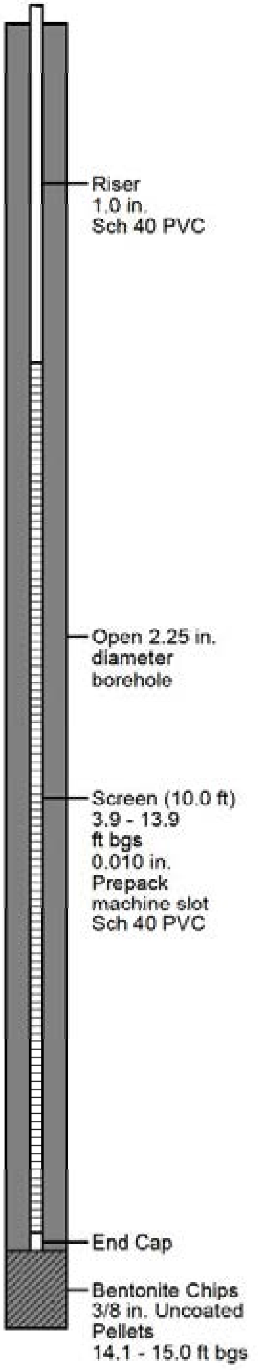
Site Name : Area 15
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 5.5
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 3.0) LEAN CLAY, 2.5YR 4/6, red, medium density, trace mica, slightly moist		CL			SS	DOBNS15-003-SS-001 Note: Interval 0.0 - 0.5 ft
			(3.0 - 4.0) LEAN CLAY, low plasticity, 2.5YR 5/4, reddish brown, low density, slightly moist		CL				
			(4.0 - 5.0) FAT CLAY, high plasticity, 7.5YR 4/3, low density, moist		CH				
5	2	50	(5.0 - 6.0) LEAN CLAY, medium plasticity, 2.5YR 5/6, red, low density, wet to saturated	0	CL		▼	SO	DOBNS15-003-SO-005 Note: Interval 4.5 - 5.5 ft
			(6.0 - 7.0) SANDY LEAN CLAY, 7.5YR 4/3, brown, low density, 80% fines, 20% sand, fine grained, poorly graded, wet		CL				
			(7.0 - 10.0) SANDY LEAN CLAY, 7.5YR 3/3, dark brown, low density, fine grained, poorly graded sand, wet		CL				
10	3	50	(10.0 - 15.0) SANDY LEAN CLAY, 10YR 4/1, dark gray, low density, angular to rounded, well graded sand, wet	0	CL				
15			End of Borehole 15.0 ft bgs	0					

Temporary Well:
DOBNS15-003
Elev (TOC): 964.02



Aerostar SES LLC

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

BORING LOG - DOBNS16-001

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Start Date : 12/08/17
End Date : 12/08/17
Northing : 1426257.13
Easting : 2191775.51
Surface Elev. (ft)* : 980.25
Total Depth (ft)** : 15.0

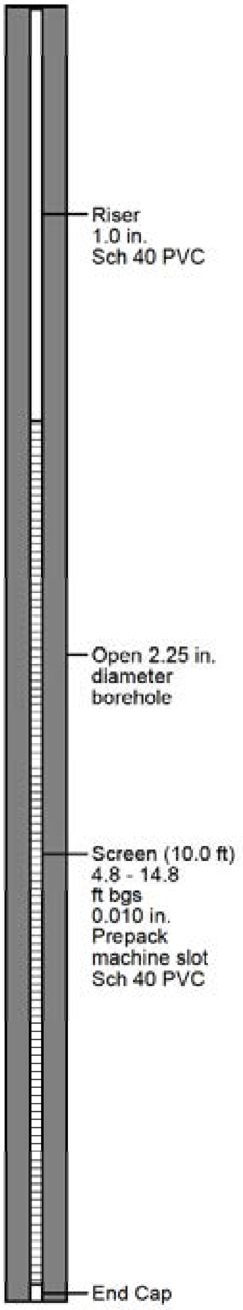
Site Name : Area 16
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 7.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 7/8, light red, trace mottling 10YR 9.5/1, white, medium density, moist		CL			SS	DOBNS16-001-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	40	(5.0 - 10.0) LEAN CLAY, 2.5YR 7/8, light red, medium density, wet to saturated at 7.0 ft bgs	0	CL		▼	SO	DOBNS16-001-SO-006 Note: Interval 6.0 - 7.0 ft
10	3	70	(10.0 - 15.0) GRAVELLY LEAN CLAY, medium density, 2.5YR 3/6, dark red, 80% fines, 20% gravel, fine to coarse, sub-angular to sub-rounded, wet to saturated	0	CL				
15			End of Borehole 15.0 ft bgs						

Temporary Well:
DOBNS16-001
Elev (TOC): 980.22



BORING LOG - DOBNS16-002

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AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/08/17
End Date : 12/08/17
Northing : 1425950.66
Easting : 2191806.65
Surface Elev. (ft)* : 979.26
Total Depth (ft)** : 20.0

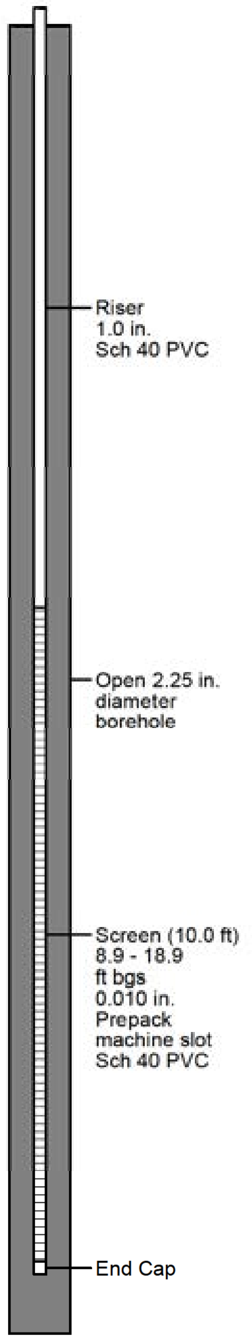
Site Name : Area 16
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Nate Mainard
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 7.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0			(0.0 - 8.0) LEAN CLAY, medium plasticity, 2.5YR 4/6, red, medium density, trace mica, slightly moist					SS	DOBNS16-002-SS-001 Note: Interval 0.0 - 0.5 ft
	1	100							
					CL				
5				0					
								SO	DOBNS16-002-SO-006 Note: Interval 6.0 - 7.0 ft
	2	40	wet at 7.0 ft bgs				▼		
			(8.0 - 12.0) SANDY LEAN CLAY, low plasticity, 5YR 6/1, gray, low density, trace mica fin grained sand, wet						
10				0	CL				
	3	80	(12.0 - 20.0) CLAYEY SILT, 2.5YR 6/3, light reddish brown mottled with trace 2.5YR 7/8, light red and 10YR 9.5/1, abundant mica, moist						
15				0					
					ML				
	4	80							
20			End of Borehole 20.0 ft bgs	0					

Temporary Well:
DOBNS16-002
Elev (TOC): 979.54



Aerostar SES LLC

BORING LOG - DOBNS16-003

(Page 1 of 1)

AFFF Areas (Savannah District)
AFFF Site Inspection
Project# M2032.0001

Dobbins Air Reserve Base

Start Date : 12/08/17
End Date : 12/08/17
Northing : 1426230.34
Easting : 2191892.65
Surface Elev. (ft)* : 976.99
Total Depth (ft)** : 25.0

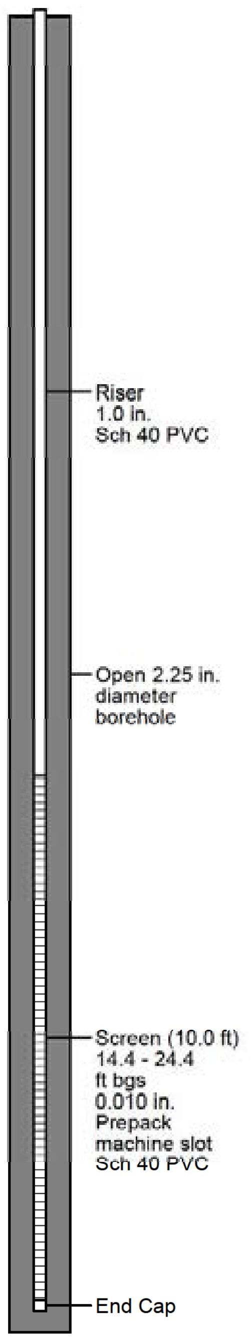
Site Name : Area 16
Drilling Company : CASCADE
Drilling Method : DPT
Driller : Brian Thomas
Borehole Diameter : 2.25 in.
Boring Completion : Abandoned with Bentonite Chips
Abandonment Date : 12/14/17
DTW During Drilling (ft) : 16.0
Logged By : Justin Vojak

Water Levels
▼ During Drilling

Measurements
*North American Vertical Datum (NAVD88) feet (ft)
**Below Ground Surface (bgs) feet (ft)

Temporary Well: DOBNS16-003
Elev (TOC): 977.12

DEPTH IN FEET (bgs)	INTERVAL	% RECOVERY	DESCRIPTION	PID (ppm)	USCS/LITHOLOGY	Munsell Soil Color	Depth to Water (DTW)	SAMPLE TYPE	SAMPLE ID
0	1	100	(0.0 - 5.0) LEAN CLAY, 2.5YR 7/8, light red, low density, heavy mica, slightly moist		CL			SS	DOBNS16-003-SS-001 Note: Interval 0.0 - 0.5 ft
5	2	60	(5.0 - 8.5) LEAN CLAY, medium plasticity, 2.5YR 7/3, light reddish brown, low density, trace mica	0	CL				
			(8.5 - 10.0) LEAN CLAY, medium plasticity, 5YR 6/1, gray, low density, moist		CL				
10	3	60	(10.0 - 15.0) SAND, well graded, 10YR 9.5/1, white, fine to coarse grained sub-angular to sub-rounded, dry, mottled 2.5YR 7/8, light red, dry	0	SW				
15	4	60	(15.0 - 18.0) SANDY LEAN CLAY, 2.5YR 7/8, light red, low density, fine grained sand, trace mica, saturated at 16.0 ft bgs	0	CL		▼	SO	DOBNS16-003-SO-015 Note: Interval 15.0 - 16.0 ft
			(18.0 - 25.0) CLAYEY SILT, low density, 2.5YR 6/3, light reddish brown, abundant mica, wet		ML				
20	5	100	20.0 - 23.0 ft bgs, saturated 23.0 - 25.0 ft bgs, wet to moist with depth 24.5 ft bgs, mottled 2.5YR 7/8, light red						
25			End of Borehole 25.0 ft bgs						



AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBBINS01-001 | SAMPLE ID: DOBNS01-001-GW-025 | DATE: 12/11/17

PURGING DATA

WELL DIAMETER (inches): 1.0"

TUBING DIAMETER (inches): 1/4 OD

WELL SCREEN INTERVAL DEPTH: 20 Ft - 30 Ft

STATIC DEPTH TO WATER (feet): 23.71

PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (30 Ft - 23.71 Ft) x 0.041 gal/ft = 0.26 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0024 x 25 Ft) + 0.20 gal = 0.27 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25

PURGING INITIATED AT: 1248

PURGING ENDED AT: 1256

TOTAL VOLUME PURGED (gallons): 0.60

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1248	—	—	0.05	*	—	—	—	—	—	—	Clear	none
1252	0.2	0.20	0.05	|	4.74	17.3	0.040	3.70	146.1	119	|	|
1254	0.2	0.40	0.05	|	4.97	17.1	0.039	3.48	146.0	22.9	|	|
1256	0.2	0.60	0.05	|	4.99	17.2	0.039	3.51	154.1	11.5	|	|

QM

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: QWillis

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT: 1256

SAMPLING ENDED AT: ENDED AT: 1258

PUMP OR TUBING DEPTH IN WELL (feet): 25

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y [✓ N]   Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N]   TUBING Y [✓ N (replaced)]

DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS01-001-GW-025	2	PE	125 each	EPA 537M	APP	✓	200

QM

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL DATA recorded during GW sampling.

Well Abandoned? [✓ Y] N   Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBN01-002 | SAMPLE ID: DOBNS01-002-GW-030 | DATE: 12/11/17

PURGING DATA

WELL DIAMETER (inches): 1.0" | TUBING DIAMETER (inches): 1/4 OD | WELL SCREEN INTERVAL DEPTH: 25.07 Ft - 35.07 Ft | STATIC DEPTH TO WATER (feet): 20.6 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (35.07 Ft - 25.07 Ft) × 0.041 gal/ft = 0.41 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.002 × 30 Ft) + .20 gal = 0.28 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30 | PURGING INITIATED AT: 1206 | PURGING ENDED AT: 1220 | TOTAL VOLUME PURGED (gallons): 0.70 gal

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1206	—	—	0.05	*	—	—	—	—	—	—	Clear	none
1210	0.2	0.20	0.05		5.79	15.7	0.053	1.78	105.1	119		
1214	0.2	0.40	0.05		5.31	16.2	0.049	1.03	65.6	36.7		
1216	0.1	0.50	0.05		5.00	16.2	0.047	0.80	48.8	11.4		
1218	0.1	0.60	0.05		5.01	16.1	0.047	0.78	63.8	10.5		
1220	0.1	0.70	0.05		5.00	16.0	0.0046	0.70	62.7	5.46		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: M. Willis / ASC | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 1220 | SAMPLING ENDED AT: ENDED AT: 1222

PUMP OR TUBING DEPTH IN WELL (feet): 30 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] | TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS01-002-GW-030	2	PE	125 each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both WLM and tubing could not fit - no WL data during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS01-003
SAMPLE ID: DOBNS01-003-GW-025
DATE: 12/11/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 20 Ft - 30 Ft
STATIC DEPTH TO WATER (feet): 21.46
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (30 Ft − 21.46 Ft) × 0.041 gal/ft = 0.35 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 × 25 Ft) + 0.20 gal = 0.27 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25
PURGING INITIATED AT: 1540
PURGING ENDED AT: 1554
TOTAL VOLUME PURGED (gallons): 0.70

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1540	—	—	0.05	*	—	—	—	—	—	—	Clear	none
1544	0.20	0.20	0.05	↓	4.42	19.1	0.029	1.53	241.7	95.7	↓	↓
1552	0.40	0.60	0.05		4.47	19.7	0.028	0.61	246.4	4.58		
1554	0.10	0.70	0.05		4.39	19.7	0.029	0.55	247.3	7.46		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis / ASC
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1554
SAMPLING ENDED AT: ENDED AT: 1556

PUMP OR TUBING DEPTH IN WELL (feet): 25
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS01-003-GW-025	2	PE	125 each	EPA 537M	APP	✓	200
MS / MSD	4	PE	125 each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both tubing and VLM could not

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AREA 2

AerostarSES LLC

GROUNDWATER SAMPLING LOG

Installation: Dobbins ARB

PROJECT: SI of AFFF Areas (Savannah)

SAMPLE ID: DOBNS01-D2-W7-GW-023

DATE: 12/15/2017

WELL NO: D2-W7

PURGING DATA

WELL DIAMETER (inches): 2.0

TUBING DIAMETER (inches): 1/4

WELL SCREEN INTERVAL DEPTH: 10.5 Ft - 30.5 Ft

STATIC DEPTH TO WATER (feet): 15.79

PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) D.N.A. = (30.5 Ft - 15.99 Ft) x 0.16 gal/ft = 2.32 Gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) D.N.A. = 0 gal + (0.0026 × 23 Ft) + 0.20 gal = 0.26 gal

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 23.0

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 23.0

PURGING INITIATED AT: 1300

PURGING ENDED AT: 1328

TOTAL VOLUME PURGED ~~(gallons)~~ L = 8.4

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1305	1.5	1.5	300	16.62	4.31	15.4	0.074	1.03	334.8	5.35	clear	none
1315	3.0	4.5	300	16.66	4.29	15.5	0.071	0.87	353.7	2.60	clear	none
1320	1.5	6.0	300	16.67	4.28	15.5	0.071	0.83	359.8	2.47	clear	none
1325	1.5	7.5	300	16.68	4.29	15.6	0.071	0.81	368.4	2.16	clear	none
1328	0.9	8.4	300	16.68	4.28	15.7	0.072	0.81	371.5	2.94	clear	none

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Franklin Johnson / ASL

SAMPLER(S) SIGNATURE(S): Franklin Johnson

SAMPLING INITIATED AT: 1328

SAMPLING ENDED AT: 1330

PUMP OR TUBING DEPTH IN WELL (feet): 23.0

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y [✓ N] Filter Size: n/a mm

Filtration Equipment Type:

DUPLICATE: Y [✓ N]

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y N [✓ replaced]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS01-D2-W7-GW-023	2	PE	125	EPA 537M	APP	✓	300

FJ

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ____

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18

12/20/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: W2-23 | SAMPLE ID: DOBNS01-D2-W23-GW- | DATE: 01/10/18

PURGING DATA

WELL DIAMETER (inches): 2" | TUBING DIAMETER (inches): 1/4" OD | WELL SCREEN INTERVAL DEPTH: 7.48 Ft 17.48 Ft ~~17.48~~ | STATIC DEPTH TO WATER (feet): 8.25' | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (17.48 Ft - 8.25 Ft) x 0.16 gal/ft = ~~0~~1.47 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 14 Ft) + 0.20 gal = 0.24 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14 | PURGING INITIATED AT: 0923 | PURGING ENDED AT: 0944 | TOTAL VOLUME PURGED (gallons): 1.05

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0923	—	—	0.05	8.24	—	—	—	—	—	—	Clear	none
0935	0.60	0.60	0.05	8.22	5.45	15.8	0.050	4.46	206.3	10.2	Clear	none
0938	0.15	0.75	0.05	9.18	5.36	15.6	0.048	3.85	103.7	6.3	|	|
0942	0.2	0.95	0.05	9.17	5.34	15.6	0.047	3.80	75.8	6.0	|	|
0944	0.1	1.05	0.05	9.22	5.33	15.6	0.047	3.80	70.2	3.78	|	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A.Willis/G.Carlson ASI | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 0944 | SAMPLING ENDED AT: 0950

PUMP OR TUBING DEPTH IN WELL (feet): 14 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] | TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DoBNS01-D2-W23-GW-	2	PE	125each	537m	APP	✓	200 -
MS/MSD	4	PE	125each	537m	APP	✓	200

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AREA 2

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: D3-W32 | SAMPLE ID: DOBNS02-D3-W32-GW-012 | DATE: 12/15/2017

PURGING DATA

WELL DIAMETER (inches): 2.0 | TUBING DIAMETER (inches): 1/4 | WELL SCREEN INTERVAL DEPTH: UNKNOWN Ft - Ft | STATIC DEPTH TO WATER (feet): 6.12 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (17.3 Ft - 6.12 Ft) x 6.16 gal/ft = 1.79 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 12 Ft) + 0.20 gal = 0.23 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | PURGING INITIATED AT: ~~1000~~ 1050 FJ | PURGING ENDED AT: 1118 | TOTAL VOLUME PURGED ~~(gallons)~~: L = 8.4

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1055 ~~1005~~ FJ	1.5	1.5	300	6.50	5.32	15.1	0.048	2.06	240.7	47.7	clear	none
1100	1.5	3.0	300	6.50	5.31	15.3	0.048	1.98	240.4	32.3	clear	none
1105	1.5	4.5	300	6.54	5.30	15.2	0.048	1.89	241.4	21.1	clear	none
1110	1.5	6.0	300	6.55	5.31	15.4	0.048	1.80	240.0	16.7	clear	none
1115	1.5	7.5	300	6.55	5.30	15.3	0.048	1.77	239.8	12.1	clear	none
1118	0.9	8.4	300	6.55	5.30	15.4	0.048	1.77	240.0	9.22	clear	none

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Franklin Johnson / ASL | SAMPLER(S) SIGNATURE(S): Franklin Johnson | SAMPLING INITIATED AT: 1118 | SAMPLING ENDED AT: 1120

PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size n/a mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] | TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS02-D3-W32-GW-012	2	PE	125	EPA 537M	APP	✓	300

FJ

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18

12/20/17

Area 2

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS02-D3-W4 | SAMPLE ID: DOBNS02-03-W4-GW-013 | DATE: 12/10/17

PURGING DATA

WELL DIAMETER (inches): 2.0" | TUBING DIAMETER (inches): 3/8 | WELL SCREEN INTERVAL DEPTH: 10 Ft - 15 Ft | STATIC DEPTH TO WATER (feet): 11.6 | PURGE PUMP TYPE OR BAILER: PP ~~Monsoon~~

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (15 Ft - 11.6 Ft) x 0.16 gal/ft = 0.54 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 13 Ft) + 0.20 gal = 0.23 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13 | PURGING INITIATED AT: 1148 | PURGING ENDED AT: 1202 | TOTAL VOLUME PURGED (gallons): 0.70

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1149	—	—	0.05	11.5	—	—	—	—	—	—	cloudy	none
1155	0.35	0.35	0.05	12.8	~~17.0~~ 5.60	17.0	0.098	1.39	162.3	205		
1158	0.15	0.50	0.05	12.8	5.61	17.0	0.098	1.35	166.0	172		
1200	0.1	0.60	0.05	12.9	5.61	17.2	0.099	1.39	167.2	89.4	Turbid	
1202	0.1	0.70	0.05	12.9	5.62	17.0	0.099	1.40	165.2	41.2	Clear	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A Willis ASL | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 1202 | SAMPLING ENDED AT: 1204

PUMP OR TUBING DEPTH IN WELL (feet): 13 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS02-03-W4-GW-013	2	PE	65mL	EPA537M	APP ~~AAPP~~	✓	200

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ____

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

Area 2

AerostarSES

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS02-D3-W3
SAMPLE ID: DOBN02-03-W3-GW-035
DATE: 12/15/17

PURGING DATA

WELL DIAMETER (inches): 2.0"
TUBING DIAMETER (inches): 3/8 OD
WELL SCREEN INTERVAL DEPTH: ~~41.8~~ 26.3 Ft - 51.8 Ft
STATIC DEPTH TO WATER (feet): 30.03
PURGE PUMP TYPE OR BAILER: Monsoon

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH [✓ TO] WATER) X WELL CAPACITY
(only fill out if applicable) = (51.8 Ft - 30.03 Ft) x 0.16 gal/ft = 3.48 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.006 x 35 Ft) + .20 gal = 0.41 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35
PURGING INITIATED AT: 0842
PURGING ENDED AT: 0858
TOTAL VOLUME PURGED (gallons): 0.80

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0842	—	—	0.05	29.92	—	—	—	—	—	—	cloudy	none
0850	0.4	0.40	0.05	30.12	6.21	16.7	0.224	1.28	53.1	52.2	Clear	none
0852	0.1	0.50	0.05	30.13	6.25	16.6	0.229	1.25	23.1	36.3		
0855	0.15	0.65	0.05	30.13	6.26	16.4	0.233	1.20	5.5	21.7		
0858	0.15	0.80	0.05	30.13	6.28	16.3	0.233	1.20	6.5	7.3		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A Willis / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 0858
SAMPLING ENDED AT: 0900
PUMP OR TUBING DEPTH IN WELL (feet): 35
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filter Size: mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS02-D3-W3-GW-035	2	PE	125 each	537m	APP	✓	200

REMARKS:

Well Abandoned? Y [✓ N] ~~Date Well Abandoned:~~
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

Area 2

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: D3-W25 | SAMPLE ID: DOBNS02-D3-W25-GW-020 | DATE: 12/15/2017

PURGING DATA

WELL DIAMETER (inches): 2.0

TUBING DIAMETER (inches): 1/4

WELL SCREEN INTERVAL DEPTH: UNKNOWN Ft - Ft

STATIC DEPTH TO WATER (feet): 16.21

PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25.20 Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): ~~19.0~~20

FINAL PUMP OR TUBING DEPTH IN WELL (feet): ~~19.0~~20

PURGING INITIATED AT: 0920

PURGING ENDED AT: 0944

TOTAL VOLUME PURGED ~~(gallons)~~: L= 4.8

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0925	1.0	1.0	200	16.37	4.84	13.8	0.065	2.61	282.0	52.3	clear	none
0930	1.0	2.0	200	16.38	4.49	14.0	0.065	1.82	301.7	40.9	clear	none
0935	1.0	3.0	200	16.39	4.50	14.2	0.065	1.55	306.7	47.6	clear	none
0938	0.6	3.6	200	16.39	4.51	14.2	0.064	1.46	308.9	44.2	clear	none
0941	0.6	4.2	200	16.39	4.56	14.3	0.064	1.38	311.1	39.6	clear	none
0944	0.6	4.8	200	16.39	4.56	14.3	0.064	1.32	313.1	38.5	clear	none

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Franklin Johnson / ASL

SAMPLER(S) SIGNATURE(S): Franklin Johnson

SAMPLING INITIATED AT: 0944

SAMPLING ENDED AT: 0946

PUMP OR TUBING DEPTH IN WELL (feet): ~~19.0~~20

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y [✓ N] Filter Size n/a mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y N [✓ replaced]

DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS02-D3-W25-GW-020	2	~~12~~ PE	125	EPA 537M	APP	✓	200

FJ

REMARKS: Paramaters Stable, turbidity "Clear to the eye" for > 3 readings, well stable.

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: D03NS02-001
SAMPLE ID: N/A
DATE: 12/15/17

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: Ft - Ft	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

Well DRY

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or μS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS02-003
SAMPLE ID:
DATE: 12/15/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: Ft - Ft
STATIC DEPTH TO WATER (feet):
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
				Well								
					DRY							

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

(SAMPLE CONTAINER SPECIFICATION covers # CONTAINERS, MATERIAL CODE, VOLUME (mL))

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)

Installation: ~~AF Plant 6~~ Dobbin ARB

WELL NO: DOBNS03-001

SAMPLE ID: DOBNS03-001-GW-019

DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches): 1?	TUBING DIAMETER (inches): 1/4 OD	WELL SCREEN INTERVAL DEPTH: 10.08 Ft - 20.08 Ft	STATIC DEPTH TO WATER (feet): 17.95	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (20.08 Ft - 17.95 Ft) x 0.041 gal/ft = 0.09 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 19 Ft) + 0.20 gal = 0.25 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 19	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 19	PURGING INITIATED AT: 1028	PURGING ENDED AT: 1048	TOTAL VOLUME PURGED (gallons): 0.80

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1028	—	—	0.04	*	—	—	—	—	—	—	cloudy	none
1042	0.56	0.56	0.04	|	5.51	20.0	0.050	4.57	252.4	5.45	Clear	|
1045	0.12	0.68	0.04	|	5.53	20.0	0.050	4.55	257.7	5.23	Clear	|
1048	0.12	0.80	0.04		5.52	20.0	0.050	4.58	255.1	5.00	Clear	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis / ASC	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1048	SAMPLING ENDED AT: 1052
PUMP OR TUBING DEPTH IN WELL (feet): 19	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y [✓ N] Filtration Equipment Type:	Filter Size mm
FIELD DECONTAMINATION: PUMP Y [✓ N]	TUBING Y [✓ N (replaced)]	DUPLICATE: Y [✓ N]	

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS03-001-GW-019	2	PE	25 each	537M	APP	✓	150
MS/MSD	4	PE	125 each	537M	APP	✓	150

REMARKS: Due to size of well, both tubing and WLM could not fit - no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/17

Well Measurement Method: [✓ Probe] Tape Other ____

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)   Installation: Dobbins ARB

WELL NO: DOBNS03-002   SAMPLE ID: DOBNS03-002-GW-045   DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):   TUBING DIAMETER (inches):   WELL SCREEN INTERVAL DEPTH: 14.44 Ft - 24.44 Ft   STATIC DEPTH TO WATER (feet): 24.32   PURGE PUMP TYPE OR BAILER: Check Valve

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)   = (Ft −   Ft) x   gal/ft =   Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)   =   gal + (x   Ft) +   gal =   gal

Location (Circle one): Monitoring Well   Temporary Well   Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):   FINAL PUMP OR TUBING DEPTH IN WELL (feet):   PURGING INITIATED AT: PURGING ENDED AT: TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

NO SAMPLE due to lack of WATER

Leaving well in 5 failed

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SAMPLER(S) SIGNATURE(S):   SAMPLING INITIATED AT: SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):   TUBING MATERIAL CODE: PE   FIELD-FILTERED: Y N   Filter Size   mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N   TUBING Y N (replaced)   DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOONS03-003
SAMPLE ID:
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: Ft - Ft	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
						DRY						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5' = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electic Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT: ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS03 - 064
SAMPLE ID:
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: Ft - Ft
STATIC DEPTH TO WATER (feet):
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^oC)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

DRY

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS04-001
SAMPLE ID: DOBNS04-001-GW-030
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches): ~~30~~ 1.0"
TUBING DIAMETER (inches): 30
WELL SCREEN INTERVAL DEPTH: 25.11 Ft - 35.11 Ft
STATIC DEPTH TO WATER (feet): 22.36
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (35.11 Ft - 22.36 Ft) x 0.041 gal/ft = 0.52 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 30 Ft) + 0.28 gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30
PURGING INITIATED AT: 0923
PURGING ENDED AT: 0942
TOTAL VOLUME PURGED (gallons): 0.95

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0923	—	—	0.05	*	—	—	—	—	—	—	clear	none
0928	0.25	0.25	0.05	|	8.55	16.9	0.115	1.56	226.3	42.3	|	|
0938	0.50	0.75	0.05	|	8.56	17.1	0.116	1.50	226.6	23.8	|	|
0942	0.20	0.95	0.05	⊥	8.52	17.1	0.115	1.52	226.5	17.2	⊥	⊥

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: AWillis / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 0942
SAMPLING ENDED AT: 0944
PUMP OR TUBING DEPTH IN WELL (feet): 30
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS04-001-GW-030	2	PE	125 each	534M	APP	✓	200

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL data during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/17
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18
12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas Savannah
INSTALLATION: Dobbins ARB
WELL NO: DOBNS04-002
SAMPLE ID: DOBNS04-002-GW-034
DATE: 12/12/17

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 32.38	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PID RESULT AT WELLHEAD (PPM):	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):	

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	ODOR/ COLOR (describe)

DUE TO DEPTH OF WATER
EXCEEDING PERISTALTIC CAPABILITIES
THIS TURNED INTO GRAB

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)	Installation: Dobbins ARB
WELL NO: DOBNS04-003	SAMPLE ID: DOBNS04-003-GW-015 DATE: 12/13/17

PURGING DATA

WELL DIAMETER (inches): 1.0"	TUBING DIAMETER (inches): 1/4 OD	WELL SCREEN INTERVAL DEPTH: 24.98 Ft - 34.98 Ft	STATIC DEPTH TO WATER (feet): 29.00	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (34.98 Ft − 29.00 Ft) x 0.041 gal/ft = 0.25 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 15 Ft) + 0.20 gal = 0.24 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1708	PURGING ENDED AT: 1725	TOTAL VOLUME PURGED (gallons): 2.25

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1708	—	—	0.09	*	—	—	—	—	—	—	cloudy	none
1712	1.08	1.08	0.09	|	5.97	15.1	0.103	4.57	329.5	228	Cloudy	|
1722	0.9	1.98	0.09	|	5.98	15.5	0.103	4.55	327.3	42.1	Clear	|
1725	0.29	2.25	0.09	|	5.95	15.7	0.161	4.50	327.5	9.11	Clear	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: M. Willis / ASC	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1725	SAMPLING ENDED AT: 1728
PUMP OR TUBING DEPTH IN WELL (feet): 15	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y [✓ N] Filtration Equipment Type:	Filter Size mm
FIELD DECONTAMINATION: PUMP Y [✓ N]	TUBING Y [✓ N (replaced)]	DUPLICATE: Y [✓ N]	

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS04-003-GW-015	2	PE	125 each	537M	APP	✓	200

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/17

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: ~~AF Plant 6~~ Dobbins ARB

WELL NO: DODNOS-001 | SAMPLE ID: DOBNS05-001-GW-034 | DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 35.08 Ft - 30.30 Ft	STATIC DEPTH TO WATER (feet): 30.08	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

DUE TO DEPTH OF WATER
Peristaltic could not be used.
Sample turned into grab

See GRAB
SHEET

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT: ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: PE	FIELD FILTERED: Y N Filtration Equipment Type:	Filter Size mm

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)

Installation: ~~AF Plant 6~~ DOBBINS ARB

WELL NO: DOBNS05-002

SAMPLE ID:

DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0''

TUBING DIAMETER (inches):

WELL SCREEN INTERVAL DEPTH: 30.09 Ft - 40.09 Ft

STATIC DEPTH TO WATER (feet): 33.89

PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):

FINAL PUMP OR TUBING DEPTH IN WELL (feet):

PURGING INITIATED AT:

PURGING ENDED AT:

TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to depth of water Peristaltic could not be used. Sample converted to a grab. See Grab sheet.

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT:

SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y N

Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)

DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS05-003
SAMPLE ID: DOBNS05-003-GW-038
DATE: 12/07/12

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: 24.98 Ft - 39.98 Ft
STATIC DEPTH TO WATER (feet): 35.99
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to Depth of Water Peristaltic could not be used sample converted to grab.

See Grab Sheet

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS06-002 | SAMPLE ID: DOBNS06-002-GW-038 | DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"

TUBING DIAMETER (inches):

WELL SCREEN INTERVAL DEPTH: 30.0 Ft - 40.0 Ft

STATIC DEPTH TO WATER (feet): 29.42

PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):

FINAL PUMP OR TUBING DEPTH IN WELL (feet):

PURGING INITIATED AT:

PURGING ENDED AT:

TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to Depth of water Peristaltic could not be used. Sample converted to a grab.

See grab sheet

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT:

SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y N

Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)

DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS06-003
SAMPLE ID: DOBNS06-003-GW-036
DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: 27.63 Ft - 37.63 F:
STATIC DEPTH TO WATER (feet): 32.38
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to depth of water Peristaltic could not be used Sample converted to a grab.

See grab sheet

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT: ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD FILTERED: Y N Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:
Well Measurement Method: Probe Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: ~~AF Plant 6~~ Dobbins ARB
WELL NO: DOBNS07-001
SAMPLE ID: DOBNS07-001-GW-020
DATE: 12/5/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 15.07 Ft - 25.07 Ft
STATIC DEPTH TO WATER (feet): 16.57
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25.07 Ft - 16.57 Ft) x 0.041 gal/ft = 0.35 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 20 Ft) + 0.20 gal = 0.25 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20
PURGING INITIATED AT: 1250
PURGING ENDED AT: 1300
TOTAL VOLUME PURGED (gallons): 0.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1250	—	—	0.05	*	—	—	—	—	—	—	Clear	none
1254	0.2	0.20			4.90	19.0	0.097	5.00	249.7	171		
1256	0.1	0.30			4.92	19.1	0.102	5.01	239.1	77.4		
1258	0.1	0.40			4.93	19.1	0.103	4.97	236.5	36.6		
1300	0.1	0.50			4.99	19.2	0.102	4.96	232.9	17.7		

NA

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis, J. Mestew / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1300
SAMPLING ENDED AT: 1302
PUMP OR TUBING DEPTH IN WELL (feet): 20
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size: mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	~~Low Flow~~ Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS07-001-GW-020	2	PE	125 each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL data recorded during GW sampling.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ____

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/07/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: ~~AF Plant 6~~ Dobbins ARB

WELL NO: DOBNS07-004
SAMPLE ID: DOBNS07-004-GW-025
DATE: 12/5/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 20.08 Ft - 30.08 Ft
STATIC DEPTH TO WATER (feet): 20.05
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (30.08 Ft - 20.05 Ft) x 0.041 gal/ft = 0.41 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 25 Ft) + 0.2 gal = 0.27 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25
PURGING INITIATED AT: 1225
PURGING ENDED AT: 1236
TOTAL VOLUME PURGED (gallons): 0.585

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1225	—	—	0.05	*	—	—	—	—	—	—	Cloudy	none
1228	0.15	0.15	0.05	|	5.14	18.7	0.018	6.22	227.6	126	Cloudy	|
1232	0.20	0.35	0.05	|	5.34	18.7	0.017	6.30	216.9	51.5	Clear	|
1236	0.20	0.55	0.05	|	5.36	18.7	0.017	6.40	207.2	12.4	Clear	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis, J. Merhew / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1236
SAMPLING ENDED AT: 1238

PUMP OR TUBING DEPTH IN WELL (feet): 25
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS07-004-GW-025	2	PE	125each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

~~6/19/18~~
12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: ~~AF Plant 6~~ @ Dobbins ARB

WELL NO: DOBN507-005
SAMPLE ID: DOBN507-005-GW-025
DATE: 12/5/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 20.0 Ft - 30.0 Ft
STATIC DEPTH TO WATER (feet): 20.01
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (30.0 Ft − 20.01 Ft) x 0.041 gal/ft = 0.41 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 25 Ft) + 0.20 gal = 0.27 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25
PURGING INITIATED AT: 1118
PURGING ENDED AT: 1140
TOTAL VOLUME PURGED (gallons): 1.41

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1118	—	—	0.05	*	—	—	—	—	—	—	Cloudy	none
1122	0.21	0.21	0.05	↓	7.15	19.5	0.026	3.98	147.8	126	Cloudy	↓
1126	0.21	0.66	0.05		6.72	19.6	0.026	3.81	137.9	109	↓	
1128	0.10	0.77	0.05		5.92	19.6	0.026	3.73	140.5	69.5		
1132	0.21	0.98	0.05		5.93	19.6	0.027	3.85	140.1	35.5	Clear	
1134	0.10	1.09	0.05		5.91	19.6	0.026	3.82	139.7	30.3	↓	
1138	0.21	1.30	0.05		5.90	19.6	0.025	3.75	129.3	20.6		
1140	0.10	1.41	0.05		5.90	19.6	0.025	3.72	124.7	16.8		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A Willis / J. Moslow ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1140
SAMPLING ENDED AT: ENDED AT: 1142

PUMP OR TUBING DEPTH IN WELL (feet): 25
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N] (replaced)
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBN507-005-GW-025	2	PE	125mL each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: ~~AF Plant 6~~ Dobbins ARB
WELL NO: DOBNS07-008
SAMPLE ID: DOBNS07-008-GW-029
DATE: 12/5/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 21.0 Ft - 31.0 Ft
STATIC DEPTH TO WATER (feet): 25.48
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (31.0 Ft - 25.48 Ft) x 0.041 gal/ft = 0.23 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 29 Ft) + 0.20 gal = 0.28 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 29
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 29
PURGING INITIATED AT: 1156
PURGING ENDED AT: 1204
TOTAL VOLUME PURGED (gallons): 0.40

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1156 ~~1204~~	—	—	0.05	*	—	—	—	—	—	—	Clear	none
1200	0.2	0.20	0.05		5.06	18.7	0.023	4.97	209.3	15.6		
1202	0.1	0.30	0.05		5.04	18.7	0.023	4.95	205.5	7.62		
1204	0.1	0.40	0.05		5.02	18.7	0.023	4.92	203.5	5.30		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis, J. Mesler / AEC
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1204
SAMPLING ENDED AT: 1206
PUMP OR TUBING DEPTH IN WELL (feet): 29
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N] (replaced)
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS07-008-GW-029	2	PE	125 each	EPA 537M	APP	✓	200

REMARKS: * Due to size of well, both tubing and WLM could not fit – no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSESLLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS08-001 | SAMPLE ID: DOBNS08-001-GW-027 | DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0" | TUBING DIAMETER (inches): 1/4 OD | WELL SCREEN INTERVAL DEPTH: 22.28 Ft - 32.28 Ft | STATIC DEPTH TO WATER (feet): 16.96 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (32.28 Ft - 16.96 Ft) x 0.041 gal/ft = 0.51 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (0.0026 x 27 Ft) + 0.20 gal = 0.27 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 27 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 27 | PURGING INITIATED AT: 1138 | PURGING ENDED AT: 1154 | TOTAL VOLUME PURGED (gallons): 1.28

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1138	—	—	0.08	*	—	—	—	—	—	—	cloudy	none
1142	0.32	0.~~0~~32	0.08	↓	5.15	16.3	0.019	2.77	182.0	279	↓	↓
1144	0.16	0.48	0.08		5.06	16.4	0.019	2.86	183.5	400		
1146	0.16	0.64	0.08		5.00	16.3	0.018	2.98	188.1	34.3	Clear	
1150	0.32	0.96	0.08		5.01	16.4	0.017	3.00	189.7	23.4	↓	
1152	0.16	1.12	0.08		5.00	16.4	0.017	3.02	190.2	22.5		
1154	0.16	1.28	0.08		5.00	16.5	0.018	3.05	192.1	13.5		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis / S. Meslow | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 1154 | SAMPLING ENDED AT: 1156

PUMP OR TUBING DEPTH IN WELL (feet): 27 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] Filter Size mm | Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS08-001-GW-027	2	PE	125each	EPA 537M	APP	✓	300

REMARKS: * Due to size of well, both tubing and WLM could not fit - no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS08-002
SAMPLE ID: DOBNS08-002-GW-012
DATE: 12/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 7.4 Ft - 17.4 F:
STATIC DEPTH TO WATER (feet): 8.20
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17.4 Ft - 8.20 Ft) x 0.041 gal/ft = 0.38 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gal + (0.0026 x 12 Ft) + 0.20 gal = 0.23 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12
PURGING INITIATED AT: 1633
PURGING ENDED AT: 1650
TOTAL VOLUME PURGED (gallons): 1.36

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1633	—	—	0.08	*	—	—	—	—	—	—	Clear	none
1636	0.24	0.24	0.08	↓	5.12	19.1	0.134	3.50	553	187	↓	↓
1645	0.72	0.96	0.08		5.38	19.6	0.148	2.65	-42.3	68.9		
1648	0.24	1.2	0.08		5.39	19.7	0.148	2.60	-40.7	22.8		
1650	0.16	1.36	0.08		5.36	19.7	0.148	2.62	-40.2	10.2		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis, J. Meshew / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1650
SAMPLING ENDED AT: 1652

PUMP OR TUBING DEPTH IN WELL (feet): 12
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				
DOBNS08-002-GW-012	2	PE	125 each	EPA 537M	APP	✓	300

REMARKS: * Due to size of well, both tubing and WLM could not fit - no WL data during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS08-003
SAMPLE ID: DOBNS08-003-GW_010
DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 5.08 Ft - 15.08 Ft
STATIC DEPTH TO WATER (feet): 6.59
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (15.08 Ft - 6.59 Ft) x 0.041 gal/ft = 0.35 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 10 Ft) + 0.20 gal = 0.23 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 10
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 10
PURGING INITIATED AT: 1052
PURGING ENDED AT: 1118
TOTAL VOLUME PURGED (gallons): 2.16

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs) **	COLOR (describe)	ODOR (describe)
1052	—	—	0.08	*	—	—	—	—	—	—	Cloudy	none
1100	0.64	0.64	0.08		7.17	17.4	0.154	4.06	167.3	over range	Turbid	
1112	1.04	1.68	0.08		6.30	17.6	0.082	5.58	151.6	over range	Turbid	
1118	0.47	2.16	0.08		6.29	17.6	0.080	5.60	160.4	over range	Turbid	

AK

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Miller / J. Meshaw ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1118
SAMPLING ENDED AT: ENDED AT: 1122

PUMP OR TUBING DEPTH IN WELL (feet): 10
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS08-003-GW-010	2	PE	125mL	EPA 537M	APP	✓	300
MS/MSD	4	PE	125mL	EPA 537M	APP	✓	300

AK

REMARKS: * Due to size of well, both WLM and tubing could not fit – no WL data recorded during low sampling
** During development well did not blow up.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AK 12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS08-004
SAMPLE ID: DOBNS08-004-GW-016
DATE: 12/7/16

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 11.61 Ft - 21.61 Ft
STATIC DEPTH TO WATER (feet): 14.35
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (21.61 Ft - 14.35 Ft) x 0.041 gal/ft = 0.30 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 16 Ft) + 0.20 gal = 0.24 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16
PURGING INITIATED AT: 1212
PURGING ENDED AT: 1240
TOTAL VOLUME PURGED (gallons): 2.40 gal

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1212	—	—	0.08	*	—	—	—	—	—	—	Turbid	none
1214	0.16	0.16	0.08		4.47	17.5	0.036	5.04	216.2	923		
1218	0.32	0.48	0.08		4.84	17.5	0.040	4.02	202.2	101	Clear	
1220	0.16	0.64	0.08		4.98	17.8	0.041	4.00	199.3	71.0		
1224	0.32	0.96	0.08		5.00	17.6	0.042	4.00	198.0	32.0		
1226	0.16	1.12	0.08		4.95	17.6	0.043	3.98	196.8	41.0		
1228	0.32	1.44	0.08		5.00	17.5	0.043	3.95	197.8	41.3		
1240	0.96	2.40	0.08		4.98	17.8	0.044	3.99	195.7	14.0		

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A.Willis / J.Mosher AX
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1240
SAMPLING ENDED AT: 1242
PUMP OR TUBING DEPTH IN WELL (feet): 16
TUBING MATERIAL CODE: [✓ PE]
FIELD-FILTERED: Y [✓ N]
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				
DOBNS08-004-GW-016	2	PE	125mL	EPA 537M	APP	✓	300

REMARKS: *Due to size of well, both WLM and GW tubing could not fit in well – no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS03-005 | SAMPLE ID: DOBNS03-005-GW-015 | DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 10.08 Ft - 20.08 Ft
STATIC DEPTH TO WATER (feet): 13.05
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (20.08 Ft - 13.05 Ft) x 0.041 gal/ft = 0.30 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 15 Ft) + 0.20 gal = 0.24 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15
PURGING INITIATED AT: 1339
PURGING ENDED AT: 1352
TOTAL VOLUME PURGED (gallons): ~~1054~~ 1.04 gal

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1339	—	—	0.08	*	—	—	—	—	—	—	Cloudy	none
1340	0.08	0.08	0.08	|	~~47.6~~ 4.58	17.6	0.025	2.23	215.4	151	Clear	|
1342	0.16	0.24	0.08	|	4.74	17.6	0.025	2.00	201.7	336	|	|
1350	0.64	0.88	0.08	|	4.73	17.3	0.0~~32~~23	2.20	199.2	27.29	|	|
1352	0.16	1.04	0.08	|	4.73	17.2	0.022	2.21	197.7	10.7	|	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A Wills / J. Meshew ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1352
SAMPLING ENDED AT: 1354

PUMP OR TUBING DEPTH IN WELL (feet): 15
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				
DOBNS03-005-GW-015	2	PE	125mL	EPA 537M	APP	✓	

REMARKS: * Due to size of well, both WLM and tubing could not fit - no WL data recorded during GW sampling.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS08-006 | SAMPLE ID: DOBNS08-006-GW-015 | DATE: 12/7/17

PURGING DATA

WELL DIAMETER (inches): 1.0"

TUBING DIAMETER (inches): 1/4" OD

WELL SCREEN INTERVAL DEPTH: 10.08 Ft - 20.18 Ft

STATIC DEPTH TO WATER (feet): 10.47

PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (20.08 Ft - 10.47 Ft) x 0.041 gal/ft = 0.39 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 15 Ft) + 0.20 gal = 0.239 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15

PURGING INITIATED AT: 1312

PURGING ENDED AT: 1318

TOTAL VOLUME PURGED (gallons): 0.48

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1312	—	—	0.08	*	—	—	—	—	—	—	Clear	none
1314	0.16	0.16	0.08	|	4.58	17.5	0.036	6.82	221.7	181	|	|
1316	0.16	0.32	0.08	|	4.58	17.5	0.037	6.39	228.7	13.3	|	|
1318	0.16	0.48	0.08	⊥	4.53	17.5	0.038	6.32	230.4	7.86	⊥	⊥

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis / J. Meshaw ASL

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT: 1318

SAMPLING ENDED AT: 1320

PUMP OR TUBING DEPTH IN WELL (feet): 15

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y [✓ N] Filter Size: mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]

DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS08-006-GW-015	2	PE	125 each	EPA 537M	APP	✓	300

REMARKS: * Due to size of well, both tubing and WLM could not fit - no WL data recorded during GW sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSESLLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS09-001 | SAMPLE ID: | DATE: 12/12/17

PURGING DATA

WELL DIAMETER (inches): | TUBING DIAMETER (inches): | WELL SCREEN INTERVAL DEPTH: Ft - Ft | STATIC DEPTH TO WATER (feet): DRY | PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): | FINAL PUMP OR TUBING DEPTH IN WELL (feet): | PURGING INITIATED AT: | PURGING ENDED AT: | TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: | SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y N | Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) | DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS09-002
SAMPLE ID:
DATE: 12/12/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: Ft - Ft
STATIC DEPTH TO WATER (feet): 42.11
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

check valve
sample

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filtration Equipment Type:
Filter Size mm
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:
Well Measurement Method: Probe Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)	Installation: Dobbins ARB

WELL NO: DOBNS09-003 SAMPLE ID: DATE: 12/13/17

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: Ft - Ft	STATIC DEPTH TO WATER (feet): 38.73	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{o}C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Check Valve Sample

M

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT: ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y N Filtration Equipment Type:	Filter Size mm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)		DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS10-001
SAMPLE ID: DOBNS10-001-GW-020
DATE: 12/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 15.07 Ft - 25.07 Ft
STATIC DEPTH TO WATER (feet): 14.50
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (25.07 Ft − 14.50 Ft) x 0.04 gal/ft = 0.43 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gal + (0.0026 x 20 Ft) + 0.20 gal = 0.252 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20
PURGING INITIATED AT: 1402
PURGING ENDED AT: 1410
TOTAL VOLUME PURGED (gallons): 0.64

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1402	—	—	0.08	*	—	—	—	—	—	—	Clear	none
1406	0.32	0.32	0.08	|	3.91	16.9	0.038	3.90	195.6	32.4	|	|
1408	0.16	0.48	0.08	|	3.92	16.9	0.038	3.74	199.4	15.2	|	|
1410	0.16	0.64	0.08	|	3.93	16.9	0.038	3.88	200.7	7.89	|	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: N Willis / J McShew
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1410
SAMPLING ENDED AT: 1412
PUMP OR TUBING DEPTH IN WELL (feet): 20
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS10-001-GW-020	2	PE	125 each	EPA 537M	APP	✓	300

REMARKS:
* Due to size of well, both tubing and WLM could not fit - no WL data recorded during GW sampling.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: AF Plant 6

WELL NO: DOBNS10-002 | SAMPLE ID: DOBNS10-002-GW-025 | DATE: 12/04/17

PURGING DATA

WELL DIAMETER (inches): .75 | TUBING DIAMETER (inches): 1/4" | WELL SCREEN INTERVAL DEPTH: 30 Ft - 20 Ft | STATIC DEPTH TO WATER (feet): 20.76 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (30.00 Ft - 20.76 Ft) x .02 gal/ft = .185 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25 | PURGING INITIATED AT: 16:30 | PURGING ENDED AT: 17:13 | TOTAL VOLUME PURGED (gallons): 2.279

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
16:30			0.053									
16:38	0.424	0.424	0.053	20.76	4.98	19.2	.050	1.41	132.6	705	opq.	None
16:43	0.265 ~~0.424~~ JV	0.689	0.053	20.76	5.04	19.0	.055	.92	102.5	over	opq.	None
16:48	0.265	0.954	0.053	20.76	5.11	18.9	.056	.63	92.9	over	opq.	None
16:53	6.265	1.219	0.053	20.76	5.18	18.8	.058	.42	85.2	315	opq.	None
16:58	0.265	1.484	0.053	20.76	5.24	18.7	.058	.43	79.8	106	Slightly opq	None
17:03	0.265	1.749	0.053	20.76	5.25	18.6	.059	.33	76.2	56.9	Clear	None
17:08	0.265	2.014	0.053	20.76	5.26	18.5	.059	.32	76.2	21.5	Clear	None
17:13	0.265	2.279	0.053	20.76	5.21	18.4	.057	.33	73.1	12.2	Clear	None

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Justin Vojak | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 17:15 | SAMPLING ENDED AT: 17:17

PUMP OR TUBING DEPTH IN WELL (feet): 25 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] [✓ TUBING] Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS10-002-GW-025	2	PE	125	EPA537M	APP	✓	200mL

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS10-003
SAMPLE ID: DOBNS10-003-GW-023
DATE: 12/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 18.23 Ft - 28.23 Ft
STATIC DEPTH TO WATER (feet): 17.15
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (28.23 Ft - 17.15 Ft) x 0.041 gal/ft = 0.45 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 23 Ft) + 0.20 gal = 0.80 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 23
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 23
PURGING INITIATED AT: 1540
PURGING ENDED AT: 1546
TOTAL VOLUME PURGED (gallons): 0.48

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1540	—	—	0.08	*	—	—	—	—	—	—	Cloudy	none
1542	0.16	0.16	0.08	↓	4.14	18.5	0.043	1.76	143.6	60.7	Clear	None
1544	0.16	0.32	0.08	↓	4.16	19.0	0.042	1.79	140.2	22.2	↓	↓
1546	0.16	0.48	0.08	↓	4.17	19.2	0.040	1.75	138.3	16.9	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A.Willis/ [illegible] /ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1546
SAMPLING ENDED AT: 1548
PUMP OR TUBING DEPTH IN WELL (feet): 23
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS10-003-GW-023	2	PE	125each	EPA 537M	APP	✓	300

REMARKS: * Due to size of well, both tubing and WLM could not fit - no GW Data recorded during GW sampling.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB
WELL NO: DOBNS11 - 001
SAMPLE ID: DOBN11 - 001 - GW - 034
DATE: 12/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4 OD
WELL SCREEN INTERVAL DEPTH: 29.0 Ft - 39.0 Ft
STATIC DEPTH TO WATER (feet): 18.50
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (29.0 Ft - 13.50 Ft) × 0.041 gal/ft = 0.34 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 × 34 Ft) + 0.20 gal = 0.29 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 34
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 34
PURGING INITIATED AT: 1245
PURGING ENDED AT: 1300
TOTAL VOLUME PURGED (gallons): 1.28 gal

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1245	—	—	0.08	X	—	—	—	—	—	—	cloudy	none
1248	0.24	0.24	0.08			4.58	15.0	0.055	4.05	159.7	35.2	clear	
1250	0.16	0.47	0.08		4.50	15.2	0.057	4.03	132.3	64.9	Cloudy	
1252	0.16	0.64	0.08		4.52	15.3	0.059	4.00	130.7	36.5	clear	
1255	0.24	0.88	0.08		4.55	15.7	0.060	~~3.33~~ 3.94	130.0	69.6	cloudy	
1300	0.40	1.28	0.08		4.58	15.6	0.061	3.66	125.7	37.6	Cloudy.	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5' = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A.Willis / S. McShew ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1300
SAMPLING ENDED AT: 1302
PUMP OR TUBING DEPTH IN WELL (feet): 34
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS11-001-GW-034	2 PE	PE	125 each	EPA 537M	APP	✓	300

REMARKS: Due to size of well, both tubing and WLM could not fit in well - no GW WL data recorded.

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS11-002 | SAMPLE ID: DOBNS11-002-GW-022 | DATE: 10/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"
TUBING DIAMETER (inches): 1/4" OD
WELL SCREEN INTERVAL DEPTH: 17.50 Ft - 27.50 Ft
STATIC DEPTH TO WATER (feet): 15.40
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (27.50 Ft - 15.40 Ft) x 0.041 gal/ft = 0.50 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 22 Ft) + 0.20 gal = 0.26 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22
PURGING INITIATED AT: 1212
PURGING ENDED AT: 1220
TOTAL VOLUME PURGED (gallons): 0.64

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1212	—	—	0.08	X	—	[illegible]	—	—	—	—	Cloudy	none
1216	0.32	0.32	0.08	|	6.36	16.6	0.035	9.02	177.1	34.0	Clear	|
1218	0.16	0.48	0.08	|	6.75	16.8	0.036	5.56	156.6	25.9	|	|
1220	0.16	0.64	0.08	⊥	6.70	16.9	0.035	5.76	148.5	11.0	⊥	⊥
						NA						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis / J. Meshew /ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1220
SAMPLING ENDED AT: 1222
PUMP OR TUBING DEPTH IN WELL (feet): 22
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y N (replaced)
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS11-002-GW-022	2	PE	125 each	EPA 537M	APP	✓	300

REMARKS: * Due to the tot size of well, both WLM and tubing could not fit. No WL Data during GW Sampling

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18
12/7/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS11-003 | SAMPLE ID: DOBNS11-003-GW-018 | DATE: 12/6/17

PURGING DATA

WELL DIAMETER (inches): 1.0"

TUBING DIAMETER (inches): 1/4" OD

WELL SCREEN INTERVAL DEPTH: 14.77Ft - 24.77Ft

STATIC DEPTH TO WATER (feet): 16.51

PURGE PUMP TYPE OR BAILER: Peristaltic

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (24.77Ft - 16.51 Ft) x 0.040 gal/ft = 0.33 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 19 Ft) + 0.20 gal = 0.24 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18

PURGING INITIATED AT: 1108

PURGING ENDED AT: 1126

TOTAL VOLUME PURGED (gallons): 1.28gal

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1108	—	—	0.08	*	—	—	—	—	—	—	Cloudy	none
1112	0.32	0.32	0.08		5.38	16.2	0.066	6.63	210.0	389	Cloudy	
1114	0.16	0.48	0.08		5.35	16.6	0.060	6.69	210.3	153	Cloudy	
1122	0.48	0.96	0.08		5.30	17.0	0.061	6.77	240.7	28.2	Clear	
1124	0.16	1.12	0.08		5.31	17.1	0.062	6.79	246.9	31.9		
1126	0.16	1.28	0.08		5.32	17.2	0.062	6.80	250.7	3.15		

AW

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Ash Willis / J. Meshon / ASL

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT: 1126

SAMPLING ENDED AT: 1130

PUMP OR TUBING DEPTH IN WELL (feet): 18

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y [✓ N] Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]

DUPLICATE: [✓ Y] N

	SAMPLE CONTAINER SPECIFICATION						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS11-003-GW-018	2, 125ml	PE	125 each	EPA 537M	APP	✓	300
DOBNS11-003-GW-918	2, 125ml	PE	125 each	EPA 537M	APP	✓	300

AW

REMARKS: * Due to size of well, both tubing and WLM could not fit - no GW WL DATA recorded

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/7/17

AerostarSES

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)

Installation: Dobbins ARB

WELL NO: DOBNS 12-001

SAMPLE ID:

DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):

TUBING DIAMETER (inches):

WELL SCREEN INTERVAL DEPTH: 20.08 Ft - ~~22.79~~ 25.08 Ft

STATIC DEPTH TO WATER (feet): 22.79

PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):

FINAL PUMP OR TUBING DEPTH IN WELL (feet):

PURGING INITIATED AT:

PURGING ENDED AT:

TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

not enough water for low flow sampling

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:

SAMPLER(S) SIGNATURE(S):

SAMPLING INITIATED AT:

SAMPLING ENDED AT: ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):

TUBING MATERIAL CODE: PE

FIELD-FILTERED: Y N

Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)

DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DOBNS12-002 | SAMPLE ID: | DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches): | TUBING DIAMETER (inches): | WELL SCREEN INTERVAL DEPTH: Ft - Ft | STATIC DEPTH TO WATER (feet): DRY | PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): | FINAL PUMP OR TUBING DEPTH IN WELL (feet): | PURGING INITIATED AT: | PURGING ENDED AT: | TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

no Sample

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: | SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y N | Filter Size mm

Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N | TUBING Y N (replaced) | DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other _______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS12-003
SAMPLE ID:
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: Ft - Ft
STATIC DEPTH TO WATER (feet): DRY
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{o}C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

no Sample

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT: ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

	SAMPLE CONTAINER SPECIFICATION						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS13-001
SAMPLE ID: DOBNS13-001-GW-050
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: 45.11 Ft - 55.11 Ft
STATIC DEPTH TO WATER (feet): 43.5
PURGE PUMP TYPE OR BAILER: check valve

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to depth of water -
Check valve grab sample

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT: ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS13-002
SAMPLE ID:
DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches):
TUBING DIAMETER (inches):
WELL SCREEN INTERVAL DEPTH: Ft - Ft
STATIC DEPTH TO WATER (feet): 36.87
PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):
FINAL PUMP OR TUBING DEPTH IN WELL (feet):
PURGING INITIATED AT:
PURGING ENDED AT:
TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Check valve

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT:
SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y N
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)
DUPLICATE: Y N

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
	# CONTAINERS	MATERIAL CODE	VOLUME (mL)				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: DDBNS13-003 | SAMPLE ID: DDBNS13-003 - GW-050 | DATE: 12/14/17

PURGING DATA

WELL DIAMETER (inches): | TUBING DIAMETER (inches): | WELL SCREEN INTERVAL DEPTH: 45.16 Ft - 55.16 Ft | STATIC DEPTH TO WATER (feet): 43.68 | PURGE PUMP TYPE OR BAILER: Check Valve

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): | FINAL PUMP OR TUBING DEPTH IN WELL (feet): | PURGING INITIATED AT: | PURGING ENDED AT: | TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

GRAB SAMPLE VIA
Check valve due to
depth of
water

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: | SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y N | Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N | TUBING Y N (replaced) | DUPLICATE: Y N

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/17

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)

Installation: Dobbins ARB

WELL NO: DOBNS13-004

SAMPLE ID: DOBNS13-004-GW-052

DATE: 12/11/17

PURGING DATA

WELL DIAMETER (inches): 1"	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: 45.07 ft - 55.07 ft	STATIC DEPTH TO WATER (feet): 47.16	PURGE PUMP TYPE OR BAILER: Check Valve

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (Ft - Ft) x gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

Due to size of well and DTW, which exceeds peristaltic capabilities, this will be a grab sample via check valve. See Grab Sheet.

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.6[illegible]; 5" = 1.02; 6" = 1.47; [illegible] = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.0[illegible]

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT: ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y N Filtration Equipment Type:	Filter Size mm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

AerostarSES LLC

GROUNDWATER SAMPLING LOG

SEE
GRAB SHEET

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: 14-001
SAMPLE ID: DOBNS14-001-GW-012
DATE: 12-11-17

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): .25
WELL SCREEN INTERVAL DEPTH: 17.12 Ft - 7.12 Ft
STATIC DEPTH TO WATER (feet): 8.38
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (17.12 Ft - 8.38 Ft) x 0.02 gal/ft = 0.174 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (.0014 x 25 Ft) + .25 gal = 0.285 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12
PURGING INITIATED AT: 1530
PURGING ENDED AT: *
TOTAL VOLUME PURGED (gallons): * 1.68

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1530	—	—	0.07	8.38	—	—	—	—	—	—	—	—
1540	0.5	0.5	0.07	—	6.43	17.8	0.286	3.78	-31.8	75	lightTan	None
1546	0.78	1.28	0.07	—	—	—	Well	Dry - Recharge 15min			—	—
1610	—	1.28	0.02	—	6.48	17.5	0.249	2.30	-31	27	Clear	None
1620	0.4	1.68	0.02	—	—	—	Well	Ran Dry	—	—	—	—
				**Converted to Grab Sample								
				Collected @ 1640 on 12-12-17 w/PP								

12-12-17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1640
SAMPLING ENDED AT: 1640
PUMP OR TUBING DEPTH IN WELL (feet): 12
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS14-001-GW-012	2	PE	125	537m	PP	~~✓~~	GC 12-12-17

12-11-17

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

GC
12/19/17

AerostarSES

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: OT004-MW202 | SAMPLE ID: DOBNS14-OT004-MW202 | DATE: 12-12-17

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 1/4" | WELL SCREEN INTERVAL DEPTH: 24.9 Ft - 34.9 Ft | STATIC DEPTH TO WATER (feet): 5.50 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (34.9 Ft - 5.5 Ft) x 0.16 gal/ft = 4.7 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (.0026 x 40 Ft) + 0.25 gal = 0.354 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30 | PURGING INITIATED AT: 1330 | PURGING ENDED AT: 1450 | TOTAL VOLUME PURGED (gallons): 4.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1330	—	—	.06	5.50	—	—	—	—	—	—	—	—
1340	1	1	.05	5.95	6.56	15.6	0.253	0.78	-38.4	5.7	Clear	None
1350	0.5	1.5	.05	5.95	6.54	15.4	0.266	0.57	-57.4	4.9	Clear	None
1400	0.5	2.0	.05	6.00	6.59	15.9	0.322	0.49	-70.0	5.1	Clear	None
1410	0.5	2.5	.05	6.01	6.63	16.1	0.386	0.48	-84.1	4.2	Clear	None
1420	0.5	3.0	.05	6.06	6.64	16.1	0.390	0.46	-83.6	4.8	Clear	None
1430	0.5	3.5	.05	6.08	6.63	16.1	0.394	0.45	-83.7	4.2	Clear	None
1440	0.5	4.0	.05	6.09	6.70	16.3	0.401	0.40	-85.1	4.1	Clear	None
1450	0.5	4.5	.05	6.07	6.69	16.2	0.399	0.41	-84.3	3.9	Clear	None
						12-12-17						

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson/ASL | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 1450 | SAMPLING ENDED AT: ENDED AT: 1500

PUMP OR TUBING DEPTH IN WELL (feet): 30 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE ~~(mL per minute)~~ GPM
DOBNS14-OT004-MW202	2	PE	125	537M	PP	✓	.05
			12-12-17				

REMARKS:

Well Abandoned? Y N Date Well Abandoned:

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: OT004-MW03 | SAMPLE ID: DOBNS14-OT004-MW03 | DATE: 12-12-17

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): .25 | WELL SCREEN INTERVAL DEPTH: 8 Ft - 18 Ft | STATIC DEPTH TO WATER (feet): 7.39 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (18 Ft - 7.39 Ft) x 0.16 gal/ft = 1.69 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gal + (.0026 x 25 Ft) + .25 gal = .315 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13 | PURGING INITIATED AT: 1215 | PURGING ENDED AT: 1245 | TOTAL VOLUME PURGED (gallons): 2.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1115	0.5	0.5	0.05	8.66	—	Stop	Pumping	- Allow	YSI to	warm	up	—
1215	0.5	0.5	0.05	8.65	6.4	15.6	0.090	1.13	115.7	37.5	Clear	None
1225	0.5	1.5	0.05	8.69	6.19	16.9	0.091	0.71	99.1	20.5	Clear	None
1235	0.5	2.0	0.05	8.68	6.08	16.5	0.091	0.55	100.4	15.2	Clear	None
1245	0.5	2.5	0.05	8.71	6.06	16.3	0.091	0.62	101.3	6.3	Clear	None

12-12-17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson/ASL | SAMPLER(S) SIGNATURE(S): | SAMPLING INITIATED AT: 1250 | SAMPLING ENDED AT: ENDED AT: 1255

PUMP OR TUBING DEPTH IN WELL (feet): | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] | Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE ~~(mL per minute)~~ GPM
DOBNS14-OT004-MW03	2	PE	125	537m	PP	✓	0.05

12-12-17

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)	Installation: Dobbins ARB
WELL NO: OT004-MW-04	SAMPLE ID: DOBNS 14-OT004-MW04-GW-018 DATE: 01/10/18

PURGING DATA

WELL DIAMETER (inches): 2.0"	TUBING DIAMETER (inches): 1/4 OD	WELL SCREEN INTERVAL DEPTH: 13 Ft - 23 Ft	STATIC DEPTH TO WATER (feet): 9.03	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (23 Ft - 9.03 Ft) x 0.16 gal/ft = 2.23 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 18 Ft) + 0.2 gal = 0.25 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18	PURGING INITIATED AT: 1330	PURGING ENDED AT: 1345	TOTAL VOLUME PURGED (gallons): 0.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1330	—	—	0.05	9.2	–	–	—	–	–	–	Clear	~~None~~ fuel
1336	0.30	0.30	0.05	9.2	6.48	18.4	0.225	0.69	-51.2	9.78	|	|
1342	0.30	0.60	0.05	9.4	6.53	18.4	0.226	0.65	-54.2	9.62	|	|
1345	0.15	0.75	0.05	9.4	6.54	18.3	0.236	0.64	-54.7	9.00	|	|

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: A. Willis, G. Larlson ASL	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1345	SAMPLING ENDED AT: 1349
PUMP OR TUBING DEPTH IN WELL (feet): 18	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y [✓ N] Filter Size mm Filtration Equipment Type:	
FIELD DECONTAMINATION: PUMP Y [✓ N]	TUBING Y [✓ N (replaced)]	DUPLICATE: [✓ Y] N	

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS14-OT004-MW04-GW-018	2	PE	125 each	537m	APP	✓	200
DOBNS14-OT004-MW04-GW-918	2	PE	125 each	537m	APP	✓	200

REMARKS: Added Duplicate to this (original @ 03-002)

Well Abandoned? Y [✓ N] Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

Area 14

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: ~~DB-W24~~ m D3-W24
SAMPLE ID: DOBNS14-D3-W24-GW-015
DATE: 12/14/2017

PURGING DATA

WELL DIAMETER (inches): 2.00
TUBING DIAMETER (inches): 1/4
WELL SCREEN INTERVAL DEPTH: UNKNOWN Ft - Ft 19.8
STATIC DEPTH TO WATER (feet): 10.72
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (19.8 Ft - 10.72 Ft) x 0.16 gal/ft = 1.45 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.04 x 15 Ft) + 0.20 gal = 0.8 gal

Location (Circle one): [✓ Monitoring Well] Temporary Well Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15
PURGING INITIATED AT: 1355
PURGING ENDED AT: 1418
TOTAL VOLUME PURGED ~~(gallons)~~: L= 5.75

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1400	1.25	1.25	250	10.77	4.61	18.9	0.053	0.88	244.6	4.31	clear	none
1405	1.25	2.50	250	10.77	4.60	19.0	0.052	0.64	260.5	2.34	clear	none
1410	1.25	3.75	250	10.77	4.59	18.9	0.052	0.56	269.0	1.98	clear	none
1415	1.25	5.00	250	10.78	4.58	18.6	0.052	0.47	274.1	1.05	clear	none
1418	0.75	5.75	250	10.78	4.59	18.5	0.052	0.46	275.3	0.90	clear	none

TJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: F. Johnson / ASL
SAMPLER(S) SIGNATURE(S): Franklin John
SAMPLING INITIATED AT: 1420
SAMPLING ENDED AT: 1422
PUMP OR TUBING DEPTH IN WELL (feet): 15.0
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filter Size n/a mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N]
TUBING Y N [✓ (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS14-D3-W24-GW-015	2	PE	125	EPA 537M	APP	✓	250

TJ

REMARKS:

Well Abandoned? Y [✓ N] Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/15/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS15-001
SAMPLE ID: DOBNS15-001-GW-011
DATE: 12-12-17

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): 0.25
WELL SCREEN INTERVAL DEPTH: 13.31 Ft - 8.31 Ft
STATIC DEPTH TO WATER (feet): 5.76
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (13.31 Ft - 5.76 Ft) x 0.02 gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0024 x 35 Ft) + .25 gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 11
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 11
PURGING INITIATED AT: 1740
PURGING ENDED AT: 1835
TOTAL VOLUME PURGED (gallons): 0.56

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1740	—	—	0.02	5.76	—	—	—	—	—	—	—	—
1755	0.16	0.16	0.02	—	6.21	15.0	0.047	1.57	69.0	***	Tan	—
1805	0.10	0.26	0.02	—	5.82	15.7	0.060	0.77	73.1	372	Light Tan	—
1815	0.10	0.36	0.02	—	5.75	13.5	0.058	0.76	71.7	96.7	Clear	—
1925	0.10	0.46	0.02	—	5.69	15.7	0.059	0.61	76.7	57.7	clear	—
1835	0.10	0.56	0.02	—	5.62	16.6	0.052	0.152	77.8	77.7	Clear	—

12-12-17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson / ASL
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1840
SAMPLING ENDED AT: 1845
PUMP OR TUBING DEPTH IN WELL (feet): 11
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE ~~(mL per minute)~~ GPM
DOBNS15-001-GW-011	2	PE	125	537m	PP	✓	0.02

12-12-17

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS15-002
SAMPLE ID: DOBNS 15-002-GW-007
DATE: 12-12-17

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): 0.25
WELL SCREEN INTERVAL DEPTH: 12.92 Ft - 15.92 Ft
STATIC DEPTH TO WATER (feet): 3.52
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (12.92 Ft − 3.52 Ft) x 0.02 gal/ft = 0.188 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0014 x 15 Ft) + .25 gal = 0.271 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8
PURGING INITIATED AT: 1540
PURGING ENDED AT: 1625
TOTAL VOLUME PURGED (gallons): 0.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1540	—	—	0.02	3.52	—	—	—	—	—	—	—	—
1555	0.4	0.4	0.02	N/A	6.63	14.0	0.384	1.21	-60.3	169	Clear	None
1605	0.5	0.5	0.02	N/A	6.66	14.5	0.390	0.79	-74.2	72.5	Clear	None
1615	0.1	0.6	0.02	N/A	6.66	14.7	0.390	0.63	-77.1	37.1	Clear	None
1625	0.1	0.7	0.02	N/A	6.65	14.7	0.389	0.66	-76.7	6.2	Clear	None

12-12-17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1625
SAMPLING ENDED AT: 1630

PUMP OR TUBING DEPTH IN WELL (feet): 8
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filter Size: mm
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

	SAMPLE CONTAINER SPECIFICATION						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE ~~(mL per minute)~~ Gpm
DOBNS15-002-GW-007	2	PE	125	537 M	PP	✓	0.1

12-12-17

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned:

Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSESLLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS15-003-G
SAMPLE ID: DOBNS15-003-GW-011
DATE: 12-12-17

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): 0.25
WELL SCREEN INTERVAL DEPTH: 14.77 Ft - 9.77 Ft
STATIC DEPTH TO WATER (feet): 5.14
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (14.77 Ft - 9.77 Ft) x 0.02 gal/ft = 0.1 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gal + (0.0026 x 20 Ft) + .25 gal = 0.302 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12
PURGING INITIATED AT: 1640
PURGING ENDED AT: 1645
TOTAL VOLUME PURGED (gallons): 0.65

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. mS/cm or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1640	–	–	0.02	5.14	–	–	–	–	–	–	–	–
1650	0.2	0.2	0.02	–	6.59	16.1	0.242	0.8	-37.0	222	Gray	None
1700	0.2	0.4	0.02	–	6.52	16.6	0.248	0.68	-37.1	117	light Gray	None
1710	0.2	0.6	0.02	–	6.44	16.6	0.252	0.46	-42.7	147	light Gray	None

12-12-17

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Greg Carlson
SAMPLER(S) SIGNATURE(S):
SAMPLING INITIATED AT: 1645
SAMPLING ENDED AT: 1650
PUMP OR TUBING DEPTH IN WELL (feet): 12
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filter Size mm
Filtration Equipment Type:
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: [✓ Y] N

	SAMPLE CONTAINER SPECIFICATION						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS15-003-GW-011	2	PE	125	537m	PP	✓	75ml /min
DOBNS15-003-GW-911	2	PE	125	537m	PP	✓	75ml/min

12-12-17

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned:
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah) | Installation: Dobbins ARB

WELL NO: D0BNS16-001 | SAMPLE ID: D0BNS16-001-GW-012 | DATE: 12/14/2017

PURGING DATA

WELL DIAMETER (inches): 0.75" | TUBING DIAMETER (inches): 1/4" | WELL SCREEN INTERVAL DEPTH: 5.10 Ft - 15.10 Ft | STATIC DEPTH TO WATER (feet): 9.89 | PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (15.10 Ft - 9.89 Ft) x 0.041 gal/ft = 0.21 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = 0 gal + (0.0026 x 12 Ft) + 0.20 gal = 0.23 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | PURGING INITIATED AT: 1000 | PURGING ENDED AT: 1028 844 FJ | TOTAL VOLUME PURGED ~~(gallons)~~: L = 8.4

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1000			300	— Pump Started —								
1005	1.5	1.5	300	N/A	5.58	18.4	0.049	4.06	222.6	62.4	Very slight cloudy	None
1010	1.5	3.0	300	↓	5.09	18.8	0.047	3.77	231.7	67.8	↓	none
1015	1.5	4.5	300		5.08	18.6	0.045	4.12	227.1	45.1	Clear to the eye	none
1020	1.5	6.0	300		5.06	18.9	0.046	4.34	227.4	21.0	↓	↓
1025	1.5	7.5	300		5.07	18.9	0.045	4.33	228.4	11.9		
1028	0.9	8.4	300	↓	5.05	14.0	0.046	4.27	231.0	8.94	↓	↓

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: F. Johnson/ASL | SAMPLER(S) SIGNATURE(S): Franklin Johnson | SAMPLING INITIATED AT: | SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet): 12.0 | TUBING MATERIAL CODE: PE | FIELD-FILTERED: Y [✓ N] Filtration Equipment Type: | Filter Size: n/a mm

FIELD DECONTAMINATION: PUMP Y [✓ N] | TUBING Y N [✓ (replaced)] | DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
D0BNS16-001-GW-012	2	PE	125	EPA 537M	APP	✓	300

FJ

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/2017

Well Measurement Method: Probe Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

12/19/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS16-002
SAMPLE ID: DOBNS16-002-GW-015
DATE: 12/14/2017

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): 1/4
WELL SCREEN INTERVAL DEPTH: 9.19 Ft - 19.19 Ft
STATIC DEPTH TO WATER (feet): 5.58
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.9 Ft - 5.58 Ft) x 0.16 gal/ft = 2.29 Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0 gal + (0.0026 x 15 Ft) + 0.20 gal = .239 gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0
PURGING INITIATED AT: 1205
PURGING ENDED AT: 1226
TOTAL VOLUME PURGED ~~(gallons)~~: L = 6.3

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1210	1.5	1.5	300	N/A	5.49	18.4	0.074	0.96	107.0	10.6	clear	none
1215	1.5	3.0	300		5.46	18.4	0.067	0.77	95.3	7.77	clear	none
1220	1.5	4.5	300		5.36	18.4	0.061	0.66	98.9	4.52	clear	none
1223	0.9	5.4	300		5.38	18.5	0.060	0.60	98.4	5.52	clear	none
1226	0.9	6.3	300		5.32	18.4	0.059	0.55	100.2	3.91	clear	none

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: F. Johnson / ASL
SAMPLER(S) SIGNATURE(S): Franklin Johnson
SAMPLING INITIATED AT: 1228
SAMPLING ENDED AT: 1230

PUMP OR TUBING DEPTH IN WELL (feet): 15.0
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N]
Filtration Equipment Type:
Filter Size: n/a mm

FIELD DECONTAMINATION: PUMP Y [✓ N]
TUBING Y N [✓ (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS16-002-GW-015	2	PE	125	EPA 537M	APP	✓	300

FJ

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned: ~~TBF~~ 12/14/2017
Well Measurement Method: [✓ Probe] Tape Other ______

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

0830AM 12/15/17

AerostarSES LLC

GROUNDWATER SAMPLING LOG

PROJECT: SI of AFFF Areas (Savannah)
Installation: Dobbins ARB

WELL NO: DOBNS16-003
SAMPLE ID: DOBNS16-003-GW-020
DATE: 12/14/2017

PURGING DATA

WELL DIAMETER (inches): 0.75
TUBING DIAMETER (inches): 1/4
WELL SCREEN INTERVAL DEPTH: 14.55Ft -24.55Ft
STATIC DEPTH TO WATER (feet): 5.06
PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (24.55Ft -5.06 Ft) x 0.04 gal/ft = Gal

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gal + (x Ft) + gal = gal

Location (Circle one): Monitoring Well [✓ Temporary Well] Other

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20.0
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20.0
PURGING INITIATED AT: 1115
PURGING ENDED AT: 1133
TOTAL VOLUME PURGED ~~(gallons)~~: L=5.4

TIME	VOLUME PURGED ~~(gallons)~~ L	CUMUL. VOLUME PURGED ~~(gallons)~~ L	PURGE RATE ~~(gpm)~~ mL/min	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. [✓ mS/cm] or µS/cm	DISSOLVED OXYGEN mg/L	ORP (mV)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1120	1.5	1.5	300	~~5.~~ FJ N/A	5.94	18.6	0.110	2.66	185.0	51.3	clear to the eye	none
1125	1.5	3.0	300	↓	5.94	18.9	0.115	2.10	174.4	15.2	clear	none
1130	1.5	4.5	300	↓	5.98	19.1	0.117	1.91	155.6	7.56	clear	none
1133	~~1.5~~ FJ 0.9	~~6.0~~ FJ 5.4	300	↓	5.98	19.2	0.118	~~2~~ FJ 1.91	149.1	4.79	clear	none

FJ

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: F. Johnson / ASL
SAMPLER(S) SIGNATURE(S): Franklin Johnson
SAMPLING INITIATED AT: ~~1135~~ FJ 1135
SAMPLING ENDED AT: 1137

PUMP OR TUBING DEPTH IN WELL (feet): 20.0
TUBING MATERIAL CODE: PE
FIELD-FILTERED: Y [✓ N] Filtration Equipment Type:
Filter Size: n/a mm
FIELD DECONTAMINATION: PUMP Y [✓ N] TUBING Y [✓ N (replaced)]
DUPLICATE: Y [✓ N]

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME (mL)	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	Low Flow Sampling ✓	SAMPLE PUMP FLOW RATE (mL per minute)
DOBNS16-003-GW-020	2	PE	125	EPA 537M	APP	✓	300

FJ

REMARKS:

Well Abandoned? [✓ Y] N Date Well Abandoned: 12/14/2017
Well Measurement Method: [✓ Probe] Tape Other ______
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

6/19/18

12/19/17

AerostarSES LLC

SAMPLE COLLECTION LOG

Project Name: SI of AFFF Areas (Savannah)

ASL Project No: M2032.0001

Installation: Dobbins ARB

Date: 12/01/17

Sample Technician(s): A. Willis / J. Meshew

Station ID: Former FTA FT-02 (AFFF Area 1)
DOBNS01-004

Location Description: 405', 165° SE of Taxiway Echo and access Road to FTA Area

Surface Water and/or Sediment Sample Collected from (circle one): [✓ Channel/Ditch] Holding Pond/Lagoon Lake/Pond River/Stream Trench Other

* Surface Soil ~~SEDIMENT~~ SAMPLE

Sample ID: DOBNS01-004-SS-901
DOBNS01-004-SS-001

Sample Collection Time: 1100

Sample Depth: 0 - 0.5'

Sediment Description: gravelly Sand

Collection Method: spoon

Analysis/Method: EPA 537 M

Sample Container: 2, 250ml PE bottles

Preservative: none

SURFACE WATER SAMPLE

Sample ID:

Sample Collection Time:

Sample Depth:

Collection Method:

Analysis/Method:

Sample Container:

Preservative:

Water Quality (circle one): Clear Cloudy Turbid Other

Groundwater Sample Collected from (circle one): [✓ Hydropunch] Monitoring Well Temporary Well Other

GROUNDWATER SAMPLE

Sample ID:

Sample Collection Time:

Sample Depth:

Collection Method:

Analysis/Method:

Sample Container:

Preservative:

Water Quality (circle one): Clear Cloudy Turbid Other

REMARKS:
* Area was Dry even after rain event
GPS taken ✓

12/2/17

AerostarSES LLC

SAMPLE COLLECTION LOG

Project Name: SI of AFFF Areas (Savannah)

ASL Project No: M2032.0001

Installation: Dobbins ARB

Date: 12/06/2017

Sample Technician(s): F. Johnson

Station ID: DOBNS02-002

Location Description: 75 Yards South of airfield entrance gate on east side of access road.

Surface Water and/or Sediment Sample Collected from (circle one): Channel/Ditch Holding Pond/Lagoon Lake/Pond River/Stream Trench Other

SEDIMENT SAMPLE

Sample ID: ~~DOBNS02-002-GW-039~~

Sample Collection Time:

Sample Depth: ~~39 ft BGS~~

Sediment Description:

Collection Method:

Analysis/Method:

Sample Container:

Preservative:

SURFACE WATER SAMPLE

Sample ID:

Sample Collection Time:

Sample Depth:

Collection Method:

Analysis/Method:

Sample Container:

Preservative:

Water Quality (circle one): Clear Cloudy Turbid Other

Groundwater Sample Collected from (circle one): [✓ Hydropunch] Monitoring Well Temporary Well Other

GROUNDWATER SAMPLE

Sample ID: DOBNS02-002-GW-039

Sample Collection Time: 1022

Sample Depth: 39 ft BGS

Collection Method: P.P.

Analysis/Method: EPA 537M

Sample Container: 4x 125mL PE

Preservative: N/A

Water Quality (circle one): Clear Cloudy [✓ Turbid] Other

REMARKS: Double sample collected due to turbidity

6/19/18

12/19/17

AerostarSES LLC

SAMPLE COLLECTION LOG

Project Name: SI of AFFF Areas (Savannah)

ASL Project No: M2032.0001

Installation: Dobbins ARB

Date: 1/10/18

Sample Technician(s): A. Willis

Station ID: AFFF AREA 3- Building 5 (Hangar)
DOBNS03-002

Location Description: see log

Surface Water and/or Sediment Sample Collected from (circle one): Channel/Ditch Holding Pond/Lagoon Lake/Pond River/Stream Trench Other

SEDIMENT SAMPLE

no Sample

Sample ID: ______ Sample Collection Time: ______

Sample Depth: ______ Sediment Description: ______

Collection Method: ______ Analysis/Method: ______

Sample Container: ______ Preservative: ______

SURFACE WATER SAMPLE

Sample ID: ______ Sample Collection Time: ______

Sample Depth: ______ Collection Method: ______

Analysis/Method: ______ Sample Container: ______

Preservative: ______ Water Quality (circle one): Clear Cloudy Turbid Other

Groundwater Sample Collected from (circle one): Hydropunch Monitoring Well Temporary Well Other______

Well DRY

GROUNDWATER SAMPLE

Sample ID: ______ Sample Collection Time: ______

Sample Depth: ______ Collection Method: ______

Analysis/Method: ______ Sample Container: ______

Preservative: ______ Water Quality (circle one): Clear Cloudy Turbid Other

REMARKS: