Appendix A
Injection Summary Tables and Field Logs

Injection Event 4

Table A.1 – Batch Injection Quantities
Injection Event 4 (January/February 2019)

Table A.2 – Summary of Injection Activities
Injection Event 4 (January/February 2019)

Table A.3 – Summary of Groundwater Extraction Activities
Injection Event 4 (January/February 2019)

Cascade Field Logs from Injection Event 4

Photo Log from Injection Event 4

Table A.1
Batch Injection Quantities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Components	Batch					
	1	2	3	4	5	6
EVO (gallons)	2781	2789	2784	2785	2780	2833
Glycerin (gallons)	61.25	61.25	61.25	61.25	61.25	61.25
AquaPure (gallons)	20	20	20	20	20	20
Sodium Sulfite (lbs)	50	50	50	50	50	50
Water (gallons)	11138	11130	11145	11157	11130	11308
Total Injectate Solution (gallons)	14000.25	14000.25	14010.25	14023.25	13991.25	14222.25
Average Injection Rate (gpm)	68	80	90	64	70	14

Note:

Injection rates varied throughout the injection of each batch depending on the injection rates achieved at individual injection wells and the number of injection wells connected at various times throughout the day. Slower average injection rates for Batch 6 resulted from fewer injection wells being connected on the final day of carbon substrate injections.

Table A.2
Summary of Injection Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
1/23/2019	SWFTS-IW01A	2:11 PM	4:45 PM	11.2	35	1,718	0
	SWFTS-IW01B	10:37 AM	1:59 PM	9.9	35	2,000	0
	SWFTS-IW02A	3:04 PM	4:45 PM	9.4	35	952	0
	SWFTS-IW02B	10:37 AM	2:42 PM	8.2	25	2,000	0
	SWFTS-IW03	10:37 AM	4:25 PM	11.5	25	4,000	0
	SWFTS-IW04	10:37 AM	4:24 PM	8.6	25	3,000	0
	SWFTS-IW06B	10:37 AM	4:28 PM	2.3	35	802	0
	SWFTS-IW07	10:25 AM	4:45 PM	8.6	20	3,283	0
	SWFTS-IW08	10:25 AM	4:45 PM	7.9	15	2,987	0
	SWFTS-IW09	10:25 AM	4:45 PM	2.9	35	1,089	0
	SWFTS-IW13B	10:37 AM	-	-	-	-	0
	SWFTS-IW16A	4:02 PM	4:45 PM	9.5	20	410	0
	SWFTS-IW16B	10:25 AM	3:46 PM	6.2	20	2,000	0
	SWFTS-IW17	10:25 AM	4:45 PM	5.9	35	2,242	0
	SWFTS-IW18	10:25 AM	4:45 PM	3.6	35	1,354	0
	SWFTS-IW19	10:25 AM	-	-	-	-	0
	SWFTS-IW20	10:25 AM	1:39 PM	5.9	30	1,154	0
	SWFTS-IW20	1:48 PM	4:45 PM	7.2	30	1,274	0
				Daily Summary		30,265	0
1/24/2019	SWFTS-IW01A	8:58 AM	9:44 AM	6.1	35	282	0
	SWFTS-IW02A	8:58 AM	10:17 AM	13.3	35	1,048	0
	SWFTS-IW05	8:58 AM	11:33 AM	12.7	10	1,972	0
	SWFTS-IW05	2:20 PM	4:48 PM	12.4	10	1,829	0
	SWFTS-IW06B	8:58 AM	11:33 AM	2.5	35	380	0
	SWFTS-IW06B	2:20 PM	4:48 PM	1.6	35	240	0
	SWFTS-IW07	8:58 AM	11:21 AM	9.2	25	1,317	0
	SWFTS-IW08	8:58 AM	11:33 AM	9.1	25	1,417	0
	SWFTS-IW08	2:20 PM	2:33 PM	7.4	25	96	0
	SWFTS-IW09	8:58 AM	11:33 AM	3.1	35	481	0
	SWFTS-IW09	2:20 PM	4:48 PM	2.6	35	382	0
	SWFTS-IW10	8:58 AM	11:33 AM	2.5	25	387	0
	SWFTS-IW10	2:20 PM	4:48 PM	2.8	25	417	0
	SWFTS-IW11	9:53 AM	11:33 AM	8.0	25	799	0
	SWFTS-IW11	2:20 PM	4:48 PM	7.8	30	1,157	0
	SWFTS-IW12	8:58 AM	11:33 AM	8.4	30	1,301	0
	SWFTS-IW12	2:20 PM	4:48 PM	6.7	30	998	0
	SWFTS-IW13A	8:58 AM	11:33 AM	9.0	25	1,396	0
	SWFTS-IW13A	2:20 PM	4:48 PM	8.2	25	1,218	0
	SWFTS-IW14	2:20 PM	4:48 PM	20.2	25	2,996	0
	SWFTS-IW15	2:20 PM	4:48 PM	7.5	30	1,110	0
	SWFTS-IW16A	8:58 AM	11:33 AM	6.3	20	973	0
	SWFTS-IW16A	2:20 PM	3:05 PM	13.7	35	617	0
	SWFTS-IW17	8:58 AM	11:33 AM	6.5	35	1,008	0
	SWFTS-IW17	2:20 PM	4:48 PM	4.1	35	613	0
	SWFTS-IW18	8:58 AM	11:33 AM	2.4	35	374	0
	SWFTS-IW18	2:20 PM	4:48 PM	1.8	35	261	0
	SWFTS-IW20	8:58 AM	11:33 AM	7.2	35	1,112	0
	SWFTS-IW20	2:20 PM	3:48 PM	10.9	35	960	0
				Daily Summary		27,141	0

Table A.2
Summary of Injection Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
1/25/2019	SWFTS-IW05	7:46 AM	8:06 AM	10.0	15	199	0
	SWFTS-IW06A	8:10 AM	8:57 AM	6.2	35	291	0
	SWFTS-IW06A	1:11 PM	4:30 PM	9.1	30	1,801	0
	SWFTS-IW06B	7:46 AM	8:48 AM	0.8	35	50	0
	SWFTS-IW06B	1:11 PM	4:30 PM	1.2	35	232	0
	SWFTS-IW09	7:46 AM	8:38 AM	2.8	35	148	0
	SWFTS-IW09	1:11 PM	4:30 PM	2.4	35	484	0
	SWFTS-IW10	7:48 AM	8:27 AM	1.1	35	41	0
	SWFTS-IW11	7:48 AM	8:57 AM	6.0	30	415	0
	SWFTS-IW11	1:11 PM	4:30 PM	7.5	30	1,494	0
	SWFTS-IW12	7:48 AM	8:57 AM	5.6	30	387	0
	SWFTS-IW12	1:11 PM	4:30 PM	7.6	35	1,509	0
	SWFTS-IW13A	7:46 AM	8:57 AM	6.5	30	462	0
	SWFTS-IW13A	1:11 PM	4:30 PM	9.8	35	1,946	0
	SWFTS-IW14	7:46 AM	8:57 AM	14.1	30	1,004	0
	SWFTS-IW15	7:46 AM	8:57 AM	3.7	35	266	0
	SWFTS-IW15	1:11 PM	4:30 PM	8.6	35	1,712	0
	SWFTS-IW17	7:46 AM	8:58 AM	2.1	35	152	0
	SWFTS-IW17	1:11 PM	2:47 PM	5.1	35	485	0
	SWFTS-IW18	7:46 AM	8:58 AM	2.2	35	160	0
	SWFTS-IW18	1:11 PM	4:30 PM	2.2	35	436	0
				Daily Summary		13,674	0
1/26/2019	SWFTS-IW06A	7:43 AM	9:18 AM	7.1	30	678	0
	SWFTS-IW07	7:43 AM	9:21 AM	10.2	30	1,000	0
	SWFTS-IW08	7:43 AM	9:17 AM	10.6	25	1,000	0
	SWFTS-IW09	7:43 AM	1:52 PM	2.4	35	885	0
	SWFTS-IW09	3:01 PM	4:45 PM	2.5	35	258	0
	SWFTS-IW11	8:30 AM	8:47 AM	7.9	30	135	0
	SWFTS-IW12	7:43 AM	9:43 AM	6.7	35	805	0
	SWFTS-IW13A	7:43 AM	10:15 AM	6.4	35	978	0
	SWFTS-IW15	7:43 AM	1:50 PM	5.2	35	1,912	0
	SWFTS-IW18	7:43 AM	1:52 PM	3.2	35	1,186	0
	SWFTS-IW18	3:01 PM	4:45 PM	1.9	35	199	0
	SWFTS-IW20	7:43 AM	9:08 AM	7.6	35	650	0
				Daily Summary		9,686	0
1/27/2019	SWFTS-IW08	3:38 PM	4:35 PM	7.4	25	420	0
	SWFTS-IW09	7:22 AM	4:35 PM	2.2	35	1,219	0
	SWFTS-IW17	3:38 PM	3:48 PM	2.6	35	26	0
	SWFTS-IW18	7:22 AM	4:35 PM	2.4	35	1,329	0
				Daily Summary		2,994	0
1/28/2019	SWFTS-IW01B	7:50 AM	4:28 PM	8.0	10	0	4,139
	SWFTS-IW02B	7:50 AM	4:28 PM	2.4	10	0	1,229
	SWFTS-IW03	7:50 AM	4:28 PM	5.6	20	0	2,910
	SWFTS-IW04	7:50 AM	4:28 PM	3.6	10	0	1,851
	SWFTS-IW06A	8:42 AM	4:28 PM	5.5	15	0	2,584
	SWFTS-IW07	7:50 AM	4:28 PM	5.5	15	0	2,828
	SWFTS-IW08	7:50 AM	4:28 PM	7.0	15	0	3,634
	SWFTS-IW09	7:50 AM	4:28 PM	2.2	20	0	1,152
	SWFTS-IW13A	7:50 AM	4:28 PM	5.5	20	0	2,849
	SWFTS-IW16B	7:50 AM	4:28 PM	6.9	15	0	3,591
	SWFTS-IW17	7:50 AM	4:28 PM	8.6	15	0	4,432
	SWFTS-IW18	7:50 AM	4:28 PM	2.9	20	0	1,510
	SWFTS-IW20	7:50 AM	4:28 PM	5.3	20	0	2,735
				Daily Summary		0	35,444

Table A.2
Summary of Injection Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
1/29/2019	SWFTS-IW01B	7:46 AM	1:06 PM	9.2	10	0	2,941
	SWFTS-IW02B	7:46 AM	1:06 PM	2.5	10	0	791
	SWFTS-IW03	7:46 AM	1:06 PM	4.9	15	0	1,572
	SWFTS-IW04	7:46 AM	1:06 PM	4.3	10	0	1,373
	SWFTS-IW06A	7:46 AM	1:06 PM	6.0	15	0	1,920
	SWFTS-IW07	7:46 AM	1:06 PM	7.1	5	0	2,282
	SWFTS-IW08	7:46 AM	1:06 PM	9.1	10	0	2,918
	SWFTS-IW09	7:46 AM	1:06 PM	2.4	25	0	778
	SWFTS-IW13A	7:46 AM	1:06 PM	6.7	15	0	2,128
	SWFTS-IW16B	7:46 AM	1:06 PM	5.5	15	0	1,768
	SWFTS-IW17	7:46 AM	1:06 PM	10.4	15	0	3,314
	SWFTS-IW18	7:46 AM	1:06 PM	6.8	20	0	2,175
	SWFTS-IW20	7:46 AM	1:06 PM	6.4	20	0	2,059
				Daily Summary		0	26,019
1/30/2019	SWFTS-IW01A	11:04 AM	2:37 PM	8.7	10	0	1,847
	SWFTS-IW01B	7:33 AM	10:57 AM	8.2	10	0	1,670
	SWFTS-IW02B	7:33 AM	2:37 PM	2.6	10	0	1,103
	SWFTS-IW03	7:33 AM	2:37 PM	7.3	15	0	3,115
	SWFTS-IW04	7:33 AM	2:37 PM	4.2	10	0	1,767
	SWFTS-IW06A	7:50 AM	2:37 PM	2.5	15	0	1,025
	SWFTS-IW07	7:33 AM	2:37 PM	7.7	10	0	3,270
	SWFTS-IW08	7:33 AM	2:37 PM	9.6	10	0	4,084
	SWFTS-IW09	7:33 AM	2:37 PM	3.4	15	0	1,436
	SWFTS-IW13A	7:33 AM	2:37 PM	6.0	15	0	2,546
	SWFTS-IW16B	7:33 AM	2:37 PM	5.9	15	0	2,499
	SWFTS-IW17	7:33 AM	2:37 PM	11.6	15	0	4,924
	SWFTS-IW18	7:33 AM	12:00 AM	8.4	20	0	2,252
	SWFTS-IW18	12:05 AM	2:37 PM	3.8	25	0	579
	SWFTS-IW20	7:33 AM	2:37 PM	7.4	15	0	3,145
				Daily Summary		0	35,262
				January Summary		83,760	96,725
2/4/2019	SWFTS-IW01A	11:15 AM	4:20 PM	7.5	15	0	2,302
	SWFTS-IW02B	11:15 AM	4:20 PM	2.7	15	0	810
	SWFTS-IW03	11:15 AM	4:20 PM	5.9	20	0	1,787
	SWFTS-IW04	11:15 AM	4:20 PM	4.4	10	0	1,346
	SWFTS-IW06A	11:15 AM	4:20 PM	2.6	20	0	788
	SWFTS-IW07	11:15 AM	4:20 PM	9.1	10	0	2,781
	SWFTS-IW08	11:15 AM	4:20 PM	7.7	15	0	2,361
	SWFTS-IW09	11:15 AM	4:20 PM	4.0	15	0	1,223
	SWFTS-IW10	11:15 AM	4:20 PM	3.5	20	0	1,062
	SWFTS-IW13A	11:15 AM	12:45 AM	5.3	20	0	477
	SWFTS-IW14	12:57 AM	4:20 PM	8.6	15	0	1,742
	SWFTS-IW16B	11:15 AM	4:05 PM	4.8	20	0	1,386
	SWFTS-IW17	11:15 AM	4:20 PM	9.0	20	0	2,749
	SWFTS-IW18	11:15 AM	4:20 PM	3.6	20	0	1,109
	SWFTS-IW20	9:10 AM	4:20 PM	5.6	15	0	2,389
				Daily Summary		0	24,312

Table A.2
Summary of Injection Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
2/5/2019	SWFTS-IW01A	10:30 AM	4:25 PM	12.2	10	0	4,347
	SWFTS-IW02B	10:30 AM	4:25 PM	2.4	15	0	846
	SWFTS-IW03	10:30 AM	4:25 PM	8.7	15	0	3,083
	SWFTS-IW04	10:30 AM	4:25 PM	4.1	10	0	1,441
	SWFTS-IW06A	10:30 AM	4:25 PM	2.2	20	0	793
	SWFTS-IW07	10:30 AM	4:25 PM	11.9	5	0	4,236
	SWFTS-IW08	10:30 AM	3:27 PM	8.7	10	0	2,583
	SWFTS-IW09	10:30 AM	4:25 PM	5.3	20	0	1,880
	SWFTS-IW10	10:30 AM	4:25 PM	4.5	20	0	1,615
	SWFTS-IW14	10:30 AM	4:25 PM	11.0	15	0	3,909
	SWFTS-IW15	10:30 AM	4:25 PM	2.6	35	0	912
	SWFTS-IW16A	10:30 AM	4:25 PM	8.9	35	0	3,167
	SWFTS-IW17	10:30 AM	1:12 PM	9.6	20	0	1,555
	SWFTS-IW18	10:30 AM	4:25 PM	3.7	25	0	1,315
	SWFTS-IW20	10:30 AM	4:25 PM	8.2	25	0	2,916
					Daily Summary	0	34,598
2/6/2019	SWFTS-IW01A	10:06 AM	10:28 AM	11.5	10	0	254
	SWFTS-IW02B	10:06 AM	3:39 PM	2.3	15	0	762
	SWFTS-IW03	10:06 AM	3:39 PM	8.9	20	0	2,973
	SWFTS-IW04	10:06 AM	3:39 PM	3.7	15	0	1,239
	SWFTS-IW06A	10:06 AM	3:39 PM	2.1	30	0	700
	SWFTS-IW07	10:06 AM	10:36 AM	16.8	5	0	503
	SWFTS-IW09	10:06 AM	3:39 PM	7.8	35	0	2,601
	SWFTS-IW10	10:06 AM	3:39 PM	5.4	30	0	1,800
	SWFTS-IW12	10:46 AM	3:39 PM	11.9	15	0	3,487
	SWFTS-IW14	10:06 AM	3:39 PM	10.2	20	0	3,402
	SWFTS-IW15	10:06 AM	3:39 PM	11.3	30	0	3,752
	SWFTS-IW16A	10:06 AM	3:39 PM	11.9	35	0	3,961
	SWFTS-IW18	10:06 AM	3:39 PM	4.5	30	0	1,508
	SWFTS-IW20	10:06 AM	4:02 PM	8.7	25	0	3,106
					Daily Summary	0	30,048
2/7/2019	SWFTS-IW02A[(1)]	9:35 AM	3:39 PM	2.0	25	0	740
	SWFTS-IW03	9:35 AM	12:35 AM	11.5	10	0	2,069
	SWFTS-IW04	9:35 AM	3:39 PM	6.8	25	0	2,475
	SWFTS-IW05	11:29 AM	3:39 PM	34.8	20	0	8,711
	SWFTS-IW06A	9:35 AM	11:08 AM	1.8	35	0	170
	SWFTS-IW06B	11:29 AM	3:39 PM	5.0	30	0	1,252
	SWFTS-IW09	9:35 AM	3:39 PM	7.3	35	0	2,645
	SWFTS-IW11[(1)]	11:08 AM	3:39 PM	2.8	30	0	768
	SWFTS-IW12	9:35 AM	3:39 PM	12.0	20	0	4,373
	SWFTS-IW14	9:35 AM	3:39 PM	11.1	20	0	4,045
	SWFTS-IW15	9:35 AM	3:39 PM	12.4	35	0	4,509
	SWFTS-IW16A	9:35 AM	11:23 AM	15.6	35	0	1,684
	SWFTS-IW18	9:35 AM	3:39 PM	5.4	35	0	1,983
					Daily Summary	0	35,424
2/8/2019	SWFTS-IW02A[(1)]	9:55 AM	4:40 PM	2.8	35	0	1,122
	SWFTS-IW04	9:55 AM	2:26 PM	6.0	10	0	1,633
	SWFTS-IW05	9:55 AM	4:40 PM	17.7	5	0	7,152
	SWFTS-IW06B	9:55 AM	4:40 PM	4.7	20	0	1,911
	SWFTS-IW09	9:55 AM	2:50 PM	6.4	20	0	1,884
	SWFTS-IW11[(1)]	9:55 AM	4:40 PM	3.6	35	0	1,465
	SWFTS-IW12	9:55 AM	4:40 PM	11.6	5	0	4,698
	SWFTS-IW14	9:55 AM	4:40 PM	10.0	10	0	4,061
	SWFTS-IW15	9:55 AM	4:40 PM	9.8	10	0	3,967
	SWFTS-IW18	9:55 AM	4:40 PM	4.4	20	0	1,802
					Daily Summary	0	29,695

Table A.2
Summary of Injection Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
2/9/2019	SWFTS-IW02A[1]	7:30 AM	4:45 PM	3.4	30	0	1,908
	SWFTS-IW05	7:30 AM	8:55 AM	19.3	5	0	1,637
	SWFTS-IW06B	7:30 AM	9:18 AM	4.7	20	0	508
	SWFTS-IW11[1]	7:30 AM	4:45 PM	4.0	35	0	2,198
	SWFTS-IW12	7:30 AM	12:51 AM	29.0	15	0	9,318
	SWFTS-IW14	7:30 AM	7:53 AM	14.8	10	0	341
	SWFTS-IW15	7:30 AM	11:41 AM	13.4	20	0	3,361
	SWFTS-IW18	7:30 AM	11:50 AM	7.6	35	0	1,968
				Daily Summary		0	21,239
2/10/2019	SWFTS-IW01B	6:19 AM	12:42 AM	4.3	30	0	1,665
	SWFTS-IW02A[1]	6:19 AM	12:42 AM	2.7	35	0	1,048
	SWFTS-IW11[1]	6:19 AM	12:42 AM	2.5	35	0	971
				Daily Summary		0	3,684
				February Summary		0	179,000
				Injection Event Summary		**83,760**	**275,725**

Notes:

gpm gallons per minute
psi pounds per square inch
gal gallons
lbs pounds

1. Flow rates and distribution water totals for SWFTS-IW02A and SWFTS-IW11 are estimated for 2/7/2019 through 2/10/2019 due to suspected faulty flow meters. Based on extraction rates, and flow rate readings on 2/10/2019, flow rates and totals were likely higher than those recorded.

Table A.3
Summary of Groundwater Extraction Activities - Injection Event 4 (January/ February 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
1/21/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	16:10	16:56	2.41	110.9	110.9
	SWFTS-MW11	-	-	-	-	-
	SWFTS-MW12	16:10	16:56	6.91	318.0	318.0
	SWFTS-MW13	-	-	-	-	-
	SWFTS-MW17	-	-	-	-	-
1/22/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	7:20	7:40	0.10	2.0	112.9
	SWFTS-MW11	13:49	16:56	2.38	445.9	445.9
	SWFTS-MW12	7:20	16:56	21.34	12,294.5	12,612.5
	SWFTS-MW13	12:03	16:56	2.61	764.3	764.3
	SWFTS-MW17	-	-	-	-	-
1/23/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	7:30	11:13	2.03	453.1	899.0
	SWFTS-MW12	7:30	11:13	21.05	4,693.6	17,306.1
	SWFTS-MW13	7:30	11:13	7.01	1,562.3	2,326.5
	SWFTS-MW17	-	-	-	-	-
1/23/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	13:57	16:40	2.56	418.0	1,317.0
	SWFTS-MW12	13:57	16:40	21.15	3,447.0	20,753.1
	SWFTS-MW13	13:57	16:40	13.05	2,127.0	4,453.5
	SWFTS-MW17	13:57	16:40	-	-	-
1/24/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	7:15	16:40	4.03	2,279.2	3,596.2
	SWFTS-MW12	7:15	16:40	20.80	11,750.6	32,503.7
	SWFTS-MW13	7:15	16:40	11.75	6,637.5	11,091.0
	SWFTS-MW17	11:15	16:40	12.75	4,142.3	4,142.3
1/25/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	7:28	8:17	10.98	538.2	4,134.4
	SWFTS-MW12	7:28	8:17	20.06	982.7	33,486.4
	SWFTS-MW13	7:28	8:17	0.02	0.8	11,091.8
	SWFTS-MW17	7:28	8:17	0.34	16.5	4,158.8
1/25/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	9:00	12:22	9.76	1,972.2	6,106.6
	SWFTS-MW12	9:00	12:22	17.52	3,539.9	37,026.3
	SWFTS-MW13	9:00	12:22	13.01	2,627.3	13,719.0
	SWFTS-MW17	9:00	12:22	10.79	2,178.8	6,337.5

Table A.3
Summary of Groundwater Extraction Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
1/26/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	-	-	-	-	6,106.6
	SWFTS-MW12	8:25	10:56	21.02	3,174.2	40,200.5
	SWFTS-MW13	-	-	-	-	13,719.0
	SWFTS-MW17	-	-	-	-	6,337.5
1/28/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	112.9
	SWFTS-MW11	9:37	18:31	5.10	2,725.5	8,832.1
	SWFTS-MW12	7:34	18:31	20.94	13,757.2	53,957.7
	SWFTS-MW13	7:34	18:31	12.99	8,535.8	22,254.8
	SWFTS-MW17	7:34	18:31	13.08	8,594.3	14,931.8
1/29/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	12:22	17:02	1.48	415.5	528.4
	SWFTS-MW11	6:24	17:02	5.83	3,718.1	12,550.2
	SWFTS-MW12	6:24	17:02	21.48	13,702.7	67,660.4
	SWFTS-MW13	6:24	17:02	12.53	7,995.8	30,250.5
	SWFTS-MW17	6:24	17:02	12.80	8,163.8	23,095.5
1/30/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:14	16:45	1.61	1,013.3	1,541.7
	SWFTS-MW11	6:14	16:45	7.49	4,728.2	17,278.4
	SWFTS-MW12	6:14	16:45	20.29	12,801.1	80,461.5
	SWFTS-MW13	6:14	16:45	12.61	7,955.3	38,205.8
	SWFTS-MW17	6:14	16:45	12.80	8,079.8	31,175.3
2/4/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	9:10	18:00	1.49	789.0	2,330.7
	SWFTS-MW11	9:10	18:00	1.38	733.5	18,011.9
	SWFTS-MW12	9:10	18:00	20.87	11,058.6	91,520.1
	SWFTS-MW13	9:10	18:00	13.03	6,906.0	45,111.8
	SWFTS-MW17	9:10	18:00	13.04	6,913.5	38,088.8
2/5/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:45	17:00	1.35	830.3	3,160.9
	SWFTS-MW11	9:45	17:00	12.29	5,345.0	23,356.9
	SWFTS-MW12	6:45	17:00	20.63	12,684.8	104,204.9
	SWFTS-MW13	7:15	17:00	12.94	7,571.3	52,683.0
	SWFTS-MW17	6:45	17:00	12.99	7,986.0	46,074.8
2/6/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	7:10	18:05	1.36	890.3	4,051.2
	SWFTS-MW11	7:10	18:05	10.92	7,153.0	30,509.9
	SWFTS-MW12	7:10	18:05	20.62	13,504.4	117,709.3
	SWFTS-MW13	7:10	18:05	12.49	8,182.5	60,865.5
	SWFTS-MW17	7:10	18:05	12.83	8,403.8	54,478.5
2/7/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	7:00	17:30	1.38	867.0	4,918.2
	SWFTS-MW11	6:10	17:30	10.17	6,914.3	37,424.2
	SWFTS-MW12	6:10	17:30	20.61	14,016.2	131,725.5
	SWFTS-MW13	6:10	17:30	11.81	8,033.3	68,898.8
	SWFTS-MW17	8:15	17:30	13.48	7,479.8	61,958.3

Table A.3
Summary of Groundwater Extraction Activities - Injection Event 4 (January/February 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
2/8/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	8:00	17:45	1.44	840.8	5,758.9
	SWFTS-MW11	10:00	17:45	11.49	5,344.0	42,768.2
	SWFTS-MW12	6:45	17:45	20.51	13,538.1	145,263.6
	SWFTS-MW13	9:35	17:45	13.08	6,409.5	75,308.3
	SWFTS-MW17	8:00	17:45	13.35	7,808.3	69,766.5
2/9/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:25	12:55	1.58	614.3	6,373.2
	SWFTS-MW11	6:25	12:55	11.53	4,497.8	47,266.0
	SWFTS-MW12	6:25	12:55	20.58	8,024.5	153,288.1
	SWFTS-MW13	6:25	12:55	13.06	5,092.5	80,400.8
	SWFTS-MW17	6:40	12:55	13.49	5,058.0	74,824.5
2/10/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:37	7:50	1.84	134.3	6,507.4
	SWFTS-MW11	6:37	7:50	11.03	805.2	48,071.2
	SWFTS-MW12	6:37	7:50	20.55	1,500.4	154,788.5
	SWFTS-MW13	6:37	7:50	13.62	994.5	81,395.3
	SWFTS-MW17	6:37	7:50	12.88	940.5	75,765.0
2/10/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	6,507.4
	SWFTS-MW11	-	-	-	-	48,071.2
	SWFTS-MW12	9:20	10:55	19.41	1,843.5	156,632.0
	SWFTS-MW13	-	-	-	-	81,395.3
	SWFTS-MW17	-	-	-	-	75,765.0
					EVENT TOTAL	**368,370.9**

Notes:

gpm	gallons per minute
gal	gallons

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW01A	1/23/2019	2:11 PM	4:45 PM	16	to	26	30	35	11.2	1718	-	1,718	
	1/24/2019	8:58 AM	9:44 AM	16	to	26	30	35	6.1	282	-	282	
	1/30/2019	11:04 AM	2:37 PM	16	to	26	10	10	8.7		1847	1,847	
	2/4/2019	11:15 AM	4:20 PM	16	to	26	10	15	7.5		2302	2,302	
	2/5/2019	10:30 AM	4:25 PM	16	to	26	10	10	12.2		4347	4,347	
	2/6/2019	10:06 AM	10:28 AM	16	to	26	10	10	11.5		254	254	
									TOTALS	**2000**	**8750**	**10,750**	
SWFTS-IW01B	1/23/2019	10:37 AM	1:59 PM	27	to	37	20	35	9.9	2000		2,000	
	1/28/2019	7:50 AM	4:28 PM	27	to	37	10	10	8.0	-	4139	4,139	
	1/29/2019	7:46 AM	1:06 PM	27	to	37	10	10	9.2	-	2941	2,941	
	1/30/2019	7:33 AM	10:57 AM	27	to	37	10	10	8.2	-	1670	1,670	
	2/10/2019	6:19 AM	12:42 PM	27	to	37	30	30	4.3		1665	1,665	
									TOTALS	**2000**	**10415**	**12,415**	

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW02A	1/23/2019	3:04 PM	4:45 PM	17	to	27	30	35	9.4	952	-	952	
	1/24/2019	8:58 AM	10:17 AM	17	to	27	35	35	13.3	1048	-	1,048	
	2/7/2019	9:35 AM	3:39 PM	17	to	27	20	25	2.0		740	740	
	2/8/2019	9:55 AM	4:40 PM	17	to	27	35	35	2.8		1122	1,122	
	2/9/2019	7:30 AM	4:45 PM	17	to	27	30	30	3.4		1908	1,908	
	2/10/2019	6:19 AM	12:42 PM	17	to	27	35	35	2.7		1048	1,048	
									TOTALS	**2000**	**4818**	**6,818**	
SWFTS-IW02B	1/23/2019	10:37 AM	2:42 PM	26	to	36	25	25	8.2	2000		2,000	
	1/28/2019	7:50 AM	4:28 PM	26	to	36	10	10	2.4		1229	1,229	
	1/29/2019	7:46 AM	1:06 PM	26	to	36	10	10	2.5		791	791	
	1/30/2019	7:33 AM	2:37 PM	26	to	36	10	10	2.6		1103	1,103	
	2/4/2019	11:15 AM	4:20 PM	26	to	36	10	15	2.7		810	810	
	2/5/2019	10:30 AM	4:25 PM	26	to	36	15	15	2.4		846	846	
	2/6/2019	10:06 AM	3:39 PM	26	to	36	10	15	2.3		762	762	
									TOTALS	**2000**	**5541**	**7,541**	

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Note: Flush water injection flow rate and totals are estimated for SWFTS-IW02A due to a suspected faulty flow meter. Flow rates and totals are likely higher than those recorded.

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW03	1/23/2019	10:37 AM	4:25 PM	17	to	37	20	25	11.5	4000		4,000	
	1/28/2019	7:50 AM	4:28 PM	17	to	37	15	20	5.6		2910	2,910	
	1/29/2019	7:46 AM	1:06 PM	17	to	37	15	15	4.9		1572	1,572	
	1/30/2019	7:33 AM	2:37 PM	17	to	37	15	15	7.3		3115	3,115	
	2/4/2019	11:15 AM	4:20 PM	17	to	37	15	20	5.9		1787	1,787	
	2/5/2019	10:30 AM	4:25 PM	17	to	37	15	15	8.7		3083	3,083	
	2/6/2019	10:06 AM	3:39 PM	17	to	37	20	20	8.9		2973	2,973	
	2/7/2019	9:35 AM	12:35 PM	17	to	37	10	10	11.5		2069	2,069	
									TOTALS	**4000**	**17509**	**21,509**	
SWFTS-IW04	1/23/2019	10:37 AM	4:24 PM	20	to	35	10	25	8.6	3000		3,000	
	1/28/2019	7:50 AM	4:28 PM	20	to	35	10	10	3.6		1851	1,851	
	1/29/2019	7:46 AM	1:06 PM	20	to	35	10	10	4.3		1373	1,373	
	1/30/2019	7:33 AM	2:37 PM	20	to	35	10	10	4.2		1767	1,767	
	2/4/2019	11:15 AM	4:20 PM	20	to	35	10	10	4.4		1346	1,346	
	2/5/2019	10:30 AM	4:25 PM	20	to	35	10	10	4.1		1441	1,441	
	2/6/2019	10:06 AM	3:39 PM	20	to	35	15	15	3.7		1239	1,239	
	2/7/2019	9:35 AM	3:39 PM	20	to	35	15	25	6.8		2475	2,475	
	2/8/2019	9:55 AM	2:26 PM	20	to	35	10	10	6.0		1633	1,633	
									TOTALS	**3000**	**13125**	**16,125**	

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW05	1/24/2019	8:58 AM	11:33 AM	15	to	35	10	10	12.7	1972		1,972	
	1/24/2019	2:20 PM	4:48 PM	15	to	35	10	10	12.4	1829		1,829	
	1/25/2019	7:46 AM	8:06 AM	15	to	35	10	15	10.0	199		199	
	2/7/2019	11:29 AM	3:39 PM	15	to	35	20	20	34.8		8711	8,711	
	2/8/2019	9:55 AM	4:40 PM	15	to	35	5	5	17.7		7152	7,152	
	2/9/2019	7:30 AM	8:55 AM	15	to	35	5	5	19.3		1637	1,637	
									TOTALS	**4000**	**17500**	**21,500**	
SWFTS-IW06A	1/25/2019	8:10 AM	8:57 AM	17	to	27	20	35	6.2	291		291	
	1/25/2019	1:11 PM	4:30 PM	17	to	27	25	30	9.1	1801		1,801	
	1/26/2019	7:43 AM	9:18 AM	17	to	27	30	30	7.1	678		678	
	1/28/2019	8:42 AM	4:28 PM	17	to	27	15	15	5.5		2584	2,584	
	1/29/2019	7:46 AM	1:06 PM	17	to	27	15	15	6.0		1920	1,920	
	1/30/2019	7:50 AM	2:37 PM	17	to	27	15	15	2.5		1025	1,025	
	2/4/2019	11:15 AM	4:20 PM	17	to	27	15	20	2.6		788	788	
	2/5/2019	10:30 AM	4:25 PM	17	to	27	20	20	2.2		793	793	
	2/6/2019	10:06 AM	3:39 PM	17	to	27	25	30	2.1		700	700	
	2/7/2019	9:35 AM	11:08 AM	17	to	27	35	35	1.8		170	170	
									TOTALS	**2770**	**7980**	**10,750**	

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Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW06B	1/23/2019	10:37 AM	4:28 PM	29	to	34	10	35	2.3	802	-	802	
	1/24/2019	8:58 AM	11:33 AM	29	to	34	30	35	2.5	380	-	380	
	1/24/2019	2:20 PM	4:48 PM	29	to	34	35	35	1.6	240	-	240	
	1/25/2019	7:46 AM	8:48 AM	29	to	34	35	35	0.8	50	-	50	
	1/25/2019	1:11 PM	4:30 PM	29	to	34	35	35	1.2	232	-	232	
	2/7/2019	11:29 AM	3:39 PM	29	to	34	30	30	5.0		1252	1,252	
	2/8/2019	9:55 AM	4:40 PM	29	to	34	20	20	4.7		1911	1,911	
	2/9/2019	7:30 AM	9:18 AM	29	to	34	20	20	4.7		508	508	
									TOTALS	**1704**	**3671**	**5,375**	
SWFTS-IW07	1/23/2019	10:25 AM	4:45 PM	17	to	37	10	20	8.6	3283		3,283	
	1/24/2019	8:58 AM	11:21 AM	17	to	37	15	25	9.2	1317		1,317	
	1/26/2019	7:43 AM	9:21 AM	17	to	37	25	30	10.2	1000		1,000	
	1/28/2019	7:50 AM	4:28 PM	17	to	37	15	15	5.5		2828	2,828	
	1/29/2019	7:46 AM	1:06 PM	17	to	37	5	5	7.1		2282	2,282	
	1/30/2019	7:33 AM	2:37 PM	17	to	37	10	10	7.7		3270	3,270	
	2/4/2019	11:15 AM	4:20 PM	17	to	37	10	10	9.1		2781	2,781	
	2/5/2019	10:30 AM	4:25 PM	17	to	37	5	5	11.9		4236	4,236	
	2/6/2019	10:06 AM	10:36 AM	17	to	37	5	5	16.8		503	503	
									TOTALS	**5600**	**15900**	**21,500**	

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW08	1/23/2019	10:25 AM	4:45 PM	17	to	37	10	15	7.9	2987		2,987	
	1/24/2019	8:58 AM	11:33 AM	17	to	37	20	25	9.1	1417		1,417	
	1/24/2019	2:20 PM	2:33 PM	17	to	37	25	25	7.4	96		96	
	1/26/2019	7:43 AM	9:17 AM	17	to	37	25	25	10.6	1000		1,000	
	1/27/2019	3:38 PM	4:35 PM	17	to	37	25	25	7.4	420		420	
	1/28/2019	7:50 AM	4:28 PM	17	to	37	10	15	7.0		3634	3,634	
	1/29/2019	7:46 AM	1:06 PM	17	to	37	10	10	9.1		2918	2,918	
	1/30/2019	7:33 AM	2:37 PM	17	to	37	10	5	9.6		4084	4,084	
	2/4/2019	11:15 AM	4:20 PM	17	to	37	15	15	7.7		2361	2,361	
	2/5/2019	10:30 AM	3:27 PM	17	to	37	10	10	8.7		2583	2,583	
									TOTALS	**5920**	**15580**	**21,500**	

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW09	1/23/2019	10:25 AM	4:45 PM	27	to	47	30	35	2.9	1089		1,089	
	1/24/2019	8:58 AM	11:33 AM	27	to	47	35	35	3.1	481		481	
	1/24/2019	2:20 PM	4:48 PM	27	to	47	35	35	2.6	382		382	
	1/25/2019	7:46 AM	8:38 AM	27	to	47	35	35	2.8	148		148	
	1/25/2019	1:11 PM	4:30 PM	27	to	47	35	35	2.4	484		484	
	1/26/2019	7:43 AM	1:52 PM	27	to	47	30	35	2.4	885		885	
	1/26/2019	3:01 PM	4:45 PM	27	to	47	35	35	2.5	258		258	
	1/27/2019	7:22 AM	4:35 PM	27	to	47	35	25	2.2	1219		1,219	
	1/28/2019	7:50 AM	4:28 PM	27	to	47	20	20	2.2		1152	1,152	
	1/29/2019	7:46 AM	1:06 PM	27	to	47	25	15	2.4		778	778	
	1/30/2019	7:33 AM	2:37 PM	27	to	47	15	10	3.4		1436	1,436	
	2/4/2019	11:15 AM	4:20 PM	27	to	47	10	15	4.0		1223	1,223	
	2/5/2019	10:30 AM	4:25 PM	27	to	47	20	20	5.3		1880	1,880	
	2/6/2019	10:06 AM	3:39 PM	27	to	47	35	35	7.8		2601	2,601	
	2/7/2019	9:35 AM	3:39 PM	27	to	47	35	35	7.3		2645	2,645	
	2/8/2019	9:55 AM	2:50 PM	27	to	47	20	20	6.4		1884	1,884	
									TOTALS	**4946**	**13599**	**18,545**	

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Cascade Technical Services
Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW10	1/24/2019	8:58 AM	11:33 AM	27	to	47	20	25	2.5	387		387	
	1/24/2019	2:20 PM	4:48 PM	27	to	47	25	25	2.8	417		417	
	1/25/2019	7:48 AM	8:27 AM	27	to	47	35	35	1.1	41		41	
	2/4/2019	11:15 AM	4:20 PM	27	to	47	20	20	3.5		1062	1,062	
	2/5/2019	10:30 AM	4:25 PM	27	to	47	20	20	4.5		1615	1,615	
	2/6/2019	10:06 AM	3:39 PM	27	to	47	25	30	5.4		1800	1,800	
									TOTALS	**845**	**4477**	**5,322**	
SWFTS-IW11	1/24/2019	9:53 AM	11:33 AM	17	to	37	15	25	8.0	799	-	799	
	1/24/2019	2:20 PM	4:48 PM	17	to	37	20	30	7.8	1157	-	1,157	
	1/25/2019	7:48 AM	8:57 AM	17	to	37	25	30	6.0	415	-	415	
	1/25/2019	1:11 PM	4:30 PM	17	to	37	30	30	7.5	1494	-	1,494	
	1/26/2019	8:30 AM	8:47 AM	17	to	37	30	30	7.9	135	-	135	
	2/7/2019	11:08 AM	3:39 PM	17	to	37	30	30	2.8		768	768	
	2/8/2019	9:55 AM	4:40 PM	17	to	37	35	35	3.6		1465	1,465	
	2/9/2019	7:30 AM	4:45 PM	17	to	37	35	35	4.0		2198	2,198	
	2/10/2019	6:19 AM	12:42 PM	17	to	37	35	35	2.5		971	971	
									TOTALS	**4000**	**5402**	**9,402**	

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Note: Flush water injection flow rate and totals are estimated for SWFTS-IW11 due to a suspected faulty flow meter. Flow rates and totals are likely higher than those recorded.

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INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW12	1/24/2019	8:58 AM	11:33 AM	14	to	39	15	30	8.4	1301	-	1,301	
	1/24/2019	2:20 PM	4:48 PM	14	to	39	30	30	6.7	998	-	998	
	1/25/2019	7:48 AM	8:57 AM	14	to	39	30	30	5.6	387	-	387	
	1/25/2019	1:11 PM	4:30 PM	14	to	39	30	35	7.6	1509	-	1,509	
	1/26/2019	7:43 AM	9:43 AM	14	to	39	35	35	6.7	805	-	805	
	2/6/2019	10:46 AM	3:39 PM	14	to	39	15	15	11.9		3487	3,487	
	2/7/2019	9:35 AM	3:39 PM	14	to	39	15	20	12.0		4373	4,373	
	2/8/2019	9:55 AM	4:40 PM	14	to	39	5	5	11.6		4698	4,698	
	2/9/2019	7:30 AM	12:51 PM	14	to	39	15	15	29.0		9318	9,318	
									TOTALS	**5000**	**21876**	**26,876**	
SWFTS-IW13A	1/24/2019	8:58 AM	11:33 AM	16	to	26	10	25	9.0	1396		1,396	
	1/24/2019	2:20 PM	4:48 PM	16	to	26	20	25	8.2	1218		1,218	
	1/25/2019	7:46 AM	8:57 AM	16	to	26	20	30	6.5	462		462	
	1/25/2019	1:11 PM	4:30 PM	16	to	26	30	35	9.8	1946		1,946	
	1/26/2019	7:43 AM	10:15 AM	16	to	26	35	35	6.4	978		978	
	1/28/2019	7:50 AM	4:28 PM	16	to	26	20	20	5.5		2849	2,849	
	1/29/2019	7:46 AM	1:06 PM	16	to	26	15	15	6.7		2128	2,128	
	1/30/2019	7:33 AM	2:37 PM	16	to	26	15	15	6.0		2546	2,546	
	2/4/2019	11:15 AM	12:45 PM	16	to	26	20	20	5.3		477	477	
									TOTALS	**6000**	**8000**	**14,000**	

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Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW13B	1/23/2019	10:37 AM		28	to	38				-	-		
									TOTALS	-	-		
SWFTS-IW14	1/24/2019	2:20 PM	4:48 PM	16	to	36	20	25	20.2	2996		2,996	
	1/25/2019	7:46 AM	8:57 AM	16	to	36	20	30	14.1	1004		1,004	
	2/4/2019	12:57 PM	4:20 PM	16	to	36	15	15	8.6		1742	1,742	
	2/5/2019	10:30 AM	4:25 PM	16	to	36	15	15	11.0		3909	3,909	
	2/6/2019	10:06 AM	3:39 PM	16	to	36	15	20	10.2		3402	3,402	
	2/7/2019	9:35 AM	3:39 PM	16	to	36	15	20	11.1		4045	4,045	
	2/8/2019	9:55 AM	4:40 PM	16	to	36	10	10	10.0		4061	4,061	
	2/9/2019	7:30 AM	7:53 AM	16	to	36	10	10	14.8		341	341	
									TOTALS	4000	17500	21,500	
SWFTS-IW15	1/24/2019	2:20 PM	4:48 PM	16	to	36	25	30	7.5	1110	-	1,110	
	1/25/2019	7:46 AM	8:57 AM	16	to	36	30	35	3.7	266	-	266	
	1/25/2019	1:11 PM	4:30 PM	16	to	36	35	35	8.6	1712	-	1,712	
	1/26/2019	7:43 AM	1:50 PM	16	to	36	35	35	5.2	1912	-	1,912	
	2/5/2019	10:30 AM	4:25 PM	16	to	36	35	35	2.6		912	912	
	2/6/2019	10:06 AM	3:39 PM	16	to	36	25	30	11.3		3752	3,752	
	2/7/2019	9:35 AM	3:39 PM	16	to	36	35	35	12.4		4509	4,509	
	2/8/2019	9:55 AM	4:40 PM	16	to	36	10	10	9.8		3967	3,967	
	2/9/2019	7:30 AM	11:41 AM	16	to	36	20	20	13.4		3361	3,361	
									TOTALS	5000	16501	21,501	

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Cascade Technical Services
Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW16A	1/23/2019	4:02 PM	4:45 PM	17	to	27	20	20	9.5	410	-	410	
	1/24/2019	8:58 AM	11:33 AM	17	to	27	20	20	6.3	973	-	973	
	1/24/2019	2:20 PM	3:05 PM	17	to	27	25	35	13.7	617	-	617	
	2/5/2019	10:30 AM	4:25 PM	17	to	27	35	35	8.9		3167	3,167	
	2/6/2019	10:06 AM	3:39 PM	17	to	27	35	35	11.9		3961	3,961	
	2/7/2019	9:35 AM	11:23 AM	17	to	27	35	35	15.6		1684	1,684	
									TOTALS	**2000**	**8812**	**10,812**	
SWFTS-IW16B	1/23/2019	10:25 AM	3:46 PM	26	to	36	10	20	6.2	2000		2,000	
	1/28/2019	7:50 AM	4:28 PM	26	to	36	20	15	6.9		3591	3,591	
	1/29/2019	7:46 AM	1:06 PM	26	to	36	15	15	5.5		1768	1,768	
	1/30/2019	7:33 AM	2:37 PM	26	to	36	15	15	5.9		2499	2,499	
	2/4/2019	11:15 AM	4:05 PM	26	to	36	15	20	4.8		1386	1,386	
									TOTALS	**2000**	**9244**	**11,244**	

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Cascade Technical Services
Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW17	1/23/2019	10:25 AM	4:45 PM	17	to	37	25	35	5.9	2242		2,242	
	1/24/2019	8:58 AM	11:33 AM	17	to	37	30	35	6.5	1008		1,008	
	1/24/2019	2:20 PM	4:48 PM	17	to	37	30	35	4.1	613		613	
	1/25/2019	7:46 AM	8:58 AM	17	to	37	35	35	2.1	152		152	
	1/25/2019	1:11 PM	2:47 PM	17	to	37	35	35	5.1	485		485	
	1/27/2019	3:38 PM	3:48 PM	17	to	37	35	35	2.6	26		26	
	1/28/2019	7:50 AM	4:28 PM	17	to	37	20	15	8.6		4432	4,432	
	1/29/2019	7:46 AM	1:06 PM	17	to	37	15	15	10.4		3314	3,314	
	1/30/2019	7:33 AM	2:37 PM	17	to	37	15	15	11.6		4924	4,924	
	2/4/2019	11:15 AM	4:20 PM	17	to	37	20	20	9.0		2749	2,749	
	2/5/2019	10:30 AM	1:12 PM	17	to	37	20	20	9.6		1555	1,555	
									TOTALS	**4526**	**16974**	**21,500**	

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Cascade Technical Services
Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW18	1/23/2019	10:25 AM	4:45 PM	18	to	38	25	35	3.6	1354		1,354	
	1/24/2019	8:58 AM	11:33 AM	18	to	38	30	35	2.4	374		374	
	1/24/2019	2:20 PM	4:48 PM	18	to	38	35	35	1.8	261		261	
	1/25/2019	7:46 AM	8:58 AM	18	to	38	35	35	2.2	160		160	
	1/25/2019	1:11 PM	4:30 PM	18	to	38	35	35	2.2	436		436	
	1/26/2019	7:43 AM	1:52 PM	18	to	38	35	35	3.2	1186		1,186	
	1/26/2019	3:01 PM	4:45 PM	18	to	38	35	35	1.9	199		199	
	1/27/2019	7:22 AM	4:35 PM	18	to	38	35	35	2.4	1329		1,329	
	1/28/2019	7:50 AM	4:28 PM	18	to	38	25	20	2.9		1510	1,510	
	1/29/2019	7:46 AM	1:06 PM	18	to	38	20	20	6.8		2175	2,175	
	1/30/2019	7:33 AM	12:00 PM	18	to	38	20	20	8.4		2252	2,252	
	1/30/2019	12:05 PM	2:37 PM	18	to	38	20	25	3.8		579	579	
	2/4/2019	11:15 AM	4:20 PM	18	to	38	20	20	3.6		1109	1,109	
	2/5/2019	10:30 AM	4:25 PM	18	to	38	20	25	3.7		1315	1,315	
	2/6/2019	10:06 AM	3:39 PM	18	to	38	25	30	4.5		1508	1,508	
	2/7/2019	9:35 AM	3:39 PM	18	to	38	35	35	5.4		1983	1,983	
	2/8/2019	9:55 AM	4:40 PM	18	to	38	20	20	4.4		1802	1,802	
	2/9/2019	7:30 AM	11:50 AM	18	to	38	35	35	7.6		1968	1,968	
									TOTALS	**5299**	**16201**	**21,500**	

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Remediation Field Services Report

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 4/310-19-1001

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)	Day Lighting (X)
SWFTS-IW19	1/23/2019	10:25 AM	-	24	to	44	50	50		-	-		
									TOTALS	-	-		
SWFTS-IW20	1/23/2019	10:25 AM	1:39 PM	31	to	51	20	30	5.9	1154		1,154	
	1/23/2019	1:48 PM	4:45 PM	31	to	51	30	30	7.2	1274		1,274	
	1/24/2019	8:58 AM	11:33 AM	31	to	51	30	35	7.2	1112		1,112	
	1/24/2019	2:20 PM	3:48 PM	31	to	51	30	35	10.9	960		960	
	1/26/2019	7:43 AM	9:08 AM	31	to	51	30	35	7.6	650		650	
	1/28/2019	7:50 AM	4:28 PM	31	to	51	20	20	5.3		2735	2,735	
	1/29/2019	7:46 AM	1:06 PM	31	to	51	20	15	6.4		2059	2,059	
	1/30/2019	7:33 AM	2:37 PM	31	to	51	15	15	7.4		3145	3,145	
	2/4/2019	9:10 AM	4:20 PM	31	to	51	15	15	5.6		2389	2,389	
	2/5/2019	10:30 AM	4:25 PM	31	to	51	25	25	8.2		2916	2,916	
	2/6/2019	10:06 AM	4:02 PM	31	to	51	25	25	8.7		3106	3,106	
									TOTALS	**5150**	**16350**	**21,500**	

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1. Site setup

2. Site setup

3. Double-wall frac tank setup

4. Injection pump and containment berm

5. Extraction well manifold

6. Injection well connection

7. Emergency Eye Wash Station

8. Safety Station

Injection Event 5

Table A.4 – Step-Injection Testing
Injection 5 Event (October 2019)

Table A.5 – Batch Injection Quantities
Injection Event 5 (October 2019)

Table A.6 – Summary of Injection Activities
Injection Event 5 (October 2019)

Table A.7 – Summary of Groundwater Extraction Activities
Injection Event 5 (October 2019)

Table A.8 – Specific Gravity Calibration Measurements
Injection Event 5 (October 2019)

Table A.9 – Specific Gravity Measurements
Injection Event 5 (October 2019)

Cascade Field Logs from Injection Event 5

Photo Log from Injection Event 5

Table A.4
Step-Injection Testing - October 2019
Seep Well Field Area Bioremediation Treatability Study

Date	Injection Well ID	Time		Wellhead Pressure (psi)	Flow Rate (gpm)	Volume Injected (gal)	Cumulative Volume Injected (gal)	Comments
10/1/2019	SWFTS-IW11	14:30	14:45	8	6.70	100.50	100.50	
10/1/2019		14:45	14:48	8	10.00	30.00	130.50	
10/1/2019	SWFTS-IW13B	14:55	14:57	34	1.00	2.00	2.00	
10/1/2019	SWFTS-IW02A	15:16	15:17	15	6.02	6.02	6.02	
10/1/2019		15:17	15:19	25	4.72	9.44	15.46	
10/1/2019		15:19	15:20	20	2.14	2.14	17.60	
10/1/2019		15:20	15:21	20	2.09	2.09	19.69	
10/1/2019		15:21	15:22	20	2.04	2.04	21.73	
10/1/2019		15:22	15:23	20	6.70	6.70	28.43	
10/1/2019		15:23	15:25	20	7.22	14.44	42.87	
10/1/2019		15:25	15:27	22	7.52	15.04	57.91	
10/1/2019		15:27	15:27	20	7.86	3.93	61.84	
10/1/2019	SWFTS-IW06A	15:28	15:29	0	3.7	3.70	3.70	
10/1/2019		15:29	15:30	0	6.93	6.93	10.63	
10/1/2019		15:30	15:32	0	9.28	18.56	29.19	
10/1/2019		15:32	15:33	5	9.51	9.51	38.70	
10/1/2019		15:33	15:34	8	8.03	8.03	46.73	
10/1/2019		15:34	15:35	8	8.08	8.08	54.81	
10/1/2019		15:35	15:37	8	8.08	16.16	70.97	
10/1/2019		15:37	15:37	8	8.08	3.60	74.57	
10/1/2019	SWFTS-IW06B	15:40	15:41	5	1.44	1.44	1.44	
10/1/2019		15:41	15:42	16	0.00	0.00	1.44	
10/1/2019		15:42	15:43	22	1.69	1.69	3.13	
10/1/2019		15:43	15:45	22	1.93	3.86	6.99	
10/1/2019		15:45	15:47	22	1.93	3.86	10.85	
10/1/2019		15:47	15:48	22	1.93	1.93	12.78	
10/1/2019		15:48	15:50	27	3.32	6.64	19.42	
10/1/2019		15:50	15:51	26	3.60	3.60	23.02	
10/1/2019		15:51	15:53	30	6.91	13.82	36.84	
10/1/2019		15:53	15:53	29	6.96	3.38	40.22	
10/1/2019	SWFTS-IW09	16:23	16:24	12	3.61	3.61	3.61	
10/1/2019		16:24	16:25	12	5.82	5.82	9.43	
10/1/2019		16:25	16:26	12	5.82	5.82	15.25	
10/1/2019		16:26	16:36	12	5.78	57.80	73.05	
10/1/2019	SWFTS-IW10	16:15	16:16	18	5.84	5.84	5.84	
10/1/2019		16:16	16:17	18	5.54	5.54	11.38	
10/1/2019		16:17	16:18	18	3.84	3.84	15.22	
10/1/2019		16:18	16:19	18	2.92	2.92	18.14	
10/1/2019		16:19	16:20	18	2.87	2.87	21.01	
10/1/2019		16:20	16:21	18	2.85	2.85	23.86	
10/1/2019		16:21	16:22	24	5.22	5.22	29.08	
10/1/2019		16:22	16:23	26	5.50	5.50	34.58	
10/1/2019		16:23	16:25	24	5.11	10.22	44.80	
10/1/2019		16:25	16:26	20	5.36	5.36	50.16	
10/1/2019		16:26	16:27	20	4.75	4.75	54.91	

Table A.4
Step-Injection Testing - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Injection Well ID	Time		Wellhead Pressure (psi)	Flow Rate (gpm)	Volume Injected (gal)	Cumulative Volume Injected (gal)	Comments
10/2/2019	SWFTS-IW19	10:04	10:05	25	4.87	4.87	4.87	
10/2/2019		10:05	10:06	30	3.71	3.71	8.58	
10/2/2019		10:06	10:07	30	3.04	3.04	11.62	
10/2/2019		10:07	10:08	30	3.2	3.20	14.82	
10/2/2019		10:08	10:09	30	3.24	3.24	18.06	
10/2/2019		10:09	10:10	20	4.56	4.56	22.62	
10/2/2019		10:10	10:11	20	4.49	4.49	27.11	
10/2/2019		10:11	10:12	20	4.52	4.52	31.63	
10/2/2019		10:12	10:13	25	6.33	6.33	37.96	
10/2/2019		10:13	10:14	27	6.77	6.77	44.73	
10/2/2019		10:14	10:15	22	7.00	7.00	51.73	Valve fully open
10/2/2019		10:15	10:16	22	7.11	7.11	58.84	
10/2/2019		10:16	10:17	22	7.13	7.13	65.97	
10/2/2019		10:17	10:18	22	7.18	7.18	73.15	
10/2/2019		10:18	10:19	22	7.22	7.22	80.37	
10/2/2019		10:19	10:19	22	7.26	4.94	85.31	
10/2/2019	SWFTS-IW18	10:45	10:46	6	3.93	3.93	3.93	
10/2/2019		10:46	10:47	6	3.62	3.62	7.55	
10/2/2019		10:47	10:48	16	3.65	3.65	11.20	
10/2/2019		10:48	10:50	10	2.88	5.76	16.96	
10/2/2019		10:50	10:51	18	7.40	7.40	24.36	
10/2/2019		10:51	10:52	19	9.64	9.64	34.00	
10/2/2019		10:52	10:53	19	9.75	9.75	43.75	
10/2/2019		10:53	10:54	19	9.90	9.90	53.65	
10/2/2019		10:54	10:55	19	9.92	9.92	63.57	
10/2/2019		10:55	10:56	20	15.15	15.15	78.72	Valve fully open
10/2/2019		10:56	10:56	20	14.87	7.44	86.16	

Table A.5
Batch Injection Quantities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Components	Batch					
	1	2	3	4	5	6
EVO (gallons)	2894	2783	2783	2783	2783	2901
Glycerin (gallons)	65	64	64	64	64	64
AquaPure (gallons)	20	20	20	20	20	20
Sodium Sulfite (lbs)	50	50	50	50	50	50
Water (gallons)	11396	11133	11133	11133	11133	11722
Total Injectate Solution (gallons)	14375	14000	14000	14000	14000	14707

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/2/2019	SWFTS-IW02A	3:25 PM	3:40 PM	11.8	20	177	-
	SWFTS-IW06A	3:25 PM	4:30 PM	6.6	25	430	-
	SWFTS-IW06B	3:25 PM	4:30 PM	4.6	20	302	-
	SWFTS-IW11	3:25 PM	4:30 PM	8.8	25	572	-
	SWFTS-IW13A	3:45 PM	4:30 PM	6.3	15	285	-
				Daily Summary		**1,766**	**0**
10/3/2019	SWFTS-IW02A	7:30 AM	10:15 AM	5.6	15	930	-
	SWFTS-IW02B	7:30 AM	10:15 AM	5.1	20	836	-
	SWFTS-IW06A	7:30 AM	10:00 AM	7.6	15	1,139	-
	SWFTS-IW06B	7:30 AM	10:15 AM	3.8	25	633	-
	SWFTS-IW09	8:15 AM	10:15 AM	8.9	20	1,072	-
	SWFTS-IW10	7:50 AM	10:15 AM	9.3	10	1,350	-
	SWFTS-IW11	7:30 AM	10:15 AM	8.1	10	1,336	-
	SWFTS-IW13A	7:30 AM	10:15 AM	7.5	15	1,242	-
	SWFTS-IW18	7:50 AM	10:15 AM	14.2	15	2,055	-
	SWFTS-IW19	7:50 AM	10:15 AM	10.1	30	1,462	-
				Daily Summary		**12,055**	**0**
10/5/2019	SWFTS-IW01A	5:10 PM	5:40 PM	9.2	8	276	-
	SWFTS-IW02A	12:10 PM	2:45 PM	5.8	15	893	-
	SWFTS-IW02B	12:10 PM	4:49 PM	3.0	15	836	-
	SWFTS-IW03	2:59 PM	5:40 PM	6.9	10	1,110	-
	SWFTS-IW04	2:25 PM	5:40 PM	3.9	8	764	-
	SWFTS-IW05	12:45 PM	5:40 PM	6.7	7	1,965	-
	SWFTS-IW06A	12:10 PM	1:38 PM	4.9	20	431	-
	SWFTS-IW06B	12:15 PM	12:29 PM	4.6	25	65	-
	SWFTS-IW09	1:35 PM	5:40 PM	4.4	25	1,072	-
	SWFTS-IW10	1:14 PM	5:40 PM	5.1	20	1,350	-
	SWFTS-IW11	12:10 PM	5:15 PM	6.9	10	2,093	-
	SWFTS-IW13A	12:10 PM	5:40 PM	7.0	15	2,300	-
	SWFTS-IW18	1:19 PM	5:40 PM	7.9	15	2,055	-
	SWFTS-IW19	1:00 PM	5:40 PM	5.2	25	1,462	-
				Daily Summary		**16,672**	**0**

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/6/2019	SWFTS-IW01A	11:50 AM	3:35 PM	5.2	7	1,168	-
	SWFTS-IW01B	11:50 AM	3:35 PM	4.8	5	1,091	-
	SWFTS-IW03	11:50 AM	3:35 PM	4.4	10	991	-
	SWFTS-IW04	11:50 AM	3:35 PM	5.2	9	1,170	-
	SWFTS-IW05	11:50 AM	3:35 PM	5.4	6	1,216	-
	SWFTS-IW07	1:29 PM	3:35 PM	5.4	12	684	-
	SWFTS-IW08	11:27 AM	3:35 PM	8.6	15	2,125	-
	SWFTS-IW09	8:20 AM	8:48 AM	9.1	28	254	-
	SWFTS-IW10	8:20 AM	8:43 AM	7.3	23	168	-
	SWFTS-IW13A	11:50 AM	3:35 PM	4.3	10	975	-
	SWFTS-IW17	9:35 AM	3:35 PM	8.6	20	3,110	-
	SWFTS-IW18	8:20 AM	8:57 AM	9.8	20	364	-
	SWFTS-IW19	8:20 AM	1:18 PM	3.8	23	1,139	-
	SWFTS-IW20	11:01 AM	3:35 PM	5.5	22	1,519	-
				Daily Summary		**15,974**	**0**
10/7/2019	SWFTS-IW01A	8:01 AM	10:50 AM	3.3	15	556	-
	SWFTS-IW01B	8:01 AM	10:16 AM	6.7	7	909	-
	SWFTS-IW03	8:01 AM	11:40 AM	5.5	10	1,214	-
	SWFTS-IW04	8:01 AM	10:57 AM	6.1	9	1,066	-
	SWFTS-IW05	8:01 AM	10:00 AM	6.9	7	818	-
	SWFTS-IW07	7:55 AM	11:40 AM	6.8	12	1,522	-
	SWFTS-IW08	7:55 AM	12:02 PM	7.6	15	1,875	-
	SWFTS-IW12	9:54 AM	11:40 AM	8.4	15	890	-
	SWFTS-IW13A	8:01 AM	11:40 AM	0.9	10	198	-
	SWFTS-IW14	8:01 AM	11:40 AM	5.7	15	1,251	-
	SWFTS-IW15	10:19 AM	11:40 AM	8.2	15	667	-
	SWFTS-IW16A	11:30 AM	11:40 AM	3.5	15	35	-
	SWFTS-IW16B	9:45 AM	11:40 AM	8.3	15	957	-
	SWFTS-IW17	7:55 AM	9:23 AM	10.1	20	890	-
	SWFTS-IW20	7:55 AM	11:40 AM	6.7	22	1,510	-
				Daily Summary		**14,358**	**0**
10/8/2019	SWFTS-IW03	7:45 AM	9:54 AM	6.1	10	785	-
	SWFTS-IW07	7:45 AM	11:35 AM	5.5	12	1,265	-
	SWFTS-IW12	7:52 AM	7:40 PM	2.9	11	2,048	-
	SWFTS-IW14	7:52 AM	11:35 AM	8.0	10	1,785	-
	SWFTS-IW15	7:52 AM	11:35 AM	8.5	15	1,893	-
	SWFTS-IW16A	7:45 AM	11:35 AM	4.3	20	981	-
	SWFTS-IW16B	7:45 AM	11:35 AM	6.0	17	1,372	-
	SWFTS-IW20	7:45 AM	9:57 AM	7.3	22	970	-
				Daily Summary		**11,099**	**0**

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/9/2019	SWFTS-IW02A	2:13 PM	4:30 PM	7.0	11	-	962
	SWFTS-IW02B	9:43 AM	10:27 AM	7.5	12	328	-
	SWFTS-IW02B	2:27 PM	4:30 PM	9.4	12	-	1,154
	SWFTS-IW06A	2:13 PM	4:30 PM	6.6	15	-	902
	SWFTS-IW06B	2:13 PM	4:30 PM	3.1	15	-	420
	SWFTS-IW07	9:30 AM	10:54 AM	6.3	12	529	-
	SWFTS-IW09	10:10 AM	1:07 PM	9.8	24	1,742	-
	SWFTS-IW09	2:36 PM	4:30 PM	13.8	24	-	1,573
	SWFTS-IW10	9:52 AM	12:46 PM	6.9	23	1,200	-
	SWFTS-IW10	2:36 PM	4:30 PM	10.9	23	-	1,248
	SWFTS-IW11	2:13 PM	4:30 PM	8.3	10	-	1,131
	SWFTS-IW12	9:30 AM	12:19 PM	15.2	10	2,562	-
	SWFTS-IW13A	2:13 PM	4:30 PM	7.2	10	-	990
	SWFTS-IW14	9:30 AM	10:53 AM	11.6	10	964	-
	SWFTS-IW15	9:30 AM	12:20 PM	14.4	22	2,440	-
	SWFTS-IW16A	9:30 AM	12:18 PM	5.9	20	984	-
	SWFTS-IW18	9:52 AM	11:32 AM	8.9	20	890	-
	SWFTS-IW18	2:36 PM	4:30 PM	9.4	20	-	1,071
	SWFTS-IW19	9:52 AM	1:07 PM	7.8	22	1,519	-
	SWFTS-IW19	2:36 PM	4:30 PM	11.1	22	-	1,266
				Daily Summary		**13,158**	**10,717**
10/14/2019	SWFTS-IW02A	8:40 AM	4:30 PM	3.6	18	-	1,669
	SWFTS-IW02B	8:12 AM	4:30 PM	9.8	18	-	4,862
	SWFTS-IW06A	8:12 AM	4:30 PM	9.6	19	-	4,790
	SWFTS-IW06B	8:12 AM	4:30 PM	5.6	28	-	2,804
	SWFTS-IW09	8:12 AM	12:13 PM	11.1	26	-	2,687
	SWFTS-IW10	8:12 AM	12:13 PM	11.7	24	-	2,826
	SWFTS-IW11	8:12 AM	4:30 PM	13.6	12	-	6,778
	SWFTS-IW13A	8:12 AM	12:13 PM	9.4	10	-	2,255
	SWFTS-IW18	8:12 AM	12:13 PM	10.9	20	-	2,628
	SWFTS-IW19	8:12 AM	12:13 PM	11.5	23	-	2,775
				Daily Summary		**0**	**34,074**
10/15/2019	SWFTS-IW02A	7:48 AM	4:15 PM	5.2	30	-	2,623
	SWFTS-IW02B	7:48 AM	12:00 PM	10.8	15	-	2,734
	SWFTS-IW06A	7:48 AM	12:30 PM	10.8	20	-	3,058
	SWFTS-IW06B	7:48 AM	11:24 AM	5.3	23	-	1,151
	SWFTS-IW09	12:01 PM	4:15 PM	10.8	25	-	2,754
	SWFTS-IW10	11:26 AM	4:15 PM	10.2	25	-	2,942
	SWFTS-IW11	7:48 AM	4:15 PM	14.0	14	-	7,073
	SWFTS-IW18	12:32 PM	4:15 PM	11.1	21	-	2,467
				Daily Summary		**0**	**24,802**

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/16/2019	SWFTS-IW02A	8:31 AM	4:30 PM	7.2	31	-	3,451
	SWFTS-IW09	8:31 AM	4:30 PM	8.5	30	-	4,049
	SWFTS-IW10	8:31 AM	4:30 PM	9.5	25	-	4,564
	SWFTS-IW11	8:31 AM	11:04 AM	16.5	14	-	2,517
	SWFTS-IW18	8:31 AM	4:30 PM	9.8	24	-	4,672
	SWFTS-IW19	11:08 AM	4:30 PM	7.0	18	-	2,244
				Daily Summary		**0**	**21,497**
10/17/2019	SWFTS-IW02A	8:33 AM	8:41 AM	5.6	25	-	45
	SWFTS-IW09	8:33 AM	4:50 PM	4.8	35	-	2,379
	SWFTS-IW10	8:33 AM	4:50 PM	8.0	33	-	3,984
	SWFTS-IW17	8:33 AM	4:50 PM	21.2	24	-	10,528
	SWFTS-IW18	8:33 AM	4:50 PM	8.0	23	-	3,992
	SWFTS-IW19	8:33 AM	4:50 PM	11.0	34	-	5,475
				Daily Summary		**0**	**26,403**
10/18/2019	SWFTS-IW01A	12:33 PM	4:20 PM	10.3	15	-	2,338
	SWFTS-IW01B	1:45 PM	4:20 PM	1.9	7	-	287
	SWFTS-IW04	1:20 PM	4:20 PM	11.1	9	-	1,997
	SWFTS-IW05	1:48 PM	4:20 PM	11.1	7	-	1,679
	SWFTS-IW09	8:32 AM	4:20 PM	3.9	35	-	1,811
	SWFTS-IW10	8:32 AM	1:10 PM	6.7	34	-	1,868
	SWFTS-IW13A	12:33 PM	4:20 PM	7.9	15	-	1,789
	SWFTS-IW17	8:32 AM	1:34 PM	23.1	25	-	6,972
	SWFTS-IW18	8:32 AM	12:27 PM	5.6	23	-	1,306
	SWFTS-IW19	8:32 AM	4:20 PM	9.4	34	-	4,420
				Daily Summary		**0**	**24,467**
10/19/2019	SWFTS-IW01A	8:33 AM	4:55 PM	9.9	10	-	4,955
	SWFTS-IW01B	8:33 AM	4:55 PM	2.1	13	-	1,064
	SWFTS-IW03	2:48 PM	4:55 PM	9.3	11	-	1,187
	SWFTS-IW04	8:33 AM	4:55 PM	11.6	10	-	5,800
	SWFTS-IW05	8:33 AM	4:55 PM	11.7	13	-	5,856
	SWFTS-IW08	8:33 AM	4:55 PM	19.2	24	-	9,632
	SWFTS-IW09	8:33 AM	4:55 PM	3.5	35	-	1,782
	SWFTS-IW13A	8:33 AM	4:55 PM	4.4	16	-	2,202
	SWFTS-IW20	3:55 PM	4:55 PM	5.3	19	-	320
				Daily Summary		**0**	**32,798**

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/20/2019	SWFTS-IW01A	8:08 AM	10:39 AM	9.6	10	-	1,457
	SWFTS-IW01B	8:07 AM	5:00 PM	1.8	24	-	939
	SWFTS-IW03	8:07 AM	5:00 PM	7.2	24	-	3,857
	SWFTS-IW04	8:07 AM	5:00 PM	7.7	27	-	4,084
	SWFTS-IW05	8:07 AM	5:00 PM	7.2	28	-	3,855
	SWFTS-IW07	10:15 AM	5:00 PM	6.5	23	-	2,627
	SWFTS-IW08	8:07 AM	5:00 PM	11.3	32	-	6,003
	SWFTS-IW09	8:07 AM	5:00 PM	0.6	35	-	325
	SWFTS-IW13A	8:07 AM	5:00 PM	2.9	33	-	1,561
	SWFTS-IW14	8:07 AM	5:00 PM	4.6	15	-	2,440
	SWFTS-IW20	8:07 AM	5:00 PM	6.6	30	-	3,530
				Daily Summary		**0**	**30,678**
10/21/2019	SWFTS-IW01B	9:30 AM	4:00 PM	2.3	24	-	880
	SWFTS-IW03	9:30 AM	4:00 PM	7.9	24	-	3,094
	SWFTS-IW04	9:30 AM	11:50 AM	8.9	27	-	1,244
	SWFTS-IW05	9:30 AM	4:00 PM	6.4	35	-	2,511
	SWFTS-IW07	9:30 AM	4:00 PM	9.0	25	-	3,525
	SWFTS-IW08	9:30 AM	12:01 PM	12.4	32	-	1,866
	SWFTS-IW13A	9:30 AM	4:00 PM	3.7	35	-	1,452
	SWFTS-IW14	9:30 AM	4:00 PM	8.1	25	-	3,152
	SWFTS-IW15	11:55 AM	4:00 PM	7.4	20	-	1,806
	SWFTS-IW16B	12:03 PM	4:00 PM	12.6	35	-	2,985
	SWFTS-IW20	9:30 AM	4:00 PM	8.0	35	-	3,113
				Daily Summary		**0**	**25,628**
10/22/2019	SWFTS-IW01B	10:01 AM	5:00 PM	2.4	33	-	986
	SWFTS-IW03	10:01 AM	5:00 PM	10.4	33	-	4,368
	SWFTS-IW05	10:01 AM	5:00 PM	3.8	35	-	1,610
	SWFTS-IW07	10:01 AM	5:00 PM	7.1	35	-	2,994
	SWFTS-IW12	4:50 PM	5:00 PM	15.2	12	-	152
	SWFTS-IW13A	10:01 AM	5:00 PM	2.0	35	-	840
	SWFTS-IW14	10:01 AM	5:00 PM	11.7	35	-	4,891
	SWFTS-IW15	10:01 AM	5:00 PM	4.4	35	-	1,824
	SWFTS-IW16A	2:54 PM	5:00 PM	18.8	25	-	2,366
	SWFTS-IW16B	10:01 AM	4:36 PM	13.8	35	-	5,436
	SWFTS-IW20	10:01 AM	5:00 PM	5.4	35	-	2,268
				Daily Summary		**0**	**27,735**

Table A.6
Summary of Injection Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Injection Date	Injection Well ID	Injection Start Time	Injection Stop Time	Average Flow Rate (gpm)	Sustained Pressure (psi)	Volume of Injectate Solution Injected (gal)	Volume of Distribution Water Injected (gal)
10/23/2019	SWFTS-IW01B	10:39 AM	5:00 PM	1.5	35	-	571
	SWFTS-IW03	10:39 AM	5:00 PM	9.5	32	-	3,627
	SWFTS-IW05	10:39 AM	5:00 PM	4.4	35	-	1,668
	SWFTS-IW07	10:39 AM	5:00 PM	6.1	35	-	2,323
	SWFTS-IW12	10:39 AM	5:00 PM	14.3	12	-	5,456
	SWFTS-IW13A	10:39 AM	5:00 PM	2.3	35	-	895
	SWFTS-IW14	10:39 AM	5:00 PM	9.5	28	-	3,619
	SWFTS-IW15	10:39 AM	5:00 PM	6.8	30	-	2,573
	SWFTS-IW16A	10:39 AM	5:00 PM	16.8	35	-	6,384
	SWFTS-IW20	10:39 AM	5:00 PM	4.3	32	-	1,657
				Daily Summary		**0**	**28,773**
10/24/2019	SWFTS-IW01B	9:34 AM	5:00 PM	1.6	35	-	705
	SWFTS-IW03	9:34 AM	5:00 PM	2.8	35	-	1,267
	SWFTS-IW05	9:34 AM	5:00 PM	0.7	35	-	321
	SWFTS-IW07	9:34 AM	5:00 PM	6.6	35	-	2,960
	SWFTS-IW12	9:34 AM	5:00 PM	25.2	31	-	11,249
	SWFTS-IW14	9:34 AM	2:19 PM	11.9	35	-	3,398
	SWFTS-IW15	9:34 AM	5:00 PM	7.3	35	-	3,240
	SWFTS-IW20	9:34 AM	5:00 PM	3.0	35	-	1,336
				Daily Summary		**0**	**24,476**
10/25/2019	SWFTS-IW01B	7:49 AM	3:02 PM	2.8	35	-	1,213
	SWFTS-IW07	7:49 AM	1:02 PM	9.8	35	-	3,071
	SWFTS-IW12	7:49 AM	10:47 AM	25.4	33	-	4,518
	SWFTS-IW15	7:49 AM	3:12 PM	6.4	35	-	2,832
	SWFTS-IW20	7:49 AM	3:12 PM	4.2	35	-	1,867
				Daily Summary		**0**	**13,501**
				Injection Event		**85,082**	**325,549**

Notes:
gpm gallons per minute
psi pounds per square inch
gal gallons

Table A.7
Summary of Groundwater Extraction Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
10/1/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	8:00	16:30	1.74	888.5	888.5
	SWFTS-MW11	8:00	16:30	4.89	2,494.5	2,494.5
	SWFTS-MW12	8:00	16:30	15.84	8,079.4	8,079.4
	SWFTS-MW13	8:00	16:30	6.24	3,182.4	3,182.4
	SWFTS-MW17	8:00	16:30	12.21	6,225.1	6,225.1
10/2/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	13:00	16:30	1.89	397.4	1,285.9
	SWFTS-MW11	13:00	16:30	5.31	1,115.5	3,610.0
	SWFTS-MW12	13:00	16:30	17.21	3,613.1	11,692.5
	SWFTS-MW13	13:00	16:30	6.78	1,423.2	4,605.6
	SWFTS-MW17	13:00	16:30	13.26	2,783.8	9,008.9
10/3/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	7:30	12:00	1.87	505.8	1,791.7
	SWFTS-MW11	7:30	12:00	5.26	1,420.0	5,030.0
	SWFTS-MW12	7:30	12:00	17.03	4,599.1	16,291.6
	SWFTS-MW13	7:30	12:00	6.71	1,811.6	6,417.2
	SWFTS-MW17	7:30	12:00	13.12	3,543.5	12,552.4
10/4/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	-	-	-	-	1,791.7
	SWFTS-MW11	-	-	-	-	5,030.0
	SWFTS-MW12	-	-	-	-	16,291.6
	SWFTS-MW13	-	-	-	-	6,417.2
	SWFTS-MW17	-	-	-	-	12,552.4
10/5/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	8:00	16:30	1.78	908.2	2,699.9
	SWFTS-MW11	8:00	16:30	5.00	2,549.7	7,579.7
	SWFTS-MW12	8:00	16:30	16.19	8,258.3	24,549.9
	SWFTS-MW13	8:00	16:30	6.38	3,252.9	9,670.1
	SWFTS-MW17	8:00	16:30	12.48	6,362.9	18,915.3
10/6/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	10:15	16:30	1.82	682.1	3,382.0
	SWFTS-MW11	10:15	16:30	5.11	1,914.8	9,494.5
	SWFTS-MW12	10:15	16:30	16.54	6,201.8	30,751.7
	SWFTS-MW13	10:15	16:30	6.51	2,442.9	12,113.0
	SWFTS-MW17	10:15	16:30	12.74	4,778.4	23,693.7
10/7/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	10:15	16:30	1.73	648.5	4,030.5
	SWFTS-MW11	10:15	16:30	4.85	1,820.5	11,315.0
	SWFTS-MW12	10:15	16:30	15.72	5,896.4	36,648.1
	SWFTS-MW13	10:15	16:30	6.19	2,322.6	14,435.6
	SWFTS-MW17	10:15	16:30	12.11	4,543.1	28,236.8

Table A.7
Summary of Groundwater Extraction Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
10/8/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	12:00	16:30	1.72	465.3	4,495.8
	SWFTS-MW11	12:00	16:30	4.84	1,306.4	12,621.4
	SWFTS-MW12	12:00	16:30	15.67	4,231.3	40,879.4
	SWFTS-MW13	12:00	16:30	6.17	1,666.7	16,102.3
	SWFTS-MW17	12:00	16:30	12.07	3,260.2	31,497.0
10/9/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	12:15	16:30	1.80	458.1	4,953.9
	SWFTS-MW11	12:15	16:30	5.04	1,286.1	13,907.5
	SWFTS-MW12	12:15	16:30	16.34	4,165.5	45,044.9
	SWFTS-MW13	12:15	16:30	6.43	1,640.8	17,743.1
	SWFTS-MW17	12:15	16:30	12.59	3,209.5	34,706.5
10/14/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:55	17:00	1.49	903.8	5,857.7
	SWFTS-MW11	6:48	17:00	8.36	5,115.0	19,022.5
	SWFTS-MW12	6:44	17:00	17.86	11,003.0	56,047.9
	SWFTS-MW13	6:55	17:00	6.63	4,009.5	21,752.6
	SWFTS-MW17	6:55	17:00	13.22	7,996.5	42,703.0
10/15/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:40	16:55	1.86	1,143.8	7,001.5
	SWFTS-MW11	6:40	16:55	5.22	3,211.0	22,233.5
	SWFTS-MW12	6:40	16:55	16.91	10,400.0	66,447.9
	SWFTS-MW13	6:40	16:55	6.66	4,096.5	25,849.1
	SWFTS-MW17	6:40	16:55	13.03	8,013.0	50,716.0
10/16/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:45	17:00	1.87	1,152.0	8,153.5
	SWFTS-MW11	6:45	17:00	10.07	6,195.0	28,428.5
	SWFTS-MW12	6:45	17:00	15.99	9,834.0	76,281.9
	SWFTS-MW13	6:45	17:00	6.51	4,002.8	29,851.9
	SWFTS-MW17	6:45	17:00	13.11	8,063.3	58,779.3
10/17/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:55	16:55	1.85	1,109.3	9,262.8
	SWFTS-MW11	6:55	16:55	10.46	6,276.9	34,705.4
	SWFTS-MW12	6:55	16:55	15.43	9,258.7	85,540.6
	SWFTS-MW13	6:45	16:55	6.81	4,153.5	34,005.4
	SWFTS-MW17	6:45	16:55	13.26	8,087.3	66,866.6
10/18/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:00	16:55	1.31	857.3	10,120.1
	SWFTS-MW11	6:00	16:55	9.68	6,340.0	41,045.4
	SWFTS-MW12	6:00	16:55	14.57	9,541.0	95,081.6
	SWFTS-MW13	6:00	16:55	6.90	4,516.5	38,521.9
	SWFTS-MW17	6:00	16:55	13.21	8,655.0	75,521.6
10/19/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:05	16:55	1.79	1,165.5	11,285.6
	SWFTS-MW11	6:05	16:55	8.91	5,790.5	46,835.9
	SWFTS-MW12	6:05	16:55	14.20	9,226.9	104,308.5
	SWFTS-MW13	6:05	16:55	6.96	4,523.3	43,045.2
	SWFTS-MW17	6:05	16:55	13.37	8,690.3	84,211.9

Table A.7
Summary of Groundwater Extraction Activities - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Date	Extraction Well	Start Time	Stop Time	Average Flow Rate	Volume Extracted	Cumulative Volume Extracted
				gpm	gal	gal
10/20/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:12	17:30	1.77	1,200.8	12,486.4
	SWFTS-MW11	6:12	17:30	7.84	5,315.0	52,150.9
	SWFTS-MW12	6:12	17:30	13.15	8,918.0	113,226.5
	SWFTS-MW13	6:12	17:30	6.73	4,565.3	47,610.5
	SWFTS-MW17	6:12	17:30	12.93	8,766.8	92,978.7
10/21/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:00	17:00	1.70	1,121.3	13,607.7
	SWFTS-MW11	6:00	17:00	8.31	5,486.0	57,636.9
	SWFTS-MW12	6:00	17:00	9.71	6,409.0	119,635.5
	SWFTS-MW13	6:00	17:00	7.86	5,189.3	52,799.8
	SWFTS-MW17	6:00	17:00	14.91	9,843.0	102,821.7
10/22/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	5:45	17:30	1.72	1,213.5	14,821.2
	SWFTS-MW11	5:45	17:30	7.65	5,391.0	63,027.9
	SWFTS-MW12	5:45	17:30	13.07	9,214.0	128,849.5
	SWFTS-MW13	5:45	17:30	8.17	5,759.3	58,559.1
	SWFTS-MW17	5:45	17:30	15.17	10,695.0	113,516.7
10/23/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	5:45	17:10	1.63	1,114.5	15,935.7
	SWFTS-MW11	5:45	17:10	6.12	4,195.0	67,222.9
	SWFTS-MW12	5:45	17:10	7.91	5,416.0	134,265.5
	SWFTS-MW13	5:45	17:10	7.32	5,012.3	63,571.4
	SWFTS-MW17	5:45	17:10	13.62	9,328.5	122,845.2
10/24/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	5:45	17:02	1.93	1,303.5	17,239.2
	SWFTS-MW11	5:45	17:02	7.13	4,827.0	72,049.9
	SWFTS-MW12	5:45	17:02	7.83	5,304.0	139,569.5
	SWFTS-MW13	5:45	17:02	7.35	4,977.8	68,549.2
	SWFTS-MW17	5:45	17:02	13.63	9,230.3	132,075.5
10/25/2019	SWFTS-MW07A	-	-	-	-	-
	SWFTS-MW08A	6:45	10:30	1.93	435.0	17,674.2
	SWFTS-MW11	6:45	10:30	6.40	1,440.0	73,489.9
	SWFTS-MW12	6:45	10:30	8.31	1,868.9	141,438.4
	SWFTS-MW13	6:45	10:30	9.56	2,150.3	70,699.5
	SWFTS-MW17	6:45	10:30	17.65	3,972.0	136,047.5
					EVENT TOTAL	**439,349.5**

Notes:

gpm gallons per minute
gal gallons

Table A.8
Specific Gravity Calibration Measurements - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Standard Dilution	EOS_{PRO} and Amendments[1]	Emulsified Vegetable Oil Concentration	Hydrometer Readings (Calibrated for 60°F)					Sample Temperature (°F)					Temperature Corrected Specific Gravity						
Parts EOS_{PRO} and Amendments[1] to Parts Extracted Groundwater	% by weight	% by weight	Dup-1	Dup-2	Dup-3	Dup-4	Dup-5	Dup-1	Dup-2	Dup-3	Dup-4	Dup-5	Dup-1	Dup-2	Dup-3	Dup-4	Dup-5	Average	SD
1:0 - EOS_{PRO} and Amendments Only	100.0%	57.7%	0.960	0.965	0.965	0.963	0.965	78.9	76.2	77.3	77.5	77.2	0.962	0.967	0.967	0.965	0.967	0.965	0.004
1:2	30.3%	17.5%	0.991	0.990	0.993	0.992	0.993	78.2	77.1	78	78.2	78.3	0.993	0.992	0.995	0.994	0.995	0.994	0.003
1:4	20.2%	11.6%	0.995	0.995	0.995	0.995	0.995	72.5	73.9	74.3	74.5	74.6	0.996	0.996	0.997	0.997	0.997	0.996	0.000
1:6	14.0%	8.1%	1.002	1.001	1.001	1.000	1.000	77.8	77.9	77.7	77.5	78.6	1.004	1.003	1.003	1.002	1.002	1.003	0.002
0:1 - Extracted Groundwater Only	0.0%	0.0%	1.005	1.003	1.002	1.003	1.003	61.1	73.2	67.6	66.5	69.9	1.005	1.004	1.003	1.004	1.004	1.004	0.002

Notes:

Dup - sample duplicate

SD - standard deviation

1. Injectate solution includes emulsified vegetable oil (EOS_{PRO}), phosphate solution (Aquapure 3601 NSF), glycerin, and sodium sulfite mixed into extracted groundwater.

Table A.9
Specific Gravity Measurements - Injection Event 5 (October 2019)
Seep Well Field Area Bioremediation Treatability Study

Batch Number	Date	Time	Hydrometer Readings (Calibrated for 60°F)	Sample Temperature (°F)	Corrected Specific Gravity	Calculated Percent Oil	Within Acceptable Range	Comments
2	10/5/2019	10:00	0.996	75.7	0.998	11.0%	YES	
3	10/6/2019	12:00	1.000	78.6	1.002	5.3%	NO	Stopped injecting; Turned on recirculation pump to mix injectate for appoximately 30 minutes.
3	10/6/2019	13:00	0.999	84.6	1.002	5.3%	NO	
3	10/6/2019	13:10	0.999	81.1	1.001	6.7%	NO	
3	10/6/2019	13:20	0.998	80.2	1.000	8.2%	YES	Began injections
3	10/6/2019	13:40	0.995	81.5	0.998	11.0%	YES	Sampled after 6,160 gallons of Batch 3 were injected.
3	10/6/2019	14:15	0.990	81.4	0.993	18.3%	YES	Sampled after 9,834 gallons of Batch 3 were injected.
3	10/6/2019	14:45	0.992	82.0	0.995	15.4%	YES	Sampled after 11,465 gallons of Batch 3 were injected.
4	10/6/2019	16:50	0.998	79.3	1.000	8.2%	YES	Not injecting - Initial sample during Batch 4 mixing.
4	10/7/2019	6:39	1.000	57.2	1.000	8.2%	YES	Not injecting - Sample prior to resuming Batch 4 mixing.
4	10/7/2019	7:09	0.998	60.2	0.998	11.0%	YES	Not injecting - Sample after mixing resumed.
4	10/7/2019	7:45	0.996	63.6	0.996	13.9%	YES	Not injecting - Sample after Batch 4 mixing is complete.
4	10/7/2019	9:00	0.994	75.3	0.996	13.9%	YES	Sampled after 4,125 gallons of Batch 4 were injected.
4	10/7/2019	10:00	0.995	80.9	0.997	12.5%	YES	Sampled after 10,650 gallons of Batch 4 were injected.
4	10/7/2019	11:00	0.992	81.5	0.995	15.4%	YES	Sampled after 7,225 gallons of Batch 4 were injected.
5	10/8/2019	8:00	0.995	66.5	0.996	13.9%	YES	Sampled fifteen minutes after Batch 5 injections began.
5	10/8/2019	9:00	0.998	69.9	0.999	9.6%	YES	Sampled after 5,430 gallons of Batch 5 were injected
5	10/8/2019	10:00	0.998	73.0	0.999	9.6%	YES	Sampled after 8,203 gallons of Batch 5 were injected.
6	10/9/2019	9:07	0.995	71.4	0.996	13.9%	YES	Sampled after approximately 40 minutes of mixing Batch 6.
6	10/9/2019	10:30	0.997	80.7	0.999	9.6%	YES	Sampled after 4,288 gallons of Batch 6 were injected.
6	10/9/2019	11:30	0.996	84.9	0.999	9.6%	YES	Sampled after 7,714 gallons of Batch 6 were injected.
6	10/9/2019	12:23	0.992	85.8	0.995	15.4%	YES	Sampled after 11,995 gallons of Batch 6 were injected.

Note:
The acceptable range of specific gravity measurements was determined to be 0.993 to 1.000, which was determined by taking +/- 10% of the difference between the pure EOS solution and the pure extracted groundwater (equivalent to 0.004) and then adding and subtracting that value with the specific gravity of the 1:4 standard (0.996).

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW01A	10/5/2019	5:10 PM	5:40 PM	16	to	26	8	8	9.2	276		276
	10/6/2019	11:50 AM	3:35 PM	16	to	26	7	7	5.2	1168		1,168
	10/7/2019	8:01 AM	10:50 AM	16	to	26	15	15	3.3	556		556
	10/18/2019	12:33 PM	4:20 PM	16	to	26	15	15	10.3		2338	2,338
	10/19/2019	8:33 AM	4:55 PM	16	to	26	10	10	9.9		4955	4,955
	10/20/2019	8:08 AM	10:39 AM	16	to	26	10	10	9.6		1457	1,457
									TOTALS	**2000**	**8750**	**10,750**
SWFTS-IW01B	10/6/2019	11:50 AM	3:35 PM	27	to	37	5	5	4.8	1091		1,091
	10/7/2019	8:01 AM	10:16 AM	27	to	37	5	7	6.7	909		909
	10/18/2019	1:45 PM	4:20 PM	27	to	37	7	7	1.9	-	287	287
	10/19/2019	8:33 AM	4:55 PM	27	to	37	13	13	2.1	-	1064	1,064
	10/20/2019	8:07 AM	5:00 PM	27	to	37	24	24	1.8		939	939
	10/21/2019	9:30 AM	4:00 PM	27	to	37	24	24	2.3		880	880
	10/22/2019	10:01 AM	5:00 PM	27	to	37	33	33	2.4		986	986
	10/23/2019	10:39 AM	5:00 PM	27	to	37	33	35	1.5		571	571
	10/24/2019	9:34 AM	5:00 PM	27	to	37	35	35	1.6		705	705
	10/25/2019	7:49 AM	3:02 PM	27	to	37	35	35	2.8		1213	1,213
									TOTALS	**2000**	**6645**	**8,645**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW02A	10/2/2019	3:25 PM	3:40 PM	17	to	27	20	20	11.8	177		177
	10/3/2019	7:30 AM	10:15 AM	17	to	27	15	15	5.6	930		930
	10/5/2019	12:10 PM	2:45 PM	17	to	27	14	15	5.8	893		893
	10/9/2019	2:13 PM	4:30 PM	17	to	27	11	11	7.0		962	962
	10/14/2019	8:40 AM	4:30 PM	17	to	27	15	18	3.6		1669	1,669
	10/15/2019	7:48 AM	4:15 PM	17	to	27	14	30	5.2		2623	2,623
	10/16/2019	8:31 AM	4:30 PM	17	to	27	34	31	7.2		3451	3,451
	10/17/2019	8:33 AM	8:41 AM	17	to	27	25	25	5.6		45	45
									TOTALS	**2000**	**8750**	**10,750**
SWFTS-IW02B	10/3/2019	7:30 AM	10:15 AM	26	to	36	20	20	5.1	836		836
	10/5/2019	12:10 PM	4:49 PM	26	to	36	10	15	3.0	836		836
	10/9/2019	9:43 AM	10:27 AM	26	to	36	12	12	7.5	328		328
	10/9/2019	2:27 PM	4:30 PM	26	to	36	12	12	9.4		1154	1,154
	10/14/2019	8:12 AM	4:30 PM	26	to	36	16	18	9.8		4862	4,862
	10/15/2019	7:48 AM	12:00 PM	26	to	36	13	15	10.8		2734	2,734
									TOTALS	**2000**	**8750**	**10,750**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW03	10/5/2019	2:59 PM	5:40 PM	17	to	37	10	10	6.9	1110		1,110
	10/6/2019	11:50 AM	3:35 PM	17	to	37	10	10	4.4	991		991
	10/7/2019	8:01 AM	11:40 AM	17	to	37	10	10	5.5	1214		1,214
	10/8/2019	7:45 AM	9:54 AM	17	to	37	10	10	6.1	785		785
	10/19/2019	2:48 PM	4:55 PM	17	to	37	11	11	9.3		1187	1,187
	10/20/2019	8:07 AM	5:00 PM	17	to	37	24	24	7.2		3857	3,857
	10/21/2019	9:30 AM	4:00 PM	17	to	37	24	24	7.9		3094	3,094
	10/22/2019	10:01 AM	5:00 PM	17	to	37	33	33	10.4		4368	4,368
	10/23/2019	10:39 AM	5:00 PM	17	to	37	32	32	9.5		3627	3,627
	10/24/2019	9:34 AM	5:00 PM	17	to	37	35	35	2.8		1267	1,267
									TOTALS	**4100**	**17400**	**21,500**
SWFTS-IW04	10/5/2019	2:25 PM	5:40 PM	20	to	35	5	8	3.9	764		764
	10/6/2019	11:50 AM	3:35 PM	20	to	35	9	9	5.2	1170		1,170
	10/7/2019	8:01 AM	10:57 AM	20	to	35	9	9	6.1	1066		1,066
	10/18/2019	1:20 PM	4:20 PM	20	to	35	9	9	11.1		1997	1,997
	10/19/2019	8:33 AM	4:55 PM	20	to	35	10	10	11.6		5800	5,800
	10/20/2019	8:07 AM	5:00 PM	20	to	35	27	27	7.7		4084	4,084
	10/21/2019	9:30 AM	11:50 AM	20	to	35	27	27	8.9		1244	1,244
									TOTALS	**3000**	**13125**	**16,125**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW05	10/5/2019	12:45 PM	5:40 PM	15	to	35	5	7	6.7	1965		1,965
	10/6/2019	11:50 AM	3:35 PM	15	to	35	5	6	5.4	1216		1,216
	10/7/2019	8:01 AM	10:00 AM	15	to	35	6	7	6.9	818		818
	10/18/2019	1:48 PM	4:20 PM	15	to	35	7	7	11.1		1679	1,679
	10/19/2019	8:33 AM	4:55 PM	15	to	35	13	13	11.7		5856	5,856
	10/20/2019	8:07 AM	5:00 PM	15	to	35	28	28	7.2		3855	3,855
	10/21/2019	9:30 AM	4:00 PM	15	to	35	35	35	6.4		2511	2,511
	10/22/2019	10:01 AM	5:00 PM	15	to	35	35	35	3.8		1610	1,610
	10/23/2019	10:39 AM	5:00 PM	15	to	35	35	35	4.4		1668	1,668
	10/24/2019	9:34 AM	5:00 PM	15	to	35	35	35	0.7		321	321
									TOTALS	**3999**	**17500**	**21,499**
SWFTS-IW06A	10/2/2019	3:25 PM	4:30 PM	17	to	27	25	25	6.6	430		430
	10/3/2019	7:30 AM	10:00 AM	17	to	27	20	15	7.6	1139		1,139
	10/5/2019	12:10 PM	1:38 PM	17	to	27	20	20	4.9	431		431
	10/9/2019	2:13 PM	4:30 PM	17	to	27	15	15	6.6		902	902
	10/14/2019	8:12 AM	4:30 PM	17	to	27	15	19	9.6		4790	4,790
	10/15/2019	7:48 AM	12:30 PM	17	to	27	16	20	10.8		3058	3,058
									TOTALS	**2000**	**8750**	**10,750**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW06B	10/2/2019	3:25 PM	4:30 PM	29	to	34	20	20	4.6	302		302
	10/3/2019	7:30 AM	10:15 AM	29	to	34	20	25	3.8	633		633
	10/5/2019	12:15 PM	12:29 PM	29	to	34	20	25	4.6	65		65
	10/9/2019	2:13 PM	4:30 PM	29	to	34	15	15	3.1		420	420
	10/14/2019	8:12 AM	4:30 PM	29	to	34	22	28	5.6		2804	2,804
	10/15/2019	7:48 AM	11:24 AM	29	to	34	23	23	5.3		1151	1,151
									TOTALS	**1000**	**4375**	**5,375**
SWFTS-IW07	10/6/2019	1:29 PM	3:35 PM	17	to	37	12	12	5.4	684		684
	10/7/2019	7:55 AM	11:40 AM	17	to	37	12	12	6.8	1522		1,522
	10/8/2019	7:45 AM	11:35 AM	17	to	37	12	12	5.5	1265		1,265
	10/9/2019	9:30 AM	10:54 AM	17	to	37	12	12	6.3	529		529
	10/20/2019	10:15 AM	5:00 PM	17	to	37	23	23	6.5		2627	2,627
	10/21/2019	9:30 AM	4:00 PM	17	to	37	25	25	9.0		3525	3,525
	10/22/2019	10:01 AM	5:00 PM	17	to	37	35	35	7.1		2994	2,994
	10/23/2019	10:39 AM	5:00 PM	17	to	37	35	35	6.1		2323	2,323
	10/24/2019	9:34 AM	5:00 PM	17	to	37	35	35	6.6		2960	2,960
	10/25/2019	7:49 AM	1:02 PM	17	to	37	35	35	9.8		3071	3,071
									TOTALS	**4000**	**17500**	**21,500**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW08	10/6/2019	11:27 AM	3:35 PM	17	to	37	15	15	8.6	2125		2,125
	10/7/2019	7:55 AM	12:02 PM	17	to	37	15	15	7.6	1875		1,875
	10/19/2019	8:33 AM	4:55 PM	17	to	37	20	24	19.2		9632	9,632
	10/20/2019	8:07 AM	5:00 PM	17	to	37	32	32	11.3		6003	6,003
	10/21/2019	9:30 AM	12:01 PM	17	to	37	32	32	12.4		1866	1,866
									TOTALS	**4000**	**17501**	**21,501**
SWFTS-IW09	10/3/2019	8:15 AM	10:15 AM	27	to	47	15	20	8.9	1072		1,072
	10/5/2019	1:35 PM	5:40 PM	27	to	47	20	25	4.4	1072		1,072
	10/6/2019	8:20 AM	8:48 AM	27	to	47	25	28	9.1	254		254
	10/9/2019	10:10 AM	1:07 PM	27	to	47	24	24	9.8	1742		1,742
	10/9/2019	2:36 PM	4:30 PM	27	to	47	23	24	13.8		1573	1,573
	10/14/2019	8:12 AM	12:13 PM	27	to	47	25	26	11.1		2687	2,687
	10/15/2019	12:01 PM	4:15 PM	27	to	47	27	25	10.8		2754	2,754
	10/16/2019	8:31 AM	4:30 PM	27	to	47	35	30	8.5		4049	4,049
	10/17/2019	8:33 AM	4:50 PM	27	to	47	35	35	4.8		2379	2,379
	10/18/2019	8:32 AM	4:20 PM	27	to	47	35	35	3.9		1811	1,811
	10/19/2019	8:33 AM	4:55 PM	27	to	47	35	35	3.5		1782	1,782
	10/20/2019	8:07 AM	5:00 PM	27	to	47	35	35	0.6		325	325
									TOTALS	**4140**	**17360**	**21,500**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW10	10/3/2019	7:50 AM	10:15 AM	27	to	47	8	10	9.3	1350		1,350
	10/5/2019	1:14 PM	5:40 PM	27	to	47	15	20	5.1	1350		1,350
	10/6/2019	8:20 AM	8:43 AM	27	to	47	24	23	7.3	168		168
	10/9/2019	9:52 AM	12:46 PM	27	to	47	23	23	6.9	1200		1,200
	10/9/2019	2:36 PM	4:30 PM	27	to	47	23	23	10.9		1248	1,248
	10/14/2019	8:12 AM	12:13 PM	27	to	47	24	24	11.7		2826	2,826
	10/15/2019	11:26 AM	4:15 PM	27	to	47	27	25	10.2		2942	2,942
	10/16/2019	8:31 AM	4:30 PM	27	to	47	35	25	9.5		4564	4,564
	10/17/2019	8:33 AM	4:50 PM	27	to	47	33	33	8.0		3984	3,984
	10/18/2019	8:32 AM	1:10 PM	27	to	47	34	34	6.7		1868	1,868
									TOTALS	**4068**	**17432**	**21,500**
SWFTS-IW11	10/2/2019	3:25 PM	4:30 PM	17	to	37	25	25	8.8	572		572
	10/3/2019	7:30 AM	10:15 AM	17	to	37	10	10	8.1	1336		1,336
	10/5/2019	12:10 PM	5:15 PM	17	to	37	10	10	6.9	2093		2,093
	10/9/2019	2:13 PM	4:30 PM	17	to	37	10	10	8.3		1131	1,131
	10/14/2019	8:12 AM	4:30 PM	17	to	37	8	12	13.6		6778	6,778
	10/15/2019	7:48 AM	4:15 PM	17	to	37	8	14	14.0		7073	7,073
	10/16/2019	8:31 AM	11:04 AM	17	to	37	10	14	16.5		2517	2,517
									TOTALS	**4001**	**17499**	**21,500**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW12	10/7/2019	9:54 AM	11:40 AM	14	to	39	15	15	8.4	890		890
	10/8/2019	7:52 AM	7:40 PM	14	to	39	9	11	2.9	2048		2,048
	10/9/2019	9:30 AM	12:19 PM	14	to	39	10	10	15.2	2562		2,562
	10/22/2019	4:50 PM	5:00 PM	14	to	39	12	12	15.2		152	152
	10/23/2019	10:39 AM	5:00 PM	14	to	39	12	12	14.3		5456	5,456
	10/24/2019	9:34 AM	5:00 PM	14	to	39	31	31	25.2		11249	11,249
	10/25/2019	7:49 AM	10:47 AM	14	to	39	33	33	25.4		4518	4,518
									TOTALS	**5500**	**21375**	**26,875**
SWFTS-IW13A	10/2/2019	3:45 PM	4:30 PM	16	to	26	10	15	6.3	285		285
	10/3/2019	7:30 AM	10:15 AM	16	to	26	10	15	7.5	1242		1,242
	10/5/2019	12:10 PM	5:40 PM	16	to	26	15	15	7.0	2300		2,300
	10/6/2019	11:50 AM	3:35 PM	16	to	26	10	10	4.3	975		975
	10/7/2019	8:01 AM	11:40 AM	16	to	26	10	10	0.9	198		198
	10/9/2019	2:13 PM	4:30 PM	16	to	26	10	10	7.2		990	990
	10/14/2019	8:12 AM	12:13 PM	16	to	26	10	10	9.4		2255	2,255
	10/18/2019	12:33 PM	4:20 PM	16	to	26	15	15	7.9		1789	1,789
	10/19/2019	8:33 AM	4:55 PM	16	to	26	16	16	4.4		2202	2,202
	10/20/2019	8:07 AM	5:00 PM	16	to	26	33	33	2.9		1561	1,561
	10/21/2019	9:30 AM	4:00 PM	16	to	26	35	35	3.7		1452	1,452
	10/22/2019	10:01 AM	5:00 PM	16	to	26	35	35	2.0		840	840
	10/23/2019	10:39 AM	5:00 PM	16	to	26	35	35	2.3		895	895
									TOTALS	**5000**	**11984**	**16,984**
SWFTS-IW13B				28	to	38				-		
									TOTALS	-		

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW14	10/7/2019	8:01 AM	11:40 AM	16	to	36	10	15	5.7	1251		1,251
	10/8/2019	7:52 AM	11:35 AM	16	to	36	10	10	8.0	1785		1,785
	10/9/2019	9:30 AM	10:53 AM	16	to	36	10	10	11.6	964		964
	10/20/2019	8:07 AM	5:00 PM	16	to	36	14	15	4.6		2440	2,440
	10/21/2019	9:30 AM	4:00 PM	16	to	36	25	25	8.1		3152	3,152
	10/22/2019	10:01 AM	5:00 PM	16	to	36	35	35	11.7		4891	4,891
	10/23/2019	10:39 AM	5:00 PM	16	to	36	28	28	9.5		3619	3,619
	10/24/2019	9:34 AM	2:19 PM	16	to	36	35	35	11.9		3398	3,398
									TOTALS	**4000**	**17500**	**21,500**
SWFTS-IW15	10/7/2019	10:19 AM	11:40 AM	16	to	36	15	15	8.2	667		667
	10/8/2019	7:52 AM	11:35 AM	16	to	36	12	15	8.5	1893		1,893
	10/9/2019	9:30 AM	12:20 PM	16	to	36	22	22	14.4	2440		2,440
	10/21/2019	11:55 AM	4:00 PM	16	to	36	17	20	7.4		1806	1,806
	10/22/2019	10:01 AM	5:00 PM	16	to	36	35	35	4.4		1824	1,824
	10:23/2019	10:39 AM	5:00 PM	16	to	36	30	30	6.8		2573	2,573
	10/24/2019	9:34 AM	5:00 PM	16	to	36	35	35	7.3		3240	3,240
	10/25/2019	7:49 AM	3:12 PM	16	to	36	35	35	6.4		2832	2,832
									TOTALS	**5000**	**12275**	**17,275**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW16A	10/7/2019	11:30 AM	11:40 AM	17	to	27	15	15	3.5	35		35
	10/8/2019	7:45 AM	11:35 AM	17	to	27	20	20	4.3	981		981
	10/9/2019	9:30 AM	12:18 PM	17	to	27	20	20	5.9	984		984
	10/22/2019	2:54 PM	5:00 PM	17	to	27	25	25	18.8		2366	2,366
	10/23/2019	10:39 AM	5:00 PM	17	to	27	35	35	16.8		6384	6,384
									TOTALS	**2000**	**8750**	**10,750**
SWFTS-IW16B	10/7/2019	9:45 AM	11:40 AM	26	to	36	15	15	8.3	957		957
	10/8/2019	7:45 AM	11:35 AM	26	to	36	17	17	6.0	1372		1,372
	10/21/2019	12:03 PM	4:00 PM	26	to	36	35	35	12.6		2985	2,985
	10/22/2019	10:01 AM	4:36 PM	26	to	36	35	35	13.8		5436	5,436
									TOTALS	**2329**	**8421**	**10,750**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW17	10/6/2019	9:35 AM	3:35 PM	17	to	37	21	20	8.6	3110		3,110
	10/7/2019	7:55 AM	9:23 AM	17	to	37	21	20	10.1	890		890
	10/17/2019	8:33 AM	4:50 PM	17	to	37	20	24	21.2		10528	10,528
	10/18/2019	8:32 AM	1:34 PM	17	to	37	25	25	23.1		6972	6,972
									TOTALS	**4000**	**17500**	**21,500**
SWFTS-IW18	10/3/2019	7:50 AM	10:15 AM	18	to	38	15	15	14.2	2055		2,055
	10/5/2019	1:19 PM	5:40 PM	18	to	38	15	15	7.9	2055		2,055
	10/6/2019	8:20 AM	8:57 AM	18	to	38	20	20	9.8	364		364
	10/9/2019	9:52 AM	11:32 AM	18	to	38	20	20	8.9	890		890
	10/9/2019	2:36 PM	4:30 PM	18	to	38	20	20	9.4		1071	1,071
	10/14/2019	8:12 AM	12:13 PM	18	to	38	20	20	10.9		2628	2,628
	10/15/2019	12:32 PM	4:15 PM	18	to	38	20	21	11.1		2467	2,467
	10/16/2019	8:31 AM	4:30 PM	18	to	38	23	24	9.8		4672	4,672
	10/17/2019	8:33 AM	4:50 PM	18	to	38	23	23	8.0		3992	3,992
	10/18/2019	8:32 AM	12:27 PM	18	to	38	23	23	5.6		1306	1,306
									TOTALS	**5364**	**16136**	**21,500**

INJECTION FIELD LOG

PROJECT NUMBER/NAME: TETRA TECH SEEP WELL FIELD INJ EVENT 5/304-19-1094

Well ID	Start Date	Start Time	End Time	Injection Interval (Feet BGS)			Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	% Solution Injected (Gallons)	Flush Water Injected (Gallons)	Total Injected (Gallons)
SWFTS-IW19	10/3/2019	7:50 AM	10:15 AM	24	to	44	30	30	10.1	1462		1,462
	10/5/2019	1:00 PM	5:40 PM	24	to	44	20	25	5.2	1462		1,462
	10/6/2019	8:20 AM	1:18 PM	24	to	44	30	**23**	3.8	1139		1,139
	10/9/2019	9:52 AM	1:07 PM	24	to	44	22	22	7.8	1519		1,519
	10/9/2019	2:36 PM	4:30 PM	24	to	44	22	22	11.1		1266	1,266
	10/14/2019	8:12 AM	12:13 PM	24	to	44	23	23	11.5		2775	2,775
	10/16/2019	11:08 AM	4:30 PM	24	to	44	20	18	7.0		2244	2,244
	10/17/2019	8:33 AM	4:50 PM	24	to	44	32	34	11.0		5475	5,475
	10/18/2019	8:32 AM	4:20 PM	24	to	44	34	34	9.4		4420	4,420
									TOTALS	**5582**	**16180**	**21,762**
SWFTS-IW20	10/6/2019	11:01 AM	3:35 PM	31	to	51	19	22	5.5	1519		1,519
	10/7/2019	7:55 AM	11:40 AM	31	to	51	20	22	6.7	1510		1,510
	10/8/2019	7:45 AM	9:57 AM	31	to	51	22	22	7.3	970		970
	10/19/2019	3:55 PM	4:55 PM	31	to	51	17	19	5.3		320	320
	10/20/2019	8:07 AM	5:00 PM	31	to	51	35	30	6.6		3530	3,530
	10/21/2019	9:30 AM	4:00 PM	31	to	51	35	35	8.0		3113	3,113
	10/22/2019	10:01 AM	5:00 PM	31	to	51	35	35	5.4		2268	2,268
	10/23/2019	10:39 AM	5:00 PM	31	to	51	32	32	4.3		1657	1,657
	10/24/2019	9:34 AM	5:00 PM	31	to	51	35	35	3.0		1336	1,336
	10/25/2019	7:49 AM	3:12 PM	31	to	51	35	35	4.2		1867	1,867
									TOTALS	**3999**	**14091**	**18,090**

1. Site setup and layout.

2. Site setup and layout.

3. Site setup and layout

4. Site setup and layout.

5. Site setup and layout.

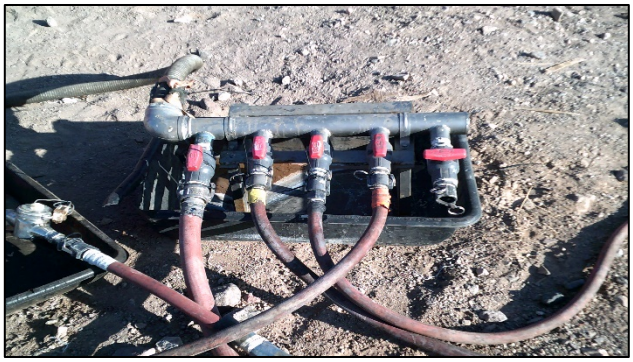
6. Site setup and layout.

7. Reagent storage

8. Extraction well. 1.5” PVC attached to a 4” extraction pump below grade.

9. Hose connection with nylon whip check and secondary containment.

10. Flowmeter used for groundwater extraction.

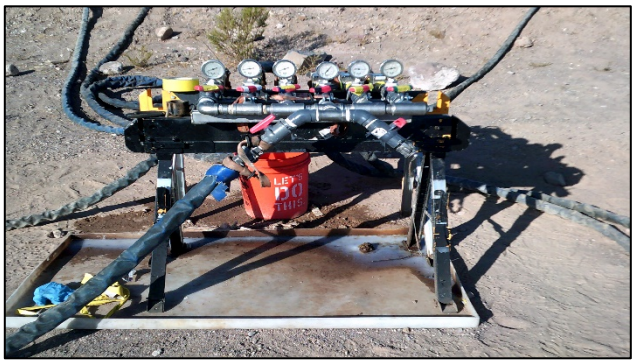


11. Extraction water manifold.

12. Three-inch Y-strainer to filter substrate prior to passing through injection system.

13. Duel skid mounted centrifugal injection pumps.

14. Injection Manifold (outlet).



15. Injection manifold (inlet).

16. Well head adapter, complete with pressure relief valve and pressure gauge (60 PSI)

Comparison of Injection Events

Table A.10 – Ratio of Average Sustained Pressure to Average Injection Rate

Table A.10
Ratio of Average Sustained Pressure to Average Injection Rate
Seep Well Field Area Bioremediation Treatability Study

Injection Well	Average Flow Rate (gpm)						Average Sustained Pressure (psi)						Ratio of Average Sustained Pressure to Average Flow Rate					
	Event 1	Event 2	Event 3	Event 4	Injection Testing	Event 5	Event 1	Event 2	Event 3	Event 4	Injection Testing	Event 5	Event 1	Event 2	Event 3	Event 4	Injection Testing	Event 5
SWFTS-IW01A	8.0	5.3	5.0	9.5	-	7.9	1	8	12	19	-	11	0.1	1.5	2.3	2.0	-	1.4
SWFTS-IW01B	7.4	5.3	4.3	7.9	-	2.8	0	4	12	19	-	22	0.0	0.7	2.7	2.4	-	7.8
SWFTS-IW02A	6.9	3.3	4.9	5.6	5.1	6.5	2	18	15	33	20	21	0.3	5.4	3.1	5.8	3.9	3.2
SWFTS-IW02B	6.2	4.2	4.2	3.3	-	7.6	0	16	8	14	-	15	0.0	3.8	1.8	4.3	-	2.0
SWFTS-IW03	7.1	5.2	4.6	8.0	-	7.0	3	7	11	18	-	20	0.4	1.3	2.3	2.2	-	2.8
SWFTS-IW04	5.8	-	5.4	5.1	-	7.8	4	--- (1)	11	14	-	14	0.6	-	2.1	2.7	-	1.8
SWFTS-IW05	7.3	6.0	7.1	17.8	-	6.4	4	9	10	11	-	21	0.5	1.4	1.4	0.6	-	3.2
SWFTS-IW06A	7.1	4.8	4.7	4.5	7.7	7.7	2	2	11	25	5	19	0.3	0.4	2.3	5.4	0.6	2.5
SWFTS-IW06B	5.8	4.4	5.3	2.9	3.0	4.5	4	10	13	31	22	23	0.7	2.3	2.3	10.7	7.4	5.0
SWFTS-IW07	6.4	4.7	4.9	9.6	-	6.9	10	9	14	14	-	24	1.6	2.0	2.8	1.5	-	3.4
SWFTS-IW08	6.3	-	6.5	8.5	-	11.8	8	--- (1)	18	17	-	24	1.3	-	2.8	2.0	-	2.0
SWFTS-IW09	6.5	5.8	3.9	3.7	5.3	7.4	2	6	27	28	12	29	0.4	1.0	6.9	7.4	2.3	3.8
SWFTS-IW10	6.3	5.5	5.0	3.3	4.5	8.6	2	6	21	26	20	24	0.3	1.1	4.2	7.8	4.5	2.8
SWFTS-IW11	6.3	4.3	4.4	5.6	8.4	10.9	2	12	11	31	8	14	0.3	2.9	2.6	5.6	1.0	1.2
SWFTS-IW12	7.6	6.0	6.0	11.1	-	14.8	4	5	21	24	-	18	0.5	0.8	3.6	2.2	-	1.2
SWFTS-IW13A	6.0	3.8	3.7	7.0	-	5.1	9	0	11	24		20	1.4	0.0	2.9	3.5	-	3.9
SWFTS-IW13B	4.4	2.9	2.3	-	1.0	-	14	21	31	--- (2)	34	--- (2)	3.2	7.3	13.1	--- (2)	34.0	--- (2)
SWFTS-IW14	7.3	4.5	4.3	12.5	-	8.9	9	9	16	18	-	22	1.2	2.1	3.7	1.5	-	2.4
SWFTS-IW15	5.9	4.7	5.8	8.3	-	7.9	13	15	16	29	-	26	2.1	3.2	2.8	3.6	-	3.3
SWFTS-IW16A	5.7	3.6	5.0	11.0	-	9.9	6	8	16	30	-	23	1.0	2.2	3.2	2.7	-	2.3
SWFTS-IW16B	5.6	4.3	4.9	5.9	-	10.2	2	9	10	17	-	26	0.4	2.0	2.1	2.9	-	2.5
SWFTS-IW17	7.0	5.7	5.5	6.9	-	15.8	9	16	21	27	-	22	1.3	2.7	3.9	3.9	-	1.4
SWFTS-IW18	5.7	5.3	5.3	3.9	8.2	9.6	2	13	11	29	16	20	0.3	2.4	2.1	7.5	1.9	2.1
SWFTS-IW19	6.4	-	5.8	-	5.5	8.5	6	--- (1)	10	--- (2)	24	26	1.0	-	1.7	--- (2)	4.4	3.0
SWFTS-IW20	6.3	6.0	4.8	7.3	-	5.6	5	22	25	25	-	29	0.7	3.6	5.2	3.5	-	5.1

Notes:

gpm - gallons per minute

psi - pounds per square inch

1. No injections conducted at SWFTS-IW04, SWFTS-IW08, and SWFTS-IW19 during the second injection event.

2. Injections at wells SWFTS-IW13B and SWFTS-IW19 were not possible during injection event 4 due to high pressures observed immediately upon attempting to injection carbon substrate solution. Injections at wells SWFTS-IW13B were not possible during injection event 5 due to high pressures observed immediately upon attempting to injection carbon substrate solution.

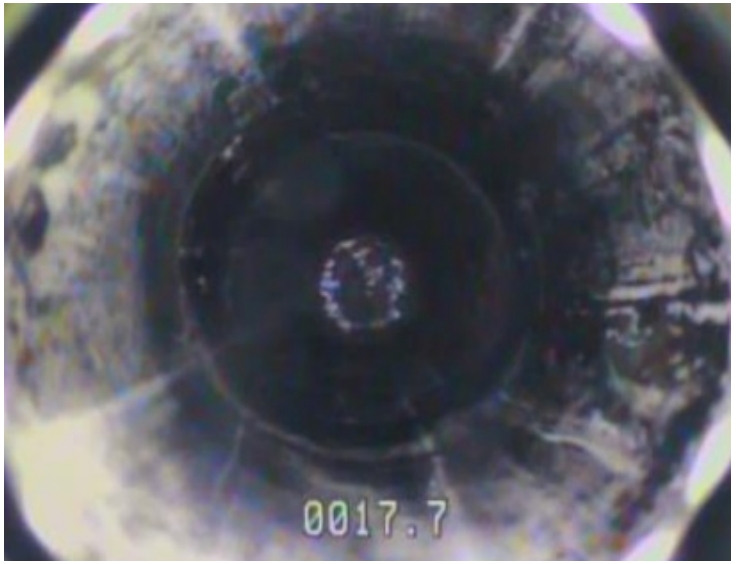
Appendix B
Injection Well Video Logging

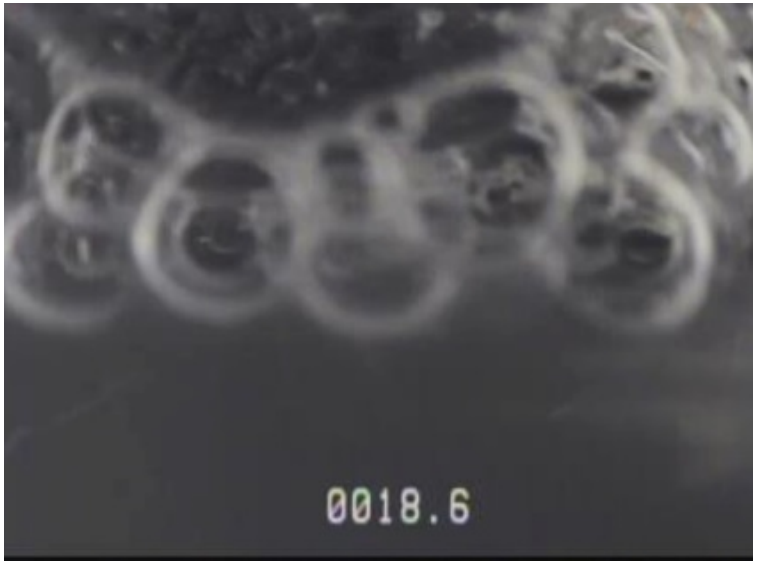
Table B.1
Injection Well Video Logging Results
Seep Well Field Area Bioremediation Treatability Study

Injection Well	Visibility	Potential Biogrowth Observed	Precipitates Observed	Description	As-Built Total Depth	As-Built Bottom of Slots Depth	Nominal Screen Length	Depth Fill Material Encountered	Accumulated Fill Material	Percent Screened Interval Obstructed
					feet bgs	feet bgs	feet	feet bgs	feet	
SWFTS-IW01A	Fair/Turbid	Yes	Possible	Potential biogrowth present. Possible precipitates (white fines) observed in water column. Slots not visible (likely due to camera quality).	26.0	25.6	10	25.6	0.4	0%
SWFTS-IW01B	Fair/Turbid	Yes	Possible	Potential biogrowth visible on casing walls. Possible precipitates (white fines) observed in water column. Slotted interval not visible (likely due to camera quality).	37.1	36.7	10	35.6	1.5	11%
SWFTS-IW02A	Fair/Turbid	Yes	Possible	Potential biogrowth visible on casing walls. Bubbles observed. Possible precipitates (white fines) observed in water column.	27.0	26.6	10	23.4	3.6	32%
SWFTS-IW02B	Poor/Turbid	Yes	Yes	Potential biogrowth visible on casing walls. Bubbles observed. Possible precipitates (white fines) observed in water column.	36.5	36.1	10	33.8	2.7	23%
SWFTS-IW03	Fair/Turbid to Poor/Dark	Yes	No	Potential biogrowth visible on casing walls and slotted interval.	37.0	36.6	20	34.2	2.8	12%
SWFTS-IW04	Poor/Dark	Yes	No	Potential biogrowth visible on casing walls. Slotted interval not visible (likely due to camera quality). Bubbles observed.	35.0	34.6	15	29.9	5.1	31%
SWFTS-IW05	Poor/Turbid	Yes	Yes	Potential dark biogrowth and white precipitates observed on casing walls and slotted interval. Bubbles observed.	34.8	34.4	20	---(1)	---(1)	---(1)
SWFTS-IW06A	Fair/Turbid to Poor/Very Dark	N/A	N/A	Bubbles observed. No visibility at depth of screened interval (likely due to camera quality).	27.0	26.6	10	22.3	4.7	43%
SWFTS-IW06B	Poor/Turbid to Very Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	34.0	33.6	5	33.0	1.0	12%
SWFTS-IW07	Poor/Turbid to Very Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	37.5	37.1	20	35.4	2.1	9%
SWFTS-IW08	Fair/Turbid	Yes	No	Potential dark-colored biogrowth observed on casing walls and slotted interval. Bubbles observed.	37.7	37.3	20	23.8 (2)	---(2)	---(2)
SWFTS-IW09	Poor/Turbid to Very Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality). Bubbles observed.	46.8	46.4	20	45.1	1.7	6%
SWFTS-IW10	Poor/Turbid to Very Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	47.0	46.6	20	39.8	7.2	34%
SWFTS-IW11	Poor/Turbid to Very Dark	Yes	N/A	Potential biogrowth on casing walls and at top of water column. No visibility at depth of screened interval.	37.5	37.1	20	33.6	3.9	18%
SWFTS-IW12	Poor/Turbid	Yes	Possible	Potential dark-colored biogrowth observed on casing walls and slotted interval. Possible precipitates (white fines) observed in water column. Bubbles observed.	39.5	39.1	25	---(3)	---(3)	---(3)
SWFTS-IW13A	Poor/Turbid to Very Poor/Dark	Yes	N/A	No visibility at depth of screened interval (likely due to camera quality). Bubbles observed.	26.0	25.6	10	24.4	1.6	12%
SWFTS-IW13B	Fair/Turbid	N/A	N/A	Bubbles observed. Camera encounters soft fill material near top of as-built slotted interval, and no slots are visible.	38.0	37.6	10	28.7	9.3	89%
SWFTS-IW14	Poor/Turbid to Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	36.5	36.1	20	31.8	4.7	22%
SWFTS-IW15	Poor/Dark to Fair/Clear	Yes	No	Potential dark biogrowth observed on casing walls and slotted interval.	36.6	36.2	20	32.9	3.7	17%
SWFTS-IW16A	Poor/Turbid to Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	27.5	27.1	10	21.6	5.9	55%
SWFTS-IW16B	Poor/Turbid to Very Dark	N/A	N/A	No visibility at depth of screened interval (likely due to camera quality).	36.7	36.3	10	35.6	1.1	7%
SWFTS-IW17	Poor/Turbid to Very Dark	N/A	N/A	Bubbles observed. No visibility at depth of screened interval (likely due to camera quality).	37.5	37.1	20	31.3	6.2	29%
SWFTS-IW18	Poor/Turbid to Very Dark	N/A	N/A	Camera encounters soft fill material near top of as-built slotted interval, and no slots are visible (likely in part due to poor camera quality).	38.5	38.1	20	20.6	17.9	88%
SWFTS-IW19	Fair/Turbid	Yes	Yes	Bubbles observed. Potential biogrowth observed at top of water column. Potential dark-colored biogrowth and white precipitates observed on casing walls and slotted interval.	44.5	44.1	20	37.8	6.7	32%
SWFTS-IW20	Poor/Turbid to Very Dark	N/A	Possible	Possible precipitates (white fines) observed in water column. No visibility at depth of screened interval (likely due to camera quality).	51.0	50.6	20	46.4	4.6	21%

Notes:
bgs - below ground surface
N/A - not able to be determined due to poor visibility
(1) Slight bend in casing of SWFTS-IW05 at 30.9 feet bgs prevented camera from completing survey.
(2) Increased level of potential biogrowth in SWFTS-IW08 at 23.8 feet bgs appears to prevent camera from passing to complete survey.
(3) Slight bend in casing of SWFTS-IW12 at 16.8 feet bgs prevented camera from completing survey.

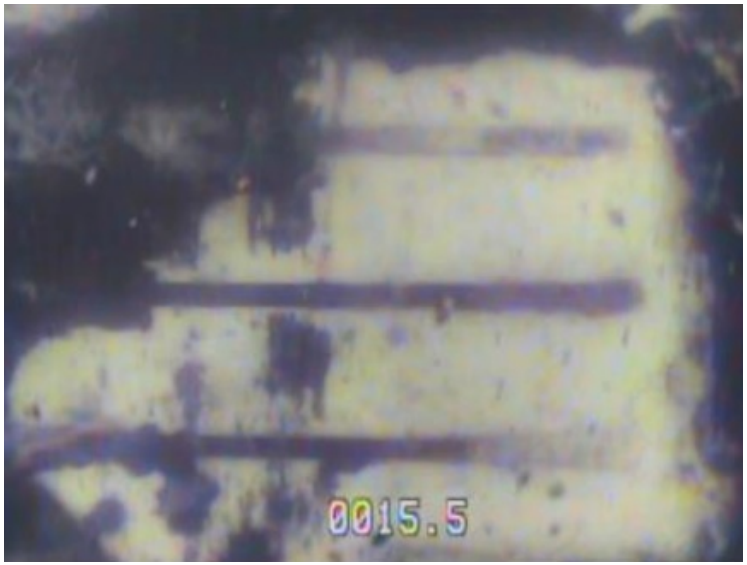
Black dead biomass along casing wall (left) and gas bubbles observed at the top of the water column (right) of injection well SWFTS-IW08.





Typical dark-colored biomass observed on injection well screens. Material does not appear crusty or hardened in nature.
Left: SWFTS-IW12 at 15.5 feet below ground surface (bgs).
Right: SWFTS-IW08 at 21.6 feet bgs.

Note: Depths shown on images indicate location of the camera in feet below ground surface.



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NEVADA ENVIRONMENTAL RESPONSE TRUST SITE
SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
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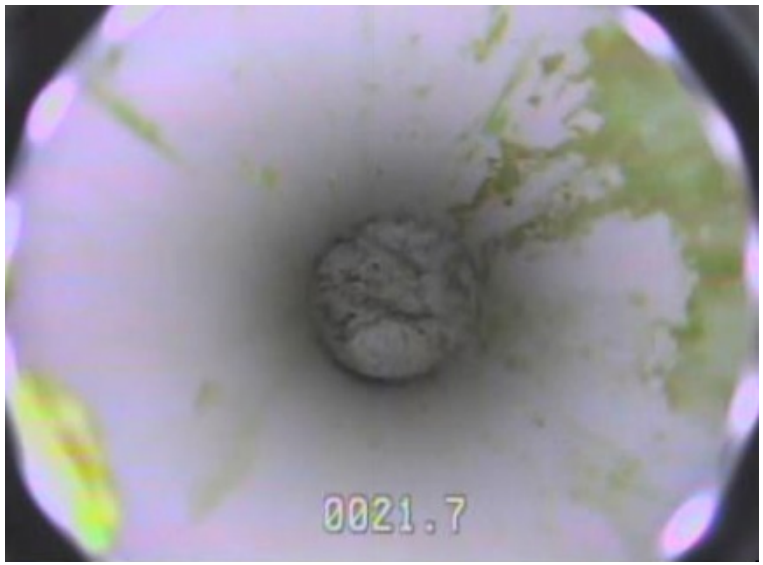
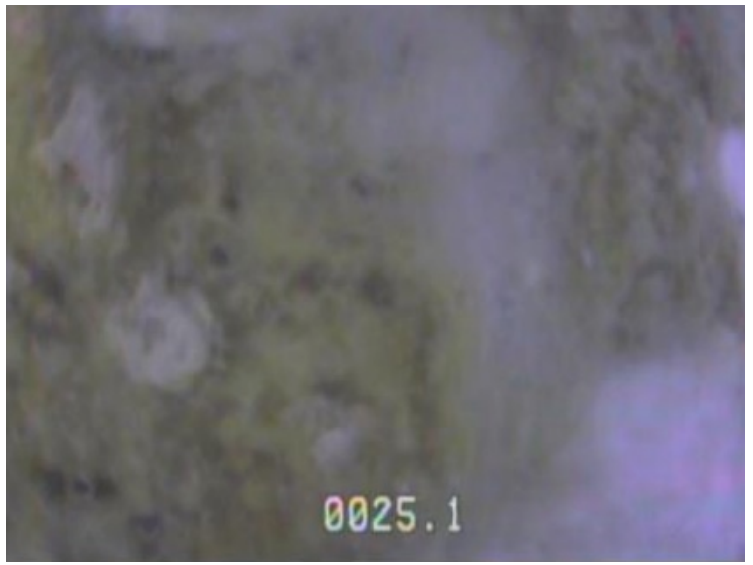
INJECTION WELL VIDEO LOGGING RESULTS

Project No.:	117-7502018
Date:	SEPTEMBER 10, 2019
Designed By:	ACC

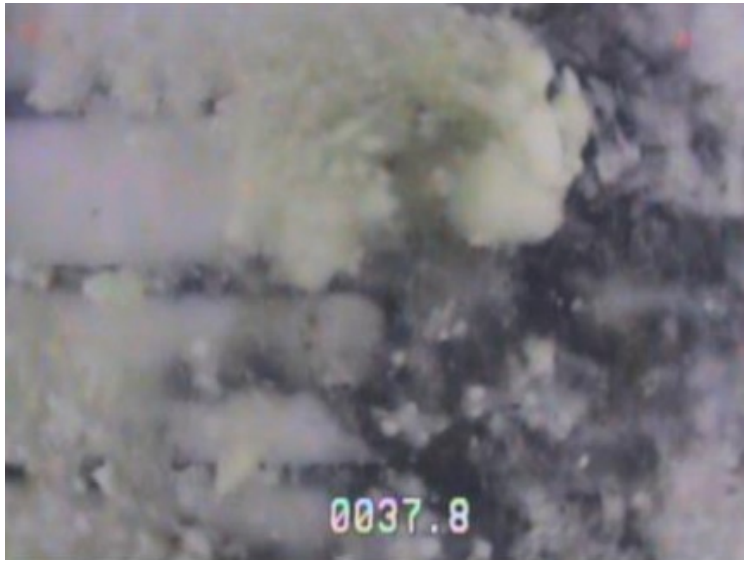
Figure No.
B.1

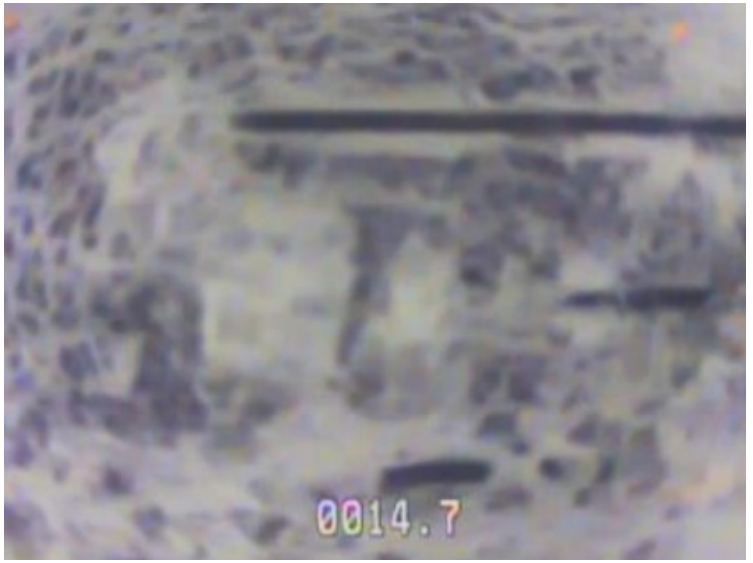
At select injection wells including SWFTS-IW19 (shown to the left), frothy white material floats at the top of the water column, indicative of chemical floc. Possible combination of calcium precipitates with a yellow tinge likely due to the fatty acid oleate (prime breakdown product of EOS).





White to buff inorganic precipitates with dark-colored biomass along well casing and floating in water column.
Left: SWFTS-IW19 at 37.8 feet bgs.
Right: SWFTS-IW05 at 14.7 feet bgs.





Note: Depths shown on images indicate location of the camera in feet below ground surface.

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INJECTION WELL VIDEO LOGGING RESULTS

Project No.:	117-7502018
Date:	SEPTEMBER 10, 2019
Designed By:	ACC

Figure No.
B.2

Appendix C
SESI Analytical Summary Report

Testing Procedures:

Task 1: Moisture Content, Volatile Solids and Ash

The testing protocol is described below. When samples were removed from the drying oven at 104 °C, pictures were taken to visually assess the presence of free oil and/or soap scum.

Procedure:

1) Weighed mass of porcelain dishes used for heating samples
2) 45-50g of sample were added to dish
3) Sample were heated at 104 °C for one hour in heating oven
4) Samples were removed and analyzed for presence of free oil/soap scum by looking for oil droplets on samples
5) Weight of heated sample and dish was measured
6) Sample was placed into Type 6000 Furnace oven at 550C for one hour
7) Samples were removed and weight was measured
8) Moisture content, volatile solids, and ash amount was calculated using formulas below

Calculations:

A = Weight of wet sample + dish

B = Weight of dry sample + dish

C= Weight of dry sample + dish after ignition

D = weight of dish

$$\text{Moisture Content \%} = \frac{(A-B)*100}{A}$$

$$\text{Volatile Solids \%} = \frac{(B-C)*100}{(B-D)}$$

$$\text{Ash \%} = \frac{(C-D)*100}{B-D}$$

Task 2: Alkalinity Testing

Groundwater Matrix samples from each well were titrated with Hydrochloric Acid to develop a complete titration curve and analyze for Alkalinity, which is an indicator of carbonate precipitates.

Equipment/Supplies:

-0.1M Hydrochloric acid

-pH probe

-1L Beaker

-Burette

- 0.01% Methyl Orange Indicator

Procedure:

1) Beaker was filled up to 500mL with sample in liquid phase
2) Added 0.1M HCL to burette right above volumetric flask
3) Added 2 drops/25 mL Solution (40 drops) of methyl orange indicator to flask before beginning titration
4) Measured initial pH of sample prior to titration using pH probe
5) Inserted HCL acid into solution, recording new pH value at each interval
6) Continued titrating until endpoint was reached (color changed from orange to pink)
7) Recorded final pH value at endpoint
8) Developed complete titration curve for each sample, plotting pH against mL acid added
9) Using titration data, calculated total alkalinity of tested sample

Alkalinity Calculation:

***Taken from American Standard Methods for the Examination of Water and Wastewater (American Public Health Association, 1999)

$$\text{Alkalinity, mg CacO3/L} = (A \times N \times 50000)/\text{mL sample}$$

A = mL acid used

N= Normality of acid (0.1)

Alkalinity = mL acid used x 50000 x 0.1/500 = **mL acid used x 10**

Results:

Task 1

IW-19	
Weight of wet sample + dish	94.65g
Weight of dry sample + dish	88.98g
Weight of dry sample + dish after ignition	47.22g
weight of dish	44.64g
Amount of solid left after ignition:	2.58g

Table 1. Measured weight of IW-19 sample during each stage of testing

Moisture Content = 5.99%

Volatile Solids =94.18%

Ash = 5.82%

Fig. 1. IW-19 Precipitate pictures before heating, after heating, and after volatilization (left to right)

IW-13B	
Weight of wet sample + dish	55.17g
Weight of dry sample + dish	49.9g
Weight of dry sample + dish after ignition	41.17g
weight of dish	40.61g
Amount of solid left after ignition:	0.56g

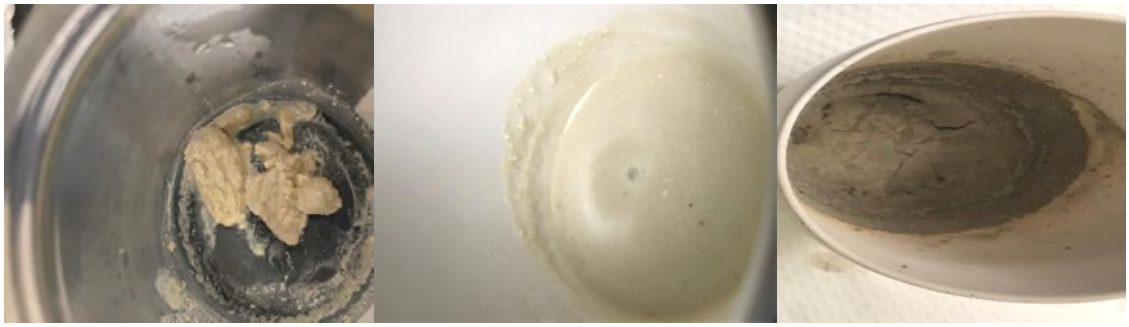
Table 2. Measured weight of IW-13B sample during each stage of testing

Moisture Content = 9.55%

Volatile Solids =93.97%

Ash = 6.03%

Fig. 2. IW-13B Precipitate pictures before heating, after heating, and after volatilization (left to right)



IW-06A	
Weight of wet sample + dish	69.65g
Weight of dry sample + dish	64.44g
Weight of dry sample + dish after ignition	57.96g
weight of dish	44.64g
Amount of solid left after ignition:	13.32g

Table 3. Measured weight of IW-06A sample during each stage of testing

Moisture Content = 7.48%

Volatile Solids =32.73%

Ash = 67.27%

Fig. 3. IW-06A Precipitate pictures before heating, after heating, and after volatilization (left to right)

IW-02A	
Weight of wet sample + dish	48.46g
Weight of dry sample + dish	43.14g
Weight of dry sample + dish after ignition	42.31g
weight of dish	40.88g
Amount of solid left after ignition:	1.43g

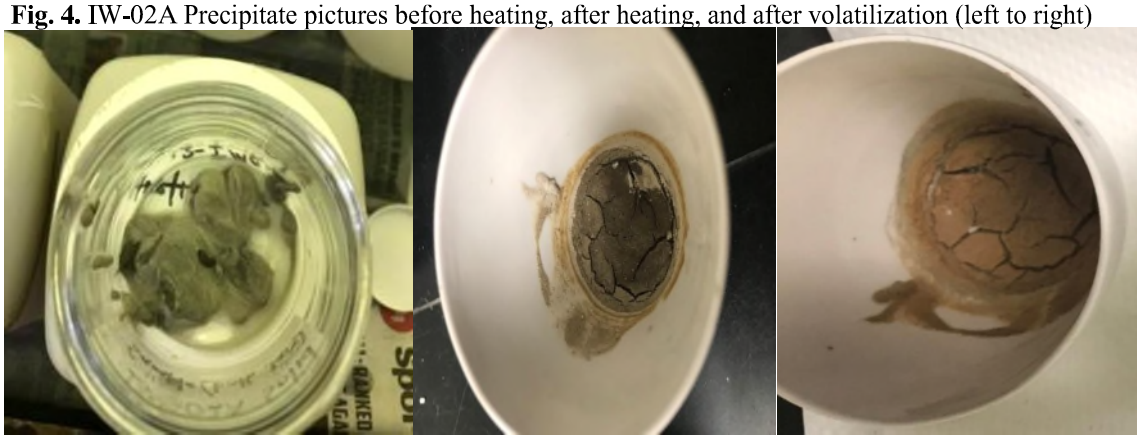
Table 4. Measured weight of IW-02A sample during each stage of testing

Moisture Content = 10.98%

Volatile Solids =36.73%

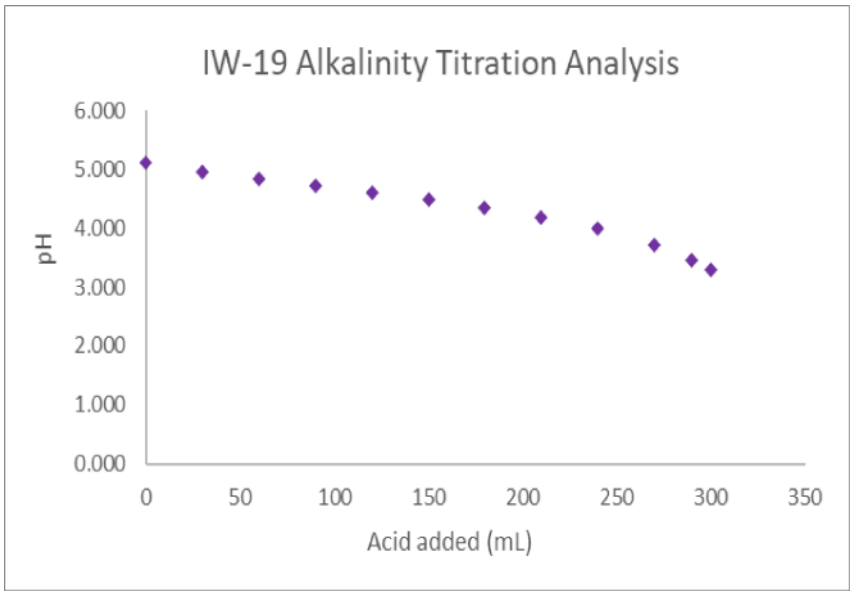
Ash = 63.27%

Fig. 4. IW-02A Precipitate pictures before heating, after heating, and after volatilization (left to right)



Task 2

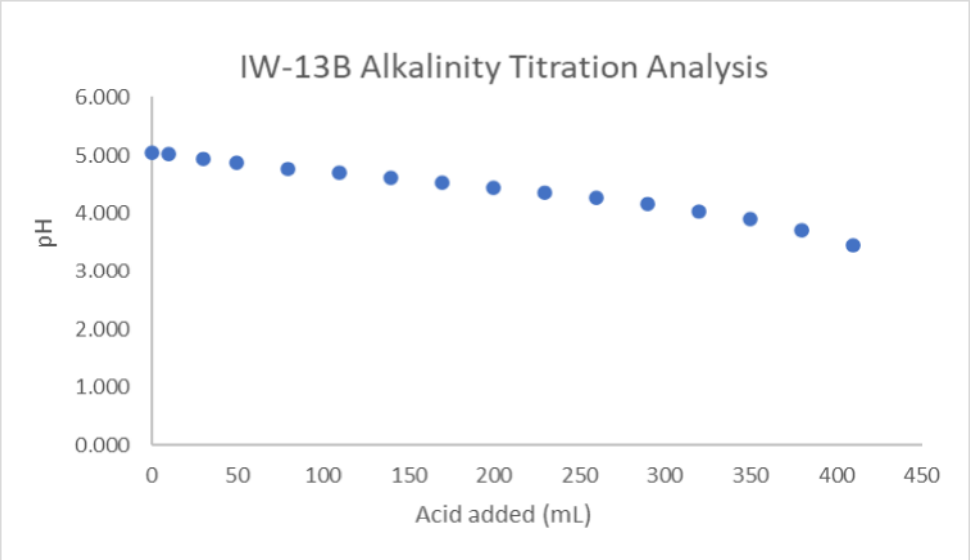
Table 5; Figure 5 Titration data and curve for IW-19 GW sample



IW-19	
mL acid added	pH
0	5.111
30	4.952
60	4.839
90	4.714
120	4.609
150	4.488
180	4.353
210	4.192
240	4.001
270	3.724
290	3.453
300	3.290

Total Alkalinity = 3.0g $CaCO_3$/L

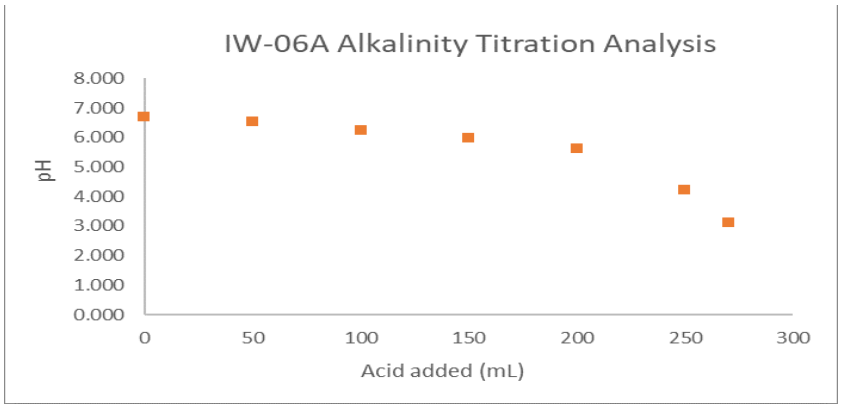
Table 6; Figure 6 Titration data and curve for IW-13B GW sample



IW-13B	
mL acid added	pH
0	5.039
10	5.011
30	4.925
50	4.862
80	4.766
110	4.697
140	4.609
170	4.529
200	4.443
230	4.360
260	4.264
290	4.158
320	4.045
350	3.900
380	3.720
410	3.452

Total Alkalinity = 4.1g $CaCO_3$/L

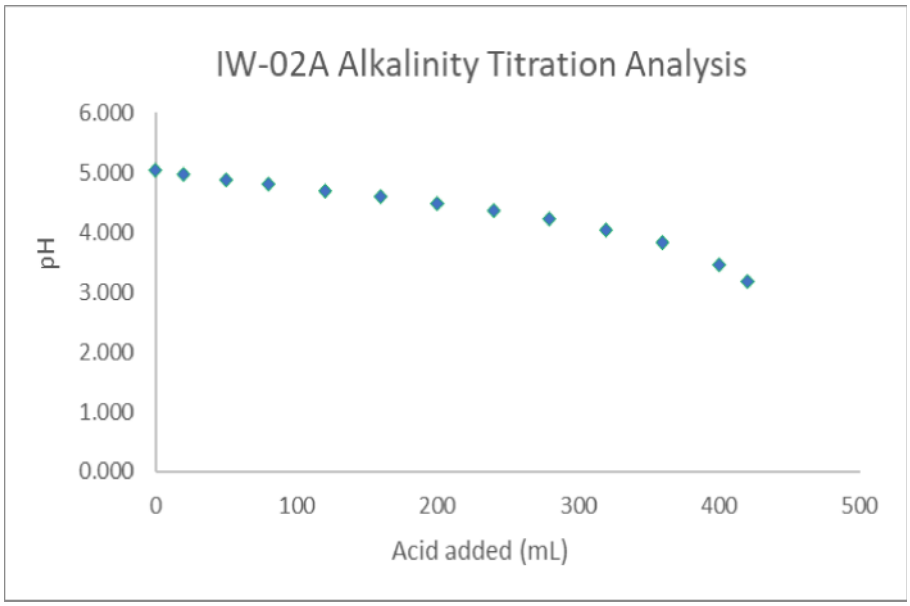
Table 7; Figure 7 Titration data and curve for IW-06A GW sample



IW-06A	
mL acid added	pH
0	6.695
50	6.538
100	6.249
150	5.991
200	5.626
250	4.232
270	3.104

Total Alkalinity = 2.7g $CaCO_3$/L

Table 8; Figure 8 Titration data and curve for IW-02A GW sample



IW-02A	
mL acid added	**pH**
0	5.053
20	4.970
50	4.879
80	4.806
120	4.701
160	4.601
200	4.483
240	4.368
280	4.220
320	4.055
360	3.834
400	3.462
420	3.190

Total Alkalinity = 4.2g $CaCO_3$/L

Task 3: based on the limited amount of ash residue post heating, ash residues were analyzed for metals (Al, Fe, K, Mn, Na, Ca, Mg and S). The results are attached.

Task 4: The liquid phase for each sample was analyzed for TOC, TIC, chloride and sulfate. The results are attached. Testing for TKN was not successful. The oil content in the liquid samples was impacting the instrument and causing peak identification issues. Diluting the samples did not help.

Task 5: The liquid phase for each sample was analyzed for carbohydrates, fat and protein. The results are attached.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (800) 220-3675 /
http://www.EMSL.com foodchemlab@EMSL.com

EMSL Order: 211901871
CustomerID: SESC34
CustomerPO:
ProjectID:

Attn: **Amine Dahmani**
SESI Consulting Engineers
12-A Maple Avenue
Pine Brook, NJ 07058

Phone: (973) 808-9050
Fax: (973) 808-9099
Received: 11/08/19 9:30 AM

Project: **#10933**

Analytical Results

Client Sample Description IW-13B ***Serving Size:*** N/A ***Lab ID:*** *211901871-0001*

Method	*Parameter*	*Result*	*LOQ*	*Units*	*Analysis Date*	*Analyst*
21 CFR Part 101	Total Carbohydrates (calculation)	0.35	0.1	g/100g	11/19/2019	RM
AOAC 923.03	Ash	0.59	N/A	g/100g	11/18/2019	SE
AOAC 925.09	Moisture	99.1	0.1	g/100g	11/18/2019	JD
AOAC 963.15	Total Fat (acid hydrolysis)	ND	0.35	g/100g	11/15/2019	SB
AOAC 992.15	Protein	ND	0.1	g/100g	11/19/2019	RM

Client Sample Description IW-19 ***Serving Size:*** N/A ***Lab ID:*** *211901871-0002*

Method	*Parameter*	*Result*	*LOQ*	*Units*	*Analysis Date*	*Analyst*
21 CFR Part 101	Total Carbohydrates (calculation)	0.20	0.1	g/100g	11/19/2019	RM
AOAC 923.03	Ash	0.55	N/A	g/100g	11/18/2019	SE
AOAC 925.09	Moisture	99.3	0.1	g/100g	11/18/2019	JD
AOAC 963.15	Total Fat (acid hydrolysis)	ND	0.35	g/100g	11/15/2019	SB
AOAC 992.15	Protein	ND	0.1	g/100g	11/19/2019	RM

Client Sample Description IW-02A ***Serving Size:*** N/A ***Lab ID:*** *211901871-0003*

Method	*Parameter*	*Result*	*LOQ*	*Units*	*Analysis Date*	*Analyst*
21 CFR Part 101	Total Carbohydrates (calculation)	ND	0.1	g/100g	11/19/2019	RM
AOAC 923.03	Ash	0.50	N/A	g/100g	11/18/2019	SE
AOAC 925.09	Moisture	99.1	0.1	g/100g	11/18/2019	JD
AOAC 963.15	Total Fat (acid hydrolysis)	0.53	0.35	g/100g	11/15/2019	SB
AOAC 992.15	Protein	ND	0.1	g/100g	11/19/2019	RM

Client Sample Description IW-06A ***Serving Size:*** N/A ***Lab ID:*** *211901871-0004*

Method	*Parameter*	*Result*	*LOQ*	*Units*	*Analysis Date*	*Analyst*
21 CFR Part 101	Total Carbohydrates (calculation)	ND	0.1	g/100g	11/19/2019	RM
AOAC 923.03	Ash	0.29	N/A	g/100g	11/18/2019	SE
AOAC 925.09	Moisture	99.6	0.1	g/100g	11/18/2019	JD
AOAC 963.15	Total Fat (acid hydrolysis)	ND	0.35	g/100g	11/15/2019	SB
AOAC 992.15	Protein	ND	0.1	g/100g	11/19/2019	RM

Definitions: ND - indicates that the analyte was not detected at the Limit of Quantitation
LOQ - Limit of Quantitation

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EMSL Order:	211901871
CustomerID:	SESC34
CustomerPO:	
ProjectID:	

ACCREDITED
Chemical Testing
CERTIFICATE # 2845.15

Reviewed and Approved By:

Ryan McKenna, Food Chemistry Laboratory Supervisor

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Food Division
Chain of Custody

EMSL Order Number (*Lab Use Only*): 211901871

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Report To Contact Name: Amine Dahmani			**Email Results To:** ad@SESI.org
Company Name: SESI Consulting Engineers			**Project Name:** # 10933 **PO #:**
Street: 12A Maple Avenue			**Turnaround Time (TAT) Options* - Please check one**
City: Pine Brook	**State:** NJ	**Zip/Postal Code:** 07058	☐ 1 day ☐ 2 days ☐ 3 days ☐ 4 days ☒ 1 week ☐ 2 weeks
Phone: 860-942-2881	**Fax:** 973-808-9099		*Rush charges will apply. No TAT needed for **Food Microbiology** analyses; will receive Standard
Number of Samples in Shipment: 4	**Date of Shipment:**		**Sampled By (Signature):** Amine Dahmani

Client Sample ID/ Description	Collect Date/Time	Matrix (S=Sponge F=Food W=Water A=Air O= Other)	List Test(s) Needed: See Test Codes on following pages: Total Crude Fat (Acid Hydrolysis)	Total Carbohydrates	Protein Combustion	Comments (Limit of Detection - LOD, Specific Instructions, Expected Values, Product Spec., Turnaround Time)
IW-13B		W	✓	✓	✓	- Groundwater
IW-19		W	✓	✓	✓	- 1-week TAT
IW-02A		W	✓	✓	✓	
IW-06A		W	✓	✓	✓	

Released By (Client Signature)	Date & Time	Received By	Date & Time
[signature]	11/6/19	DH UPS	11/8/19 9:30AM

Lab Received Temperature (°C): 11.4°C

Lab Instructions or Comments: total Crude Fat (Acid hydrolysis); total Carbohydrates; Protein Combustion

OrderID: 211901871

IW-19 10/8/19

Weight of wet sample + dish	94.65	g	**Moisture Content =**	**5.99 %**
Weight of dry sample + dish	88.98	g	**Volatile Solids =**	**94.18 %**
Weight of dry sample + dish after ignitio	47.22	g	**Ash =**	**5.82 %**
weight of dish	44.64	g		
Amount of solid left after ignition:	2.58	g		
Amount of solids recovered for lab testin	2.4	g		

IW-13B 10/24/19

Weight of wet sample + dish	55.17	g	**Moisture Content =**	**9.55 %**
Weight of dry sample + dish	49.9	g	**Volatile Solids =**	**93.97 %**
Weight of dry sample + dish after ignitio	41.17	g	**Ash =**	**6.03 %**
weight of dish	40.61	g		
Amount of solid left after ignition:	0.56	g		
Amount of solids recovered for lab testin	0.53	g		

IW-06A 10/24/19

Weight of wet sample + dish	69.65	g	**Moisture Content =**	**7.48 %**
Weight of dry sample + dish	64.44	g	**Volatile Solids =**	**32.73 %**
Weight of dry sample + dish after ignitio	57.96	g	**Ash =**	**67.27 %**
weight of dish	44.64	g		
Amount of solid left after ignition:	13.32	g		
Amount of solids recovered for lab testin	13.32	g		

IW-02A 10/24/19

Weight of wet sample + dish	48.46	g	**Moisture Content =**	**10.98 %**
Weight of dry sample + dish	43.14	g	**Volatile Solids =**	**36.73 %**
Weight of dry sample + dish after ignitio	42.31	g	**Ash =**	**63.27 %**
weight of dish	40.88	g		
Amount of solid left after ignition:	1.43	g		
Amount of solids recovered for lab testin	1.42	g		

University of Connecticut
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3107 Horsebarn Hill Road, U4210
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Fax # (860) 486-5488
Telephone # (860) 486-4015
Email: cesecustserv@uconn.edu
Analyst:Snieguole Stapanskaite

UCONN - CEE
Order # 190473
Matrix: liquid
Contact: A. Dahmani
Report Date: 11/18/19
Reported by: C. Perkins

Digestion Method #				**3050B**	**3050B**	**3050B**	**3050B**	**3050B**	**3050B**	**3050B**	**3050B**
EPA Analysis Method #				**6010C**	**6010C**	**6010C**	**6010C**	**6010C**	**6010C**	**6010C**	**6010C**
Metals	**WET WEIGHT**			**ICP-OES**	**ICP-OES**	**ICP-OES**	**ICP-OES**	**ICP-OES**	**ICP-OES**	**ICP-OES**	**ICP-OES**
Units				**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**	**µg/g**
Prep date				11/4/19	11/4/19	11/4/19	11/4/19	11/4/19	11/4/19	11/4/19	11/4/19
Analysis date				11/5/19	11/5/19	11/5/19	11/5/19	11/5/19	11/5/19	11/5/19	11/14/19
LIM #	**FIELD #**	**Collected**	**Received**	**Al**	**Fe**	**K**	**Mn**	**Na**	**Ca**	**Mg**	**S**
190473-002	**IW-13B-S**	**NA**	**10/31/19**	2163	19066	2567	335.3	20466	277975	8624	6256
190473-004	**IW-19-S**	**NA**	**10/31/19**	299.1	11764	1140	959.0	11067	306697	4113	5186
190473-006	**IW-02A-S**	**NA**	**10/31/19**	14274	46578	5896	1733	2975	39804	14735	1947
190473-008	**IW-06A-S**	**NA**	**10/31/19**	3963	12902	1411	324.6	811.7	100818	7547	3754
Average Practical Quantitation Limit (PQL) ug/g				15.6	15.6	15.6	15.6	15.6	15.6	15.6	31.3
Limit of Detection (LOD) ug/g				3.9	3.9	3.9	3.9	3.9	3.9	3.9	15.6

NSS = No Sample Sent **ND = Not Detected** **NA = Not Applicable**

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Telephone # (860) 486-4015
Email: cesecustserv@uconn.edu
Analyst: S. Kexel
Reported by: C. Perkins

UCONN-CEE
Order # 190473
Matrix: Liquid
Contact: A. Dahmani
Report Date: 11/15/19

Units			mg/L	mg/L	mg/L	mg/L
EPA Method #			415.1	415.1	300.0	300.0
Practical Quantitation Limit (PQL)			1.0	1.0	2.5	2.5
Method Detection Limit (MDL)			0.5	0.5	0.4	0.2
Analysis date			11/1/19	11/1/19	10/31/19	10/31/19
Nutrients		**Received**				
LIM #	**FIELD #**	**Date**	**TOC**	**TIC**	**SO4**	**Cl**
190473-001	IW-13B	10/31/2019	2119.0	31.1	**469.7**	**869.7**
190473-003	IW-19	10/31/2019	1953.0	48.5	**702.3**	**896.3**
190473-005	IW-02A	10/31/2019	2236.0	43.8	*2.2*	**742.8**
190473-007	IW-06A	10/31/2019	707.6	606.4	**3.0**	**801.9**

Italicized are between the MDL and PQL and are to be used as a reference only
Unable to analyze for NH3, Nox, and TN due to interference with sample matrix.

Appendix D
Pre- and Post- Maintenance Aquifer Testing

TETRA TECH

TECHNICAL MEMORANDUM

To:	**Dana Grady and Ronnie Britto, Tetra Tech**
Cc:	
From:	Sonya Cadle, Audrey Crockett, Ellyn Swenson, and Jenny Dabbs, Tetra Tech
Date:	April 2, 2020
Subject:	Pre- and Post-Maintenance Aquifer Testing Seep Well Field Area Bioremediation Treatability Study

1.0 INTRODUCTION

This technical memorandum presents the results of the aquifer testing performed as part of the hydrogeological evaluation and injection well maintenance for the Seep Well Field (SWF) Area Bioremediation Treatability Study conducted by Tetra Tech, Inc. (Tetra Tech) on behalf of the Nevada Environmental Response Trust (NERT or Trust).

The locations of the monitoring and injection wells are shown in ***Figure D.1***. The treatability study involves remediation of groundwater contaminants by injection of carbon substrate solution designed to encourage the development of an environment favorable for in-situ bioremediation (ISB) of perchlorate migrating into the Las Vegas Wash downgradient of the NERT Site. The objectives and methods of the treatability study are described in the *Final Seep Well Field Area Bioremediation Treatability Study Work Plan* (Tetra Tech, 2016), and in the subsequent *Treatability/Pilot Study Modification No. 6 – Seep Well Field Area Bioremediation Treatability Study* (Modification No. 6) (Tetra Tech, 2018). Aquifer testing associated with well maintenance consisted of a series of pre- and post-maintenance step-drawdown tests. The objective of step-drawdown testing was to measure the impact of well maintenance on the specific capacity of the injection wells. Injection of the carbon substrate has the potential to decrease specific capacity by reducing the effective open area of the screen due to bacterial growth.

2.0 PROCEDURES

Well maintenance was performed on injection wells SWFTS-IW02A, SWFTS-IW06A, SWFTS-IW06B, SWFTS-IW09, SWFTS-IW10, SWFTS-IW11, SWFTS-IW13B, SWFTS-IW18, and SWFTS-IW19. Detailed descriptions of the well maintenance are included in the main report text. Pre-maintenance step-drawdown testing was performed September 18 – 20, 2019, on all wells scheduled for maintenance, except SWFTS-IW13B. The well screen on SWFTS-IW13B had a higher amount of biomass and precipitates than the other injection wells, so it

Tetra Tech, Inc.
150 S. 4th Street, Unit A, Henderson, NV 89015
Tel 702.854.2293 tetratech.com

was not possible to conduct a pre-maintenance step-drawdown test on that well. Post-maintenance step-drawdown testing was performed September 24 – 30 on all wells that had received maintenance.

Step-drawdown tests consisted of monitoring water level displacement caused by pumping at a series of increasing pumping rates. Water level displacement was measured using an In-Situ Rugged TROLL 100 pressure transducer programmed to collect data at one-second time intervals. Pumping rates were selected based on the amount of drawdown that could be induced without drawing down the water level below the pump intake. For most pre-maintenance tests, the pump could not be set very deep due to partial blockage of the well, so selected pumping rates were small, and the number of steps was reduced. For many wells, especially during the pre-maintenance testing, only one step could be completed due to excessive drawdown under pumping pressure.

Since drawdown in the wells did not stabilize during the step(s), typical methods of step and pumping test analysis could not be applied. Instead, specific capacity was calculated using drawdown at a selected time after the start of pumping to enable comparison between pre- and post-maintenance test results. Specific capacity is a measure of well efficiency calculated by dividing the pumping rate by drawdown in the well (Fetter, 2001). It was expected that if well maintenance improved the well efficiency, specific capacity would be greater after well maintenance.

The step-drawdown test data were downloaded from the transducer, and the water level displacement was calculated from the downloaded data. Times at which to calculate the specific capacity were chosen based on the length of time pumping continued in the shorter test; generally, the time chosen represented the time just before the pump was turned off during the pre-maintenance test. ***Table D.1*** summarizes the results of the step-drawdown test analysis.

3.0 RESULTS

Many factors can affect step-drawdown test results. All the pre-maintenance step tests presented here were affected by rapid drawdown to the pump intake, preventing the completion of at least some of the steps. An alternate analysis method was chosen to mitigate the impact of the rapid drawdown on the analysis and allow comparison of the pre- and post-maintenance tests.

The post-maintenance specific capacity was greater than the pre-maintenance specific capacity for all wells tested (***Table 1***). Post-maintenance, the wells were able to sustain higher pumping rates for longer times without inducing drawdown to the pump intake. These results indicate that well maintenance was successful in improving the efficiency of the wells.

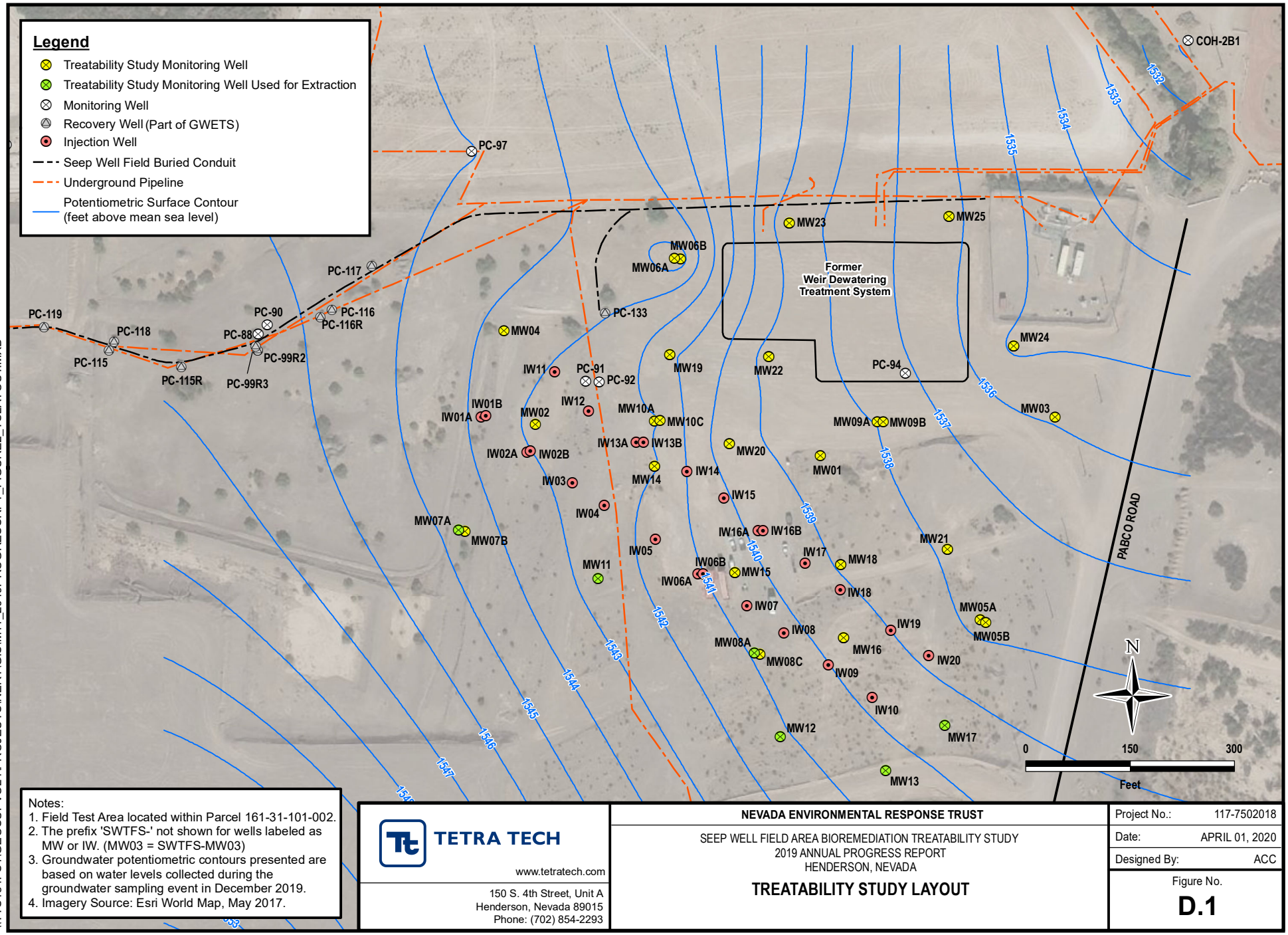
4.0 REFERENCES

Fetter, C.W., 2001. *Applied Hydrogeology*. 4th ed. Upper Saddle River, NJ: Prentice Hall.

Tetra Tech, 2016. *Final Seep Well Field Area Bioremediation Treatability Study Work Plan, Nevada Environmental Response Trust Site, Henderson, Nevada*. May 31.

Tetra Tech. (2018). *Treatability/Pilot Study Modification No. 6 – Seep Well Field Area Bioremediation Treatability Study, Nevada Environmental Response Trust, Henderson, Nevada.* December 11.

Figures



Notes:
1. Field Test Area located within Parcel 161-31-101-002.
2. The prefix 'SWTFS-' not shown for wells labeled as MW or IW. (MW03 = SWTFS-MW03)
3. Groundwater potentiometric contours presented are based on water levels collected during the groundwater sampling event in December 2019.
4. Imagery Source: Esri World Map, May 2017.

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NEVADA ENVIRONMENTAL RESPONSE TRUST

SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

TREATABILITY STUDY LAYOUT

Project No.:	117-7502018
Date:	APRIL 01, 2020
Designed By:	ACC

Figure No.
D.1

\\TTS134FS1\GEOSUPVOL1\PROJECTS\NERT\GIS\M11_2019PROGRESSRPT_FIGURE2_TSLAYOUT.MXD

Tables

Table D.1
Step-Drawdown Testing Results Summary - NERT M11 Mainteance
Seep Well Field Area Bioremediation Treatability Study

Well Identification	Pre-Maintenance				Post-Maintentance				Selected Time for Drawdown
	Date	Pumping Rate (gpm)	Drawdown (ft)	Specific Capacity (gpm/ft)	Date	Pumping Rate (gpm)	Drawdown (ft)	Specific Capacity (gpm/ft)	
SWFTS-IW02A	9/19/2019	0.25	5.45	0.046	9/25/2019	0.25	3.7	0.068	Drawdown for pre- and post-maintenance pumping tests listed for the time 480 seconds after pumping started
SWFTS-IW06A	9/19/2019	0.25	5.37	0.047	9/27/2019	0.25	4.4	0.057	Drawdown for pre- and post-maintenance pumping tests listed for the time 180 seconds after pumping started
SWFTS-IW06B	9/20/2019	0.29	12.42	0.023	9/30/2019	0.25	7.9	0.032	Drawdown for pre- and post-maintenance pumping tests listed for the time 420 seconds after pumping started
SWFTS-IW09	9/20/2019	0.22	7.83	0.029	9/26/2019	0.25	6.8	0.037	Drawdown for pre- and post-maintenance pumping tests listed for the time 360 seconds after pumping started
SWFTS-IW10	9/19/2019	0.20	7.46	0.027	9/30/2019	0.25	8.9	0.028	Drawdown for pre- and post-maintenance pumping tests listed for the time 300 seconds after pumping started
SWFTS-IW11	9/19/2019	0.25	2.56	0.098	9/24/2019	0.25	0.9	0.272	Drawdown for pre- and post-maintenance pumping tests listed for the time 240 seconds after pumping started
SWFTS-IW13B[1]					9/30/2019	0.25	14.2	0.018	
SWFTS-IW18	9/18/2019	0.14	1.01	0.139	9/30/2019	0.25	0.7	0.361	Drawdown for pre- and post-maintenance pumping tests listed for the time 15 seconds after pumping started
SWFTS-IW19	9/19/2019	0.38	15.21	0.025	9/25/2019	0.25	6.0	0.042	Drawdown for pre- and post-maintenance pumping tests listed for the time 300 seconds after pumping started

Notes

1. The pre-maintenance test could not be performed as the well screen had a higher amount of biomass and precipitates, which needed to be cleaned before testing could be performed.

Appendix E
Groundwater Sampling Field Logs

Table E.1 - Well Construction Details

Seep Well Field Area Bioremediation Treatability Study

Monitoring Well/Borehole ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water[1]	Nominal Screen Length	Slot Size	Filter Pack Gradation	Well Diameter	Borehole Diameter	Borehole Total Depth	Well Total Depth	Bottom of Screen	Top of Screen
				feet amsl	feet amsl	feet bTOC	feet	inches		inches	inches	feet bgs	feet bgs	feet bgs	feet bgs
Pre-Design Soil Boring and Monitoring Well Installation (February-March 2017)															
SWFTS-BH01	-	26732831.60	831699.18	1556.73	-	-	-	-	-	-	6	43.0	-	-	-
SWFTS-BH02	-	26732742.32	831885.75	1562.47	-	-	-	-	-	-	8	50.0	-	-	-
SWFTS-BH03	-	26732633.19	832210.82	1562.75	-	-	-	-	-	-	6	54.0	-	-	-
SWFTS-BH04	-	26732816.71	832065.23	1554.68	-	-	-	-	-	-	6	45.0	-	-	-
SWFTS-BH05	-	26732859.98	832182.99	1553.48	-	-	-	-	-	-	6	40.0	-	-	-
SWFTS-BH06	-	26732914.77	832076.76	1554.08	-	-	-	-	-	-	6	15.0	-	-	-
SWFTS-BH07	-	26732976.44	831954.58	1551.37	-	-	-	-	-	-	6	45.0	-	-	-
SWFTS-BH08	-	26733066.02	832060.99	1550.79	-	-	-	-	-	-	8	53.0	-	-	-
SWFTS-BH09	-	26733156.54	832268.66	1546.93	-	-	-	-	-	-	6	37.0	-	-	-
SWFTS-BH10	-	26733223.18	832077.72	1548.28	-	-	-	-	-	-	6	52.0	-	-	-
SWFTS-MW01	Alluvium	26733003.73	832067.12	1552.68	1552.39	15.25	15	0.020	#3	2	6	43.0	39.4	38.9	24.2
SWFTS-MW02	Alluvium	26733048.86	831657.82	1553.90	1553.63	13.80	15	0.020	#3	2	6	41.0	33.5	33.1	18.4
SWFTS-MW03	Alluvium	26733059.49	832404.39	1549.26	1549.02	14.15	15	0.020	#3	2	6	60.0	42.2	42.1	27.2
SWFTS-MW04	Alluvium	26733183.35	831612.29	1552.16	1551.82	11.15	15	0.020	#3	2	6	45.0	40.9	40.4	25.8
SWFTS-MW05A	Alluvium	26732768.53	832296.89	1555.41	1554.91	18.35	10	0.020	#3	2	6	30.0	29.4	29.3	19.3
SWFTS-MW05B	Alluvium	26732764.09	832304.67	1555.41	1554.86	18.28	10	0.020	#3	2	6	44.0	42.5	42.0	32.3
SWFTS-MW06A	Alluvium	26733287.15	831857.05	1548.86	1548.41	6.43	10	0.020	#3	2	6	22.5	21.9	21.4	11.8
SWFTS-MW06B	Alluvium	26733286.65	831865.75	1549.03	1548.59	6.70	10	0.020	#3	2	6	40.0	36.0	35.5	25.9
SWFTS-MW07A	Alluvium	26732895.65	831555.99	1555.90	1555.64	14.25	15	0.020	#3	4	8	30.5	30.1	29.5	15.0
SWFTS-MW07B	Alluvium	26732897.49	831547.35	1555.90	1555.53	13.95	5	0.020	#3	2	6	55.0	38.9	38.3	33.8
SWFTS-MW08A	Alluvium	26732720.57	831972.55	1556.50	1556.03	17.26	15	0.020	#3	4	8	36.0	35.3	34.8	20.2
SWFTS-MW08C	UMCf	26732718.60	831980.38	1556.56	1556.18	18.34	20	0.020	#3	2	6	70.2	70.0	69.5	49.9
SWFTS-MW09A	Alluvium	26733052.94	832148.65	1551.61	1551.16	14.50	10	0.020	#3	4	8	30.0	29.4	28.9	19.3
SWFTS-MW09B	Alluvium	26733052.55	832157.19	1551.74	1551.27	14.60	5	0.020	#3	2	6	55.5	39.5	39.0	34.4
SWFTS-MW10A	Alluvium	26733054.00	831828.76	1551.92	1551.61	12.23	15	0.020	#3	4	8	36.0	35.5	35.0	20.4
SWFTS-MW10C	UMCf	26733054.15	831836.75	1551.85	1551.61	9.99	20	0.020	#3	2	6	64.0	63.6	63.1	43.5
Injection and Monitoring Well Network Installation (May-July 2017)															
SWFTS-IW01A	Alluvium	26733059.73	831579.19	1553.61	1553.32	13.00	10	0.020	#3	2	8	27.0	26.0	25.6	15.8
SWFTS-IW01B	Alluvium	26733061.20	831585.84	1553.49	1553.07	13.06	10	0.020	#3	2	8	39.0	37.1	36.7	26.9
SWFTS-IW02A	Alluvium	26733009.17	831645.08	1554.49	1554.08	14.23	10	0.020	#3	2	8	29.0	27.0	26.6	16.8
SWFTS-IW02B	Alluvium	26733010.07	831650.33	1554.42	1554.13	14.27	10	0.020	#3	2	8	37.0	36.5	36.1	26.3
SWFTS-IW03	Alluvium	26732964.70	831711.03	1554.71	1554.46	14.80	20	0.020	#3	2	8	38.0	37.0	36.6	16.8
SWFTS-IW04	Alluvium	26732932.97	831756.77	1554.45	1554.04	14.46	15	0.020	#3	2	8	36.5	35.0	34.6	19.8
SWFTS-IW05	Alluvium	26732883.80	831829.89	1552.17	1551.91	12.68	20	0.020	#3	2	8	35.5	34.8	34.4	14.6
SWFTS-IW06A	Alluvium	26732833.83	831891.31	1553.09	1552.79	14.15	10	0.020	#3	2	8	29.0	27.0	26.6	16.8
SWFTS-IW06B	Alluvium	26732834.30	831898.57	1552.81	1552.47	13.85	5	0.020	#3	2	8	35.0	34.0	33.6	28.8
SWFTS-IW07	Alluvium	26732787.99	831961.16	1554.76	1554.48	16.00	20	0.020	#3	2	8	38.0	37.5	37.1	17.3
SWFTS-IW08	Alluvium	26732749.42	832014.32	1557.84	1557.47	19.60	20	0.020	#3	2	8	39.0	37.7	37.3	17.5
SWFTS-IW09	Alluvium	26732702.88	832078.62	1562.81	1562.59	24.38	20	0.020	#3	2	8	47.4	46.8	46.4	26.6
SWFTS-IW10	Alluvium	26732656.78	832141.67	1562.43	1561.95	23.84	20	0.020	#3	2	8	47.6	47.0	46.6	26.8

Table E.1 - Well Construction Details
Seep Well Field Area Bioremediation Treatability Study

Monitoring Well/Borehole ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water[1]	Nominal Screen Length	Slot Size	Filter Pack Gradation	Well Diameter	Borehole Diameter	Borehole Total Depth	Well Total Depth	Bottom of Screen	Top of Screen
				feet amsl	feet amsl	feet bTOC	feet	inches		inches	inches	feet bgs	feet bgs	feet bgs	feet bgs
SWFTS-IW11	Alluvium	26733124.81	831685.02	1552.61	1552.31	12.45	20	0.020	#3	2	8	39.0	37.5	37.1	17.3
SWFTS-IW12	Alluvium	26733067.66	831734.08	1552.94	1552.70	13.10	25	0.020	#3	2	8	41.0	39.5	39.1	14.3
SWFTS-IW13A	Alluvium	26733022.97	831802.64	1552.73	1552.38	13.03	10	0.020	#3	2	8	28.0	26.0	25.6	15.8
SWFTS-IW13B	Alluvium	26733022.94	831812.84	1552.42	1552.12	12.75	10	0.020	#3	2	8	38.8	38.0	37.6	27.8
SWFTS-IW14	Alluvium	26732981.31	831875.23	1551.69	1551.36	12.65	20	0.020	#3	2	8	37.0	36.5	36.1	16.2
SWFTS-IW15	Alluvium	26732942.89	831928.63	1551.17	1550.76	12.66	20	0.020	#3	2	8	37.0	36.6	36.2	16.4
SWFTS-IW16A	Alluvium	26732896.44	831977.77	1553.06	1552.72	14.77	10	0.020	#3	2	8	29.3	27.5	27.1	17.3
SWFTS-IW16B	Alluvium	26732895.94	831984.74	1552.88	1552.43	14.50	10	0.020	#3	2	8	37.0	36.7	36.3	26.5
SWFTS-IW17	Alluvium	26732849.16	832045.01	1554.57	1554.01	16.22	20	0.020	#3	2	8	38.0	37.5	37.1	17.3
SWFTS-IW18	Alluvium	26732811.24	832095.47	1555.71	1555.47	17.84	20	0.020	#3	2	8	39.0	38.5	38.1	18.1
SWFTS-IW19	Alluvium	26732753.36	832168.69	1560.08	1560.06	22.55	20	0.020	#3	2	8	45.0	44.5	44.1	24.3
SWFTS-IW20	Alluvium	26732716.42	832222.65	1563.11	1562.85	25.30	20	0.020	#3	2	8	52.0	51.0	50.6	30.8
SWFTS-MW11	Alluvium	26732827.46	831747.30	1558.68	1558.10	18.44	25	0.020	#3	4	10	41.7	40.0	39.6	14.8
SWFTS-MW12	Alluvium	26732600.73	832009.72	1559.00	1558.66	19.65	25	0.020	#3	4	10	44.0	41.0	40.6	15.8
SWFTS-MW13	Alluvium	26732551.81	832161.20	1563.57	1563.20	24.65	30	0.020	#3	4	10	50.0	48.0	47.6	17.8
SWFTS-MW14	Alluvium	26732989.39	831828.48	1552.20	1551.89	12.52	20	0.020	#3	2	8	38.4	37.0	36.6	16.8
SWFTS-MW15	Alluvium	26732836.67	831944.36	1553.64	1553.34	15.00	20	0.020	#3	2	8	36.5	35.0	34.6	14.8
SWFTS-MW16	Alluvium	26732742.78	832100.29	1561.83	1561.45	23.50	20	0.020	#3	2	8	44.3	42.0	41.6	21.8
SWFTS-MW17	Alluvium	26732616.54	832245.85	1565.87	1565.56	27.53	30	0.020	#3	4	10	54.5	53.0	52.6	22.8
SWFTS-MW18	Alluvium	26732847.58	832096.15	1554.59	1554.03	16.55	20	0.020	#3	2	8	38.0	37.0	36.6	16.8
SWFTS-MW19	Alluvium	26733148.90	831850.68	1550.57	1550.37	11.48	20	0.020	#3	2	8	33.0	31.5	31.1	11.3
SWFTS-MW20	Alluvium	26733020.92	831936.43	1551.63	1551.22	13.62	25	0.020	#3	2	8	39.0	38.0	37.6	12.8
SWFTS-MW21	Alluvium	26732869.95	832249.88	1553.56	1553.30	16.60	25	0.020	#3	2	8	41.0	40.0	39.6	14.8
SWFTS-MW22	Alluvium	26733146.27	831993.33	1549.55	1549.15	12.82	20	0.020	#3	2	8	33.0	32.0	31.6	11.8
SWFTS-MW23	Alluvium	26733338.19	832022.56	1547.58	1550.16	13.38	20	0.020	#3	2	8	36.8	34.0	33.6	13.8
SWFTS-MW24	Alluvium	26733161.74	832345.44	1547.78	1547.49	13.86	25	0.020	#3	2	8	39.0	38.0	37.6	12.8
SWFTS-MW25	Alluvium	26733347.67	832252.13	1546.73	1546.37	11.20	30	0.020	#3	2	8	44.0	43.0	42.6	12.8

Notes:
amsl - above mean sea level
bTOC - below top of casing
bgs - below ground surface
UMCf - Upper Muddy Creek Formation
1. Baseline depth to water measurements were collected in July 2017.

Table E.2 - Depth to Water Measurements
Seep Well Field Area Bioremediation Treatability Study

Well Location	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation[1]	Well Diameter	Well Total Depth	Top of Screen	Bottom of Screen	EM16 December 19, 2018 Synoptic		EM17 February 25, 2019 Synoptic		EM18 April 8, 2019 Synoptic		EM19 May 20, 2019 Synoptic	
									Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
			feet amsl	feet amsl	inches	feet bgs	feet bgs	feet bgs	feet bTOC	feet amsl	feet bTOC	feet amsl	feet bTOC	feet amsl	feet bTOC	feet amsl
COH-2B1	26733593.79	832598.56	1544.42	1547.08	2	67	36	66	16.44	1530.64	16.9	1530.18	17.11	1529.97	16.86	1530.22
PC-58	26732118.22	831123.70	1574.21	1576.54	2	33	7.8	32.8	20.2	1556.34	10.31	1566.23	21.62	1554.92	21.65	1554.89
PC-88	26733178.77	831259.14	1550.90	1550.83	2	50.5	40	50	5.84	1544.99	6.07	1544.76	6.66	1544.17	6.67	1544.16
PC-91	26733111.11	831729.78	1552.30	1552.17	2	22	11.5	21.5	10.45	1541.72	10.72	1541.45	11.2	1540.97	11.32	1540.85
PC-92	26733110.00	831748.84	1551.96	1551.83	2	37	26.5	36.5	10.06	1541.77	10.32	1541.51	10.79	1541.04	10.92	1540.91
PC-94[1]	26733122.74	832188.77	1550.08	1549.79	2	20	9.5	19.5					13.35[2]	1536.44	13.42	1536.37
				1549.89	2	20	9.5	19.5	12.94	1536.95	11.86	1538.03				
PC-97	26733441.67	831565.43	1548.88	1548.42	2	33.5	23	33	4.41	1544.01	4.68	1543.74	5.2	1543.22	5.21	1543.21
SWFTS-MW01	26733003.73	832067.12	1552.68	1552.39	2	39.4	24.2	38.9	14.2	1538.19	14.35	1538.04	14.72	1537.67	14.79	1537.6
SWFTS-MW02	26733048.86	831657.82	1553.90	1553.63	2	33.5	18.4	33.1	11.76	1541.87	12.03	1541.6	12.55	1541.08	12.7	1540.93
SWFTS-MW03	26733059.49	832404.39	1549.26	1549.02	2	42.2	27.2	42.1	13.27	1535.75	13.41	1535.61	13.75	1535.27	13.85	1535.17
SWFTS-MW04	26733183.35	831612.29	1552.16	1551.82	2	40.9	25.8	40.4	8.96	1542.86	9.37	1542.45	9.9	1541.92	10.01	1541.81
SWFTS-MW05A	26732768.53	832296.89	1555.41	1554.91	2	29.4	19.3	29.3	17.4	1537.51	17.54	1537.37	17.85	1537.06	18.85	1536.06
SWFTS-MW05B	26732764.09	832304.67	1555.41	1554.86	2	42.5	32.3	42	17.39	1537.47	17.52	1537.34	17.82	1537.04	17.9	1536.96
SWFTS-MW06A	26733287.15	831857.05	1548.86	1548.41	2	21.9	11.8	21.4	4.52	1543.89	4.98	1543.43	5.51	1542.9	5.57	1542.84
SWFTS-MW06B	26733286.65	831865.75	1549.03	1548.59	2	36	25.9	35.5	4.77	1543.82	5.22	1543.37	5.76	1542.83	5.79	1542.8
SWFTS-MW07A	26732895.65	831555.99	1555.90	1555.64	4	30.1	15	29.5	12.21	1543.43	12.44	1543.2	13	1542.64	13.2	1542.44
SWFTS-MW07B	26732897.49	831547.35	1555.90	1555.53	2	38.9	33.8	38.3	11.89	1543.64	12.13	1543.4	12.72	1542.81	12.85	1542.68
SWFTS-MW08A	26732720.57	831972.55	1556.50	1556.03	4	35.3	20.2	34.8	15.67	1540.36	15.71	1540.32	16.15	1539.88	16.35	1539.68
SWFTS-MW08C	26732718.60	831980.38	1556.56	1556.18	2	70	49.9	69.5	14.9	1541.28	14.03	1542.15	14.49	1541.69	14.9	1541.28
SWFTS-MW09A	26733052.94	832148.65	1551.61	1551.16	4	29.4	19.3	28.9	13.47	1537.69	13.63	1537.53	14	1537.16	14.04	1537.12
SWFTS-MW09B	26733052.55	832157.19	1551.74	1551.27	2	39.5	34.4	39	13.6	1537.67	13.76	1537.51	14.13	1537.14	14.16	1537.11
SWFTS-MW10A	26733054.00	831828.76	1551.92	1551.61	4	35.5	20.4	35	10.28	1541.33	10.53	1541.08	11.05	1540.56	11.1	1540.51
SWFTS-MW10C	26733054.15	831836.75	1551.85	1551.61	2	63.6	43.5	63.1	8.4	1543.21	8.54	1543.07	9.1	1542.51	9.19	1542.42
SWFTS-MW11	26732827.46	831747.30	1558.68	1558.1	4	40	14.8	39.6	16.44	1541.66	16.56	1541.54	17.1	1541	17.23	1540.87
SWFTS-MW12	26732600.73	832009.72	1559.00	1558.66	4	41	15.8	40.6	18.09	1540.57	18.15	1540.51	18.59	1540.07	18.56	1540.1
SWFTS-MW13	26732551.81	832161.20	1563.57	1563.2	4	48	17.8	47.6	23.27	1539.93	23.31	1539.89	23.7	1539.5	23.8	1539.4
SWFTS-MW14	26732989.39	831828.48	1552.20	1551.89	2	37	16.8	36.6	10.46	1541.43	10.66	1541.23	11.23	1540.66	11.3	1540.59
SWFTS-MW15	26732836.67	831944.36	1553.64	1553.34	2	35	14.8	34.6	13.53	1539.81	13.63	1539.71	14.11	1539.23	14.9	1538.44
SWFTS-MW16	26732742.78	832100.29	1561.83	1561.45	2	42	21.8	41.6	22.18	1539.27	22.26	1539.19	22.67	1538.78	23.74	1537.71
SWFTS-MW17	26732616.54	832245.85	1565.87	1565.56	4	53	22.8	52.6	26.27	1539.29	26.32	1539.24	26.68	1538.88	26.8	1538.76
SWFTS-MW18	26732847.58	832096.15	1554.59	1554.03	2	37	16.8	36.6	15.47	1538.56	15.6	1538.43	16	1538.03	16.1	1537.93
SWFTS-MW19	26733148.90	831850.68	1550.57	1550.37	2	31.5	11.3	31.1	9.93	1540.44	10.13	1540.24	10.61	1539.76	10.67	1539.7
SWFTS-MW20	26733020.92	831936.43	1551.63	1551.22	2	38	12.8	37.6	12.55	1538.67	12.69	1538.53	13.11	1538.11	13.18	1538.04
SWFTS-MW21	26732869.95	832249.88	1553.56	1553.3	2	40	14.8	39.6	15.65	1537.65	15.75	1537.55	16.11	1537.19	16.16	1537.14
SWFTS-MW22	26733146.27	831993.33	1549.55	1549.15	2	32	11.8	31.6	10.95	1538.2	11.1	1538.05	11.51[2]	1537.64	11.55	1537.6
SWFTS-MW23	26733338.19	832022.56	1547.58	1550.16	2	34	13.8	33.6	12.32	1537.84	12.47	1537.69	12.88	1537.28	12.95	1537.21
SWFTS-MW24	26733161.74	832345.44	1547.78	1547.49	2	38	12.8	37.6	12.83	1534.66	12.96	1534.53	13.31	1534.18	13.31	1534.18
SWFTS-MW25	26733347.67	832252.13	1546.73	1546.37	2	43	12.8	42.6	10.32	1536.05	10.48	1535.89	10.82	1535.55	10.85	1535.52

Notes

amsl	above mean sea level	NM	not measured
bgs	below ground surface	----	not installed/not developed
bTOC	below top of casing	n/a	not available

1. The surface completion of PC-94 was rebuilt during unrelated construction activities during the study and was resurveyed before and directly after rebuilding activities and thus has slightly different TOC elevations. Survey data and available well construction details shown for all other existing monitoring wells (COH-2B1 and PC-series) were periodically downloaded from Ramboll Cloud Database All Wells Table with final download on January 29, 2019.

2. Depth to water measured on April 11, 2019.

3. Depth to water measured on July 1, 2019.

4. Depth to water measured on July 13, 2017.

Table E.2 - Depth to Water Measurements
Seep Well Field Area Bioremediation Treatability Study

Well Location	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation[1]	Well Diameter	Well Total Depth	Top of Screen	Bottom of Screen	EM20 June 28, 2019 Synoptic		EM21 August 9, 2019 Synoptic		EM22 November 4, 2019 Synoptic		EM23 December 16, 2019 Synoptic	
									Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
			feet amsl	feet amsl	inches	feet bgs	feet bgs	feet bgs	feet bTOC	feet amsl	feet bTOC	feet amsl	feet bTOC	feet amsl	feet bTOC	feet amsl
COH-2B1	26733593.79	832598.56	1544.42	1547.08	2	67	36	66	16.66[3]	1530.42	16.73	1530.35	16.71	1530.37	16.52	1530.56
PC-58	26732118.22	831123.70	1574.21	1576.54	2	33	7.8	32.8	21.93	1554.61	21.85	1554.69	20.72	1555.82	17.45	1559.09
PC-88	26733178.77	831259.14	1550.90	1550.83	2	50.5	40	50	6.88	1543.95	6.91	1543.92	6.22	1544.61	4.3	1546.53
PC-91	26733111.11	831729.78	1552.30	1552.17	2	22	11.5	21.5	11.42	1540.75	11.52	1540.65	10.89	1541.28	9.72	1542.45
PC-92	26733110.00	831748.84	1551.96	1551.83	2	37	26.5	36.5	11.03	1540.8	11.15	1540.68	10.49	1541.34	9.24	1542.59
PC-94[1]	26733122.74	832188.77	1550.08	1549.79	2	20	9.5	19.5	13.48	1536.31	13.63	1536.16	12.75	1537.04	12.64	1537.15
				1549.89	2	20	9.5	19.5								
PC-97	26733441.67	831565.43	1548.88	1548.42	2	33.5	23	33	5.41	1543.01	5.44	1542.98	4.81	1543.61	3.34	1545.08
SWFTS-MW01	26733003.73	832067.12	1552.68	1552.39	2	39.4	24.2	38.9	14.86	1537.53	15.04	1537.35	14.6	1537.79	13.85	1538.54
SWFTS-MW02	26733048.86	831657.82	1553.90	1553.63	2	33.5	18.4	33.1	12.81	1540.82	12.92	1540.71	12.24	1541.39	11	1542.63
SWFTS-MW03	26733059.49	832404.39	1549.26	1549.02	2	42.2	27.2	42.1	13.88	1535.14	14.02	1535	13.66	1535.36	13.12	1535.9
SWFTS-MW04	26733183.35	831612.29	1552.16	1551.82	2	40.9	25.8	40.4	10.16	1541.66	10.22	1541.6	6.54	1545.28	8.17	1543.65
SWFTS-MW05A	26732768.53	832296.89	1555.41	1554.91	2	29.4	19.3	29.3	18.04	1536.87	18.19	1536.72	17.81	1537.1	17.25	1537.66
SWFTS-MW05B	26732764.09	832304.67	1555.41	1554.86	2	42.5	32.3	42	18.01	1536.85	18.14	1536.72	17.75	1537.11	17.18	1537.68
SWFTS-MW06A	26733287.15	831857.05	1548.86	1548.41	2	21.9	11.8	21.4	5.72	1542.69	5.76	1542.65	5.15	1543.26	3.68	1544.73
SWFTS-MW06B	26733286.65	831865.75	1549.03	1548.59	2	36	25.9	35.5	5.96	1542.63	5.99	1542.6	5.39	1543.2	3.87	1544.72
SWFTS-MW07A	26732895.65	831555.99	1555.90	1555.64	4	30.1	15	29.5	13.3	1542.34	13.39	1542.25	12.63	1543.01	11.12	1544.52
SWFTS-MW07B	26732897.49	831547.35	1555.90	1555.53	2	38.9	33.8	38.3	13.03	1542.5	13.1	1542.43	12.33	1543.2	10.78	1544.75
SWFTS-MW08A	26732720.57	831972.55	1556.50	1556.03	4	35.3	20.2	34.8	16.42	1539.61	16.49	1539.54	15.95	1540.08	15.12	1540.91
SWFTS-MW08C	26732718.60	831980.38	1556.56	1556.18	2	70	49.9	69.5	14.13	1542.05	14.86	1541.32	14.27	1541.91	13.27	1542.91
SWFTS-MW09A	26733052.94	832148.65	1551.61	1551.16	4	29.4	19.3	28.9	14.12	1537.04	14.28	1536.88	13.89	1537.27	13.18	1537.98
SWFTS-MW09B	26733052.55	832157.19	1551.74	1551.27	2	39.5	34.4	39	14.24	1537.03	14.41	1536.86	14.02	1537.25	13.31	1537.96
SWFTS-MW10A	26733054.00	831828.76	1551.92	1551.61	4	35.5	20.4	35	11.24	1540.37	11.36	1540.25	10.75	1540.86	9.54	1542.07
SWFTS-MW10C	26733054.15	831836.75	1551.85	1551.61	2	63.6	43.5	63.1	9.31	1542.3	9.43	1542.18	8.78	1542.83	7.49	1544.12
SWFTS-MW11	26732827.46	831747.30	1558.68	1558.1	4	40	14.8	39.6	17.42	1540.68	17.56	1540.54	16.85	1541.25	15.58	1542.52
SWFTS-MW12	26732600.73	832009.72	1559.00	1558.66	4	41	15.8	40.6	18.88	1539.78	19.06	1539.6	18.43	1540.23	17.54	1541.12
SWFTS-MW13	26732551.81	832161.20	1563.57	1563.2	4	48	17.8	47.6	24	1539.2	24.18	1539.02	23.66	1539.54	22.93	1540.27
SWFTS-MW14	26732989.39	831828.48	1552.20	1551.89	2	37	16.8	36.6	11.5	1540.39	11.6	1540.29	10.94	1540.95	9.7	1542.19
SWFTS-MW15	26732836.67	831944.36	1553.64	1553.34	2	35	14.8	34.6	14.35	1538.99	14.49	1538.85	14.92	1538.42	12.95	1540.39
SWFTS-MW16	26732742.78	832100.29	1561.83	1561.45	2	42	21.8	41.6	22.92	1538.53	23.08	1538.37	22.39	1539.06	21.82	1539.63
SWFTS-MW17	26732616.54	832245.85	1565.87	1565.56	4	53	22.8	52.6	26.94	1538.62	27.12	1538.44	26.64	1538.92	25.92	1539.64
SWFTS-MW18	26732847.58	832096.15	1554.59	1554.03	2	37	16.8	36.6	16.19	1537.84	16.34	1537.69	15.9	1538.13	15.15	1538.88
SWFTS-MW19	26733148.90	831850.68	1550.57	1550.37	2	31.5	11.3	31.1	10.78	1539.59	10.9	1539.47	10.35	1540.02	9.3	1541.07
SWFTS-MW20	26733020.92	831936.43	1551.63	1551.22	2	38	12.8	37.6	13.3	1537.92	13.44	1537.78	12.97	1538.25	12.13	1539.09
SWFTS-MW21	26732869.95	832249.88	1553.56	1553.3	2	40	14.8	39.6	16.3	1537	16.45	1536.85	16.06	1537.24	15.41	1537.89
SWFTS-MW22	26733146.27	831993.33	1549.55	1549.15	2	32	11.8	31.6	11.66	1537.49	11.8	1537.35	11.39	1537.76	10.59	1538.56
SWFTS-MW23	26733338.19	832022.56	1547.58	1550.16	2	34	13.8	33.6	13.01	1537.15	13.15	1537.01	12.72	1537.44	11.96	1538.2
SWFTS-MW24	26733161.74	832345.44	1547.78	1547.49	2	38	12.8	37.6	13.42	1534.07	13.57	1533.92	13.26	1534.23	12.75	1534.74
SWFTS-MW25	26733347.67	832252.13	1546.73	1546.37	2	43	12.8	42.6	10.89	1535.48	11	1535.37	10.62	1535.75	10.09	1536.28

Notes

amsl	above mean sea level	NM	not measured
bgs	below ground surface	----	not installed/not developed
bTOC	below top of casing	n/a	not available

1. The surface completion of PC-94 was rebuilt during unrelated construction activities during the study and was resurveyed before and directly after rebuilding activities and thus has slightly different TOC elevations. Survey data and available well construction details shown for all other existing monitoring wells (COH-2B1 and PC-series) were periodically downloaded from Ramboll Cloud Database All Wells Table with final download on January 29, 2019.

2. Depth to water measured on April 11, 2019.

3. Depth to water measured on July 1, 2019.

4. Depth to water measured on July 13, 2017.

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11 EM16	Date: 12/19/18
Task Manager: D. Grady	Field Sampler(s): JB	Recorded by: J. Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Condition of Well and Well Seal
1147	SWFTS-MW01	TOC	14.20	Good
1152	MW02	TOC	11.76	Good
1156	MW03	TOC	13.27	Good
1200	MW04	TOC	8.96	Good
1204	MW05A	TOC	17.40	Good
1206	MW05B	TOC	17.39	Good
1209	MW06A	TOC	4.52	Good
1210	MW06B	TOC	4.77	Good
1215	MW07A	TOC	12.21	Good
1216	MW07B	TOC	11.89	Good
1220	MW08A	TOC	15.67	Good
1222	MW08C	TOC	14.90	Good, concrete stamped "MW 08 D"
1226	MW09A	TOC	13.47	Good
1227	MW09B	TOC	13.60	Good
1230	MW10A	TOC	10.28	Good
1231	MW10C	TOC	8.40	Good
1234	MW11	TOC	16.44	Good
1242	MW12	TOC	18.09	Good
1238	MW13	TOC	23.27	Good
1249	MW14	TOC	10.46	Good, rotten egg odor
1252	MW15	TOC	13.53	Good
1256	MW16	TOC	22.18	Good
1259	MW17	TOC	26.27	Good
1302	MW18	TOC	15.47	Good
1304	MW19	TOC	9.93	Good
1306	MW20	TOC	12.55	Good, no bolts
1308	MW21	TOC	15.65	Good
1310	MW22	TOC	10.95	Good, no bolts
1314	MW23	TOC	12.32	Good
1316	MW25	TOC	10.32	Good
1322	MW24	TOC	12.83	Good
1327	PC-58	TOC	20.20	Good
1333	PC-91	TOC	10.45	Good
1335	PC-92	TOC	10.06	Good
1339	PC-94	TOC	12.94	Good
1342	PC-97	TOC	4.41	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11 EM16	Date: 12/19/18
Task Manager: D. Grady	Field Sampler(s): JB	Recorded by: J. Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Condition of Well and Well Seal
1348	PC-88	TOC	5.84	Good
1555	COM-2B1	TOC	16.44	Good
		TOC		
		TOC		
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		TOC		

BMP = Below Measuring Point   TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM16 | Rental from: S. Nev State | Task Manager: D. Grady

Type: YSI 556 MPS | Serial Number: 15F27

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
12/20/18	1615	23.3	4.05	6.99	9.95	220.9	1.115	98.2	0.01	23.3	4.00	7.00	10.0	232.5	1.001	99.8	0.00
12/21/18	1600	24.5	4.04	6.98	9.92	222.0	1.010	98.3	0.01	24.5	4.00	7.00	9.99	232.5	1.000	99.9	0.00
12/27/18	1615	20.0	4.07	6.98	9.90	219.5	1.196	97.5	0.01	20.0	4.00	7.00	9.98	237.5	1.001	99.8	0.00
12/28/18	1340	20.0	4.01	7.00	9.97	236.4	1.004	99.8	0.00	20.0	4.00	7.00	9.99	237.5	1.000	99.9	0.00
1/2/19	1500	20.0	4.01	7.00	9.98	238.3	1.002	99.7	0.01	20.0	4.00	7.00	9.99	237.5	1.000	99.9	0.00

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 11J102430

Parameter:	Span Value:	Reading:
pH S.U.	7.00 / 10.00	7.00 / 10.00
Cond. mS/cm	1.413	1.413
D.O. % sat.	93.3	93.3
ORP mV	100	100.1

Notes: D.O. calibration point based on local barometric pressure of 709 mmHg.

Certificates of Analysis for buffers/standards available upon request.

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West (Print Name) (Signature)

Date: 12-17-18

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
ssalabs.com - sem-analytical.com - envirotechonline.com

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 660124

Parameter:	Span Value:	Reading:
Turbidity (NTU):	0.02 / 20.0 / 100 / 800	0.06 / 20.8 / 106 / 829

Notes: 4-point calibration curve performed on instrument.

Calibration standards manufacturer: Hach Company, Lot # A6281

Calibrated by: Stephen West
Print Name

Signature

Date: 11/27/2018

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
ssalabs.com - sem-analytical.com - envirotechonline.com

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: COH-2B1
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 1048	Transducer Redeployment time: 1135		General Well Condition: Good	
Depth to Water (ft): 16.52	Screened Interval Top (ft):		Pump Intake Depth (ft): 62	
Well Depth (ft): 67	Screened/Open Interval Bottom (ft):		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1058				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1104	20.04		7.33		5.430		2.50		31.6		>1000		200	16.50		clear/none
1107	21.00		7.28		5.085		1.70		49.4		>1000		"	"		tan cloudy
1110	21.30		7.26		4.729		1.18		70.9		723		"	"		"
1113	21.20		7.25		4.717		1.21		85.6		310		"	"		"
1116	21.62		7.25		4.672		0.99		91.6		184		"	"		"
1119	21.59		7.24		4.646		0.97		92.8		183		"	"		"
1122	21.51		7.24		4.624		0.97		93.7		179		"	"		"

Stop Purge Time: 1123	Sample Time: 1124	QA/QC Sample Time(s): —	
	Sample ID: COH-2B1-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: PC-58
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 20.51	Screened Interval Top (ft): 7.8		Pump Intake Depth (ft): 26.5	
Well Depth (ft): 33	Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1233				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1236	20.46		7.32		3.593		2.30		106.6		101		300	20.51		clear/none
1239	21.50		7.30		3.603		1.23		105.2		72.3		"	"		"
1242	22.00		7.30		3.606		0.98		104.6		29.0		"	"		"
1245	22.13		7.30		3.606		0.90		104.1		20.9		"	"		"
1248	22.02		7.29		3.606		0.86		103.9		9.98		"	"		"
1251	22.00		7.29		3.606		0.84		103.9		5.40		"	"		"
1254	22.06		7.29		3.607		0.83		103.9		4.32		"	"		"

Stop Purge Time: 1255	Sample Time: 1256		QA/QC Sample Time(s): —		
	Sample ID: PC-58-EM16		QA/QC Sample ID(s): —		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: PC-88
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 1139	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 6.22	Screened Interval Top (ft): 40		Pump Intake Depth (ft): 44.9	
Well Depth (ft): 50.5	Screened/Open Interval Bottom (ft): 50		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1148				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1151	20.92		7.39		3.960		2.46		110.2		86.9		300	6.24		clear/none
1154	21.42		7.37		4.010		1.37		107.3		26.0		"	"		"
1157	21.57		7.35		4.021		0.96		105.7		9.27		"	"		"
1200	21.62		7.35		4.024		0.95		105.3		6.52		"	"		"
1203	21.63		7.35		4.026		0.93		105.2		4.03		"	"		"

Stop Purge Time: 1204	Sample Time: 1205		QA/QC Sample Time(s): 1205		
	Sample ID: PC-88-EM16		QA/QC Sample ID(s): PC-88-EM16-FD		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	2	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: PC-91
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.53	Screened Interval Top (ft): 11.5		Pump Intake Depth (ft): 16.5	
Well Depth (ft): 22	Screened/Open Interval Bottom (ft): 21.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0947				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0950	23.58		6.82		4.633		2.16		-113.3		37.5		330	10.56		clear/none
0953	24.22		6.78		4.642		1.01		-107.0		16.67		"	"		"
0956	24.31		6.77		4.647		0.72		-102.0		9.19		"	"		"
0959	24.35		6.77		4.682		0.70		-100.1		7.63		"	"		"
1002	24.37		6.76		4.702		0.68		-99.2		6.02		"	"		"

Stop Purge Time: 1003	Sample Time: 1004	QA/QC Sample Time(s): —	
	Sample ID: ~~SWF-PC~~, PC-91-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_2SO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: PC-92
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.13	Screened Interval Top (ft): 26.5		Pump Intake Depth (ft): 31.5	
Well Depth (ft): 37	Screened/Open Interval Bottom (ft): 36.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1015				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1019	21.37		7.27		4.397		2.23		-81.7		117		240	10.16		clear / none
1022	21.78		7.26		4.393		1.36		-79.7		111		"	"		"
1025	21.99		7.24		4.393		1.01		-78.5		68.2		"	"		"
1028	22.00		7.24		4.385		0.80		-77.0		49.8		"	"		"
1031	22.09		7.24		4.383		0.74		-76.4		46.0		"	"		"
1034	22.08		7.24		4.381		0.72		-76.0		45.6		"	"		"

Stop Purge Time: 1035	Sample Time: 1036	QA/QC Sample Time(s): —	
	Sample ID: PC-92-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic	500 mL Plastic	500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	250 mL w/H_2SO_4	250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 pH<1	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/28/18	Well ID: PC-94
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.01	Screened Interval Top (ft): 9.5		Pump Intake Depth (ft): 16.3	
Well Depth (ft): 19.5	Screened/Open Interval Bottom (ft): 19.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0828				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0831	19.41		6.98		5.247		4.50		161.9		897		300	13.06		clear/none
0834	20.47		6.98		5.251		4.23		160.5		908		"	"		brownish
0837	21.00		7.01		5.250		4.38		157.0		929		"	"		"
0840	20.96		7.01		5.258		4.78		155.0		809		"	"		"
0843	21.66		7.01		5.259		4.58		153.8		730		"	"		"
0846	21.68		7.02		5.260		4.53		152.6		673		"	"		"
0849	21.73		7.01		5.259		4.54		152.0		669		"	"		"

Stop Purge Time: 0850	Sample Time: 0851		QA/QC Sample Time(s): —		
	Sample ID: PC-94-EM16		QA/QC Sample ID(s): —		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: PC-97
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 4.83	Screened Interval Top (ft): 23.0		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 33.5	Screened/Open Interval Bottom (ft): 33.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1017				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1020	18.62		7.35		2.928		2.75		125.5		198		250	4.83		clear/none
1023	19.22		7.32		2.932		1.95		121.5		167		"	"		"
1026	19.96		7.30		2.936		1.30		117.9		97.9		"	"		"
1029	20.04		7.29		2.935		1.05		115.9		67.3		"	"		"
1032	20.08		7.29		2.933		1.08		115.3		65.2		"	"		"
1035	20.05		7.29		2.934		1.07		115.2		60.9		"	"		"

Stop Purge Time: 1036	Sample Time: 1037	QA/QC Sample Time(s): —
	Sample ID: PC-97-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/27/18	Well ID: SWFTS-MW01
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 14.26	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 39.4	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1130				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1133	22.47		6.94		6.484		4.72		-36.6		172		300	14.26		clear/none
1136	22.93		6.92		6.478		2.58		-23.6		226		"	"		"
1139	23.33		6.91		6.478		1.33		-15.3		197		"	"		
1142	23.75		6.90		6.480		0.95		-13.1		89.4		"	"		"
1145	23.88		6.91		6.482		0.75		-12.8		89.5		"	"		"
1148	23.90		6.88		6.481		0.63		-11.6		15.24		"	"		"
1151	23.82		6.89		6.478		0.54		-11.0		9.00		"	"		"
1154	23.83		6.89		6.475		0.52		-11.2		7.82		"	"		"
1157	23.84		6.89		6.478		0.51		-11.3		5.19		"	"		"

Stop Purge Time: 1158	Sample Time: 1200	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW01-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW02
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 0822	Transducer Redeployment time: 0925		General Well Condition: Good	
Depth to Water (ft): 11.88	Screened Interval Top (ft): 18.4		Pump Intake Depth (ft): 25.5	
Well Depth (ft): 33.5	Screened/Open Interval Bottom (ft): 33.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0840				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0843	22.74		6.97		8.332		11.58		-306.8		768		300	11.88a		brown cloudy
0846	23.18		6.94		8.347		5.04		-290.8		824		"	11.88		no odor
0849	23.52		6.92		8.365		3.64		-273.2		616		"	"		"
0852	23.61		6.92		8.385		3.30		-248.5		370		"	"		"
0855	23.71		6.90		8.407		3.45		-217.3		262		"	"		"
0858	23.67		6.91		8.421		3.35		-203.4		219		"	"		"
0901	23.32		6.90		8.450		2.92		-176.5		153		"	"		"
0904	23.41		6.90		8.455		2.90		-179.9		81.9		"	"		"
0907	23.43		6.90		8.459		2.82		-264.5		75.3		"	"		"
0910	23.62		6.90		8.467		2.96		-224.0		69.7		"	"		"
0913	23.65		6.90		8.462		2.97		-220.8		67.3		"	"		"
0916	23.66		6.90		8.462		2.95		-220.3		65.3		"	"		"

Stop Purge Time: 0917	Sample Time: 0918	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW02-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW03
Field Sampler(s): Jesse Bankers				
Transducer Removal Time: 0923	Transducer Redeployment time: 0958		General Well Condition: Good	
Depth to Water (ft): 13.35	Screened Interval Top (ft): 27.2		Pump Intake Depth (ft): 34.4	
Well Depth (ft): 42.2	Screened/Open Interval Bottom (ft): 42.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0930				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0933	20.10		6.96		5.683		3.04		-54.6		468		300	13.37		clear/iron
0936	20.83		6.92		5.815		1.80		-12.6		490		"	"		"
0939	21.35		6.90		5.856		1.24		40.3		413		"	"		"
0942	21.34		6.90		5.868		1.05		58.7		325		"	"		"
0945	21.19		6.90		5.863		0.90		70.2		228		"	"		"
0948	21.19		6.89		5.868		0.82		75.2		215		"	"		"
0951	21.17		6.89		5.871		0.80		76.0		211		"	"		"

Stop Purge Time: 0952	Sample Time: 0953	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW03-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H2PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: SWFTS-MW04
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 9.51	Screened Interval Top (ft): 25.8		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 40.9	Screened/Open Interval Bottom (ft): 40.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0928				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0931	18.97		7.36		3.402		3.15		122.6		92.0		210	9.52		clear/none
0934	19.86		7.33		3.410		2.00		121.2		91.5		"	"		"
0937	20.53		7.31		3.389		1.40		118.6		96.7		"	"		"
0940	20.69		7.31		3.396		1.20		116.7		95.2		"	"		"
0943	20.70		7.30		3.412		1.14		116.3		94.3		"	"		"
0946	20.72		7.30		3.414		1.11		116.1		90.8		"	"		"

Stop Purge Time: 0947	Sample Time: 0948		QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW04-EM16		QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_2PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW05A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.43	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 29.4	Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1325				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1328	24.03		6.98		8.247		3.52		-45.7		56.6		300	17.47		clear/none
1331	24.30		6.92		8.269		1.28		-49.0		32.4		"	"		"
1334	24.37		6.91		8.281		0.84		-50.4		17.23		"	"		"
1337	24.39		6.91		8.282		0.71		-50.8		9.78		"	"		"
1340	24.39		6.90		8.280		0.68		-50.9		8.83		"	"		"
1343	24.40		6.90		8.279		0.68		-51.0		7.05		"	"		"

Stop Purge Time: 1344	Sample Time: 1345	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW05A-EM16	QA/QC Sample ID(s): SWFTS-MW05A-EM16-MS/MSD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
	125 mL w/EDA		250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW05B
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.37	Screened Interval Top (ft): 32.3		Pump Intake Depth (ft): 36.6	
Well Depth (ft): 42.5	Screened/Open Interval Bottom (ft): 42.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1358				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1401	24.03		6.96		7.204		2.37		-214.0		10.59		300	17.37		clear/none
1404	24.10		6.89		7.205		1.00		-172.3		8.73		"	"		"
1407	24.10		6.86		7.214		0.66		-117.0		6.25		"	"		"
1410	24.10		6.86		7.214		0.65		-111.3		4.78		"	"		"
1413	24.10		6.86		7.214		0.62		-109.2		4.23		"	"		"

Stop Purge Time: 1414	Sample Time: 1415	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW05B-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

LOW FLOW GROUNDWATER SAMPLING LOG

TETRA TECH

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/28/18	Well ID: SWFTS-MW06A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 5.10	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 21.9	Screened/Open Interval Bottom (ft): 21.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1015				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1018	20.53		7.32		3.036		5.53		-4.9		168		300	5.11		clear/none
1021	21.52		7.22		3.024		2.16		2.5		44.9		"	"		"
1024	21.88		7.20		3.022		1.49		8.2		20.4		"	"		"
1027	21.99		7.19		3.023		1.30		12.0		15.49		"	"		"
1030	22.01		7.18		3.025		1.06		15.3		9.88		"	"		"
1033	22.03		7.18		3.024		0.97		19.0		8.12		"	"		"
1036	22.05		7.18				0.98		19.2		7.53		"	"		"

Stop Purge Time: 1037	Sample Time: 1038		QA/QC Sample Time(s): 1039		
	Sample ID: SWFTS-MW06A-EM16		QA/QC Sample ID(s): SWFTS-MW06A-EM16-FD		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_2PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/28/18	Well ID: SWFTS-MW06B
Field Sampler(s): Jesse Bunker				
Transducer Removal Time: 1048	Transducer Redeployment time: 1132		General Well Condition: Good	
Depth to Water (ft): 5.33	Screened Interval Top (ft): 25.9		Pump Intake Depth (ft): 30.4	
Well Depth (ft): 36.0	Screened/Open Interval Bottom (ft): 35.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1056				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1059	20.42		7.28		3.066		3.34		45.6		595		300	5.35		clear/none
1102	20.85		7.22		3.081		1.64		61.2		740		"	"		"
1105	21.04		7.21		3.085		1.18		66.9		860		"	"		"
1108	21.11		7.19		3.085		0.97		52.0		755		"	"		"
1111	21.11		7.19		3.082		0.88		35.9		571		"	"		"
1114	21.14		7.18		3.084		0.78		28.4		391		"	"		"
1117	21.16		7.18		3.083		0.72		23.9		315		"	"		"
1120	21.18		7.19		3.084		0.71		22.1		298		"	"		"
1123	21.18		7.18		3.083		0.70		20.9		294		"	"		"

Stop Purge Time: 1124	Sample Time: 1125	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW06B-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L **HACH Kit Ferrous Iron:** N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW07A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.50	Screened Interval Top (ft): 15.0		Pump Intake Depth (ft): 22.0	
Well Depth (ft): 30.1	Screened/Open Interval Bottom (ft): 29.5		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1344				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1347	21.72		7.14		5.162		2.42		115.7		12.38		300	12.55		clear/none
1350	22.96		7.09		5.177		1.32		110.5		3.13		"	~~3.17~~ "		"
1353	23.19		7.08		5.192		1.17		108.9		0.93		"	"		"
1356	23.28		7.07		5.200		0.98		108.5		0.52		"	"		"
1359	23.33		7.07		5.204		0.99		108.2		0.49		"	"		"
~~1400~~																

Stop Purge Time: 1400	Sample Time: 1401	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07A-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/3/19	Well ID: SWFTS-MW07TS
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: ~~0830~~		Transducer Redeployment time: ~~0905~~		General Well Condition: Good
Depth to Water (ft): 12.22		Screened Interval Top (ft): 33.8		Pump Intake Depth (ft): 35.7
Well Depth (ft): 38.9		Screened/Open Interval Bottom (ft): 38.3		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0841				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0844	19.64		7.25		4.369		3.48		170.2		26.9		240	12.25		clear/none
0847	20.42		7.25		4.380		2.52		153.1		24.5		"	"		"
0850	21.37		7.25		4.392		1.70		136.0		16.83		"	"		"
0853	21.65		7.23		4.397		1.40		130.2		9.89		"	"		"
0856	21.66		7.22		4.397		1.30		129.8		6.07		"	"		"
0859	21.73		7.22		4.399		1.35		128.8		4.73		"	"		"

Stop Purge Time: 0900	Sample Time: 0901	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW07B-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW08A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 15.69	Screened Interval Top (ft): 20.2		Pump Intake Depth (ft): 27.0	
Well Depth (ft): 35.3	Screened/Open Interval Bottom (ft): 34.8		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1012				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1015	19.70		7.10		5.120		2.50		98.5		40.5		300	15.90		clear/no
1018	20.35		7.09		5.113		1.55		99.7		10.18		200	15.90		"
1021	20.03		7.09		5.113		1.33		100.9		4.39		"	15.88		"
1024	20.00		7.08		5.112		1.25		101.4		3.49		"	"		"
1027	20.01		7.08		5.114		1.23		101.4		3.03		"	"		"

Stop Purge Time: 1028	Sample Time: 1029	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW08A-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/27/18	Well ID: SWFTS-MW09A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 14:18	Transducer Redeployment time: 1455		General Well Condition: Good	
Depth to Water (ft): 13.55	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.7	
Well Depth (ft): 29.4	Screened/Open Interval Bottom (ft): 28.9		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1428				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1431	21.62		7.02		6.192		2.52		-6.2		81.4		300	13.55		clear/none
1434	22.40		7.01		6.217		1.25		-13.7		10.79		"	"		"
1437	22.60		6.99		6.216		0.87		-17.2		1.99		"	"		"
1440	22.58		6.99		6.214		0.79		-18.0		1.25		"	"		"
1443	22.58		6.99		6.213		0.83		-18.4		0.83		"	"		"

Stop Purge Time: 1444	Sample Time: 1445	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW09A-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L **HACH Kit Ferrous Iron:** N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H2SO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/28/18	Well ID: SWFTS-MW09B
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.71	Screened Interval Top (ft): 34.4		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.5	Screened/Open Interval Bottom (ft): 39.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0712				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0715	20.32		7.02		5.309		2.96		231.8		58.0		300	13.69		clear/none
0718	21.06		7.02		5.308		2.07		219.2		58.8		"	"		"
0721	21.26		7.02		5.274		1.59		201.0		37.1		"	"		"
0724	21.46		7.01		5.267		1.37		191.7		25.5		"	"		"
0727	21.48		7.00		5.251		1.37		185.6		9.89		"	"		"
0730	21.60		7.00		5.249		1.32		180.6		7.53		"	"		"
0733	21.62		6.99		5.242		1.30		178.9		7.02		"	"		"

Stop Purge Time: 0734	Sample Time: 0735	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW09B-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_2PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW10A
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 1050	Transducer Redeployment time: 1120		General Well Condition: Good	
Depth to Water (ft): 10.33	Screened Interval Top (ft): 20.4		Pump Intake Depth (ft): 27.4	
Well Depth (ft): 35.5	Screened/Open Interval Bottom (ft): 35.0		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1058				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1101	22.71		7.03		7.122		2.50		-127.1		34.3		300	10.36		clear/none
1104	23.05		6.96		7.190		0.98		-96.9		3.34		"	"		"
1107	23.16		6.95		7.195		0.77		-88.5		3.06		"	"		"
1110	23.15		6.95		7.197		0.70		-87.3		2.74		"	"		"
1113	23.16		6.95		7.198		0.70		-86.4		2.53		"	"		"

Stop Purge Time: 1114	Sample Time: 1115	QA/QC Sample Time(s):
	Sample ID: JWFTS-MW10A-EM16	QA/QC Sample ID(s): SWFTS-MW10A-EM16-MS/MSD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW11
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.64	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 28.1	
Well Depth (ft): 40.0	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1232				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1235	19.91		7.23		5.962		8.29		113.7		25.8		210	16.64		clear/no
1238	20.63		7.22		5.955		7.95		113.1		11.36		"	"		"
1241	21.11		7.19		5.948		7.55		112.6		5.84		"	"		"
1244	21.15		7.19		5.950		7.24		112.5		4.38		"	"		"
1247	21.19		7.19		5.954		7.08		112.5		3.22		"	"		"

Stop Purge Time: 1248	Sample Time: 1249	QA/QC Sample Time(s): 1250
	Sample ID: SWFTS-MW11-EM16	QA/QC Sample ID(s): SWFTS-MW11-EM16-FD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW12
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 18.20	Screened Interval Top (ft): 15.8		Pump Intake Depth (ft): ~~27.4~~ 29.4	
Well Depth (ft): 41.0	Screened/Open Interval Bottom (ft): 40.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 11:55				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1158	21.16		7.19		6.363		5.58		111.0		28.3		300	18.20		clear/none
1201	22.24		7.17		6.387		4.46		110.5		10.73		"	"		"
1204	22.82		7.16		6.390		4.24		109.9		9.20		"	"		"
1207	22.90		7.16		6.390		4.37		109.9		7.22		"	"		"
1210	22.92		7.16		6.394		4.35		110.0		6.98		"	"		"

Stop Purge Time: 1211	Sample Time: 1212	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW12-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW13
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 23.37	Screened Interval Top (ft): 17.8		Pump Intake Depth (ft): ~~28.3~~ 35.5	
Well Depth (ft): 48	Screened/Open Interval Bottom (ft): 47.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1124				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1127	18.97		7.23		6.914		7.80		112.0		12.39		240	23.37		clear/no
1130	20.33		7.20		6.948		6.93		111.3		7.12		"	"		"
1133	20.85		7.20		6.950		6.84		111.1		5.03		"	"		"
1136	20.92		7.19		6.945		6.89		111.2		4.87		"	"		"

Stop Purge Time: 1137	Sample Time: 1138	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW13-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
		1									
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW14
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.54	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.7	
Well Depth (ft): 37	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0736				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0739	20.53		6.87		7.110		1.66		-429.5		8.85		240	10.55		clear/
0742	21.77		6.83		7.127		0.71		-425.6		6.36		"	"		rotten egg
0745	22.31		6.82		7.126		0.48		-425.1		4.04		"	"		"
0748	22.79		6.81		7.122		0.48		-424.4		3.33		"	"		"
0751	22.86		6.79		7.140		0.46		-423.1		2.98		"	"		"
0754	22.84		6.78		7.142		0.46		-422.5		2.51		"	"		"

Stop Purge Time: 0755	Sample Time: 0756	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW14-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/19/18	Well ID: SWFTS-MW15
Field Sampler(s): J. Bunkers				
Transducer Removal Time: ~~1517~~		Transducer Redeployment time: ~~1516~~		General Well Condition: Good
Depth to Water (ft): 13.53		Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 24.7
Well Depth (ft): 35		Screened/Open Interval Bottom (ft): 34.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1523				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1526	23.51		7.01		6.363		1.87		-49.4		120		300	13.53		clear/none
1529	23.81		7.00		6.360		1.39		-50.1		82.1		"	"		"
1532	24.10		6.99		6.332		0.93		-50.6		60.8		"	"		"
1535	24.09		6.99		6.318		0.90		-50.4		60.1		"	"		"
1538	24.07		6.99		6.311		0.91		-50.4		57.3		"	"		"

Stop Purge Time: 1539	Sample Time: SWFTS-MW15-EM16	QA/QC Sample Time(s): —
	Sample ID: 1540	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/19/18	Well ID: SWFTS-MW16
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 22.17	Screened Interval Top (ft): 21.8		Pump Intake Depth (ft): 31.89	
Well Depth (ft): 42	Screened/Open Interval Bottom (ft): 41.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1430				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1433	23.12		6.83		6.219		1.77		-160.5		68.9		280	22.18		clear/none
1436	23.38		6.84		6.282		0.77		-172.2		60.4		"	"		"
1439	23.47		6.85		6.330		0.54		-176.5		54.4		"	"		"
1442	23.49		6.85		6.359		0.44		-176.6		46.1		"	"		"
1445	23.50		6.85		6.367		0.42		-176.2		44.3		"	"		"
1448	23.51		6.85		6.375		0.40		-175.8		43.2		"	"		"

Stop Purge Time: 1449	Sample Time: 1450	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW16-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW17
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 26.37	Screened Interval Top (ft): 22.8		Pump Intake Depth (ft): 37.4	
Well Depth (ft): 53	Screened/Open Interval Bottom (ft): 52.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 10:52				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1055	17.82		7.27		4.590		6.75		109.9		33.6		300	26.40		clear/no
1058	19.41		7.24		4.544		6.51		108.6		7.80		"	26.38		"
1101	19.93		7.23		4.538		6.29		108.6		4.82		"	"		"
1104	20.05		7.23		4.548		6.18		108.7		3.29		"	"		"

Stop Purge Time: 1105	Sample Time: 1106	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW17-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW18
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.47	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.1	
Well Depth (ft): 37	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1230				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1233	23.75		7.11		6.418		2.00		-57.5		538		300	15.47		brown/none
1236	24.20		7.09		6.368		1.00		-57.6		440		"	"		"
1239	24.29		7.08		6.347		0.78		-57.8		218		"	"		"
1242	24.32		7.08		6.344		0.73		-57.9		165		"	"		"
1245	24.35		7.08		6.342		0.68		-57.9		155		"	"		"
1248	24.38		7.08		6.341		0.67		-57.9		153		"	"		"

Stop Purge Time: 1249	Sample Time: 1250	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW18-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/27/18	Well ID: SWFTS-MW19
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.10	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 21.0	
Well Depth (ft): 31.5	Screened/Open Interval Bottom (ft): 31.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1336				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1339	22.44		7.23		4.099		2.59		-12.4		307		300	10.11		clear/none
1342	23.06		7.18		4.105		1.63		-16.3		209		"	"		"
1345	23.33		7.17		4.117		1.49		-17.6		116		"	"		"
1348	23.34		7.16		4.116		1.45		-18.0		56.2		"	"		"
1351	23.47		7.15		4.116		1.45		-18.2		42.9		"	"		"
1354	23.50		7.15		4.117		1.43		-18.2		40.8		"	"		"
1357	23.54		7.15		4.116		1.43		-18.3		39.8		"	"		"

Stop Purge Time: 1358	Sample Time: 1359	QA/QC Sample Time(s): 1400
	Sample ID: SWFTS-MW19-EM16	QA/QC Sample ID(s): SWFTS-MW19-EM16-FD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	2	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW20
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.55	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 24.8	
Well Depth (ft): 38	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1146				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1149	23.00		6.73		9.034		2.20		-61.8		356		250	12.56		clear/non
1152	23.52		6.71		8.965		1.60		-62.1		331		"	"		"
1155	23.99		6.71		8.851		1.17		-62.0		241		"	"		"
1158	24.24		6.71		8.811		1.06		-61.5		196		"	"		"
1201	24.33		6.71		8.745		1.04		-60.9		149		"	"		"
1204	24.28		6.71		8.683		0.96		-59.9		114		"	"		"
1207	24.29		6.70		8.679		1.01		-59.7		110		"	"		"
1210	24.30		6.70		8.673		0.97		-59.5		109		"	"		"

Stop Purge Time: 1211	Sample Time: 1212	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW20-EM16	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/20/18	Well ID: SWFTS-MW21
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.64	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 26.9	
Well Depth (ft): 40	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1437				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1440	23.81		7.00		7.962		1.77		-51.9		379		270	15.65		clear/none
1443	24.14		6.98		7.974		1.20		-53.4		385		"	"		pinkish
1446	24.42		6.97		7.973		1.15		-53.8		371		"	"		"
1449	24.45		6.97		7.975		1.11		-53.7		370		"	"		"

Stop Purge Time: 1450	Sample Time: 1451	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW21-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/27/18	Well ID: SWFTS-MW22
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 11.02	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 21.3	
Well Depth (ft): 32	Screened/Open Interval Bottom (ft): 31.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1220				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1223	22.15		7.34		4.711		3.70		-6.6		340		270	11.03		clear/none
1226	22.75		7.21		4.736		1.34		-9.9		331		"	"		"
1229	22.91		7.19		4.764		1.00		-12.2		335		"	"		"
1232	22.83		7.17		4.790		0.84		-12.9		350		"	"		"
1235	22.92		7.16		4.792		0.71		-13.7		361		"	"		"
1238	22.86		7.16		4.793		0.65		-13.9		355		"	"		"
1241	22.83		7.15		4.830		0.63		-14.0		341		"	"		"
1244	22.81		7.15		4.809		0.60		-14.1		340		"	"		"

Stop Purge Time: 1245	Sample Time: 1246	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW22-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 12/28/18	Well ID: SWFTS-MW23
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 1148	Transducer Redeployment time: 1225		General Well Condition: Good	
Depth to Water (ft): 12.41	Screened Interval Top (ft): 13.8		Pump Intake Depth (ft): 26.3	
Well Depth (ft): 34.0	Screened/Open Interval Bottom (ft): 33.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1155				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1158	20.43		7.23		3.060		2.33		87.8		237		300	12.42		clear/none
1201	21.12		7.19		3.062		1.27		84.2		20.3		"	"		"
1204	21.31		7.18		3.062		1.00		84.3		9.89		"	"		"
1207	21.37		7.18		3.061		0.99		84.3		7.20		"	"		"
1210	21.42		7.18		3.062		0.97		84.4		5.33		"	"		"

Stop Purge Time: 1211	Sample Time: 1212	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW23-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/19	Well ID: SWFTS-MW28
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.92	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 24.9	
Well Depth (ft): 38	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0844				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0847	18.83		7.02		5.707		4.02		130.5		165		290	12.92		Clear/none
0850	20.56		6.99		5.725		2.61		129.4		88.9		"	"		"
0853	21.13		6.98		5.726		2.03		128.3		66.9		"	"		"
0856	21.40		6.97		5.713		1.68		127.8		40.5		"	"		"
0859	21.44		6.97		5.712		1.62		127.4		22.6		"	"		"
0902	21.39		6.97		5.711		1.59		127.3		21.6		"	"		"
0905	21.45		6.97		5.709		1.55		127.2		20.9		"	"		"

Stop Purge Time: 0906	Sample Time: 0907	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW24-EM16	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM16	Date: 1/2/2019	Well ID: SWFTS-MW25
Field Sampler(s): Jesse Bunkers				
Transducer Removal Time: 0744		Transducer Redeployment time: 0830		General Well Condition: Good
Depth to Water (ft): 10.43		Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 27.3
Well Depth (ft): 43		Screened/Open Interval Bottom (ft): 42.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0759				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0802	18.11		6.96		5.732		5.90		147.4		729		250	10.43		brownish/
0805	19.62		6.92		5.717		3.13		142.6		671		"	"		none
0808	20.46		6.94		5.715		1.78		136.2		564		"	"		"
0811	20.64		6.92		5.707		1.35		134.5		468		"	"		"
0814	20.89		6.92		5.695		1.15		133.4		406		"	"		"
0817	21.13		6.92		5.690		1.00		132.2		428		"	"		"
0820	21.30		6.92		5.691		0.98		132.1		418		"	"		"
0823	21.31		6.92		5.690		0.97		132.0		402		"	"		"

Stop Purge Time: 0824	**Sample Time:** 0825		**QA/QC Sample Time(s):** —	
	Sample ID: SWFTS-MW25-EM16		**QA/QC Sample ID(s):** —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L **HACH Kit Ferrous Iron:** N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM17	Date: 2/25/19
Task Manager: D. Grady	Field Sampler(s): JB, SS, DG	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:*	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1000	PC-91	TOC	10.72		
1003	PC-92	TOC	10.32		
1059	PC-94	TOC	11.86		
	PC-58	TOC			
	PC-88	TOC			
	PC-97	TOC			
	COH-2B1	TOC			
0927	SWFTS-MW01	TOC	14.35		
1015	SWFTS-MW02	TOC	12.03		transducer in well
0937	SWFTS-MW03	TOC	13.41		Transducer in well
1012	SWFTS-MW04	TOC	9.37		
0942	SWFTS-MW05A	TOC	17.54		
0940	SWFTS-MW05B	TOC	17.52		
1008	SWFTS-MW06A	TOC	4.98		
1006	SWFTS-MW06B	TOC	5.22		Transducer in well
1021	SWFTS-MW07A	TOC	12.44		water in well box
1023	SWFTS-MW07B	TOC	12.13		Transducer in well
0948	SWFTS-MW08A	TOC	15.71		4" casing
* 0945	SWFTS-MW08C	TOC	14.03		
0931	SWFTS-MW09A	TOC	13.63		In Situ troll in well 4"
0933	SWFTS-MW09B	TOC	13.76		1/2 Bolts missing
0954	SWFTS-MW10A	TOC	10.53		4" casing transducer in well
* 0956	SWFTS-MW10C	TOC	8.54		water in box - bolts in box - Bolts missing transducer in well

BMP = Below Measuring Point

TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM17	Date: 2/25/19
Task Manager: D. Grady	Field Sampler(s): JB, SS, DG	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:*	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
10:12	SWFTS-MW11	TOC	~~13~~ 16.56		~~Good, RT 100, Baro~~ water below TOC
10:07	SWFTS-MW12	TOC	18.15		
10:04	SWFTS-MW13	TOC	23.31		
09:30	SWFTS-MW14	TOC	10.66		smells bad
09:19	SWFTS-MW15	TOC	13.63		Good, RT 100, Baro
09:55	SWFTS-MW16	TOC	22.26		Tubing has black residue + odor
10:01	SWFTS-MW17	TOC	26.32		
09:58	SWFTS-MW18	TOC	15.60		Water below TOC
09:40	SWFTS-MW19	TOC	10.13		
09:34	SWFTS-MW20	TOC	12.69		No Bolts, cracked well box
09:52	SWFTS-MW21	TOC	15.75		1 Bolt missing, water below TOC
09:37	SWFTS-MW22	TOC	11.10		No Bolts, water in well below TOC
09:43	SWFTS-MW23	TOC	12.47		RT100
09:49	SWFTS-MW24	TOC	12.96		
09:46	SWFTS-MW25	TOC	10.48		RT100
10:28	PC-58		20.31		~~RT100~~
10:40	COH-2		16.90		RT100
10:51	PC-97		4.68		
10:55	PC-88		6.07		No Bolts, water below TOC, RT100

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study	Task No.: M11 - EM17	Rental from: Silver State	Task Manager: D. Grady
Type: YSI 556		Serial Number: 15F27	

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)
2/25/19	1505	22.57	4.06	6.97	9.80	170.8	1.091	100.0		22.23	4.00	7.00	9.97	234.2	1.000	100.0	
2/26/19	1510	22.62	3.89	7.13	9.78	240.2 ~~23~~	0.985	107.0		22.62	4.00	7.00	10.00	234.2	1.000	100.0	
2/27/19	1430	21.44	3.99	7.02	9.90	236.1	0.933	101.7		21.44	4.00	7.01	10.00	234.2	1.000	100.0	
2/28/19	1330	22.18	4.00	7.05	9.90	233.8	0.966	102.7		22.18	4.00	7.00	10.00	234.2	1.000	100.1	

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM16 | Rental from: Silver State | Task Manager: D. Grady

Type: Horiba U-52 | Serial Number: PURMSJ4J

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	% DO (~~mg/L~~)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	% DO (~~mg/L~~)	Turbidity (NTU)
2/25/19	1545	21.80	4.00	7.68	9.55	219	0.781	98.2		21.71	4.00	7.00	10.0	237	1.00	100	

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM16 | Rental from: | Task Manager: D. Grady

Type: YSI 556 | Serial Number:

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
2-26-19	1525	22.04	4.20	6.93	9.84	142.1	1.011	100.0		22.04	4.00	7.01	10.00	234.2	1.000	100.0	
2-27-19	1445	21.40	4.08	6.99	9.99	238.4	0.903	101.1		21.40	4.00	7.00	10.00	234.2	1.000	100.1	
2-28-19	1350	21.32	3.99	7.04	9.92	237.7	0.977	98.1		21.32	4.00	7.00	10.00	234.2	1.000	100.0	

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: Horiba U-52 **SERIAL NO:** PURMSJ4J

Parameter:	Span Value:	Reading:
pH: (S.U.)	4.00	4.00
Cond:(mS/cm)	4.49	4.50
DO: (% Sat.)	92.9	121.1
Turbidity (NTU)	0.00	0.00

Notes: Certificates of Analysis for buffers/standards available upon request.

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West
Print Name

Signature

Date: 2/22/2019

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
ssalabs.com - sem-analytical.com - envirotechonline.com

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 11J102430

Parameter:	Span Value:	Reading:
pH S.U.	7.00 / 10.00	7.00 / 10.00
Cond. mS/cm	1414	1414
D.O. % sat.	93.3	93.3
ORP mV	100	100.1

Notes: D.O. calibration point based on local barometric pressure of 709 mmHg.

Certificates of Analysis for buffers/standards available upon request.

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West

Print Name

Signature

Date: 2/19/2019

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
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SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 660124

Parameter:	Span Value:	Reading:
Turbidity (NTU):	0.02 / 20.0 / 100 / 800	0.00 / 19.99 / 99.9 / 812

Notes: 4-point calibration curve performed on instrument.

Calibration standards manufacturer: Hach Company, Lot # A6281

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West
Print Name

Signature

Date: 2/21/2019

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SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech.

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 11E101026

Parameter:	Span Value:	Reading:
pH (S.U.)	7.00 / 10.00	7.00 / 10.00
Cond (mS/cm):	1.413	1.413
D.O. (% Sat):	93	93.3
ORP (mV)	100	100.1

Notes:

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West
Print Name

Signature

Date: 2/14/2019

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SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 664117

Parameter:	Span Value:	Reading:
Turbidity (NTU):	0.02 / 20.0 / 100 / 800	0.00 / 20.6 / 101 / 812

Notes: A 4-point calibration curve performed on instrument.

Certificate-of-Analysis available upon request for calibration standards.

Calibrated by: Stephen West
Print Name

Signature

Date: 2/14/2019

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TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/25/19	Well ID: COH-2B1
Field Sampler(s): JB, SS				
Transducer Removal Time: 1306	Transducer Redeployment time: 1407		General Well Condition: Good	
Depth to Water (ft): ~~69~~ 16.88	Screened Interval Top (ft):		Pump Intake Depth (ft): 62.6	
Well Depth (ft): 69.7	Screened/Open Interval Bottom (ft):		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1321				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
																clear/none
1325	21.65		8.16		7.61		3.05		0		OL		270	16.88		white
1328	21.85		8.10		8.09		0.96		1		OL		270	16.88		
1331	21.95		8.06		6.13		0.51		-4		OL		270	16.88		
1334	21.99		8.10		5.27		0.35		-13		870		270	16.88		
1337	22.07		8.04		5.00		0.21		-13		578		270	16.88		
1340	22.10		8.03		5.01		0.12		-14		562		270	16.88		
1343	22.14		8.05		4.91		0.03		-15		436		270	16.88		
1346	22.21		8.13		4.85		0.00		-23		373		270	16.88		
1349	22.16		8.16		4.86		0.25		-52		275		270	16.88		clear
1352	22.18		8.14		4.85		0.00		-48		233		270	16.88		
1355	22.22		8.07		4.86		0.00		-48		215		270	16.88		
1358	22.22		8.05		4.84		0.00		-44		200		270	16.88		

Stop Purge Time: 1359	Sample Time: 1400	QA/QC Sample Time(s): —	
	Sample ID: COH-2B1-EM17	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 3/01/2019	Well ID: PC-58
Field Sampler(s): JB/SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 20.55	Screened Interval Top (ft): 10.1		Pump Intake Depth (ft): 27.83	
Well Depth (ft): 36.3	Screened/Open Interval Bottom (ft): 35.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0846				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0850	20.63		7.14		3.787		1.74		171.0		8.22		255	20.58		clear/none
0853	21.03		7.19		3.875		1.25		157.0		4.03		"	"		"
0856	21.44		7.21		3.953		0.94		133.4		1.20		"	"		"
0859	21.52		7.21		3.989		0.82		118.4		1.92		"	"		"
0902	21.56		7.21		4.026		0.70		99.6		1.98		"	"		"
0905	21.78		7.22		4.055		0.67		82.0		0.97		"	"		"
0908	21.70		7.22		4.060		0.66		76.3		1.59		"	"		"
0911	21.80		7.22		4.074		0.51		61.7		0.76		"	"		"
0914	21.84		7.22		4.088		0.52		56.1		0.63		"	"		"
0917	21.94		7.22		4.099		0.49		47.0		0.78		"	"		"
0920	21.81		7.22		4.112		0.44		39.0		0.62		"	"		"
0923	21.95		7.22		4.125		0.41		31.1		0.47		"	"		"
0926	21.92		7.22		4.129		0.41		29.5		1.27		"	"	10.7	"

Stop Purge Time: 0927	Sample Time: 0928		QA/QC Sample Time(s): 0915	
	Sample ID: PC-58-EM17		QA/QC Sample ID(s): SWFTS-20190301-FB	

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-28-19	Well ID: PC-88
Field Sampler(s): Doug Gilmore				
Transducer Removal Time: 949	Transducer Redeployment time: 1030		General Well Condition: 2/2 bolts missing	
Depth to Water (ft): 6.15	Screened Interval Top (ft): 39.9		Pump Intake Depth (ft): 44.9	
Well Depth (ft): 50.4	Screened/Open Interval Bottom (ft): 49.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 953				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
958	22.11		7.34		3.763		1.96		92.5		4.31		300	6.15	1.5	None
1001	22.49		7.32		3.794		0.89		90.4		4.27		300	6.15	2.4	
1004	22.63		7.32		3.797		0.56		88.7		4.13		300	6.15	3.3	
1007	22.72		7.31		3.804		0.46		87.7		4.07		300	6.15	4.2	
1010	22.90		7.31		3.809		0.36		86.6		3.99		300	6.15	5.1	
1013	22.90		7.31		3.810		0.35		86.5		3.97		300	6.15	6.0	
1016	22.90		7.31		3.812		0.35		86.5		3.95		300	6.15	6.9	

Stop Purge Time: 1018	Sample Time: 1020	QA/QC Sample Time(s): 1025
	Sample ID: PC-88-EM17	QA/QC Sample ID(s): PC-88-EM17-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl		X2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		X2	500 mL poly w/HNO3			250 mL Amber Glass w/H2SO4		
X2	125 mL w/EDA		X2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3		X2	250 mL Amber Glass ~~w/H3PO4~~ Hcl			500 mL Amber Glass		

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-26-19	Well ID: PC-91
Field Sampler(s): Doug Gimenez				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: ~~Poor~~ Good	
Depth to Water (ft): 10.72	Screened Interval Top (ft): 11.0		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 21.5	Screened/Open Interval Bottom (ft): 21.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1022				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1027	23.65		6.67		4.113		1.71		13.1		3.78		300	10.74	1.5	None
1030	23.95		6.65		4.157		0.81		17.9		2.63		300	10.74	2.4	
1033	24.02		6.64		4.179		0.71		20.3		2.45		300	10.74	3.3	
1036	24.14		6.63		4.123		0.54		24.1		2.47		300	10.74	4.2	
1039	24.22		6.63		4.130		0.50		24.9		2.44		300	10.74	5.1	
1042	24.22		6.63		4.135		0.48		25.3		2.42		300	10.74	6.0	
1045	24.23		6.63		4.134		0.47		26.0		2.41		300	10.74	6.9	
1048	24.23		6.63		4.134		0.47		26.4		2.40		300	10.74	7.8	

Stop Purge Time: 1049 Sample Time: 1050 QA/QC Sample Time(s): —

Sample ID: PC-91-EM17 QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-26-19	Well ID: PC-92
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): ~~36.7~~ 10.32	Screened Interval Top (ft): 26.2		Pump Intake Depth (ft): 31.2	
Well Depth (ft): 36.7	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: ~~927~~ 918				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
923	21.29		7.25		3555		3.01		-140.6		26.8		300	~~10.5~~ 10.35	1.5	None
926	21.44		7.21		3564		1.90		-120.6		12.92		300	10.37	2.4	
929	21.64		7.18		3562		0.97		-82.0		11.34		200	10.38	3.0	
932	21.72		7.18		3559		0.81		-73.2		10.10		200	10.38	3.6	
935	21.78		7.18		3553		0.64		-59.8		9.99		200	10.38	4.2	
938	21.81		7.18		3554		0.66		-57.1		9.35		200	10.38	4.8	
941	21.81		7.18		3554		0.58		-55.1		9.33		200	10.38	5.4	
944	21.81		7.17		3557		0.57		-54.3		9.31		200	10.38	6.0	
947	21.80		7.18		3660		0.56		-54.1		9.33		200	10.38	6.6	

Stop Purge Time: 948	Sample Time: 950	QA/QC Sample Time(s): —
	Sample ID: PC-92-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/27/19	Well ID: ~~SWFTS~~ PC-~~97~~ 94
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: TOC and surface completion destroyed	
Depth to Water (ft): 13.39 (approx)	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 17.35	
Well Depth (ft): 21.3	Screened/Open Interval Bottom (ft): 21.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0829				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0832	20.36		7.02		4.816		3.10		195.8		575		300	13.55		brown cloudy/
0835	21.37		7.00		4.896		1.36		174.8		522		"	"		none
0838	22.24		6.99		4.950		0.96		150.1		308		"	"		"
0841	22.06		6.99		4.958		0.95		141.6		245		"	"		"
0844	21.85		6.99		4.955		0.92		129.4		190		"	"		"
0847	21.73		6.99		4.953		0.85		116.7		137		"	"		"
0850	21.85		6.99		4.951		0.79		104.0		105		"	"		"
0853	21.79		6.99		4.953		0.76		101.9		101		"	"		"
0856	21.74		6.99		4.952		0.74		100.5		97		"	"	8.4	"

Stop Purge Time: 0857	Sample Time: 0858	QA/QC Sample Time(s): —
	Sample ID: PC-94-EM17	QA/QC Sample ID(s): —

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L TOC and well box have been destroyed for construction

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ ITC 1		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-28-19	Well ID: PC-97
Field Sampler(s): Doug Gilmer				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 4.73	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 33.0	Screened/Open Interval Bottom (ft): 32.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 900				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
905	20.42		7.27		2.854		2.84		94.1		41.7		300	4.75	1.5	None
908	21.02		7.25		2.907		0.79		88.5		38.9		300	4.75	2.4	
911	21.06		7.25		2.910		0.63		87.3		38.8		300	4.75	3.3	
914	21.09		7.25		2.913		0.63		87.2		37.9		300	4.75	4.2	
917	21.11		7.25		2.912		0.54		86.6		36.8		300	4.75	5.1	
920	21.12		7.24		2.910		0.46		86.0		36.5		300	4.75	6.0	
923	21.12		7.24		2.910		0.44		85.9		36.2		300	4.75	6.9	
926	21.12		7.24		2.909		0.44		85.8		36.0		300	4.75	7.8	

Stop Purge Time: 927	Sample Time: 0930	QA/QC Sample Time(s): —
	Sample ID: PC-97-EM17	QA/QC Sample ID(s): —

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.6 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS - MW01
Field Sampler(s): JB, SS				
Transducer Removal Time:	Transducer Redeployment time: —		General Well Condition:	
Depth to Water (ft): 14.32	Screened Interval Top (ft): 23.9*		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 39.1	Screened/Open Interval Bottom (ft): 23.9 38.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1231				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1237	24.52		6.72		5.92		3.01		14		39.5		315	14.32		clear/odorless
1240													"	"		switched out Horiba PUR
1249	23.15		7.13		4.62		2.54		-94.5		3.80		"	"		
1252	23.29		7.12		4.739		1.26		-129.6		1.50		"	"		
1255	23.39		7.13		4.754		1.05		-141.8		1.31		"	"		
1258	23.41		7.12		4.774		0.87		-152.7		2.20		"	"		
1301	23.44		7.11		4.786		0.74		-162.1		1.54		"	"		
1304	23.46		7.10		4.791		0.67		-167.8		2.92		"	"		
1307	23.45		7.09		4.807		0.56		-173.7		2.53		"	"		
1310	23.44		7.09		4.810		0.53		-179.7		1.37		"	"		
1313	23.44		7.09		4.816		0.50		-182.5		1.64		"	"		

Stop Purge Time: 1314	Sample Time: 1315	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW01-EM17	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L switched out Horiba PUR MSJ4J at 1240 with YSI 556 15L17

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/25/19	Well ID: SWFTS-MW02
Field Sampler(s): Dong Gimenez				
Transducer Removal Time: 1307	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 12.03	Screened Interval Top (ft): 18.1		Pump Intake Depth (ft): 25.5	
Well Depth (ft): ~~33.02~~ 33.2	Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1325				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1330	24.57		6.76		7.329		1.17		41.5		111		300	12.03	~~0.6~~ 1.5	None
1333	24.75		6.75		7355		0.58		39.1		61.4		300	12.03	2.4	
1336	24.73		6.74		7360		0.54		38.9		50.3		300	12.03	3.3	
1339	24.83		6.74		7.412		0.41		37.9		47.2		300	12.03	4.2	
1342	24.90		6.74		7.436		0.40		37.5		35.6		300	12.03	5.1	
1345	24.87		6.74		7.470		0.34		37.3		27.0		300	12.03	6.0	
1348	24.86		6.74		7.477		0.34		37.0		26.8		300	12.03	6.9	
1351	24.87		6.74		7.479		0.33		36.9		26.5		300	12.03	7.8	

Stop Purge Time: 1352	Sample Time: 1355	QA/QC Sample Time(s): —
	Sample ID: ~~SWFTS-MW02-EM17~~ SWFTS-MW02-EM17 DG	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass ~~w/H3PO4~~ HCL		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date:	Well ID: SWFTS- MW03
Field Sampler(s): JB SS				
Transducer Removal Time: 1030		Transducer Redeployment time: 1125		General Well Condition: Good
Depth to Water (ft): 13.38		Screened Interval Top (ft): 27.0		Pump Intake Depth (ft): 34.4
Well Depth (ft): 42.0		Screened/Open Interval Bottom (ft): 41.9		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1047				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
10.57	23.00		7.0		5.372		4.70		-41.3		54.6		270	13.38		clear/rare
11.00	23.03		6.97		5.381		1.80		-35.9		52.1		"	"		
11.03	23.08		6.96		5.379		1.32		-30.2		49.9		"	"		
11.06	23.00		6.96		5.385		1.02		-27.7		47.5		"	"		
11.09	23.04		6.96		5.395		0.93		-26.6		44.2		"	"		
11.12	23.04		6.97		5.394		0.95		-26.6		42.5		"	"	7.1	

Stop Purge Time: 11.13	Sample Time: 11.14	QA/QC Sample Time(s): —	
	Sample ID: SWFTS- MW03 -EM17	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ MU		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 3-1-19	Well ID: SWFTS - MW04
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: –	Transducer Redeployment time: –		General Well Condition: Good	
Depth to Water (ft): 9.43	Screened Interval Top (ft): 25.5		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 40.6	Screened/Open Interval Bottom (ft): 40.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 950				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
955	22.33		7.26		3.658		1.01		122.7		157		300	9.45	1.5	None
958	22.31		7.25		3.754		0.83		127.7		125		300	9.45	2.4	
1001	22.29		7.25		~~3.787~~ 3.783		0.68		122.4		98.1		300	9.45	3.3	
1004	22.36		7.24		3.823		0.64		122.2		85.6		300	9.45	4.2	
1007	22.43		7.24		3.816		0.59		126.7		81.1		300	9.45	5.1	
1010	22.48		7.24		3.824		0.57		126.3		80.4		300	9.45	6.0	
1013	22.47		7.24		3.826		0.56		126.1		79.9		300	9.45	6.9	
1016	22.47		7.24		3.825		0.55		125.9		78.7		300	9.45	7.8	

Stop Purge Time: 1017	Sample Time: 1020	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW04-EM17	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass ~~w/H3PO4~~ H/L		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/27/19	Well ID: SWFTS-MW05A
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.54	Screened Interval Top (ft): 18.8		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 28.9	Screened/Open Interval Bottom (ft): 28.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1230				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
~~1230~~																
1240	23.91		6.83		6.132		0.98		-0.1		1.30		~~195~~ 200	17.55		clear/no odor
1243	23.94		6.84		6.141		0.83		-6.0		1.29		"	"		
1246	23.91		6.83		6.139		0.75		-8.4		0.74		"	"		
1249	23.97		6.82		6.141		0.68		-10.9		0.78		"	"		
1252	24.02		6.82		6.150		0.62		-16.5		~~0.78~~ 0.90		"	"		
1255	23.96		6.81		6.141		0.57		-22.3		0.71		"	"		
1258	23.94		6.81		6.146		0.52		-25.1		0.88		"	"		
1301	23.94		6.81		6.150		0.51		-30.7		0.91		"	"	6.3	

Stop Purge Time: 1302	Sample Time: 1303	QA/QC Sample Time(s): 1303	
	Sample ID: SWFTS-MW05A-EM17	QA/QC Sample ID(s): SWFTS-MW05A-EM17-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	2	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/27/19	Well ID: SWFTS-MW05B
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.47	Screened Interval Top (ft): 31.7		Pump Intake Depth (ft): 36.6	
Well Depth (ft): 41.9	Screened/Open Interval Bottom (ft): 41.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1135				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1144	22.99		6.75		5.312		1.80		-115.7		30.7		255	17.47		clear/none
1147	23.00		6.73		5.313		1.38		-92.8		25.4		"	"		
1150	23.05		6.73		5.317		1.18		-76.3		25.1		"	"		
1153	23.06		6.72		5.318		0.96		-66.8		16.42		"	"		
1156	23.10		6.72		5.321		0.88		-64.0		11.89		"	"		
1159	23.12		6.72		5.324		0.80		-61.6		9.77		"	"		
1202	23.17		6.72		5.324		0.68		-61.9		9.55		"	"		
1205	23.23		6.72		5.330		0.67		-62.8		9.40		"	"		
1208	23.33		6.71		5.334		0.61		-64.3		9.31		"	"	8.7	

Stop Purge Time: 1209	Sample Time: 1210	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW05B-EM17	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-27-19	Well ID: SWFTS-MW06A
Field Sampler(s): Dong Gilmenez				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 5.03	Screened Interval Top (ft): 11.2		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 21.3	Screened/Open Interval Bottom (ft): 20.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1238				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1243	21.45		7.18		2.772		0.17		-52.7		24.6		300	5.07	1.5	None
1246	21.62		7.17		2782		0.09		-49.4		17.3		300	5.07	2.4	
1249	21.80		7.17		2.794		0.07		-37.0		11.94		300	5.07	3.3	
1252	21.89		7.17		2.801		0.06		-25.2		11.11		300	5.07	4.2	
1255	21.88		7.16		2.800		0.05		-19.6		9.28		300	5.07	5.1	
1258	21.89		7.17		2.802		0.05		-18.1		9.25		300	5.07	6.0	
1301	21.89		7.17		2.804		0.05		-17.4		9.23		300	5.07	6.9	

Stop Purge Time: 1302 Sample Time: 1305 QA/QC Sample Time(s): 1310

Sample ID: SWFTS-MW06A-EM17 QA/QC Sample ID(s): SWFTS-MW06A-EM17-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L EB: SWFTS-20190227-EB @ 1330

Bottle Set Summary

	3x VOA w/HCl	X2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
X2	125 mL w/EDA	X2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	X2	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-28-19	Well ID: SWFTS-MW06B
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: 745	Transducer Redeployment time: 0845		General Well Condition: ~~ff~~ Good	
Depth to Water (ft): 5.30	Screened Interval Top (ft): 25.6		Pump Intake Depth (ft): 30.4	
Well Depth (ft): 35.7	Screened/Open Interval Bottom (ft): 35.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 754				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
759	20.77		7.25		2.982		1.68		93.9		283		300	5.30	1.5	turbid/none
802	21.14		7.23		2.991		1.21		93.0		214		300	5.30	2.4	
805	21.17		7.22		2.942		0.97		92.5		161		300	5.30	3.3	
808	21.27		7.22		2.998		0.73		91.7		136		300	5.30	4.2	
811	21.33		7.22		3.002		0.61		91.5		93.4		300	5.30	5.1	
814	21.37		7.21		3.005		0.58		90.3		84.2		300	5.30	6.0	
817	21.39		7.21		3.006		0.48		89.7		71.8		300	5.30	6.9	
820	21.40		7.21		3.005		0.46		88.5		70.2		300	5.30	7.8	
823	21.41		7.21		3.006		0.46		88.2		70.0		300	5.30	8.7	
826	21.41		7.21		3.006		0.45		87.9		69.4		300	5.30	9.6	

Stop Purge Time: 827 | Sample Time: 0830 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW06B-EM17 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	X	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
X	125 mL w/EDA	X	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	X	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-28-19	Well ID: SWFTS-MW07A
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.48	Screened Interval Top (ft): 14.7		Pump Intake Depth (ft): 22.0	
Well Depth (ft): 29.8	Screened/Open Interval Bottom (ft): 29.2		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1057				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1102	24.18		7.11		5.143		1.81		98.4		0.86		300	12.50	1.5	None
1105	24.26		7.10		5.156		0.99		95.4		0.67		300	12.50	2.4	
1108	24.31		7.10		5.165		0.76		93.4		0.53		300	12.50	3.3	
1111	24.35		7.09		5.183		0.68		91.9		0.51		300	12.50	4.2	
1114	24.36		7.09		5.185		0.63		91.1		0.53		300	12.50	5.1	
1117	24.35		7.09		5.190		0.62		90.4		0.51		300	12.50	6.0	
1120	24.35		7.09		5.190		0.62		90.1		0.52		300	12.50	6.9	

Stop Purge Time: 1121	Sample Time: 1122	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07A-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

~~✓~~ DI	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-28-19	Well ID: SWFTS-MW07B
Field Sampler(s): Dong Gimenez				
Transducer Removal Time: 1138	Transducer Redeployment time: 1222			General Well Condition: Good
Depth to Water (ft): 12.17	Screened Interval Top (ft): 33.4			Pump Intake Depth (ft): 35.7
Well Depth (ft): 38.5	Screened/Open Interval Bottom (ft): 37.9			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1144				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1149	24.40		7.18		4.553		2.36		98.0		5.47		300	12.17	1.5	none
1152	24.32		7.13		4.724		0.81		96.1		4.12		300	12.17	2.4	
1155	24.30		7.13		4.758		0.70		95.8		3.97		300	12.17	3.3	
1158	24.30		7.12		4.834		0.58		95.0		3.90		300	12.17	4.2	
1201	24.30		7.12		4.882		0.52		94.5		3.87		300	12.17	5.1	
1204	24.26		7.11		4.961		0.42		92.8		3.85		300	12.17	6.0	
1207	24.27		7.11		4.963		0.41		92.7		3.83		300	12.17	6.9	
1210	24.28		7.11		4.967		0.40		91.4		3.81		300	12.17	7.8	
1213	24.28		7.11		4.968		0.40		91.7		3.80		300	12.17	8.7	

Stop Purge Time: 1214	Sample Time: 1215	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07B-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/28/19	Well ID: SWFTS-MW08A
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.71	Screened Interval Top (ft): 19.7		Pump Intake Depth (ft): 27	
Well Depth (ft): 34.8	Screened/Open Interval Bottom (ft): 34.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1139				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1149	23.12		7.12		5.243		0.98		11.8		2.81		210	15.81		clear/no odor
1152	23.17		7.12		5.248		0.78		4.9		0.00		"	"		
1155	23.19		7.11		5.256		0.74		1.2		0.00		"	"		
1158	23.20		7.11		5.265		0.60		-3.6		0.00		"	"		
1201	23.24		7.11		5.275		0.55		-5.8		0.34		"	"		
1204	23.24		7.10		5.279		0.51		-7.6		0.09		"	"		
1207	23.27		7.10		5.291		0.46		-10.7		0.00		"	"		
1210	23.29		7.10		5.297		0.42		-14.6		0.08		"	"		
1213	23.27		7.10		5.300		0.40		-17.7		0.05		"	"	7.2	

Stop Purge Time: 1214	Sample Time: 1215	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW08A-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS- MW09A
Field Sampler(s): JB, SS				
Transducer Removal Time: 1333	Transducer Redeployment time: 1420		General Well Condition: Good	
Depth to Water (ft): 13.60	Screened Interval Top (ft): 18.9		Pump Intake Depth (ft): 23.7	
Well Depth (ft): 29.0	Screened/Open Interval Bottom (ft): 28.5		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1341				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1341	22.47		7.09		4.839		2.27		-42.6		0.47		315	13.60		clear/no odor
1347	22.88		7.04		4.876		1.39		-43.8		0.31		"	"		
1350	22.94		7.03		4.875		1.00		-47.1		0.11		"	"		
1353	22.96		7.02		4.868		0.83		-49.9		0.29		"	"		
1356	22.98		7.02		4.871		0.71		-54.3		0.07		"	"		
1359	23.08		7.02		4.880		0.63		-57.6		0.31		"	"		
1402	23.18		7.01		4.885		0.53		-61.4		0.32		"	"		
1405	23.23		7.00		4.899		0.49		-65.3		0.00		"	"		
1408	23.20		7.00		4.887		0.44		-69.7		0.01		"	"		
1411	23.20		7.00		4.885		0.43		-69.8		0.02		"	"	9.8	
3																

Stop Purge Time: 1412	Sample Time: 1413	QA/QC Sample Time(s): —
	Sample ID: SWFTS- MW09A-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/28/19	Well ID: SWFTS-MW09B
Field Sampler(s): JB, BS				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 13.75	Screened Interval Top (ft): 33.9		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.0	Screened/Open Interval Bottom (ft): 38.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0750				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0755	22.45		6.98		5.165		2.07		145.1		1.70		320	13.75		clear/no odor
0758	22.54		7.00		5.188		1.21		125.4		1.23		"	"		
0801	22.62		6.99		5.214		0.95		109.9		1.03		"	"		
0804	22.68		7.00		5.242		0.73		94.8		0.92		"	"		
0807	22.72		6.99		5.258		0.67		87.1		0.68		"	"		
0810	22.75		6.99		5.284		0.57		78.0		0.88		"	"		
0813	22.77		6.99		5.311		0.52		70.1		0.67		"	"		
0816	22.78		6.98		5.321		0.48		62.4		0.55		"	"		
0819	22.80		6.99		5.307		0.50		56.6		0.53		"	"	9.8	clear/none

Stop Purge Time: 0820	Sample Time: 0821	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW09B-EM19	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-26-19	Well ID: SWFTS-MW10A
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: 1118	Transducer Redeployment time: 1217		General Well Condition: Good	
Depth to Water (ft): 10.57	Screened Interval Top (ft): 20.1		Pump Intake Depth (ft): 27.4	
Well Depth (ft): 35.2	Screened/Open Interval Bottom (ft): 34.7		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1131				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1136	23.41		6.93		5.650		1.95		33.1		1.55		300	10.57	1.5	None
1139	23.49		6.90		5.683		1.06		33.1		1.59		300	10.57	2.4	
1142	23.45		6.89		5.685		0.59		32.7		1.64		300	10.57	3.3	
1145	23.47		6.89		5.689		0.53		32.8		1.62		300	10.57	4.2	
1148	23.54		6.89		5.697		0.47		32.8		1.60		300	10.57	5.1	
1151	23.60		6.89		5.705		0.44		32.8		1.62		300	10.57	6.0	
1154	23.58		6.89		5.704		0.38		31.8		1.61		300	10.57	6.9	
1157	23.57		6.89		5.706		0.37		31.3		1.60		300	10.57	7.8	
1200	23.58		6.89		5.705		0.37		31.1		1.62		300	10.57	8.7	

Stop Purge Time: 1201	Sample Time: 1202	QA/QC Sample Time(s): 1202
	Sample ID: SWFTS-MW10A-EM17	QA/QC Sample ID(s): SWFTS-MW10A-EM17-MS/MSD

Observations/Comments: MS/MSD

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 20 mg/L

Bottle Set Summary

	3x VOA w/HCl	X2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
X2	125 mL w/EDA	X2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	X2	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 3-1-19	**Well ID:** SWFTS-MW11
Field Sampler(s): Dong Gimenez				
Transducer Removal Time: –	Transducer Redeployment time: –		General Well Condition: Good	
Depth to Water (ft): 16.64	Screened Interval Top (ft): 14.2		Pump Intake Depth (ft): ~~26 ft~~ 27.8	
Well Depth (ft): 39.4	Screened/Open Interval Bottom (ft): 39.0		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 848				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
853	22.76		7.24		5.871		5.95		163.9		2.69		300	16.64	1.5	None
856	22.63		7.28		5.961		5.80		154.7		1.57		300	16.64	2.4	
859	22.65		7.26		5.966		5.63		152.5		1.24		300	16.64	3.3	
902	23.72		7.25		5.975		5.44		149.5		1.21		300	16.64	4.2	
905	23.88		7.24		5.998		5.27		146.2		1.20		300	16.64	5.1	
908	23.87		7.24		5.997		5.25		144.9		1.18		300	16.64	6.0	
911	23.87		7.24		5.994		5.24		143.6		1.17		300	16.64	6.9	
914	23.87		7.24		5.998		5.23		143.3		1.17		300	12.64	7.8	

Stop Purge Time: 915	**Sample Time:** 0917	**QA/QC Sample Time(s):** 0922
	Sample ID: SWFTS-MW11-EM17	**QA/QC Sample ID(s):** SWFTS-MW11-EM17-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L **HACH Kit Ferrous Iron:** 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	X2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
X2	125 mL w/EDA	X2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	X2	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/28/19	Well ID: SWFTS- MW12
Field Sampler(s): JB, SS				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 18.12	Screened Interval Top (ft): 15.5		Pump Intake Depth (ft): 29.21	
Well Depth (ft): 40.7	Screened/Open Interval Bottom (ft): 40.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1045				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1048	23.59		7.26		6.050		4.68		23.8		41.2		315	18.12		clear / no odor (slightly tinted yellow)
1051	23.68		7.20		6.073		3.94		22.6		49.2		"	"		
1054	23.64		7.19		6.085		3.76		22.7		53.5		"	"		
1057	23.61		7.18		6.084		3.54		22.3		64.6		"	"		
1100	23.56		7.18		6.084		3.64		21.5		60.7		"	"		
1103	23.62		7.18		6.087		3.73		21.7		51.2		"	"		
1106	23.60		7.18		6.099		3.63		21.8		49.7		"	"		
1109	23.64		7.18		6.109		3.64		22.2		28.2		"	"		
1112	23.66		7.18		6.122		3.64		22.9		22.5		"	"		
1115	23.68		7.18		6.126		3.69		23.6		20.7		"	"		
1118	23.71		7.18		6.127		3.64		23.3		20.3		"	"	10.4	

Stop Purge Time: 1119	Sample Time: 1120	QA/QC Sample Time(s): —
	Sample ID: SWFTS- MW12-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/28/19	Well ID: SWFTS-MW13
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 23.31	Screened Interval Top (ft): 17.4			Pump Intake Depth (ft): 35.25
Well Depth (ft): 47.6	Screened/Open Interval Bottom (ft): 47.2			Well Diameter (in): 4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0952				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0956	23.22		7.20		6.498		4.80		53.0		3.04		270	23.31		clear/no odor
0959	23.24		7.18		6.579		4.31		45.6		3.26		"	"		↓
1002	23.32		7.16		6.687		4.15		40.7		2.68		"	"		
1005	23.32		7.15		6.729		4.02		38.1		2.29		"	1	3.5	

Stop Purge Time: ~~0953~~ 1006	Sample Time: ~~0954~~ 1007	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW13-EM17	QA/QC Sample ID(s): —	

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-26-19	Well ID: SWFTS-MW14-~~EM17~~ DG
Field Sampler(s): Dany Gimenez				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: good	
Depth to Water (ft): 10.73	Screened Interval Top (ft): 16.5		Pump Intake Depth (ft): 26.4	
Well Depth (ft): 36.7	Screened/Open Interval Bottom (ft): 36.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 808				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
815	21.96		6.79		5.797		1.90		-314.6		7.53		300	10.74	1.4	strong - rotten
818	22.77		6.78		5.755		1.00		-318.0		5.39		300	10.74	2.3	egg odor
821	22.90		6.78		5.749		0.79		-315.2		5.23		300	10.74	3.2	slight
824	22.92		6.77		5.736		0.74		-313.6		5.21		300	10.74	4.1	grey
827	22.94		6.77		5.734		0.69		-311.6		5.19		300	10.74	5.0	color
830	22.95		6.76		5.729		0.67		-310.4		5.20		300	10.74	5.9	
833	22.96		6.76		5.728		0.67		-309.9		5.19		300	10.74	6.8	

Stop Purge Time: 834	Sample Time: 835	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW14-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.08 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/25/19	Well ID: SWFTS-MW15
Field Sampler(s): JB, SS, DG				
Transducer Removal Time: 1110	Transducer Redeployment time: 1242		General Well Condition: Good	
Depth to Water (ft): ~~13~~. 13.63	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 24.40	
Well Depth (ft): 35	Screened/Open Interval Bottom (ft): 34.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1145				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
~~1145~~													240	13.65		
1150	21.72		7.99		5.50		8.49		-155		126		240	13.65		Greyish/Odor
1153	22.39		7.99		5.49		7.74		-172		99.4		240	13.65		
1156	22.55		7.98		5.45		7.03		-180		~~75~~.5		240	13.65		
1159	22.68		7.97		5.46		6.34		-188		77.0		240	13.65		
1202	22.80		7.98		5.44		5.82		-192		57.0		240	13.65		
1205	23.04		7.97		5.42		7.6		-186		72.1		240	13.65		
1208	22.98		7.98		5.41		0.28		-200		56.7		240	13.65		
1211	23.05		7.97		5.41		0.24		-204		75.7		240	13.65		
1214	23.13		7.96		5.41		0.14		-207		66.2		240	13.65		
1217	23.09		7.95		5.41		0.11		-206		73.1		240	13.65		
1220	23.16		7.94		5.41		0.06		-207		52.0		240	13.65		
1223	23.19		7.93		5.41		0.04		-208		50.9		240	13.65		
1226	23.01		7.93		5.41		0.00		-208		53.9		240	13.65	9.9	

Stop Purge Time: 1227	Sample Time: 1228	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW15-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.5 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS – MW 16
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 22.28	Screened Interval Top (ft): 21.4			Pump Intake Depth (ft): 31.75
Well Depth (ft): 41.6	Screened/Open Interval Bottom (ft): 41.2			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 8.20				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
8.25	—															Black
8.48	20.14		6.94		5.61		8.33		-52		330		255	22.28		Black/odor
8.52	21.34		6.93		5.71		6.92		-51		459		255	22.28		
8.55	21.36		6.93		5.77		6.66		-70		552		255	22.28		
8.58	21.69		6.91		5.77		6.05		-76		492		255	22.28		
9.01	21.92		6.89		5.72		5.57		-76		481		255	22.28		
9.04	22.22		6.86		5.70		5.05		-80		401		255	22.28		
9.07	22.31		6.84		5.69		4.85		-81		373		255	22.28		
9.10	22.36		6.83		5.68		4.30		-82		353		255	22.28		
9.13	22.52		6.77		5.67		4.04		-88		300		255	22.28		
9.16	22.64		6.74		5.64		3.75		-98		250		255	22.28		
9.19	22.72		6.73		5.64		3.51		-109		230		255	22.28		
9.22	22.83		6.71		5.64		3.03		-126		228		255	22.28		
9.25	23.51		6.71		5.62		0.06		-98		221		255	22.28		
9.28	23.71		6.82		5.60		0.00		-102		167		255	22.28		

slight rotten egg odor

Stop Purge Time: 9.41	Sample Time:	QA/QC Sample Time(s):
	Sample ID:	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 4.5 mg/L See page 2

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H2SO4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
	125 mL w/EDA		250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS-MW16
Field Sampler(s): JB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 22.28	Screened Interval Top (ft): 21.4			Pump Intake Depth (ft): 31.75
Well Depth (ft): 41.6	Screened/Open Interval Bottom (ft): 41.2			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 8.20				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
9.31	23.70		6.81		5.59		0.00		-108		139		255	22.28		Black/rotten egg odor
9.34	23.68		6.80		5.58		0.00		-114		121		255	22.28		↓
9.37	23.73		6.80		5.58		0.00		-119		116		255	22.28		
9.40	23.70		6.77		5.58		0.00		-122		112		255	22.28	20.7	

Stop Purge Time: 9.41	Sample Time: 9.42	QA/QC Sample Time(s): 1000	
	Sample ID: SWFTS-MW16-EM-17	QA/QC Sample ID(s): SWFTS-20190226-EB	

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 4.5 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/28/19 ~~2/28/19~~	Well ID: SWFTS - MW17
Field Sampler(s): JB, GS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 26.31	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 39.3	
Well Depth (ft): 52.7	Screened/Open Interval Bottom (ft): 52.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0855				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0900	22.80		7.32		4.619		6.00		41.3		25.7		270	26.31		clear | no odo
0903	23.10		7.27		4.638		5.00		41.4		14.80		↓	↓		↓
0906	22.97		7.25		4.632		4.95		42.1		11.33					
0909	22.99		7.24		4.602		4.89		41.2		9.50					
0912	23.05		7.24		4.593		4.84		40.9		9.38					
0915	22.97		7.24		4.578		4.83		40.7		5.96		↓	↓	5.4	↓

Stop Purge Time: 0916	Sample Time: 0917	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW17-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS-MW18
Field Sampler(s): JTB, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.58	Screened Interval Top (ft): 16.2		Pump Intake Depth (ft): 26.1	
Well Depth (ft): 36.4	Screened/Open Interval Bottom (ft): 36.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1024				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1029	23.76		6.73		6.29		4.00		33		95		270	15.58		clear/none
1032	23.99		6.66		6.28		1.15		33		81.4		270	15.58		
1035	24.06		6.75		6.26		0.39		38		60.6		270	15.58		
1038	24.05		6.76		6.20		0.21		39		50.0		270	15.58		
1041	24.03		6.75		6.17		0.08		42		43.1		270	15.58		
1044	24.01		6.72		6.12		0.01		39		31.2		270	15.58		
1047	24.00		6.75		6.10		0.00		40		25.8		270	15.58		
1050	23.98		6.75		6.09		0.00		42		21.5		270	15.58		
1053	24.03		6.73		6.08		0.00		44		20.1		270	15.58		
1056	24.06		6.78		6.08		0.00		45		19.6		270	15.58	8.7	

Stop Purge Time: 1057	Sample Time: 1058	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW18-EM17	QA/QC Sample ID(s): —

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L Water below TOC

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-27-19	Well ID: SWFTS-MW19
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: –	Transducer Redeployment time: –			General Well Condition: Good
Depth to Water (ft): 10.19	Screened Interval Top (ft): 11.1			Pump Intake Depth (ft): 21
Well Depth (ft): 31.3	Screened/Open Interval Bottom (ft): 30.9			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 810				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
~~815~~													~~300~~		~~1.5~~ DG	None
820	21.15		7.14		3.171		0.24		101.5		19.9		300	10.20	1.5	
823	21.58		7.13		3.199		0.18		99.6		13.38		300	10.20	2.4	
826	21.75		7.12		3.208		0.16		98.9		11.23		300	0.20	3.3	
829	21.79		7.12		3.212		0.15		98.6		6.67		300	10.20	4.2	
832	21.89		7.12		3.217		0.15		99.4		6.53		300	10.20	5.1	
835	21.90		7.11		3.219		0.14		98.2		6.50		300	10.20	6.0	
838	21.91		7.11		3.221		0.14		98.10		6.48		300	10.20	6.9	
841	21.91		7.11		3.223		0.14		97.9		6.49		300	10.20	7.8	

Stop Purge Time: 842	Sample Time: 0844	QA/QC Sample Time(s): 0849
	Sample ID: SWFTS-MW19-EM17	QA/QC Sample ID(s): SWFTS-MW19-EM17-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	x2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
x2	125 mL w/EDA	x2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	x2	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-26-19	Well ID: SWFTS-MW20
Field Sampler(s): Doug Gimenez				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: 2/2 bolts missing	
Depth to Water (ft): 12.73	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): ~~24.8~~ 24.9	
Well Depth (ft): 37.6	Screened/Open Interval Bottom (ft): 37.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1259				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
~~1306~~ 1306	23.83		6.71		6.760		1.63		53.0		233		300	12.74	2.1	turbid
1309	24.21		6.71		6.694		0.82		51.4		157		300	12.74	3.0	
1312	24.28		6.71		6.676		0.62		50.9		128		300	12.74	3.9	
1315	24.29		6.71		6.682		0.51		50.8		87.0		300	12.74	4.8	
1318	24.30		6.71		6.678		0.47		50.8		64.7		300	12.74	5.7	
1321	24.35		6.71		6.701		0.45		51.0		56.2		300	12.74	6.6	
1324	~~24~~.36		6.71		6.681		0.42		51.2		41.6		300	12.74	7.5	
1327	24.31		6.71		6.667		0.40		51.4		38.6		300	12.74	8.4	clear
1330	24.30		6.71		6.670		0.37		51.7		37.7		300	12.74	9.3	
1333	24.31		6.71		6.668		0.36		51.9		37.1		300	12.74	10.2	
1336	24.31		6.71		6.669		0.36		52.0		36.9		300	1274	11.1	

Stop Purge Time: 1337	Sample Time: 1340	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW20-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L FB = SWFTS-20190226-FB @ 1400

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/26/19	Well ID: SWFTS - MW21
Field Sampler(s): JB, SS				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition:	
Depth to Water (ft): 15.75	Screened Interval Top (ft): 14.5		Pump Intake Depth (ft): 27.52	
Well Depth (ft): 39.7	Screened/Open Interval Bottom (ft): 39.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1131				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1133	23.40		6.74		7.48		2.79		-41		402		200	15.75		clear/noodor
1136	23.82		6.66		7.50		0.98		-38		385		200	15.75		
1139	24.07		6.63		7.49		0.50		-36		317		200	15.75		
1142	24.23		6.65		7.48		0.24		-34		195		200	15.75		
1145	24.25		6.63		7.47		0.15		-34		134		"	"		
1148	24.29		6.63		7.47		0.08		-35		100		"	"		
1151	24.35		6.64		7.48		0.00		-34		82.6		"	"		
1154	24.39		6.64		7.48		0.00		-34		65.3		"	"		
1157	24.42		6.62		7.48		0.00		-34		53.9		"	"		
1200	24.51		6.62		7.49		0.00		-33		49.7		"	"		
1203	24.58		6.60		7.48		0.00		-33		47.9		"	"	6.4	

Stop Purge Time: 1204	Sample Time: 1205	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW21-EM17	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-27-19	**Well ID:** SWFTS-MW22
Field Sampler(s): Doug Gilmour				
Transducer Removal Time: –	Transducer Redeployment time: –		General Well Condition: 2/2 bolts missing	
Depth to Water (ft): 11.13	Screened Interval Top (ft): 11.4		Pump Intake Depth (ft): 21.3	
Well Depth (ft): 31.6	Screened/Open Interval Bottom (ft): 31.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0921				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0926	22.05		7.16		3.801		0.22		102.6		251		300	11.13	1.5	turbid
0929	22.64		7.14		3.863		0.13		100.9		262		300	11.13	2.4	
0932	22.88		7.12		3.895		0.09		99.3		195		300	11.13	3.3	
0935	22.95		7.12		3.909		0.08		98.2		185		300	11.13	4.2	
0938	22.98		7.11		3.915		0.07		97.5		183		300	11.13	5.1	
0941	22.99		7.11		3.918		0.07		96.9		181		300	11.13	6.0	
0944	23.00		7.11		3.919		0.07		96.6		180		300	11.13	6.9	

Stop Purge Time: 0945	**Sample Time:** 0947	**QA/QC Sample Time(s):** —
	Sample ID: SWFTS-MW22-EM17	**QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: 0.0 **mg/L** **HACH Kit Ferrous Iron:** 0.0 **mg/L**

Bottle Set Summary

	3x VOA w/HCl	X	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
X	125 mL w/EDA	X	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	X	250 mL Amber Glass w/H_3PO_4 HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-27-19	**Well ID:** SWFTS-MW23
Field Sampler(s): Doug Gilmore				
Transducer Removal Time: ~~1220~~ 1020	Transducer Redeployment time: 1100			General Well Condition: Good
Depth to Water (ft): 12.53	Screened Interval Top (ft): 16.4			Pump Intake Depth (ft): 26.3
Well Depth (ft): 36.6	Screened/Open Interval Bottom (ft): 36.2			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1026				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1031	21.01		7.18		2.774		0.20		102.7		6.51		300	12.53	1.5	None
1034	21.46		7.16		2.795		0.10		100.6		4.14		300	12.53	2.4	
1037	21.63		7.16		2.805		0.07		99.0		3.49		300	12.53	3.3	
1040	21.79		7.15		2.816		0.06		97.9		3.34		300	12.53	4.2	
1043	22.00		7.11		2.833		0.06		97.4		3.32		300	12.53	5.1	
1046	22.03		7.15		2.833		0.05		96.3		3.30		300	12.53	6.0	
1049	22.04		7.15		2.834		0.05		96.0		3.31		300	12.53	6.9	
1052	22.04		7.15		2.834		0.05		95.8		3.30		300	12.53	7.8	

Stop Purge Time: 1053	**Sample Time:** 1055	**QA/QC Sample Time(s):** —
	Sample ID: SLWFTS-MW23-EM17	**QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L **HACH Kit Ferrous Iron:** 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	X	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
X	125 mL w/EDA	X	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	X	250 mL Amber Glass w/H_3PO_4 1/2 L		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2/27/19	Well ID: SWFTS-MW24
Field Sampler(s): JS, SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.98	Screened Interval Top (ft): 125		Pump Intake Depth (ft): 25.14	
Well Depth (ft): 37.7	Screened/Open Interval Bottom (ft): 37.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0935				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0943	20.74		7.15		5.106		2.95		60.9		13.81		210	12.98		clear/no od.
0946	21.13		7.10		5.144		2.59		58.4		5.15		210	12.98		
0949	21.30		7.10		5.156		2.04		54.3		3.14		"	"		
0952	21.30		7.09		5.163		1.79		50.8		1.82		"	"		
0955	21.45		7.08		5.167		1.57		46.4		0.96		"	"		
0958	21.47		7.08		5.169		1.52		44.1		1.68		"	"		
1001	21.48		7.08		5.170		1.39		40.7		0.95		"	"		
1004	21.54		7.08		5.168		1.37		39.4		0.97		"	"		
1007	21.54		7.08		5.168		1.29		36.8		0.19		"	"	7.0	

Stop Purge Time: 1008	Sample Time: 1009	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW24-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM17	Date: 2-27-19	Well ID: SWFTS-MW25
Field Sampler(s): Doug Lehmann				
Transducer Removal Time: 1127	Transducer Redeployment time: 1212		General Well Condition: good	
Depth to Water (ft): 10.51	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 27.3	
Well Depth (ft): 42.6	Screened/Open Interval Bottom (ft): 42.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1133				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1138	23.39		6.93		2.721		0.58		119.3		523		300	10.51	1.5	Turbid
1141	23.40		6.91		5.448		0.13		116.0		481		300	10.51	2.4	
1144	23.53		6.91		5.460		0.08		111.8		459		300	10.51	3.3	
1147	23.62		6.91		5.464		0.07		108.7		431		300	10.51	4.2	
1150	23.60		6.91		5.464		0.06		107.3		428		300	10.51	5.1	
1153	23.67		6.90		5.470		0.05		105.5		423		300	10.51	6.0	
1156	23.65		6.91		5.464		0.05		105.0		420		300	10.51	6.9	
1159	23.66		6.91		5.467		0.05		104.8		418		300	10.51	7.8	

Stop Purge Time: 1200	Sample Time: 1202	QA/QC Sample Time(s): —
	Sample ID: SWFTS_MW25-EM17	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM18	Date: 4/8/19
Task Manager: D. Grady	Field Sampler(s):	Recorded by: Jesse Burkers
Equipment Model/Type: Solinst Water Level Meter 200'	*Serial Number:* 32822	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1211	PC-91	TOC	11.20	19.85	Good
1214	PC-92	TOC	10.79	36.90	Good
1038	PC-94	TOC	—	7.25	Well filled with sediment
1345	PC-58	TOC	21.62	38.80	Good
1200	PC-88	TOC	6.66	46.50	Good
1154	PC-97	TOC	5.20	31.05	Good
1420	COH-2B1	TOC	17.11	64.75	Good
1048	SWFTS-MW01	TOC	14.72	38.40	Good
1208	SWFTS-MW02	TOC	12.55	31.50	Good
1309	SWFTS-MW03	TOC	13.75	41.45	Good
1204	SWFTS-MW04	TOC	4.90	39.65	Good
1314	SWFTS-MW05A	TOC	17.85	28.15	Good
1316	SWFTS-MW05B	TOC	17.82	41.50	Good
1131	SWFTS-MW06A	TOC	5.51	20.92	Good
1127	SWFTS-MW06B	TOC	5.76	35.05	Good
1233	SWFTS-MW07A	TOC	13.00	29.70	Good
1231	SWFTS-MW07B	TOC	12.72	38.25	Good
1239	SWFTS-MW08A	TOC	16.15	34.75	Good
1243	SWFTS-MW08C	TOC	14.49	69.60	Good
1044	SWFTS-MW09A	TOC	14.00	28.81	Good
1045	SWFTS-MW09B	TOC	14.13	38.85	Good
1108	SWFTS-MW10A	TOC	11.05	34.70	Good
1105	SWFTS-MW10C	TOC	9.10	63.12	Good
1033	MW24	TOC	13.31	37.05	Good
1101	MW20	TOC	13.11	35.62	Vault cracked, no bolts
1113	MW19	TOC	10.61	30.22	Good
1135	MW23	TOC	12.88	36.00	Good, no lock, sticking
1139	MW25	TOC	10.82	43.10	Good
1221	MW14	TOC	11.23	35.80	bolts & lid rusted
1227	MW11	TOC	17.10	39.15	Good
1237	MW15	TOC	14.11	33.90	Good
1247	MW12	TOC	18.59	39.83	Good
1301	MW16	TOC	22.67	39.40	Good
1306	MW18	TOC	16.00	35.45	Good
1321	MW21	TOC	~~17.85~~ 16.11	~~21.15~~	Good TD: 37.70
1333	MW17	TOC	26.68	51.40	Good
1337	MW13	TOC	23.70	47.30	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study	Task No.: M11 - EM18	Rental from: Equipco	Task Manager: D. Grady
Type: YSI Pro DSS		Serial Number: YSIPRODSS.20	

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)
4/10/19	0700	19.3		7.02		234.8	1.430 ~~1300~~	99.9	5.0	19.3		7.00		237.5	1.413	100	0.0
4/11/19	0700	19.7		7.08		234.9	.960	99.9	4.1	19.3		7.00		237.5	1000	100	0.1
4/12/19	0645	19.95		6.86		237.1	881	99.1	0	19.95		7.00		237.5	1000	100	0

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM18 | Rental from: | Task Manager: D. Grady

Type: YSI | Serial Number: 15F27

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)
4/10/19	0715	20.39		7.13		~~206.5~~ ~~1.505~~	1.505	90.3	0.30	20.39		7.0		~~237.5~~ ~~1.000~~	1.493	100	0.02
4/11/19	0724	20.68		7.11		204.5	0.807	91.5	1.65	20.68		7.0		237.5	1.00	100	0.02
4/12/19	0645	19.95		7.09		237.6	1.587	90.1	0.50	19.95		7.0		237.5	1.0	100	0.02

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech

CERTIFICATE OF CALIBRATION

INSTRUMENT: Oakton T-100 Turbidimeter **SERIAL NO.:** 2667292

Parameter:	Span Value:	Reading:
Turbidity (NTU):	0.02 / 20.0 / 100 / 800	0.00 / 20.00 / 100 / 798

Notes: 4-point calibration curve performed on instrument.

Certificate of Analysis on calibration standards available upon request.

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West
Print Name

Signature

Date: 4/5/2019

3626 East Sunset Road, Suite 100, Las Vegas, NV 89120 - Tel: 702-873-4478
1135 Financial Blvd., Reno, NV 89502 - Tel: 775-857-2400
1250 Lamoille Hwy Suite 629, Elko NV 89801- Tel:775-778-9828
ssalabs.com - sem-analytical.com - envirotechonline.com

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: MDS DATE: 4/4/19

RENTAL CUSTOMER: Tetra Tech

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSI-ProDSS 20

SERIAL NUMBER: 16J104727

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	57271
2. pH ZERO	pH 7	✓	55780
pH SLOPE	pH 4	✓	55829
pH SLOPE	pH 10	✓	55830
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	✓	040419
4. TURBIDITY ZERO	0.0 NTU's	✓	N/A
TURBIDITY SPAN	100 NTU's	✓	040419
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	021519

4411 S. 40th Street, D-1, Phoenix, AZ 85040 Phone (888) 234-5678 Fax (925) 305-1304

SilverState Analytical Laboratories

Sierra Environmental Monitoring

EnviroTech

CERTIFICATE OF CALIBRATION

INSTRUMENT: YSI 556 **SERIAL NO.:** 11J102430

Parameter:	Span Value:	Reading:
pH S.U.	4.00 / 7.00 / 10.00	4.00 / 7.00 / 10.00
Cond. mS/cm	1.413	1.413
D.O. % sat.	93.3	93.3
ORP mV	100	100.3

Notes: D.O. calibration point based on local barometric pressure of 709 mmHg.

Certificates of Analysis for buffers/standards available upon request.

This instrument has been calibrated by a qualified instrument technician in accordance with the manufacturer's recommended specifications in a temperature controlled laboratory, or clean air, environment. To assure accuracy, it is recommended in most Standard Operating Procedures (SOP) that instruments be re-calibrated at the site where it is being used.

Thank you for renting from EnviroTech, if you have any questions or difficulties please call for technical support. 702-873-4478

Calibrated by: Stephen West
Print Name

Signature

Date: 4/5/2019

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TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: COH-2B
Field Sampler(s): JB				
Transducer Removal Time: 0824		Transducer Redeployment time: 0929		General Well Condition: Good
Depth to Water (ft): ~~67~~		Screened Interval Top (ft): -		Pump Intake Depth (ft): 59
Well Depth (ft): 67 17.06		Screened/Open Interval Bottom (ft): -		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0852				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0857	22.5		6.99		3.283		0.92		191.2		121.		250	17.06	1.25	clear/none
0900	22.5		6.98		3.282		0.72		187.3		69.0		250	17.06	2.0	"
0903	22.5		6.98		3.284		0.70		185.5		69.3		250	17.06	2.75	"
0906	22.6		6.98		3.282		0.65		183.3		55.7		250	17.06	3.50	"
0909	22.6		6.98		3.282		0.64		182.0		53.7		250	17.06	4.25	"
0912	22.6		6.99		3.289		0.60		178.4		37.1		250	17.06	5.00	"
0915	22.6		6.99		3.289		0.58		177.7		40.2		250	17.06	5.75	"
0918	22.6		6.99		3.282		0.56		176.1		43.2		250	17.06	6.50	"
0921	22.6		6.99		3.282		0.56		174.6		41.5		250	17.06	7.25	"

Stop Purge Time: 0922	Sample Time: 0923	QA/QC Sample Time(s): —
	Sample ID: COH-2B1-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_2SO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: PC-58
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 21.56	Screened Interval Top (ft): 7.8		Pump Intake Depth (ft): ~~32.6~~ ~~29~~ 27.28	
Well Depth (ft): 33.0	Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1126				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1128	24.3		7.33		3.777		2.26		130.7		79.8		280	21.56		clear/none
1131	24.1		7.34		3.697		2.68		131.1		65.4		"	"		"
1134	24.2		7.36		3.757		3.15		131.3		49.7		"	"		"
1137	24.1		7.38		3.757		3.56		131.2		37.7		"	"		"
1140	24.1		7.39		3.764		3.64		131.2		36.9		"	"		"
1143	24.2		7.39		3.761		3.68		131.2		36.3		"	"	4.76	"

Stop Purge Time: 1144	Sample Time: 1145	QA/QC Sample Time(s): —	
	Sample ID: PC-58-EM18	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: PC-88
Field Sampler(s): JB				
Transducer Removal Time: 0956	Transducer Redeployment time: 1025			General Well Condition: Good
Depth to Water (ft): 6.69	Screened Interval Top (ft): 40.0			Pump Intake Depth (ft): 28.55
Well Depth (ft): 50.5	Screened/Open Interval Bottom (ft): 50.0			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1000				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1003	23.6		7.31		3.701		1.33		155.9		15.1		280	6.64	0.84	clear/none
1006	24.2		7.23		3.705		0.79		155.0		11.0		"	"	1.68	"
1009	24.4		7.23		3.711		0.62		152.1		9.0		"	"	2.52	"
1012	24.1		7.23		3.707		0.56		148.7		9.2		"	"	3.36	"
1015	24.1		7.23		3.706		0.54		147.9		8.7				4.20	

Stop Purge Time: 1016	Sample Time: 1017		QA/QC Sample Time(s): 1020		
	Sample ID: PC-88-EM18		QA/QC Sample ID(s): PC-88-EM18-FD		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10	Well ID: ~~SWFTS-1~~ PC-91
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 11.29	Screened Interval Top (ft): 11			Pump Intake Depth (ft): 16
Well Depth (ft): 19.81	Screened/Open Interval Bottom (ft): 21			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1300				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1304	23.80		6.61		4.323		2.03		76.2		4.51		330	11.29		clear/no
1307	23.92		6.59		4.383		1.45		72.4		4.56		"	"		"
1310	24.00		6.59		4.423		1.47		71.8		3.72		"	"		"
1313	24.06		6.58		4.448		1.41		70.0		4.01		"	"		"

Stop Purge Time: 1314	Sample Time: 1315	QA/QC Sample Time(s):
	Sample ID: PC-91-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_2PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10	Well ID: PC-92
Field Sampler(s): CS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.80	Screened Interval Top (ft): 26.2		Pump Intake Depth (ft): 31.2	
Well Depth (ft): 35.5	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1349				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1350	24.41		7.22		3.720		2.50		77.1		20.5		300	10.80		clear/no
1353	24.29		7.20		3.708		1.55		75.3		19.4		"	"		"
1356	24.18		7.23		3.701		1.25		74.1		14.9		"	"		"
1359	24.14		7.17		3.705		0.88		72.1		8.96		"	"		"
1402	24.13		7.17		3.716		0.82		70.9		6.61		"	"		"
1405	24.13		7.17		3.728		0.84		70.4		7.11		"	"		"

Stop Purge Time: 1406	Sample Time: 1407	QA/QC Sample Time(s):
	Sample ID: PC-92-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_2SO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/11/19	Well ID: PC-94
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good, Redeveloped this morning	
Depth to Water (ft): ~~13.9~~ 13.35	Screened Interval Top (ft): 9.5		Pump Intake Depth (ft): 16.2	
Well Depth (ft): 20.20	Screened/Open Interval Bottom (ft): 19.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1310				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1313	25.1		6.88		4.927		1.74		107.9		120.8		240	13.40		cloudy/none
1316	24.4		6.83		4.896		1.56		115.5		102.1		240	13.40		"
1319	24.5		6.83		4.885		1.41		119.2		76.1		"	"		clear/none
1322	24.5		6.83		4.879		1.21		120.7		71.1		"	"		"
1325	24.4		6.83		4.887		1.40		121.4		72.3		"	"		"
1328	24.4		6.84		4.890		1.40		121.0		72.3		"	"		"
1331	24.3		6.84		4.884		1.43		122.6		72.2		"	"	5.04	"

Stop Purge Time: 1332	Sample Time: 1335	QA/QC Sample Time(s): —
	Sample ID: PC94-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: PC-97
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): ~~5~~ 5.20	Screened Interval Top (ft): 23.0		Pump Intake Depth (ft): 28.0	
Well Depth (ft): 33.5	Screened/Open Interval Bottom (ft): 33.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1042				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1045	22.6		7.28		2.708		1.26		141.0		79.1		250	5.20	0.75	clear/none
1048	22.6		7.23		2.705		0.80		136.7		63.9		"	"	1.50	"
1051	22.6		7.22		2.705		0.62		132.1		50.2		"	"	2.25	"
1054	22.6		7.21		2.698		0.57		128.1		47.7		"	"	3.0	"
1057	22.7		7.21		2.700		0.54		126.1		47.5		"	"	3.75	"
1100	22.7		7.22		2.701		0.53		125.6		45.3		"	"	4.5	"

Stop Purge Time: 1101	Sample Time: 1102	QA/QC Sample Time(s): —
	Sample ID: PC-97-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW01
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 14.70	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 39.4	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0831				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0833	22.5		7.10		4.695		1.42		-24.9		169.2		270	14.70		clear/none
0836	23.2		7.04		4.781		0.83		-52.4		90.3		"	"		"
0839	23.2		7.04		4.771		0.70		-46.5		54.2		"	"		"
0842	23.4		7.05		4.776		0.63		-32.5		47.7		"	"		"
0845	23.5		7.05		4.776		0.59		-29.4		47.3		"	"		"
0848	23.5		7.06		4.776		0.59		-26.3		45.8		"	"		"

Stop Purge Time: 0849	Sample Time: 0850	QA/QC Sample Time(s): 0855
	Sample ID: SWFTS-MW01-EM18	QA/QC Sample ID(s): SWFTS-20190410-FB

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 04/09	Well ID: SWFTS - MW02
Field Sampler(s): SS				
Transducer Removal Time: 1139	Transducer Redeployment time: 1241		General Well Condition: Good	
Depth to Water (ft): 12.52	Screened Interval Top (ft): 18.1		Pump Intake Depth (ft): 25.5	
Well Depth (ft): 31.90	Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1155				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1159	26.06		6.78		7.464		2.01		89.5		OL		270	12.58	1.08	Yellow/NO
1207	26.03		6.73		7.491		0.75		78.1		553		"	"	3.24	turbid "
1210	26.00		6.73		7.507		0.68		76.0		94.6		"	"	4.05	clear NO
1213	25.93		6.73		7.530		0.60		74.5		63.0		"	"	4.86	"
1216	25.90		6.73		7.552		0.54		73.6		60.1		"	"	5.67	"
1219	25.92		6.73		7.602		0.43		72.7		54.8		"	"	6.48	" 0.8
1222	25.94		6.73		7.624		0.42		71.2		51.8		"	"	7.29	"
1225	26.13		6.71		7.693		0.42		71.1		50.4		"	"	8.10	"
1228	26.16		6.72		7.705		0.40		70.8		55.1		"	"	8.91	"

Stop Purge Time: 1229	Sample Time: 1230	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW02-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW03
Field Sampler(s): JB				
Transducer Removal Time: 1219		Transducer Redeployment time: 1252		General Well Condition: Good
Depth to Water (ft): 13.70		Screened Interval Top (ft): 27.2		Pump Intake Depth (ft): ~~34~~ 34.4
Well Depth (ft): 42.2		Screened/Open Interval Bottom (ft): 42.1		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1222				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1225	24.0		7.15		5.188		2.40		107.9		128.4		290	13.70		clear/none
1228	24.0		7.00		5.362		1.42		114.4		53.4		"	"		"
1231	24.0		6.96		5.367		1.16		116.1		39.3		"	"		"
1234	24.0		6.94		5.358		0.97		116.3		25.0		"	"		"
1237	24.0		6.93		5.369		1.03		116.0		20.7		"	"		"
1240	24.1		6.93		5.360		0.97		115.6		21.8		"	"		"
1243	24.1		6.93		5.363		0.95		115.5		21.2		"	"		"

Stop Purge Time: 1244	Sample Time: 1245	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW03-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl	1	500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: SWFTS-MW04
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: good	
Depth to Water (ft): 9.91	Screened Interval Top (ft): 25.5		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 39.7	Screened/Open Interval Bottom (ft): 40.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1049				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1055	24.21		7.11		3.771		0.92		68.5		33.9		310	9.91	1.86	ND / ND
1058	24.21		7.15		3.757		0.71		66.9		32.1		310	9.91	2.79	"
1101	24.26		7.14		3.747		0.69		66.2		33.7		310	9.91	3.72	"
1104	24.37		7.14		3.764		0.70		65.6		33.1		310	9.91	4.65	"

Stop Purge Time: 1105	Sample Time: 1106	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW04-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass ~~w/H_2PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW05A
Field Sampler(s): SJS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.75	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 29.4	Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1350				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1353	24.6		6.95		6.104		2.36		116.9		20.8		300	17.80		clear/none
1356	24.7		6.81		6.096		1.00		120.5		9.7		"	"		"
1359	24.8		6.80		6.092		0.74		120.0		9.5		"	"		"
1402	24.8		6.79		6.092		0.72		119.7		8.8		"	"		"
1405	24.7		6.79		6.093		0.70		119.3		7.3		"	"		"

Stop Purge Time: 1406	Sample Time: 1407		QA/QC Sample Time(s): 1410		
	Sample ID: SWFTS-MW05A-EM18		QA/QC Sample ID(s): SWFTS-MW05A-EM18-MS/MSD		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	2	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW053
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.77	Screened Interval Top (ft): 32.5		Pump Intake Depth (ft): 36.6	
Well Depth (ft): 42.5	Screened/Open Interval Bottom (ft): 42.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1421				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1425	24.5		6.78		5.089		0.87		-4.9		58.7		240	17.80		clear/none
1428	24.6		6.70		5.082		0.74		11.9		54.5		"	"		"
1431	24.5		6.69		5.076		0.65		24.3		55.6		"	"		"
1434	24.5		6.68		5.078		0.64		25.1		57.6		"	"		"
1437	24.6		6.68		5.079		0.63		26.6		53.9		"	"		"

Stop Purge Time: 1438	Sample Time: 1439		QA/QC Sample Time(s): —		
	Sample ID: SWFTS-MW053-EM18		QA/QC Sample ID(s): —		

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10	Well ID: SWFTS-6A
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 5.50	Screened Interval Top (ft): ~~2~~ 11.2		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 20.90	Screened/Open Interval Bottom (ft): 20.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0954				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0959	21.14		7.23		2.949		1.51		51.5		177		300	5.55		NO / NO
1002	21.22		7.20		2.956		1.09		53.0		128		~~198~~ 11	11		11
1005	21.22		7.19		2.956		0.93		49.5		86.5		11	11		11
1008	21.25		7.19		2.961		0.62		41.1		61.6		11	11		11
1011	21.25		7.18		2.965		0.64		41.4		57.4		11	11		11
1014	21.30		7.17		2.967		0.61		40.8		56.9		11	11		

Stop Purge Time: 1015	Sample Time: 1016	QA/QC Sample Time(s): 1016
	Sample ID: SWFTS-MW06A-EM18	QA/QC Sample ID(s): SWFTS-MW06A-EM18-FD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L Turbid.

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-06B
Field Sampler(s): SS				
Transducer Removal Time: 1044	Transducer Redeployment time: 1125		General Well Condition: Good	
Depth to Water (ft): 5.78	Screened Interval Top (ft): 25.6		Pump Intake Depth (ft): 30.4	
Well Depth (ft): 35.55	Screened/Open Interval Bottom (ft): 35.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1052				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1057	21.54		7.20		2.966		1.25		61.6		421		300	5.78		cloudy/No
1100	21.67		7.17		2.977		0.70		61.4		291		"	"		"
1103	21.73		7.15		2.981		0.55		61.5		261		"	"		"
1106	21.74		7.17		2.982		0.57		61.1		278		"	"		"
1109	21.74		7.17		2.984		0.54		61.1		255		"	"		

Stop Purge Time: 1110	Sample Time: 1111	QA/QC Sample Time(s):	
	Sample ID: SWFTS-06B-EM18	QA/QC Sample ID(s):	

Observations/Comments:
HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L Turbid

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-MW07A
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 13.02	Screened Interval Top (ft): 15.0			Pump Intake Depth (ft): 22.0
Well Depth (ft): 30.1	Screened/Open Interval Bottom (ft): 29.5			Well Diameter (in): 4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0912				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0914	22.8		7.07		5.149		1.72		174.0		2.3		300	13.04		clear/none
0917	22.6		7.03		5.187		0.87		174.1		1.9		"	"		"
0920	23.5		7.03		5.196		0.75		171.9		1.8		"	"		"
0923	23.7		7.02		5.215		0.68		169.0		1.7		"	"		"
0926	23.6		7.02		5.220		0.72		168.2		1.8		"	"		"

Stop Purge Time: 0927	Sample Time: 0928	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07A-EM18	QA/QC Sample ID(s): ~~SWFTS-MW07A-EM18-FD~~

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	17	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-MW07B
Field Sampler(s): JB				
Transducer Removal Time: 0837	Transducer Redeployment time: 0908		General Well Condition: Good	
Depth to Water (ft): 12.75	Screened Interval Top (ft): 33.8		Pump Intake Depth (ft): 35.7	
Well Depth (ft): 38.9	Screened/Open Interval Bottom (ft): 38.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0843				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0846	22.2		7.12		4.576		1.54		213.8		4.4		300	12.78		clear/none
0849	22.8		7.09		4.817		0.74		211.9		4.8		"	"		"
0852	22.7		7.07		4.999		0.60		207.8		2.8		"	"		"
0855	22.9		7.06		5.028		0.55		203.6		2.4		"	"		"
0858	22.9		7.06		5.031		0.53		201.7		2.1		"	"		"
0901	22.8		7.06		5.031		0.52		201.0		2.2		"	"		"

Stop Purge Time: 0902	Sample Time: 0903	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW07B-EM18	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-~~08A~~ MW08A
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.18	Screened Interval Top (ft): 19.7		Pump Intake Depth (ft): 27.0	
Well Depth (ft): 34.55	Screened/Open Interval Bottom (ft): 34.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0816				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0830	22.02		7.04		4.561		1.81		129.5		0.58		300	16.20	4.2	NO/NO
0833	22.05		7.03		4.560		1.20		126.3		0.26		"	"	5.1	"
0836	22.04		7.03		4.551		0.98		125.3		0.59		"	"	5.0	"
0839	21.97		7.03		4.554		0.92		123.1		0.22		"	"	6.9	"
0842	21.95		7.03		4.543		0.80		121.1		0.24		"	"	7.8	"
0845	21.94		7.02		4.544		0.79		120.9		0.38		"	"	8.7	"
0848	21.94		7.03		4.549		0.74		119.1		0.41		"	"	9.6	"

Stop Purge Time: 0849	Sample Time: 0850	QA/QC Sample Time(s):	
	Sample ID: SWFTS-MW08A-EM18	QA/QC Sample ID(s):	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: MW09A
Field Sampler(s): JB				
Transducer Removal Time: 0923	Transducer Redeployment time: 1000		General Well Condition: Good	
Depth to Water (ft): 13.95	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.7	
Well Depth (ft): 29.4	Screened/Open Interval Bottom (ft): 28.9		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0929				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0932	22.5		7.03		4.681		1.79		102.0		11.0		300	13.95		clear/none
0935	23.1		6.93		4.539		0.95		104.5		9.3		"	"		"
0938	23.3		6.92		4.553		0.74		102.7		9.7		"	"		"
0941	23.1		6.92		4.535		0.73		101.8		8.5		"	"		"
0944	23.1		6.92		4.529		0.72		101.3		7.3		"	"		"

Stop Purge Time: 0945	Sample Time: 0946	QA/QC Sample Time(s): 0950
	Sample ID: SWFTS-MW09A-EM18	QA/QC Sample ID(s): SWFTS-20190410-EB

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW09B
Field Sampler(s): JB				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 14.09	Screened Interval Top (ft): 34.4		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.5	Screened/Open Interval Bottom (ft): 39.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1004				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1007	23.2		7.16		4.605		2.46		113.5		7.9		300	13.90		clear/none
1010	23.5		7.10		4.650		2.76		116.1		9.2		"	"		"
1013	23.6		7.10		4.661		2.79		117.8		7.9		"	"		"
1016	23.6		7.11		4.~~794~~667		2.69		118.1		8.6		"	"		"

Stop Purge Time: 1017	Sample Time: 1018	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW09B-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS - MW10A
Field Sampler(s): SS				
Transducer Removal Time: 8:25	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 11.05	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 27.4	
Well Depth (ft): 34.85	Screened/Open Interval Bottom (ft): 34.7		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 8:42				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0848	22.77		6.86		5.754		6.59		97.8		3.54		330	11.08		clear/no
0851	22.93		6.86		5.787		1.53		89.3		2.37					
0854	23.07		6.86		5.811		0.94		81.8		1.73					
0857	23.06		6.86		5.813		0.75		77.6		2.96					
0900	23.10		6.86		5.820		~~0.66~~ 0.65		73.3		2.74					
0903	23.12		6.86		5.827		0.62		71.0		4.09					
0906	23.09		6.85		5.825		0.61		68.5		3.97					

Stop Purge Time: 0907	Sample Time: 0908	QA/QC Sample Time(s): 0908	
	Sample ID: SWFTS-MW10A-EM18	QA/QC Sample ID(s): SWFTS-10A-EM18-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-MW11
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.02	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 40.0	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0949				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
~~0952~~ 0949	22.3		7.24		5.758		5.76		212.4		3.0		280	17.08		clear/none
0955	23.4		7.18		5.802		5.59		206.7		2.8		"	"		"
0958	23.5		7.18		5.807		5.51		203.5		2.7		"	"		"
1001	23.5		7.18		5.809		5.50		202.5		2.7		"	"		"

Stop Purge Time: 1002	Sample Time: 1003	QA/QC Sample Time(s): 1005
	Sample ID: SWFTS-MW11-EM18	QA/QC Sample ID(s): SWFTS-MW11-EM18-FD

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-MW12
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 18.60	Screened Interval Top (ft): 15.5		Pump Intake Depth (ft): 27.9	
Well Depth (ft): 39.91	Screened/Open Interval Bottom (ft): 40.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0950				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0954	22.85		7.13		5.742		8.60		119.6		63.4		360	18.60	1.44	NO/NO
0957	23.35		7.10		5.853		3.69		117.4		47.5		"	"	2.52	"
1000	23.49		7.10		5.870		3.55		117.2		24.10		"	"	3.6	"
1003	23.48		7.10		5.869		3.55		117.2		22.4		"	"	4.7	"
1006	23.50		7.10		5.873		3.55		117.3		19.14		"	"	5.8	"
1009	23.64		7.09		5.891		3.52		117.7		20.6		"	"	6.9	"
1012	23.64		7.10		5.895		3.50		117.1		18.15		"		8.0	

Stop Purge Time: ~~1010~~ 1013	Sample Time: ~~1011~~ 1014	QA/QC Sample Time(s):	
	Sample ID:	QA/QC Sample ID(s):	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/12/19	Well ID: SWFTS-MW13
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 23.69	Screened Interval Top (ft): 17.4		Pump Intake Depth (ft): ~~26.4~~ 32.3	
Well Depth (ft): 47.1	Screened/Open Interval Bottom (ft): ~~36~~ 47.2		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1048				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1054	21.61		7.27		5.684		6.30		123.9		8.87		300	23.69	1.8	NO/NO
1057	21.86		7.22		5.677		5.85		119.6		5.72		"	"	2.7	NO/NO
1100	21.98		7.20		5.696		5.55		118.3		4.37		"	"	3.6	"
1103	22.18		7.19		5.741		5.45		117.5		3.92		"	"	4.5	"
1106	21.75		7.18		5.711		5.34		117.1		4.57		"	"	5.4	"
1109	21.70		7.18		5.703		5.30		117.1		4.61		"	"	6.3	"

Stop Purge Time: 1110	Sample Time: 1111	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW13-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ MU		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: SWFTS-MW14
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 11.81	Screened Interval Top (ft): 16.5		Pump Intake Depth (ft): 26.4	
Well Depth (ft): 35.5	Screened/Open Interval Bottom (ft): 36.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1315				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1318	26.58		6.72		6.173		2.10		-328.1		9.27		312	11.80	0.94	clear/ smelling bad
1321	26.35		6.69		6.093		0.93		-330.6		9.18		"	"	1.87	~~methane~~ "
1324	26.18		6.68		6.052		0.70		-332.1		6.14		"	"	2.81	clear/smell
1327	26.13		6.68		6.038		0.67		-332.8		5.40		"	"	3.75	"
1330	26.04		6.67		6.016		0.65		-333.2		7.77		"	"	4.68	"

Stop Purge Time: 1331	Sample Time: 1332	QA/QC Sample Time(s):
	Sample ID:	QA/QC Sample ID(s):

Observations/Comments:
HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Smelled bad, methane, - tubings black

Bottle Set Summary

✓	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: MW-15
Field Sampler(s): JB				
Transducer Removal Time: ~~the~~ 1220	Transducer Redeployment time: ~~the~~ 1255		General Well Condition: Good	
Depth to Water (ft): 14.05	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 24.4	
Well Depth (ft): 35	Screened/Open Interval Bottom (ft): 34.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1229				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1231	24.9		7.17		4.936		1.49		10.1		19.6		300	14.05	0.6	clear/none
1234	24.8		7.14		4.967		1.18		10.1		9.8		"	"	1.5	"
1237	24.9		7.13		4.963		1.08		57.1		6.9		"	"	2.4	"
1240	24.9		7.13		4.965		1.13		58.8		7.0		"	"	3.3	"
1243	24.9		7.13		4.972		1.14		59.2		7.1		"	"	4.2	"

Stop Purge Time: 1244	Sample Time: 1245		QA/QC Sample Time(s): —	
	Sample ID: SWF-TS-MW15-EM18		QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: ~~EA~~ ~~EMW~~ SWFTS-MW16
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 22.60	Screened Interval Top (ft): 21.6			Pump Intake Depth (ft): 31.3
Well Depth (ft): 42	Screened/Open Interval Bottom (ft): 41.6			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1308				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1311	26.9		6.79		4.488		1.02		-127.8		55.2		225	22.60	0.68	clear/none
1314	26.6		6.76		4.470		0.70		-147.0		55.4		"	"	1.35	"
1317	26.2		6.75		4.472		0.55		-162.8		79.8		"	"	2.03	"
1320	26.1		6.75		4.483		0.49		-172.3		114.8		"	"	2.71	"
1323	26.2		6.75		4.490		0.49		-173.4		120.4		"	"	3.39	"
1326	26.2		6.75		4.495		0.48		-172.4		123.7		"	"	4.07	"
1329	26.2		6.75		4.495		0.47		-175.6		130.2		"	"	4.72	"

Stop Purge Time: 1330	Sample Time: 1331	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW16-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/11/19	Well ID: SWFTS-MW17
Field Sampler(s): SB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 26.66	Screened Interval Top (ft): 22.8		Pump Intake Depth (ft): 39.83	
Well Depth (ft): 53.0	Screened/Open Interval Bottom (ft): 52.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0833				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0836	23.2		7.21		4.215		5.12		176.2		6.6		255	26.66	0.77	Clear/none
0839	23.9		7.18		4.286		4.82		172.4		4.6		"	"	1.54	"
0842	24.0		7.18		4.295		4.76		169.8		2.9		"	"	2.31	"
0845	24.0		7.19		4.295		4.74		168.2		2.2		"	"	3.06	"

Stop Purge Time: 0846	Sample Time: 0847	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW17-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: SWFTS-MW18
Field Sampler(s): JTB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.91	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.1	
Well Depth (ft): 37	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1403				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1409	25.6		7.03		5.009		1.32		23.7		340.2		270	15.91	1.62	brown/ clear/none
1412	25.2		6.99		5.006		0.80		31.6		105.7		"	"	2.43	"
1415	25.2		6.98		4.993		0.63		35.4		128.6		"	"	3.24	"
1418	25.0		6.98		4.974		0.50		36.7		125.0		"	"	4.05	"
1421	25.0		6.99		4.975		0.49		37.0		127.9		"	"	4.86	"
1424	25.0		6.99		4.972		0.48		37.0		117.6		"	"	5.67	"

Stop Purge Time: 1425	Sample Time: 1426	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW18-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10	Well ID: SWFTS - MW19
Field Sampler(s):				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 10.58	Screened Interval Top (ft): 11.1			Pump Intake Depth (ft): 21.0
Well Depth (ft): 30.50	Screened/Open Interval Bottom (ft): 30.9			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1201				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1205	21.54		7.15		3.282		1.84		61.8		87.9		360	10.60		cloudy/no
1208	21.56		7.14		3.287		1.59		62.4		46.1		"	"		clear/no
1211	21.50		7.14		3.290		1.33		63.1		21.3		"	"		"
1214	21.50		7.13		3.298		1.30		63.4		19.36		"	"		"
1217	21.50		7.13		3.298		1.27		63.6		20.8		"	"		"

Stop Purge Time: 1218	Sample Time: 1219	QA/QC Sample Time(s): 1219	
	Sample ID: SWFTS - MW19 - EM18	QA/QC Sample ID(s): SWFTS - MW19 - EM - FD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/9/19	Well ID: SWFTS-MW20
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.05	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 24.8	
Well Depth (ft): 36.5	Screened/Open Interval Bottom (ft): 37.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1409				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1437	26.13		2.90		7.337		2.01		121.0		137		360	13.05	2.88	slight hy white/N.
1440	26.08		1.50		7.771		1.30		174.9		101		"	"	3.96	"
1443	26.04		1.77		7.675		0.97		185.9		94.6		"	"	5.04	"
1446	25.92		1.75		7.606		0.70		211.2		65.3		"	"	6.12	"
1449	25.91		1.73		7.584		0.68		246.2		58.8		"	"	7.20	"
1452	25.91		1.71		7.594		0.63		235.8		57.1		"	"	8.28	"
1455	25.95		1.71		7.589		0.64		235.2		54.9		"	"	9.36	"

Stop Purge Time: 1456	Sample Time: 1457	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW20-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	✓	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW21
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.06	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 26.9	
Well Depth (ft): 40	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1306				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1309	24.0		7.01		6.096		2.40		127.5		170.9		280	16.06		clear/none
1312	24.2		7.04		6.115		3.60		128.7		101.2		"	"		"
1315	24.3		7.06		6.117		3.74		128.4		67.3		"	"		"
1318	24.4		7.07		6.116		3.78		128.0		52.1		"	"		"
1321	24.4		7.07		6.121		3.78		127.6		48.6		"	"		"
1324	24.4		7.07		6.119		3.78		127.6		49.2		"	"		"

Stop Purge Time: 1325	Sample Time: 1326	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW21-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/11/19	Well ID: SWFTS-MW22
Field Sampler(s): SS				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 11.51	Screened Interval Top (ft): 11.4		Pump Intake Depth (ft): 21.3	
Well Depth (ft): 31.61	Screened/Open Interval Bottom (ft): 31.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 830				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0837	22.11		7.13		5.157		1.72		137.5		175		360	11.51	2.5	turbid/no odor
0840	22.44		7.11		5.205		1.14		134.0		158		"	"	3.6	no/no
0843	22.70		7.09		5.256		0.90		130.6		131		"	"	4.7	"
0846	22.72		7.07		5.262		0.83		129.1		121		"	"	5.7	"
0849	22.79		7.09		5.277		0.70		127.3		117		"	"	6.8	"
0852	22.94		7.06		5.299		0.71		126.0		110		"	"	7.9	"
0855	23.00		7.08		5.319		0.67		124.9		101.3		"	"	9.0	"
0858	22.84		7.07		5.320		0.62		123.9		85.0		"	"	10.08	"
0901	22.88		7.06		5.342		0.59		123.2		79.9		"	"	11.1	"
0904	22.90		7.06		5.379		0.57		122.5		77.5		"	"	12.24	"

Stop Purge Time: ~~0859~~ 0905	Sample Time: ~~0900~~ 0906	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW22-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Turbid

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/11/19	Well ID: SWFTS - MW23
Field Sampler(s): SS				
Transducer Removal Time: 0953	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 12.89	Screened Interval Top (ft): 16.4		Pump Intake Depth (ft): 26.3	
Well Depth (ft): 36.56	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1015				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1023	21.0		7.15		2.733		0.78		139.9		5.3		300	12.90	2.4	NO / NO
1026	21.1		7.14		2.526		0.68		138.2		3.8		300	"	3.3	"
1029	21.1		7.19		2.529		0.67		137.5		3.5		300	"	4.2	"
1034	21.1		7.13		2.534		0.60		134.4		4.9		"	"	5.7	"
1037	21.4		7.14		2.732		0.60		131.9		2.5		"	"	6.6	"
1040	21.4		7.14		2.733		0.57		130.3		2.2		"	"	7.5	"

Stop Purge Time: 1041	Sample Time: 1042	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW23-EM18	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Restarted at 1033 - lots of bubbles (using Jesse's YSI) YSI port (at the exit). No bubbles at inlet of YSI port.

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/10/19	Well ID: SWFTS-MW24
Field Sampler(s): JB				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.27	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 24.9	
Well Depth (ft): 38.0	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1059				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1101	22.3		7.15		4.937		1.90		104.7		90.3		280	13.27		Clear/none
1104	22.6		7.04		4.958		1.91		109.9		56.0		"	"		"
1107	22.8		7.01		4.974		1.89		113.4		37.5		"	"		"
1110	22.7		7.00		4.976		1.67		115.1		23.6		"	"		"
1113	22.8		6.99		4.978		1.31		115.4		9.7		"	"		"
1116	22.7		6.99		4.977		1.28		115.3		8.7		"	"		"
1119	22.8		6.99		4.976		1.24		115.2		8.5		"	"		"

Stop Purge Time: 1120	Sample Time: 1121	QA/QC Sample Time(s): —
	Sample ID: SWFTW-MW24-EM18	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM18	Date: 4/11/19	Well ID: SWFTS - MW25
Field Sampler(s): CS				
Transducer Removal Time: 1132	Transducer Redeployment time: 1235		General Well Condition: Good	
Depth to Water (ft): 10.83	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 27.3	
Well Depth (ft): 42.2	Screened/Open Interval Bottom (ft): 42.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1145				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1155	22.46		6.87		7.115		2.43		115.2		499		210	10.83	2.1	reddish/no
1158	22.58		6.88		7.131		1.61		114.8		465		210	10.83	2.7	"
1201	22.75		6.87		7.155		1.39		114.6		460		210	10.83	3.4	turbid/no
1204	22.92		6.87		7.187		1.20		114.4		441		"	"	4.0	"
1207	23.01		6.87		7.193		1.05		114.1		447		"	"	4.6	"
1210	23.17		6.87		7.221		0.90		113.8		438		"	"	5.25	"
1213	23.44		6.88		7.269		0.84		113.6		451		"	"	5.98	"
1216	23.59		6.87		7.275		0.79		113.5		441		"	"	6.71	"
1219	23.57		6.87		7.274		0.81		113.4		432		"	"	7.14	"

Stop Purge Time: 1220	Sample Time: 1221		QA/QC Sample Time(s):
	Sample ID: SWFTS-MW25-EM25		QA/QC Sample ID(s):

Observations/Comments:
HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L
Turbid water has slight reddish color

Bottle Set Summary

	3x VOA w/HCl	✓	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
✓	125 mL w/EDA	✓	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	✓	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM19	Date: 5/20/19
Task Manager: D. Grady	Field Sampler(s):	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1210	~~PC-91~~ MW11	TOC	17.23	39.30	Good
1205	~~PC-92~~ MW14	TOC	11.30	36.05	Good
1100	PC-94	TOC	13.42	20.25	Good
1230	PC-58	TOC	21.65	38.85	Good
1140	~~PC-88~~ MW20	TOC	13.18	35.80	No bolts, cracked vault/concrete
1135	~~PC-97~~ MW22	TOC	11.55	31.70	No bolts, water in vault
	~~COH-2B1~~	TOC			
	~~SWFTS-MW01~~	TOC			
	~~SWFTS-MW02~~	TOC			
	~~SWFTS-MW03~~	TOC			
	~~SWFTS-MW04~~	TOC			
	~~SWFTS-MW05A~~	TOC			
	~~SWFTS-MW05B~~	TOC			
	~~SWFTS-MW06A~~	TOC			
	~~SWFTS-MW06B~~	TOC			
1215	SWFTS-MW07A	TOC	13.20	29.90	cracked concrete
1220	SWFTS-MW07B	TOC	12.85	38.60	Good
	~~SWFTS-MW08A~~	TOC			
	~~SWFTS-MW08C~~	TOC			
1120	SWFTS-MW09A	TOC	14.04	29.00	Good
1115	SWFTS-MW09B	TOC	14.16	39.00	Good, 1 bolt
1155	SWFTS-MW10A	TOC	11.10	34.90	Good
1200	SWFTS-MW10C	TOC	9.19	63.30	Good
1040	MW24		13.31	37.25	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study | Task No: M11, EM19 | Date: 5/20/19

Task Manager: D. Grady | Field Sampler(s): Jeff, Jesse, Sichu | Recorded by: J. Richeson

Equipment Model/Type: Solinst Water Level Meter — Silverstate Rental 2001 | *Serial Number:* 32822

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1019	PC-91	TOC	11.32	20.05 ~~19.80~~	Good
1022	PC-92	TOC	10.92	37.20 ~~36.95~~	Good
	PC-94	TOC			
	PC-58	TOC			
1047	PC-88	TOC	6.67	46.77 ~~46.52~~	Good
1040	PC-97	TOC	~~5.94~~ 5.21	30.45 ~~30.20~~	Good
1138	COH-2B1	TOC	16.86	64.72	Good
	SWFTS-MW01	TOC			
1029	SWFTS-MW02	TOC	~~12.90~~ 12.70	31.65 ~~31.40~~	Good
	SWFTS-MW03	TOC			
1034	SWFTS-MW04	TOC	10.01	39.85 ~~39.60~~	Good
	SWFTS-MW05A	TOC			
	SWFTS-MW05B	TOC			
1053	SWFTS-MW06A	TOC	5.57	21.20 ~~20.75~~	Good
1056	SWFTS-MW06B	TOC	5.79	35.22 ~~34.97~~	Good
	SWFTS-MW07A	TOC			
	SWFTS-MW07B	TOC			
	SWFTS-MW08A	TOC			
	SWFTS-MW08C	TOC			
	SWFTS-MW09A	TOC			
	SWFTS-MW09B	TOC			
	SWFTS-MW10A	TOC			
	SWFTS-MW10C	TOC			
1011	SWFTS-MW19	TOC	10.67	30.40 ~~30.15~~	Good
1108	SWFTS-MW23	TOC	12.95	36.15	Good
1104	SWFTS-MW25	TOC	10.85	43.35	well pad Cracked

BMP = Below Measuring Point | TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM19	Date: 5/20/19
Task Manager: D. Grady	Field Sampler(s): Sichu	Recorded by: SS
Equipment Model/Type: Solinst Water Level Meter Silverstate Rental	*Serial Number:* 306531	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
	SWFTS-MW11	TOC			
1058	SWFTS-MW12	TOC	18.56	40.89	Good
	SWFTS-MW13	TOC			
	SWFTS-MW14	TOC			
1022	SWFTS-MW15	TOC	14.90 35.25	~~36.00~~	Good
~~1027~~	~~SWFTS-MW16~~	TOC	~~16.05~~	~~38.85~~	~~Good~~
1126	SWFTS-MW17	TOC	26.80	51.65	Good
1027	SWFTS-MW18	TOC	16.10	36.80	Good
	SWFTS-MW19	TOC			
	SWFTS-MW20	TOC			
1032	SWFTS-MW21	TOC	16.16	38.90	Good; one screw missing
	SWFTS-MW22	TOC			
	SWFTS-MW23	TOC			
	SWFTS-MW24	TOC			
	SWFTS-MW25	TOC			
1037	SWFTS-MW03	TOC	13.85	41.65	Good
1042	SWFTS-MW01	TOC	14.79	38.98	Good
1050	SWFTS-MW08A	TOC	16.35	35.30	Good
1053	SWFTS-MW08C	TOC	14.90	70.05	Good
1109	SWFTS-MW05A	TOC	18.85	28.55	Good
1112	SWFTS-MW05B	TOC	17.90	41.75	Good
1121	SWFTS-MW13	TOC	23.80	47.50	Good
	~~SWFTS-MW12~~	~~TOC~~			
1145	SWFTS-MW16	TOC	23.74	39.50	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: GW Monitoring	Task No.: M11	Rental from: EQUIPCO	Task Manager: Jesse Bunkers
Field Personnel: Sichu		Serial Number: 626909-04	Type: YSI ProDSS

			Pre-Calibration							Post-Calibration						
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (%)	Turbidity (NTU)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (%)	Turbidity (NTU)
5/21/19	0700	20.4	4.10	6.51	9.29	279.4	1.088	65.2	0.0	4.00	7.00	10.00	237.5	1.0	100	0.0
5/22/19	0700	20.2	3.50	7.38	9.30	241.0	977	86.5	0.0	4.00	7.00	10.00	237.5	1000	99	0.0

Notes:

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: GW Monitoring	Task No.: H02	Rental from: EQUIPCO	Task Manager: Jesse Bunkers
Field Personnel: Jesse Bunkers		Serial Number: PRODSS.12	Type: YSI ProDSS

			Pre-Calibration							Post-Calibration						
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (%)	Turbidity (NTU)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (%)	Turbidity (NTU)
5/22/19	0706	20.4	~~4.04~~ 3.98	7.06	~~10.~~ 9.98	231.7	999	86.9	0.0	4.00	7.00	10.00	237.1	1.000	92.4	0.0

Notes:

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM19 | Rental from: Equipco | Task Manager: D. Grady

Type: YSI Pro DSS | Serial Number: YSI PRO DSS. 23

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
5/20/19	1445	21.5	3.93	7.15	9.94	237.1	1000	8.65	0.0	21.5	4.01	7.02	10.03	235.8	1000	8.67	0.0
5/22/19	0640	20.6	4.10	7.07	10.02	232.8	975	8.64	0.1	20.6	4.00	7.02	10.01	236.8	998	8.62	0.0

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: BAK DATE: 4/30/19

RENTAL CUSTOMER:

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSI-ProDSS. 31

SERIAL NUMBER: 17M100585

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	57873
2. pH ZERO	pH 7	✓	57633
pH SLOPE	pH 4	✓	56790
pH SLOPE	pH 10	✓	57332
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	—	—
4. TURBIDITY ZERO	0.0 NTU's	✓	N/A
TURBIDITY SPAN	100 NTU's	✓	04302019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	040219

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EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: MDS DATE: 4/29/2019

RENTAL CUSTOMER: Tetra Tech

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSI-ProDSS.23

SERIAL NUMBER: 16J104730

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	57271
2. pH ZERO	pH 7	✓	55760
pH SLOPE	pH 4	✓	55829
pH SLOPE	pH 10	✓	55830
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	✓	042919
4. TURBIDITY ZERO	0.0 NTU's	✓	N/A
TURBIDITY SPAN	100 NTU's	✓	042919
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	021519

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EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: CLB DATE: 05/14/2019

RENTAL CUSTOMER: Tetra Tech Inc.

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS. 27

SERIAL NUMBER: 17M101697

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	57873
2. pH ZERO	pH 7	✓	57637
pH SLOPE	pH 4	✓	5C790
pH SLOPE	pH 10	✓	57322
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	—	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	—	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	05142019
TURBIDITY SPAN	20 NTU's	✓	05142019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	040218

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EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: M DATE: 5-20-2019

RENTAL CUSTOMER: TETRA TECH

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS. 12

SERIAL NUMBER: 16F104659

CALIBRATION INFORMATION

PARAMETER: [redacted]	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	43621
2. pH ZERO	pH 7	✓	44912
pH SLOPE	pH 4	✓	44935
pH SLOPE	pH 10	✓	44934
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	✓	052019
4. TURBIDITY ZERO	0.0 NTU's	✓	052019
TURBIDITY SPAN	100 NTU's	✓	052019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	010616

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: COH-2B1
Field Sampler(s): J. Richeson				
Transducer Removal Time: 1154	Transducer Redeployment time: 1229		General Well Condition: Good	
Depth to Water (ft): 16.86	Screened Interval Top (ft): —		Pump Intake Depth (ft): 62	
Well Depth (ft): 64.72	Screened/Open Interval Bottom (ft): —		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1203				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm) (µS/cm) 5/28		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1205	20.1		7.25		3509		3.01		205.0		5.17		200	16.85	0.4	clear/none
1210	20.7		7.14		3506		0.28		216.7		9.5		200	16.85	1.4	" "
1215	20.5	<3%	7.13	<0.1	3510	<3%	0.18	<0.5 mg/L	218.3	<10 mV	8.2	<10	200	16.85	2.4	" "
1220	20.5		7.13		3507		0.12		219.5		7.7		200	16.85	3.4	" "

Stop Purge Time: 1220	Sample Time: 1221		QA/QC Sample Time(s): N/A	
	Sample ID: COH-2B1-EM19		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl		1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA		1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: PC-58

Field Sampler(s): J. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 21.65 | Screened Interval Top (ft): 7.8 | Pump Intake Depth (ft): 27.23

Well Depth (ft): 38.90 | Screened/Open Interval Bottom (ft): 32.8 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1347

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1350	20.7		7.28		4.273		2.14		87.0		35.5		300	21.66		clear/none
1353	21.2		7.27		4.267		1.67		87.4		37.4		"	"		"
1356	21.4	1%	7.27	0	4.269	<1%	1.68	<1%	87.7	0.3	38.2	4%	"	"		"
1359	21.4		7.27		4.270		1.68		87.7		38.9		"	"	4.0	"

Stop Purge Time: 1400 | Sample Time: 1405 | QA/QC Sample Time(s): —

Sample ID: ~~SWFTS-M~~ PC-58-EM19 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: PC-88
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0850	Transducer Redeployment time: 0936		General Well Condition: Good	
Depth to Water (ft): 6.67	Screened Interval Top (ft): 40		Pump Intake Depth (ft): 45	
Well Depth (ft): 46.77	Screened/Open Interval Bottom (ft): 50		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0856				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (µS/cm) READ	Conductivity (µS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0858	22.2		7.27		3677		1.78		217.9		10.0		200	6.67	0.4	Clear/none
0903	23.3		7.23		3680		0.19		219.1		10.5		200	6.67	1.4	" "
0908	23.6	<3%	7.23	<0.1	3677	<3%	0.08	<0.5 mg/l	216.5	<10 mV	6.8	<10	200	6.67	2.4	" "
0913	23.7		7.23		3671		0.07		214.6		5.7		200	6.67	3.4	" "
0918	23.6		7.22		3674		0.05		213.5		4.9		200	6.67	4.4	" "

Stop Purge Time: 0918	Sample Time: 0919		QA/QC Sample Time(s): 0919			
	Sample ID: PC-88-EM19		QA/QC Sample ID(s): PC-88-EM19-FD			

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19 Well ID: PC-91
Field Sampler(s): Jeff Richeson			
Transducer Removal Time: N/A	Transducer Redeployment time: N/A	General Well Condition: Good	
Depth to Water (ft): 11.32	Screened Interval Top (ft): 11.5	Pump Intake Depth (ft): 16	
Well Depth (ft): 20.05	Screened/Open Interval Bottom (ft): 21.5	Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11	Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1108			

Time	Temp. (°C)		pH (pH Units)		Conductivity SS 5128 (~~mS/cm~~ uS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1110	24.9		6.74		4005		1.45		136.2		66.5		250	11.31	0.5	clear/none
1115	24.8		6.56		4127		0.20		166.6		36.7		250	11.31	1.75	" "
1120	25.0		6.54		4172		0.06		170.2		19.5		250	11.31	3.0	" "
1125	25.1	<3%	6.54	<0.1	4165	<3%	0.05	<0.5 mg/l	169.4	<10 mV	18.9	<10%	250	11.32	4.25	" "
1130	25.1		6.54		4170		0.05		169.0		18.6		250	11.32	5.5	" "

Stop Purge Time: 1130	**Sample Time:** 1132	**QA/QC Sample Time(s):** N/A
	Sample ID: PC-91-EM19	**QA/QC Sample ID(s):** N/A

Observations/Comments:
HACH Kit Sulfide: 0 **mg/L HACH Kit Ferrous Iron:** 0 **mg/L**

Bottle Set Summary

Qty	Bottle	Qty	Bottle	Qty	Bottle	Qty	Bottle	Qty	Bottle	Qty	Bottle
	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/~~[illegible]~~ HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

LOW FLOW GROUNDWATER SAMPLING LOG

TETRA TECH

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: PC-92
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.92	Screened Interval Top (ft): 26.5		Pump Intake Depth (ft): 31.5	
Well Depth (ft): 37.20	Screened/Open Interval Bottom (ft): 36.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1158				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm) (uS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1200	24.0		7.24		3271		1.39		181.2		12.5		250	10.92	0.5	clear/none
1205	24.0		7.19		3273		0.34		186.1		11.0		250	10.93	1.75	" "
1210	23.9		7.19		3278		0.15		187.4		9.9		250	10.93	3.0	" "
1215	23.8	<3%	7.19	<0.1	3281	<3%	0.10	<0.5 mg/L	186.2	<10 mV	9.6	<10	250	10.93	4.25	" "
1220	23.9		7.20		3275		0.09		185.1		9.5		250	10.93	5.5	" "

Stop Purge Time:	Sample Time: 1222	QA/QC Sample Time(s): N/A	
	Sample ID: PC-92-EM19	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: PC-94
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 13.48	Screened Interval Top (ft): 9.5		Pump Intake Depth (ft): 16.5	
Well Depth (ft): 19.5	Screened/Open Interval Bottom (ft): 19.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1003				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (µS/cm) READ	Conductivity (µS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1005	23.5		6.93		5200		1.98		181.4		183.0		200	13.48	0.4	clear/none
1010	23.6		6.84		5211		0.26		205.0		61.4		200	13.48	1.4	" "
1015	23.5		6.84		5206		0.14		209.8		33.5		200	13.48	2.4	" "
1020	23.3	<3%	6.83	<0.1	5208	<3%	0.18	<0.5 mg/l	211.2	<10 mV	9.8	<10	200	13.48	3.4	" "
1025	23.4		6.83		5204		0.10		210.6		9.5		200	13.48	4.4	" "
1030	23.3		6.83		5208		0.05		210.0		9.1		200	13.48	5.4	" "

Stop Purge Time: 1030	Sample Time: 1031		QA/QC Sample Time(s): N/A	
	Sample ID: PC-94-EM19		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3		250 mL Amber Glass w/H3PO4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: PC-97
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A		Transducer Redeployment time: N/A		General Well Condition: Good
Depth to Water (ft): ~~JR 5.94~~ 5.21		Screened Interval Top (ft): 23.0		Pump Intake Depth (ft): 27.5
Well Depth (ft): 30.45		Screened/Open Interval Bottom (ft): 33.0		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0756				

Time	Temp. (°C)		pH (pH Units)		Conductivity (~~mS/cm~~)(uS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0758	21.0		7.14		3142		1.75		293.2		8.7		250	5.21	0.5	clear/none
0803	21.5		7.12		3179		0.31		281.9		9.0		250	5.22	1.75	" "
0808	21.7	<3%	7.12	<0.1	3182	<3%	0.11	<0.5 mg/l	270.5	<10 mv	8.5	<10	250	5.21	3.0	" "
0813	21.7		7.12		3182		0.08		267.0		8.3		250	5.21	4.25	" "
0818	21.8		7.12		3182		0.07		264.5		8.1		250	5.21	5.5	" "

Stop Purge Time: 0818	Sample Time: 0820		QA/QC Sample Time(s): N/A	
	Sample ID: PC-97-EM19		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3		250 mL Amber Glass w/H3PO4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: MW01
Field Sampler(s):				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 14.79	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 38.98	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0919				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0921	23.8		8.62		4.951		1.67		14.7		~~303~~		300	14.79	0.6	No/No
0924	24.0		8.23		4.953		0.87		11.2		24.4		"	"	1.5	"
0927	24.0	<3%	8.23	0.01	4.952	<3%	0.80	<10%	11.4	1.2	23.0	<10%	"	"	2.4	"
0930	24.0		8.22		4.951		0.76		11.8		22.5		"	"	3.3	"
0933	24.0		8.22		4.948		0.75		12.6		22.1		"	"	4.2	"

Stop Purge Time: 0934	Sample Time: 0935	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW01-EM19	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/21/19 | Well ID: SWFTS-MW02

Field Sampler(s): Jeff Richerson

Transducer Removal Time: 0956 | Transducer Redeployment time: 1039 | General Well Condition: Good

Depth to Water (ft): 12.70 | Screened Interval Top (ft): 18.4 | Pump Intake Depth (ft): 25.5

Well Depth (ft): 31.65 | Screened/Open Interval Bottom (ft): 33.1 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1002

Time	Temp. (°C)		pH (pH Units)		Conductivity (~~mS/cm~~ uS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1054	25.7		7.10		6660		6.67		143.1		103.6		250	12.68	0.5	clear/none
1009	25.8		6.96		6683		7.14		185.0		127.5		250	12.69	1.75	" "
1014	25.9		7.05		6706		7.02		197.1		76.4		250	12.70	3.0	" "
1019	25.8		6.95		6744		7.01		204.3		28.6		250	12.70	4.25	" "
1024	25.9	<3%	6.92	<0.1	6779	<3%	7.06	<10%	205.7	<10 MV	28.0	<10%	250	12.70	5.5	" "
1029	25.9		6.90		6788		6.97		206.8		27.7		250	12.70	6.75	" "

Stop Purge Time: 1029 | Sample Time: 1030 | QA/QC Sample Time(s): N/A

Sample ID: SWFTS-MW02-EM19 | QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: MW-03
Field Sampler(s): Sichu				
Transducer Removal Time: 0755	Transducer Redeployment time: 0850		General Well Condition: Good	
Depth to Water (ft): 13.79	Screened Interval Top (ft): 27.2		Pump Intake Depth (ft): 34.6	
Well Depth (ft): 41.65	Screened/Open Interval Bottom (ft): 42.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0804				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0806	22.9		7.74		5.483		1.20		216.9		17.3		300	13.79	0.6	No/No
0809	23.0		7.75		5.485		1.03		213.5		18.6		"	"	1.5	"
0812	23.2		7.78		5.488		0.80		209.5		15.4		"	"	2.4	"
0815	23.3	<3%	7.81	0.06	5.478	<3%	0.61	<10%	205.5	6.2	8.7	<10 NTU	"	"	3.3	"
0818	23.3		7.86		5.493		0.59		199.9		6.4		"	"	4.2	"
0821	23.4		7.87		5.495		0.57		199.3		9.1		"	"	5.1	"

Stop Purge Time: 0822	Sample Time: 0823	QA/QC Sample Time(s): 0845
	Sample ID: SWFTS-MW03-EM19	QA/QC Sample ID(s): SWFTS-20190521-FB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L Turbidity fluctuated a lot; took the first reading.

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	4	250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: SWFTS-MW04
Field Sampler(s): Jeff Richeson				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 10.01	Screened Interval Top (ft): 25.8		Pump Intake Depth (ft): 33	
Well Depth (ft): 39.85	Screened/Open Interval Bottom (ft): 40.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1258				

Time	Temp. (°C)		pH (pH Units)		Conductivity ~~(mS/cm)~~ SS µS/cm (µS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1300	23.9		7.31		3216		1.70		203.1		140.0		250	10.00	0.5	clear/none
1305	23.8		7.24		3242		0.22		202.8		87.2		250	10.01	1.75	" "
1310	24.0		7.22		3169		0.11		203.0		68.3		250	10.01	3.0	" "
1315	24.2	<3%	7.22	<0.1	3160	<3%	0.08	<0.5 mg/L	198.6	<10 mV	20.0	<10%	250	10.01	4.25	" "
1320	24.0		7.21		3174		0.06		198.1		19.8		250	10.01	5.5	" "
1325	23.8		7.20		3173		0.05		197.4		19.7		250	10.01	6.75	" "

Stop Purge Time: 1325 Sample Time: 1327 QA/QC Sample Time(s): N/A

Sample ID: SWFTS-MW04-EM19 QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: MW-SWFTS-05A
Field Sampler(s): Sachu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 18.97	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 28.55	Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1145				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1147	24.7		9.56		6.065		0.97		129.9		10.6		300	17.97	0.6	NO/NO
1150	24.7	<3%	9.26	0.04	6.053	<3%	0.70	<10%	129.1	1.5	9.7	<10 NTU	"	"	1.5	"
1153	24.7		9.22		6.051		0.66		127.9		8.2		"	"	2.4	"
1156	24.7		9.22		6.048		0.65		127.6		8.0		"	"	3.3	"

Stop Purge Time: 1157	Sample Time: 1158	QA/QC Sample Time(s): 1158	
	Sample ID: SWFTS-MW05A-EM19	QA/QC Sample ID(s): SWFTS-MW05A-EM19-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date:	Well ID: SWFTS-05B
Field Sampler(s): Sichu				
Transducer Removal Time:	Transducer Redeployment time:			General Well Condition: Good
Depth to Water (ft): 17.90	Screened Interval Top (ft): 32.3			Pump Intake Depth (ft): 36.6
Well Depth (ft): 41.75	Screened/Open Interval Bottom (ft): 40.0			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1245				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1247	24.6		9.13		5.081		0.95		86.3		145.0		270	17.90	0.54	No / No
1250	24.6		9.24		5.083		0.82		91.6		119.7		"	"	1.35	"
1253	24.6		9.22		5.090		0.82		92.3		89.2		"	"	2.16	"
1256	24.6	<3%	9.22	0.02	5.093	<3%	0.82	<10%	92.6	0.9	66.0	<10%	"	"	2.97	"
1259	24.6		9.23		5.093		0.81		93.0		63.9		"	"	3.78	"
1302	24.6		9.24		5.089		0.81		93.5		60.0		"	"	4.59	"

Stop Purge Time: 1303	Sample Time: 1304	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW05B-EM19	QA/QC Sample ID(s):

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/20/19	Well ID: SWFTS-MW06A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 5.57	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 17	
Well Depth (ft): 21.20	Screened/Open Interval Bottom (ft): 21.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1252				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) (~~uS/cm~~) READ	Conductivity CHANGE*	DO (mg/L) READ	DO CHANGE*	ORP (mV) READ	ORP CHANGE*	Turbidity (NTU) READ	Turbidity CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1254	22.3		7.20		3019		0.50		230.9		12.0		250	5.57	0.5	clear/none
1259	22.3		7.21		3026		0.11		188.2		8.2		250	5.57	1.75	" "
1304	22.4		7.21		3031		0.09		176.0		6.6		250	5.57	3.0	" "
1309	22.3	<3%	7.21	<0.1	3027	<3%	0.08	<0.5 mg/l	173.5	<10 mV	5.6	<10	250	5.57	4.25	" "
1314	22.1		7.21		3029		0.09		170.2		5.4		250	5.57	5.5	" "

Stop Purge Time: 1314	Sample Time: 1314	QA/QC Sample Time(s): 1314	
	Sample ID: SWFTS-MW06A-EM19	QA/QC Sample ID(s): SWFTS-MW06A-EM19-FD	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID:	SWFTS-MW06B
Field Sampler(s):	Jeff Richeson				
Transducer Removal Time:	0739	Transducer Redeployment time:	0831	General Well Condition:	Good
Depth to Water (ft):	5.79	Screened Interval Top (ft):	25.9	Pump Intake Depth (ft):	31
Well Depth (ft):	35.22	Screened/Open Interval Bottom (ft):	35.5	Well Diameter (in):	2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time:	0747				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm) (uS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0749	21.4		7.15		2880		3.00		289.0		381.5		200	5.79	0.4	clear/none
0754	21.6		7.17		2921		0.35		284.2		273.2		200	5.79	1.4	" "
0759	21.5		7.22		2917		0.30		268.6		260.4		200	5.79	2.4	" "
0804	21.6		7.18		2915		0.09		260.4		113.3		200	5.79	3.4	" "
0809	21.7	<3%	7.18	<0.1	2922	<3%	0.10	<0.5 mg/l	258.6	<10 mV	59.2	<10%	200	5.79	4.4	" "
0814	21.6		7.19		2919		0.10		259.1		58.7		200	5.79	5.4	" "
0819	21.7		7.18		2920		0.09		259.0		58.2		200	5.79	6.4	" "

Stop Purge Time: 0819	Sample Time: 0820	QA/QC Sample Time(s):	N/A
	Sample ID: SWFTS-MW06B-EM19	QA/QC Sample ID(s):	N/A

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW07A

Field Sampler(s): J. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 13.11 | Screened Interval Top (ft): 15.0 | Pump Intake Depth (ft): 22.25

Well Depth (ft): 29.90 | Screened/Open Interval Bottom (ft): 29.5 | Well Diameter (in): 4

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1218

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1221	21.0		7.20		5.024		2.47		37.5		2.4		300	13.12		clear/none
1224	22.3		7.10		5.034		1.09		48.9		0.1		"	"		"
1227	22.3	<1%	7.10	0	5.034	<1%	1.05	6%	49.9	1.8	0.1	<10	"	"		"
1230	22.4		7.10		5.035		1.03		50.7		0.1		"	"	4.0	"

Stop Purge Time: 1231 | Sample Time: 1235 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW07A-EM19 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCL		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW07B

Field Sampler(s): J. Bunkers

Transducer Removal Time: 1245 | Transducer Redeployment time: 1320 | General Well Condition: Good

Depth to Water (ft): 12.85 | Screened Interval Top (ft): 33.8 | Pump Intake Depth (ft): 35.7

Well Depth (ft): 38.60 | Screened/Open Interval Bottom (ft): 38.3 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1257

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1300	22.0		7.15		4.685		2.20		84.7		19.6		300	12.90		clear/none
1303	22.5		7.12		4.681		1.10		84.0		15.3		200	12.95		"
1306	22.3	<1%	7.12	0	4.671	<1%	0.91	4%	83.9	0.1	9.9	<10	"	"		"
1309	22.2		7.12		4.672		0.87		83.8		9.6		"	"		"
1312	22.2		7.12		4.671		0.87		83.8		9.7		"	"	4.8	"

Stop Purge Time: 1313 | Sample Time: 1315 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW07B | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H2SO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW08A
Field Sampler(s): SI Chm				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 16.30	Screened Interval Top (ft): 20.2		Pump Intake Depth (ft): ~~27.0~~ 27.0	
Well Depth (ft): 35.30	Screened/Open Interval Bottom (ft): 34.8		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1022				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1024	23.7		7.03		4.826		2.01		144.5		11.4		300	16.30	0.6	NO/NO
1027	23.6	3%	7.05	0.01	4.813	<3%	1.40	<10%	146.5	0.4	9.9	<10 NTU	"	"	1.5	"
1030	23.5		7.04		4.814		1.38		146.7		9.6		"	"	2.4	"
1033	23.5		7.04		4.812		1.30		146.9		9.2		"	"	3.3	"

Stop Purge Time: 1034	Sample Time: 1035		QA/QC Sample Time(s):	
	Sample ID: SWFTS-MW08A-EM19		QA/QC Sample ID(s):	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HG		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW09A

Field Sampler(s): Jesse Bunkers

Transducer Removal Time: 0805 | Transducer Redeployment time: 0855 | General Well Condition: Good

Depth to Water (ft): 14.05 | Screened Interval Top (ft): 19.3 | Pump Intake Depth (ft): 24.15

Well Depth (ft): 29.00 | Screened/Open Interval Bottom (ft): 28.9 | Well Diameter (in): 4

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0815

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0818	23.3		6.90		5.448		1.26		138.8		10.5		300	14.05		clear/none
0821	23.6		6.88		5.453		0.71		137.4		9.8		"	"		"
0824	23.6		6.89		5.436		0.57		135.7		12.8		"	"		"
0827	23.6		6.89		5.419		0.49		133.9		13.5		"	"		"
0830	23.6	0	6.89	0	5.430	2%	0.48	<.5	133.0	1.2	13.3	3%	"	"		"
0833	23.6		6.89		5.431		0.47		132.7		13.1		"	"	5.7	"

Stop Purge Time: 0834 | Sample Time: 0840 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW09A-EM19 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW09B

Field Sampler(s): J. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 14.17 | Screened Interval Top (ft): 34.4 | Pump Intake Depth (ft): 36.2

Well Depth (ft): 39.10 | Screened/Open Interval Bottom (ft): 39.0 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0857

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0900	23.3		7.10		5.468		2.04		88.9		10.5		300	14.18		clear/none
0903	23.6		7.05		5.474		1.12		103.5		6.1		"	"		"
0906	23.7		7.04		5.467		0.94		119.8		6.1		"	"		"
0909	23.7		7.04		5.466		0.75		139.9		5.8		"	"		"
0912	23.6	<1%	7.04	0	5.465	<1%	0.73	7%	141.8	3.3	6.8	<10	"	"		"
0915	23.7		7.04		5.461		0.70		143.2		7.3		"	"	5.7	"

Stop Purge Time: 0916 | Sample Time: 0918 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW09B-EM19 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/21/19 | Well ID: SWFTS-MW10A

Field Sampler(s): J. Bunkers

Transducer Removal Time: ~~AM~~ 1140 | Transducer Redeployment time: ~~AM~~ 1218 | General Well Condition: Good

Depth to Water (ft): 11.10 | Screened Interval Top (ft): 20.4 | Pump Intake Depth (ft): 27.65

Well Depth (ft): 34.90 | Screened/Open Interval Bottom (ft): 35.0 | Well Diameter (in): 4

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1142

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1145	24.5		6.87		5.599		0.85		-94.9		9.8		300	11.12		clear/none
1148	24.4		6.86		5.578		0.56		-104.0		9.8		"	"		"
1151	24.3		6.86		5.562		0.48		-106.1		8.2		"	"		"
1154	24.4	<1%	6.86	0	5.556	<1%	0.47	<.5	-107.4	1.6	8.5	<10	"	"		"
1157	24.4		6.86		5.558		0.46		-107.7		8.3		"	"	4.8	"

Stop Purge Time: 1158 | Sample Time: 1200 | QA/QC Sample Time(s): 1200

Sample ID: SWFTS-MW10A-EM19 | QA/QC Sample ID(s): SWFTS-MW10A-EM19-MS/MSD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	4	250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW11

Field Sampler(s): S. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 17.23 | Screened Interval Top (ft): 14.8 | Pump Intake Depth (ft): 28.24

Well Depth (ft): 34.25 | Screened/Open Interval Bottom (ft): 34.6 | Well Diameter (in): 4

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0957

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1000	24.4		7.23		5.605		5.35		63.6		1.7		300	17.23		clear/none
1003	24.5	<1%	7.22	0	5.599	<1%	5.17	1.6%	69.6	9.4	2.1	<10	"	"		"
1006	24.4		7.22		5.601		5.12		75.9		2.5		"	"		"
1009	24.5		7.22		5.598		5.09		79.0		2.3		"	"	4.0	"

Stop Purge Time: 1010 | Sample Time: 1015 | QA/QC Sample Time(s): 1015

Sample ID: SWFTS-MW11-EM19 | QA/QC Sample ID(s): SWFTS-MW11-EM19-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1x2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1x2	125 mL w/EDA	1x2	250 mL Plastic		250 mL w/H2SO4	2x2	250 mL poly w/HNO3	1x2	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW12
Field Sampler(s): Sichu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 18.61	Screened Interval Top (ft): 15.8		Pump Intake Depth (ft): 29.6	
Well Depth (ft): 40.89	Screened/Open Interval Bottom (ft): 40.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1349				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1351	23.1	<3%	7.10	0.02	6.363	<3%	3.89	<10%	152.8	0.2	10.7	<10%	300	18.61	0.6	NO/NO
1354	23.2		7.09		6.359		3.88		152.9		11.3		"	"	1.5	"
1357	23.3		7.08		6.361		3.81		153.0		10.6		"	"	2.4	"

Stop Purge Time: 1358	Sample Time: 1359	QA/QC Sample Time(s):			
	Sample ID: SWFTS-MW12-EM19	QA/QC Sample ID(s):			

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_2PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW13
Field Sampler(s): SI Chm				
Transducer Removal Time:	Transducer Redeployment time: ~~1348~~		General Well Condition: Good	
Depth to Water (ft): 23.81	Screened Interval Top (ft): 17.8		Pump Intake Depth (ft): 35.7	
Well Depth (ft): 47.5	Screened/Open Interval Bottom (ft): 47.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1140				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1142	22.8	} <3%	7.20	} 0.06	6.512	} <3%	5.38	} <10%	157.5	} 0.6	18.6	} 0.2	300	23.81	0.6	NO/NO
1145	22.8		7.15		6.518		5.35		157.9		18.8		"	"	1.5	"
1148	23.0		7.14		6520		5.32		158.1		18.6		"	"	2.4	"

Stop Purge Time: ~~1144~~ 1149	Sample Time: ~~1150~~ 1150	QA/QC Sample Time(s):	
	Sample ID: SWFTS-MW13-EM19	QA/QC Sample ID(s):	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ MU		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/21/19 | Well ID: SWFTS-MW14

Field Sampler(s): J. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 11.31 | Screened Interval Top (ft): 16.8 | Pump Intake Depth (ft): 21.43

Well Depth (ft): 30.05 | Screened/Open Interval Bottom (ft): 30.0 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1045

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1048	24.6		6.79		5.795		0.65		-279.6		15.3		270	11.31		clear/rotten
1051	24.7		6.70		5.794		0.43		-309.5		43.5		"	"		egg odor
1054	24.9		6.70		5.747		0.37		-326.1		88.9		"	"		"
1057	24.9	<1%	6.70	0	5.738	<1%	0.36	<.5	-327.2	1.1	87.0	2%	"	"		"
1100	24.8		6.70		5.735		0.35		-327.1		89.0		"	"	4.4	"

Stop Purge Time: 1101 | Sample Time: 1102 | QA/QC Sample Time(s): —

Sample ID: SWFTS-MW14-EM19 | QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.44 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/20/19	Well ID: SWFTS-MW15
Field Sampler(s): Sichu				
Transducer Removal Time: 1215	Transducer Redeployment time: 1253		General Well Condition: Good	
Depth to Water (ft): 14.90	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 24.70	
Well Depth (ft): 35.25	Screened/Open Interval Bottom (ft): 34.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1225				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1227	24.2		6.78		5.345		1.02		150.1		250.1		300	14.90	0.6	NO | NO
1230	24.2		6.80		5.331		0.76		147.1		160.0		"	"	1.5	"
1233	24.1		6.81		5.332		0.81		140.8		187.1		"	"	2.4	"
1236	24.2	<3%	6.80	0.01	5.335	<3%	0.69	<10%	137.5	6.0	185.1	<10%	"	"	3.3	"
1239	24.2		6.79		5.340		0.68		133.3		182.5		"	"	4.2	"
1242	24.1		6.80		5.346		0.65		131.5		186.2		"	"	5.1	"

Stop Purge Time: 1243	Sample Time: 1244	QA/QC Sample Time(s): 1315
	Sample ID: SWFTS-MW15-EM19	QA/QC Sample ID(s): SWFTS-20190520-FB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	4	250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ H4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/20/19	Well ID: SWFTS-MW16
Field Sampler(s): Sichu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 23.74	Screened Interval Top (ft): 21.8		Pump Intake Depth (ft): 32.6	
Well Depth (ft): 39.50	Screened/Open Interval Bottom (ft): 41.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1334				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1336	25.0		6.75		4.954		0.56		-52.0		230.9		300	23.74	0.6	Black/stinky
1339	24.9	<3%	6.74	0.01	4.956	<3%	0.55	<10%	-52.5	1.5	230.4	<10%	"	"	1.5	"
1342	24.9		6.75		4.959		0.53		-53.5		233.7		"	"	2.4	"

Stop Purge Time: 1343	**Sample Time:** 1344	**QA/QC Sample Time(s):**
	Sample ID: SWFTS-MW16-EM19	**QA/QC Sample ID(s):**

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L **HACH Kit Ferrous Iron:** 2.5 mg/L Black tubing

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW17
Field Sampler(s): Sichun				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 26.81	Screened Interval Top (ft): 22.8		Pump Intake Depth (ft): 35.7	
Well Depth (ft): 51.60	Screened/Open Interval Bottom (ft): 52.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1254				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1300	23.5		7.20		4.497		4.97		155.6		16		240	26.81	1.44	NO/NO
1303	23.5	<3%	7.18	0.02	4.507	<3%	4.81	0.05	156.0	0.0	10.1	<10%	"	"	2.16	"
1306	23.5		7.15		4.502		4.86		156.0		10.7		"	"	2.88	"
1309	23.5		7.16		4.499		4.85		156.0		10.7		"	"	3.60	"

Stop Purge Time: 1310	Sample Time: 1311	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW17-EM19	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H2SO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH — LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: SWFTS-MW18
Field Sampler(s): Sichu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 16.05	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.3	
Well Depth (ft): 36.80	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: ~~1015~~ 1028				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
~~1017~~	~~24.4~~		~~8.23~~		~~4.866~~		~~1.25~~		~~152.5~~		~~-270~~		~~300~~	~~16.05~~		~~NO/NO~~
1030	24.4		8.24		4.869		0.75		151.1		75.1		300	16.05	0.6	NO/NO
1033	24.3	<3%	8.24	0.01	4.871	<3%	0.70	0.05	150.4	1.1	71.6	<10%	"	"	1.5	"
1036	24.4		8.25		4.870		0.69		149.9		69.3		"	"	2.4	"
1039	24.4		8.25		4.871		0.65		149.3		73.4		"	"	3.3	"
															+0.6 (1st purge)	
															total aim vol. = 3.9	
															(as per V. Bogle)	

Stop Purge Time: 1040 Sample Time: 1041 QA/QC Sample Time(s): 1100

Sample ID: SWFTS-MW18-EM19 QA/QC Sample ID(s): SWFTS-20190521-EB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

* Stopped at 1018 & purge vol = 0.6 L and purge re-started at 1028 after re-calibrating turbidity.

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	4	250 mL poly w/HNO_3	2	250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: SWFTS-MW19
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.67	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 21	
Well Depth (ft): 30.40	Screened/Open Interval Bottom (ft): 31.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0855				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity ~~(mS/cm)~~ (uS/cm) READ	Conductivity CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0857	21.7		7.28		3099		3.09		221.5		41.7		250	10.66	0.5	Clear/none
0902	21.8		7.18		3102		1.45		226.8		19.4		250	10.67	1.75	" "
0907	21.9	<3%	7.16	<0.1	3113	<3%	1.30	<10%	226.4	<10 mV	9.8	<10	250	10.67	3.0	" "
0912	21.9		7.15		3111		1.25		225.5		7.7		250	10.67	4.25	" "
0917	22.0		7.15		3115		1.22		225.0		6.5		250	10.67	5.5	" "

Stop Purge Time: 0917	Sample Time: 0918	QA/QC Sample Time(s): 0918	
	Sample ID: SWFTS-MW19-EM19	QA/QC Sample ID(s): SWFTS-MW19-EM19-FD	

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3		250 mL Amber Glass w/H3PO4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/21/19	Well ID: SWFTS-MW20
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good, cracked vault	
Depth to Water (ft): 13.18	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 24.49	
Well Depth (ft): 35.80	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1234				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1237	25.2		6.61		7.767		1.49		-1.2		250.3		300	13.20		clear/none
1240	24.7		6.56		7.518		0.83		-1.1		209.5		"	"		"
1243	24.8		6.59		7.336		0.49		-2.8		130.0		"	"		"
1246	24.4		6.60		7.249		0.43		-3.7		91.8		"	"		"
1249	24.3	<1%	6.60	0.01	7.233	<1%	0.42	<.5	-3.9	.5	93.4	2%	"	"		"
1252	24.3		6.61		7.230		0.41		-4.2		90.2		"	"	6.3	"

Stop Purge Time: 1253	Sample Time: 1255	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW20-EM19	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.5 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ if Cl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW21
Field Sampler(s): Sichu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 16.18	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 27.8	
Well Depth (ft): 39.90	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0915				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0917	24.0		7.01		6.539		0.78		137.7		87.6		300	16.16	0.6	NO NO
0920	24.0		7.03		6.540		0.71		177.2		85.0		"	"	1.5	"
0923	24.0		7.03		6.540		0.60		173.7		59.9		"	"	2.04	"
0926	24.0	<3%	7.04	0.01	6.537	<3%	0.60	<10%	173.3	2.8	56.3	<10%	"	"	2.64	"
0929	24.2		7.04		6.536		0.57		170.9		58.9		"	"	3.36	"

Stop Purge Time: 0930	Sample Time: 0931	QA/QC Sample Time(s):
	Sample ID: SWFTS-MW21-EM19	QA/QC Sample ID(s):

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/21/19 | Well ID: SWFTS-MW22

Field Sampler(s): J. Bunkers

Transducer Removal Time: — | Transducer Redeployment time: — | General Well Condition: Good

Depth to Water (ft): 11.55 | Screened Interval Top (ft): 11.8 | Pump Intake Depth (ft): 21.7

Well Depth (ft): 31.76 | Screened/Open Interval Bottom (ft): 31.6 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1316

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1319	23.1		7.16		4.079		0.94		-9.1		221.9		300	11.55		brownish clear
1322	23.2	0	7.13	0.01	4.137	<1%	0.50	2%	-7.3	0.6	180.3	2%	"	"		no odor
1325	23.2		7.13		4.149		0.49		-6.7		182.3		"	"		"
1328	23.2		7.12		4.150		0.49		-6.7		184.2		"	"	4.2	"

Stop Purge Time: 1329 | **Sample Time:** 1333 | **QA/QC Sample Time(s):** —

Sample ID: SWFTS-MW22-EM19 | **QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L **HACH Kit Ferrous Iron:** 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW23

Field Sampler(s): Jeff Richeson

Transducer Removal Time: 1336 | Transducer Redeployment time: 1408 | General Well Condition: Good

Depth to Water (ft): 12.95 | Screened Interval Top (ft): 13.8 | Pump Intake Depth (ft): 26.3

Well Depth (ft): 36.15 | Screened/Open Interval Bottom (ft): 33.6 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1339

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) (us/cm) READ	Conductivity (mS/cm) (us/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1341	19.9		7.42		3017		3.35		200.8		113.7		250	12.95	0.5	clear/none
1346	20.7		7.15		2917		0.47		210.1		32.7		250	12.95	1.75	" "
1351	21.0	<3%	7.14	<0.1	2914	<3%	0.10	<0.5 mg/l	211.8	<10 mV	25.8	<10%	250	12.95	3.0	" "
1356	21.0		7.13		2912		0.09		211.5		25.5		250	12.95	4.25	" "
1401	21.0		7.13		2913		0.08		211.2		24.8		250	12.95	5.5	" "

Stop Purge Time: 1401 | Sample Time: 1402 | QA/QC Sample Time(s): N/A

Sample ID: SWFTS-MW23-EM19 | QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM19	Date: 5/22/19	Well ID: SWFTS-MW-24
Field Sampler(s): S. Chu				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 13.30	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 25.4	
Well Depth (ft): 38.0	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0811				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0813	22.5		8.25		5.344		1.73		205.0		62.5		300	13.30	0.6	NO/NO
0816	22.7		6.90		5.348		1.38		200.9		43.0		"	"	1.5	/
0819	22.8	<3%	6.87	0.03	5.348	<3%	1.25	<10%	199.6	3%	29.0	<10%	"	"	2.4	"
0822	22.9		6.85		5.345		1.20		196.9		28.5		"	"	3.3	"
0825	22.9		6.84		5.342		1.18		196.5		29.9		"	"	4.2	"

Stop Purge Time: 0826	Sample Time: 0827	QA/QC Sample Time(s): 0855
	Sample ID: SWFTS-MW24-EM19	QA/QC Sample ID(s): SWFTS-20190522-EB

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H2SO4	4	250 mL poly w/HNO3	2	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study | Task Manager: D. Grady | Task No: M11 - EM19 | Date: 5/22/19 | Well ID: SWFTS-MW25

Field Sampler(s): Jeff Richeson

Transducer Removal Time: 1244 | Transducer Redeployment time: 1328 | General Well Condition: Good

Depth to Water (ft): 10.85 | Screened Interval Top (ft): 12.6 | Pump Intake Depth (ft): 28

Well Depth (ft): 43.35 | Screened/Open Interval Bottom (ft): 42.6 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 1248

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (µS/cm) READ	Conductivity (µS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1250	21.1		6.90		5313		3.51		219.8		775.0		250	10.86	0.5	Turbid/none
1255	22.4		6.89		5389		0.47		225.8		430.2		250	10.85	1.75	" "
1300	22.7		6.89		5389		0.18		227.1		152.9		250	10.85	3.0	Clear/none
1305	22.7		6.90		5403		0.15		227.5		87.3		250	10.85	4.25	" "
1310	22.6	<3%	6.89	<0.1	5397	<3%	0.16	<0.5 mg/L	227.1	<10 mV	85.5	<10%	250	10.85	5.5	" "
1315	22.7		6.88		5395		0.12		226.6		86.7		250	10.85	6.75	" "

Stop Purge Time: 1315 | Sample Time: 1316 | QA/QC Sample Time(s): N/A

Sample ID: SWFTS-MW25-EM19 | QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3		250 mL Amber Glass w/H3PO4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM20	Date: 6/28/19
Task Manager: D. Grady	Field Sampler(s): Jeff Richeson, Jesse Bunkers	Recorded by: Jeff Richeson
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:*	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1145	PC-91	TOC	11.42	20.00	Good
1148	PC-92	TOC	11.03	37.20	Good
1154	PC-94	TOC	13.48	20.15	Good
1200	PC-58	TOC	21.93	38.80	Good
1219	PC-88	TOC	6.88	46.70	Good
1209	PC-97	TOC	5.41	30.75	Good
0900 7/1/19	COH-2B1	TOC	16.66	69.70	Good
1223	SWFTS-MW01	TOC	14.86	38.50	Good
1227	SWFTS-MW02	TOC	12.81	31.60	Good
1243	SWFTS-MW03	TOC	13.88	41.75	Good
1254	SWFTS-MW04	TOC	10.16	39.75	Good
1234	SWFTS-MW05A	TOC	18.04	28.35	Good
1238	SWFTS-MW05B	TOC	18.01	41.80	Good
1250	SWFTS-MW06A	TOC	5.72	21.20	Good
1247	SWFTS-MW06B	TOC	5.96	35.25	Good
	SWFTS-MW07A	TOC			
	SWFTS-MW07B	TOC			
	SWFTS-MW08A	TOC			
	SWFTS-MW08C	TOC			
1306	SWFTS-MW09A	TOC	14.12	29.00	Good
1312	SWFTS-MW09B	TOC	14.24	39.00	Good
1300	SWFTS-MW10A	TOC	11.24	34.90	Good
1304	SWFTS-MW10C	TOC	9.31	63.25	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM20	Date: 6/28/19
Task Manager: D. Grady	Field Sampler(s): JB	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1146	SWFTS-MW11	TOC	17.42	39.2	Good
1150	SWFTS-MW12	TOC	18.88	40.0	Good
1153	SWFTS-MW13	TOC	24.00	47.5	Good
1158	SWFTS-MW14	TOC	11.50	30.0	Good
1201	SWFTS-MW15	TOC	14.35	34.0	Good
1205	SWFTS-MW16	TOC	22.92	39.7	Good
1209	SWFTS-MW17	TOC	26.94	51.6	Good
1214	SWFTS-MW18	TOC	16.19	35.6	Good
1218	SWFTS-MW19	TOC	10.78	30.3	Good
1220	SWFTS-MW20	TOC	13.30	35.8	Good
1223	SWFTS-MW21	TOC	16.30	38.0	Good
1226	SWFTS-MW22	TOC	11.66	31.6	Good
1228	SWFTS-MW23	TOC	13.01	36.0	Good
1231	SWFTS-MW24	TOC	13.42	37.2	Good
1234	SWFTS-MW25	TOC	10.89	43.2	Good
1238	SWFTS-MW07A	TOC	13.30	29.8	Good
1241	SWFTS-MW07B	TOC	13.03	38.6	Good
1244	SWFTS-MW08A	TOC	16.42	34.8	Good
1246	SWFTS-MW08C	TOC	14.13	69.7	Good

BMP = Below Measuring Point

TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM20 | Rental from: Equipco | Task Manager: D. Grady

Type: YSI PRO DSS | Serial Number: PRODSS, 12

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
7/1/19	1500	22.0	3.93	7.07	10.09	233.5	1.067	93.9	0.1	21.8	4.00	7.02	10.05	236.4	1.030	93.0	0.0
7/2/19	1445	21.7	4.06	7.05	9.99	231.9	1.038	92.9	0.3	21.5	4.00	7.02	10.04	235.9	1.010	92.8	0.0
7/3/19	1130	21.6	3.95	7.02	9.96	239.5	1.027	92.6	0.1	21.3	4.00	7.02	10.05	236.2	1.017	92.9	0.0

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study	Task No.: M11 - EM20	Rental from: Equipco	Task Manager: D. Grady
Type: YSI PRO DSS		Serial Number: YSI PRODSS.27	

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
7/5/19	0600	22.5	4.0	7.0	9.89	234.5	1.105	98.7	0.0	24.0	4.0	7.0	10.0	235.1	1.000	98.7	0.0

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: CLB DATE: 06/26/2019

RENTAL CUSTOMER: Tetra Tech-Gold

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS. 27

SERIAL NUMBER: 17H101697

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	58747
2. pH ZERO	pH 7	✓	57633
pH SLOPE	pH 4	✓	57705
pH SLOPE	pH 10	✓	58745
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	–	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	–	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	06262019
TURBIDITY SPAN	20 NTU's	✓	06262019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	050119

2100 Meridian Park Blvd, Concord, CA 94520 Phone (888) 234-5678 Fax (925) 305-1301

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: CLB

DATE: 06126/2019

RENTAL CUSTOMER: Tetra Tech - Gold

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS. 12

SERIAL NUMBER: 16F104659

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	58747
2. pH ZERO	pH 7	✓	57633
pH SLOPE	pH 4	✓	57705
pH SLOPE	pH 10	✓	58745
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	~	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	~	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	06262019
TURBIDITY SPAN	20 NTU's	✓	06262019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	050119

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: COH-281
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 0858	Transducer Redeployment time: 0932		General Well Condition: Good	
Depth to Water (ft): 16.66	Screened Interval Top (ft): ?		Pump Intake Depth (ft): 62	
Well Depth (ft): 69.7	Screened/Open Interval Bottom (ft): ?		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0906				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0908	26.0		7.28		3.190		1.86		-3.4		814.2		300	16.67		clear/none
0911	24.7		7.22		3.149		0.67		8.2		817.2		"	"		brown/none
0914	24.6		7.24		3.166		0.49		7.6		172.4		"	"		"
0917	24.5		7.24		3.168		0.39		7.1		159.3		"	"		"
0920	24.5	<1%	7.24	0	3.168	<1%	0.38	<5	7.4	0.5	150.3	6%	"	"		"
0923	24.6		7.24		3.167		0.37		7.6		153.2		"	"	5.4	"

Stop Purge Time: 0924	Sample Time: 0925	QA/QC Sample Time(s): —
	Sample ID: COH-281-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: PC-58
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 21.93	Screened Interval Top (ft): 10.1		Pump Intake Depth (ft): 22.5	
Well Depth (ft): 38.80	Screened/Open Interval Bottom (ft): 35.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0943				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0945	25.0		7.23		3.795		1.99		147.2		121.9		200	21.94	0.4	clear/none
0950	23.5		7.16		3.778		0.68		148.3		30.0		200	21.94	1.4	" "
0955	23.3		7.16		3.776		0.55		148.3		15.1		200	21.94	2.4	" "
1000	23.3	<3%	7.16	<0.1	3.769	<3%	0.49	<0.5 mg/l	148.0	<10	15.0	<10%	200	21.94	3.4	" "
1005	23.4		7.16		3.768		0.46		147.7		14.5		200	21.94	4.4	" "
1010	23.5		7.16		3.772		0.43		147.6		14.1		200	21.94	5.4	" "

Stop Purge Time: 1010	Sample Time: 1011		QA/QC Sample Time(s): N/A	
	Sample ID: PC-58-EM20		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: PC-88
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0825	Transducer Redeployment time: 0908		General Well Condition: Good	
Depth to Water (ft): 6.88	Screened Interval Top (ft): 39.9		Pump Intake Depth (ft): 44	
Well Depth (ft): 46.70	Screened/Open Interval Bottom (ft): 49.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0831				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0833	24.5		7.36		3.476		2.89		134.6		15.3		250	6.89	0.5	clear/none
0838	24.5		7.30		3.475		1.40		137.3		19.7		250	6.88	1.75	" "
0843	24.6		7.25		3.477		0.70		137.8		7.2		250	6.88	3.0	" "
0848	24.7	<3%	7.25	<0.1	3.471	<3%	0.45	<0.5 mg/l	138.3	<10	5.8	<10	250	6.88	4.25	" "
0853	24.8		7.24		3.478		0.41		138.6		5.3		250	6.88	5.5	" "
0858	24.7		7.24		3.475		0.39		138.9		4.9		250	6.88	6.75	" "

Stop Purge Time: 0858	Sample Time: 0900	QA/QC Sample Time(s): 0900	
	Sample ID: PC-88-EM20	QA/QC Sample ID(s): PC-88-EM20-FD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

Page 1 of 1

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: PC-91
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 11.42	Screened Interval Top (ft): 11.0		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 20.09	Screened/Open Interval Bottom (ft): 21.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1008				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1010	26.8		6.71		4.284		2.02		49.0		33.9		200	11.42	0.4	clear/none
1015	25.8		6.67		4.323		0.57		55.7		19.1		200	11.42	1.4	" "
1020	25.8		6.66		4.403		0.48		60.5		9.8		200	11.42	2.4	" "
1025	25.7	<3%	6.65	<0.1	4.435	<3%	0.44	<0.5 mg/L	63.4	<10 mV	9.5	<10	200	11.43	3.4	" "
1030	25.8		6.65		4.451		0.42		65.2		9.4		200	11.43	4.4	" "

Stop Purge Time: 1030	Sample Time: 1032	QA/QC Sample Time(s): N/A	
	Sample ID: PC-91-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	1	250 mL poly w/HCl	250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID:	PC-92
Field Sampler(s):	Jeff Richeson				
Transducer Removal Time:	N/A	Transducer Redeployment time:	N/A	General Well Condition:	Good
Depth to Water (ft):	11.04	Screened Interval Top (ft):	26.2	Pump Intake Depth (ft):	31.2
Well Depth (ft):	37.20	Screened/Open Interval Bottom (ft):	36.2	Well Diameter (in):	2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method:	Alconox/DI Rinse SOP
Purge Start Time:	1053				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1055	24.8		7.32		3.592		1.35		77.6		90.6		250	11.05	0.5	clear/none
1100	24.1		7.27		3.579		0.63		77.1		43.7		250	11.07	1.75	" "
1105	23.9		7.26		3.595		0.50		75.9		32.1		250	11.08	3.0	" "
1110	24.0	} <3%	7.26	} <0.1	3.605	} <3%	0.46	} <0.5 mg/L	74.8	} <10 mV	26.5	} <10%	250	11.08	4.25	" "
1115	24.0		7.26		3.632		0.44		74.2		26.3		250	11.08	5.5	" "
1120	23.8		7.25		3.685		0.42		74.1		25.8		250	11.08	6.75	" "

Stop Purge Time: 1120	Sample Time: 1122	QA/QC Sample Time(s):	N/A
	Sample ID: PC-92-EM20	QA/QC Sample ID(s):	N/A

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	1	250 mL poly w/HCl		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: PC-94
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.53	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 16.87	
Well Depth (ft): 20.2	Screened/Open Interval Bottom (ft): 21.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0735				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0737	25.2		7.16		4.679		3.27		186.9		234.2		300	13.36		clear/none
0740	25.0		7.23		4.663		4.44		193.9		199.4		"	13.53		"
0743	25.1		7.24		4.666		4.32		198.3		122.5		"	"		"
0746	25.1	0	7.25	0.01	4.667	<1%	4.44	3%	200.8	3.4	120.4	6%	"	"		"
0749	25.1		7.25		4.668		4.35		201.7		115.5		"	"	4.5	"

Stop Purge Time: 0750	Sample Time: 0751	QA/QC Sample Time(s): —
	Sample ID: PC-94-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID:	PC-97
Field Sampler(s):	Jeff Richeson				
Transducer Removal Time:	N/A	Transducer Redeployment time:	N/A	General Well Condition:	Good
Depth to Water (ft):	5.41	Screened Interval Top (ft):	22.5	Pump Intake Depth (ft):	27.5
Well Depth (ft):	30.75	Screened/Open Interval Bottom (ft):	32.5	Well Diameter (in):	2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time:	0740				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0742	22.5		7.19		3.162		1.55		150.6		18.2		250	5.42	0.5	clear/none
0747	22.3		7.13		3.172		0.60		145.0		12.3		250	5.42	1.75	" "
0752	22.2		7.13		3.172		0.49		133.3		9.8		250	5.42	3.0	" "
0757	22.3	<3%	7.12	<0.1	3.185	<3%	0.45	<0.5 mg/L	134.0	<10	9.2	<10	250	5.42	4.25	" "
0802	22.3		7.12		3.185		0.41		135.2		9.0		250	5.42	5.5	" "

Stop Purge Time:	0802	Sample Time:	0805	QA/QC Sample Time(s):	N/A
		Sample ID:	PC-97-EM20	QA/QC Sample ID(s):	N/A

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW01
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 14.88	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 38.5	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0945				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0947	26.7		7.06		4.844		1.91		61.7		320.4		300	14.90		clear/none
0950	26.1		6.94		4.828		0.64		32.5		236.0		"	"		"
0953	25.7		6.97		4.818		0.42		2.1		158.6		"	"		"
0956	25.6	<1%	7.01	0	4.812	<1%	0.33	<.5	-0.9	3.0	129.3	7.5%	"	"		"
0959	25.7		7.01		4.803		0.31		1.0		129.2		"	"		"
1002	25.7		7.01		4.802		0.29		2.1		120.3		"	"	5.4	"

Stop Purge Time: 1003	Sample Time: 1004	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW01-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

3	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW02
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1013		Transducer Redeployment time: 1100		General Well Condition: Good
Depth to Water (ft): 12.81		Screened Interval Top (ft): 18.1		Pump Intake Depth (ft): 25.5
Well Depth (ft): 31.60		Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1022				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1027	27.5		6.93		6.450		1.44		-152.3		93.2		250	12.82	0.5	clear/none
1032	26.1		6.80		6.481		0.43		-146.2		41.7		250	12.83	1.75	" "
1037	26.2		6.80		6.474		0.38		-143.5		16.5		250	12.83	3.0	" "
1042	26.1	<3%	6.79	<0.1	6.519	<3%	0.35	<0.5 mg/l	-141.9	<10	16.2	<10%	250	12.83	4.25	" "
1047	26.1		6.79		6.545		0.34		-139.9		16.3		250	12.83	5.5	" "

Stop Purge Time: 1047	Sample Time: 1049	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW02-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW03
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1246	Transducer Redeployment time: 1315		General Well Condition: Good	
Depth to Water (ft): 13.88	Screened Interval Top (ft): 27.0		Pump Intake Depth (ft): 34.4	
Well Depth (ft): 41.7	Screened/Open Interval Bottom (ft): 41.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1250				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1252	28.2		7.16		5.200		3.64		149.5		318.0		300	13.90		clear/none
1255	26.9		6.92		5.326		0.67		134.7		424.3		"	"		"
1258	26.4		6.94		5.329		0.46		120.8		390.2		"	"		"
1301	26.8	<1%	6.95	0	5.338	<1%	0.38	<.5	111.4	3.9	201.6	6%	"	"		"
1304	26.8		6.95		5.325		0.35		109.7		197.3		"	"		"
1307	27.0		6.95		5.334		0.34		107.5		190.3		"	"	5.4	"

Stop Purge Time: 1308	Sample Time: 1310	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW03-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: MW04
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.16	Screened Interval Top (ft): 25.5		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 39.75	Screened/Open Interval Bottom (ft): 40.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0645				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0647	21.9		7.36		2.818		1.88		154.1		26.0		250	10.17	0.5	clear/none
0652	22.1		7.24		2.849		0.64		160.0		14.8		250	10.17	1.75	" "
0657	22.1		7.19		2.985		0.48		161.5		9.7		250	10.17	3.0	" "
0702	22.2	<3%	7.17	<0.1	3.002	<3%	0.43	<0.5 mg/l	161.1	<10	9.5	<10	250	10.18	4.25	" "
0707	22.3		7.16		3.008		0.40		161.1		9.3		250	10.18	5.5	" "

Stop Purge Time: 0707	Sample Time: 0710	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW04-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW05A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 18.06	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 28.3	Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1027				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1030	27.3		6.80		5.780		1.19		93.4		29.4		300	18.12		clear/none
1033	26.2		6.84		5.759		0.53		76.0		26.1		"	"		"
1036	26.0		6.86		5.741		0.43		69.0		19.4		"	"		"
1039	26.0		6.90		5.733		0.41		54.4		16.9		"	"		"
1042	26.1	<1%	6.87	0.03	5.732	<1%	0.42	<5	57.1	3.8	17.1	2%	"	"		"
1045	26.1		6.87		5.743		0.44		58.2		16.8		"	"	5.7	"

Stop Purge Time: 1046	Sample Time: 1047	QA/QC Sample Time(s): 1047	
	Sample ID: SWFTS-MW05A-EM20	QA/QC Sample ID(s): SWFTS-MW05A-EM20-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW05B
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 18.02	Screened Interval Top (ft): 32.3		Pump Intake Depth (ft): 36.6	
Well Depth (ft): 41.8	Screened/Open Interval Bottom (ft): ~~32.3~~ 42.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1059				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1101	28.4		6.86		5.093		1.38		13.0		79.1		300	18.05		clear/none
1104	26.7		6.76		4.975		0.73		15.6		154.5		"	"		"
1107	26.4		6.76		4.954		0.36		19.8		167.1		"	"		"
1110	26.6	} <1%	6.77	} 0	4.947	} <1%	0.23	} <.5	21.7	} 0.4	192.3	} 1%	"	"		"
1113	26.5		6.77		4.946		0.22		22.0		194.4		"	"		"
1116	26.4		6.77		4.951		0.21		22.1		193.3		"	"	5.4	"

Stop Purge Time: 1117	Sample Time: 1118	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW05B-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: MW-06A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 5.72	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 21.20	Screened/Open Interval Bottom (ft): 21.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1323				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1324	25.4		7.25		3.449		0.84		-19.9		8.7		200	5.72	0.4	clear / slight sulfide
1329	25.0		7.23		3.562		0.51		-41.7		7.9		200	5.72	1.4	" "
1334	24.7		7.23		3.570		0.46		-28.0		7.7		200	5.72	2.4	" "
1339	24.5	<3%	7.23	<0.1	3.552	<3%	0.41	<0.5	-25.2		8.3		200	5.73	3.4	" "
1344	24.4		7.23		3.553		0.40	mg/L	-23.3		8.9		200	5.73	4.4	" "

Stop Purge Time: 1344	Sample Time: 1345	QA/QC Sample Time(s): 1345	
	Sample ID: SWFTS-MW06A-EM20	QA/QC Sample ID(s): SWFTS-MW06A-EM20-FD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL ~~poly~~ Amber w/HCl		250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW06B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1237	Transducer Redeployment time: 1314		General Well Condition: Good	
Depth to Water (ft): 5.97	Screened Interval Top (ft): 25.6		Pump Intake Depth (ft): 30.4	
Well Depth (ft): 35.25	Screened/Open Interval Bottom (ft): 35.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1244				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1246	25.4		7.28		3.368		1.00		73.5		5.8		250	5.97	0.5	clear/none
1251	25.0		7.25		3.351		0.58		71.8		9.3		250	5.97	1.25	" "
1256	24.9		7.25		3.332		0.49		70.8		9.1		250	5.97	2.5	" "
1301	24.7	<3%	7.25	<0.1	3.334	<3%	0.45	<0.5 mg/l	70.6	<10 mV	9.0	<10	250	5.97	3.75	" "
1306	25.0		7.25		3.348		0.43		70.3		9.2		250	5.97	5.0	" "

Stop Purge Time: 1306	Sample Time: 1308	QA/QC Sample Time(s): N/A
	Sample ID: SWFTS-MW06B-EM20	QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	1	250 mL poly w/[redacted] HCL		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/3/19	Well ID: MW07A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time:	Transducer Redeployment time: 0		General Well Condition: Good	
Depth to Water (ft): 13.30	Screened Interval Top (ft): 14.7		Pump Intake Depth (ft): 22.0	
Well Depth (ft): 29.8	Screened/Open Interval Bottom (ft): 29.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0931				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor	
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*					
0933	26.8		7.11		4.716		2.29		161.8		14.3		250	13.30	0.5	Clear	none
0938	25.1		6.99		4.681		0.83		161.2		11.2		250	13.36	1.75	"	"
0943	25.1		6.99		4.680		0.52		160.7		2.9		250	13.38	3.0	"	"
0948	24.9		6.99		4.678		0.46		160.1		3.1		250	13.38	4.25	"	"
0953	25.0		6.99		4.681		0.43		159.5		3.2		250	13.39	5.5	"	"
0958	25.0		6.99		4.685		0.41		159.1		3.4		250	13.38	6.75	"	"

Stop Purge Time: 0958	Sample Time: 1009	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW07A-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/3/19	Well ID: MW07B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0819	Transducer Redeployment time: 0920		General Well Condition: Good	
Depth to Water (ft): 13.03	Screened Interval Top (ft): 33.4		Pump Intake Depth (ft): 35.7	
Well Depth (ft): 38.6	Screened/Open Interval Bottom (ft): 37.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0848				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0853	26.6		7.41		4.201		4.30		173.5		7.0		250	13.03	0.5	clear/none
0858	24.8		7.06		4.155		1.00		174.1		5.0		250	13.03	1.75	" "
0903	24.8		7.03		4.183		0.48		171.8		3.8		250	13.03	3.0	" "
0908	24.6	<3%	7.03	<0.1	4.176	<3%	0.47	<0.5 mg/l	170.6	<10	3.8	<10	250	13.03	4.25	" "
0913	24.6		7.02		4.176		0.47		169.2		3.4		250	13.03	5.5	" "

Stop Purge Time: 0913	Sample Time: 0915	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW07B-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW08A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.43	Screened Interval Top (ft): 19.7		Pump Intake Depth (ft): 27.0	
Well Depth (ft): 34.90	Screened/Open Interval Bottom (ft): 34.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1326				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1328	28.4		7.14		4.353		1.63		152.0		21.2		300	16.50		clear/none
1331	28.2		7.13		4.333		0.87		145.0		9.1		180	16.55		"
1334	27.3		7.15		4.318		0.60		126.6		11.5		180	16.50		"
1337	27.5	<1%	7.15	0	4.321	<1%	0.58	5%	124.6	3.3	9.8	<10	180	"		"
1340	27.4		7.15		4.322		0.57		122.7		9.8		"	"		"
1343	27.3		7.15		4.319		0.55		121.3		9.5		"	"	3.84	"

Stop Purge Time: 1344	Sample Time: 1345	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW08A-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW09A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1216		Transducer Redeployment time: 1256		General Well Condition: Good
Depth to Water (ft): 14.12		Screened Interval Top (ft): 18.9		Pump Intake Depth (ft): 23.7
Well Depth (ft): 29.09		Screened/Open Interval Bottom (ft): 28.5		Well Diameter (in): [redacted] 4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1222				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1224	29.0		6.99		5.064		2.90		-5.9		39.8		250	14.13	0.5	clear/none
1229	26.0		6.88		5.051		0.69		-7.8		9.8		250	14.13	1.75	" "
1234	25.5		6.87		5.034		0.54		-10.0		7.3		250	14.13	3.0	" "
1239	25.4	<3%	6.87	<0.1	5.038	<3%	0.49	<0.5 mg/l	-11.3	<10	8.7	<10	250	14.13	4.25	" "
1244	25.6		6.87		5.033		0.47		-12.9		9.2		250	14.13	5.5	" "
1249	25.4		6.87		5.027		0.45		-13.8		9.5		250	14.13	6.75	" "

Stop Purge Time: 1249	Sample Time: 1250	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW09A-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW09B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 14.24	Screened Interval Top (ft): 33.9		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.00	Screened/Open Interval Bottom (ft): 38.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1313				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1315	29.0		7.34		5.086		5.20		12.2		9.8		250	14.25	0.5	clear/none
1320	26.6		7.05		5.061		1.40		14.7		8.1		250	14.25	1.75	" "
1325	26.2	<3%	7.03	<0.1	5.048	<3%	0.75	<10 %	12.6	<10	7.0	<10	250	14.25	3.0	" "
1330	25.9		7.01		5.030		0.73		9.9		6.8		250	14.25	4.25	" "
1335	26.2		7.00		5.039		0.70		7.8		7.0		250	14.25	5.5	" "

Stop Purge Time: 1335	Sample Time: 1337	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW09B-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: MW-10A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1145		Transducer Redeployment time: 1230		General Well Condition: Good
Depth to Water (ft): 11.24		Screened Interval Top (ft): 20.1		Pump Intake Depth (ft): 27.4
Well Depth (ft): 34.90		Screened/Open Interval Bottom (ft): 34.7		Well Diameter (in): 4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1154				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1156	25.6		6.99		5.629		2.65		67.3		4.3		250	11.25	0.5	clear/none
1201	25.5		7.06		5.615		4.37		61.5		13.1		250	11.26	1.75	" "
1206	25.4		7.09		5.607		4.95		60.2		19.9		250	11.26	3.0	" "
1211	25.5	<3%	7.11	<0.1	5.603	<3%	5.06	<10%	60.3	<10 mV	20.3	<10%	250	11.27	4.25	" "
1216	25.5		7.13		5.602		5.15		59.8		20.0		250	11.27	5.5	" "

Stop Purge Time: 1216	Sample Time: 1218	QA/QC Sample Time(s): 1218	
	Sample ID: SWFTS-MW20A-EM20	QA/QC Sample ID(s): SWFTS-MW10A-EM20-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HCL		250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/3/19	Well ID: MW11
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 17.42	Screened Interval Top (ft): 14.2		Pump Intake Depth (ft): 26.6	
Well Depth (ft): 39.2	Screened/Open Interval Bottom (ft): 39.0		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0717				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor	
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*					
0719	24.5		7.28		5.051		6.30		184.4		15.2		250	17.42	0.5	clear	none
0724	24.7		7.15		5.179		5.12		180.0		13.8		250	17.42	1.75	"	"
0729	24.8		7.15		5.183		5.38		178.3		10.2		250	17.42	3.0	"	"
0734	24.9		7.15		5.186		5.06		177.1		4.1		250	17.42	4.25	"	"
0739	25.0	<3%	7.15	<0.1	5.184	<3%	5.04	<10%	176.1	<10	4.3	<10	250	17.42	5.5	"	"
0744	25.1		7.15		5.190		5.03		175.2		3.8		250	17.42	6.75	"	"

Stop Purge Time: 0744	Sample Time: 0745	QA/QC Sample Time(s): 0745	
	Sample ID: SWFTS-MW11-EM20	QA/QC Sample ID(s): SWFTS-MW11-EM20-FD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: SWFTS-MW12
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 18.91	Screened Interval Top (ft): 15.5		Pump Intake Depth (ft): 29.8	
Well Depth (ft): 40.0	Screened/Open Interval Bottom (ft): 40.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0931				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0933	27.8		7.32		5.774		5.06		193.2		17.2		300	18.92		clear/none
0936	26.1		7.20		5.897		3.81		199.1		13.4		"	"		"
0939	25.9		7.22		5.884		3.59		202.3		9.8		"	"		"
0942	25.9	<1%	7.23	0.01	5.876	<1%	3.55	1%	203.4	1.2	9.7	<10	"	"		"
0945	25.8		7.23		5.875		3.56		203.5		9.5		"	"	4.5	"

Stop Purge Time: 0946	Sample Time: 0947	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW12-EM20	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	1	250 mL poly w/~~HNO_3~~ #4		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: SWFTS-MW13
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 24.02	Screened Interval Top (ft): 17.4		Pump Intake Depth (ft): 35.6	
Well Depth (ft): 47.5	Screened/Open Interval Bottom (ft): 47.2		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1003				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1006	27.9		7.29		6.006		5.79		194.3		10.8		300	24.03		clear/none
1009	26.8		7.25		6.058		5.35		197.8		9.8		"	"		"
1012	26.6		7.25		6.086		5.22		199.7		9.8		"	"		"
1015	26.5	<1%	7.25	0	6.101	<1%	5.18	1.3%	199.6	0.4	9.5	<10	"	"		"
1018	26.6		7.25		6.104		5.15		199.3		9.3		"	"	5.1	"

Stop Purge Time: 1019	Sample Time: 1020	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW13-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW14
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 11.46	Screened Interval Top (ft): 16.5		Pump Intake Depth (ft): 26.4	
Well Depth (ft): 36.7	Screened/Open Interval Bottom (ft): 36.3		Well Diameter (in):	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0929				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0931	26.9		6.65		5.362		0.73		-279.5		10.8		200	11.46	0.4	clear / sulfide odor
0936	26.1		6.61		5.381		0.44		-317.5		9.9		200	11.47	1.4	" "
0941	26.0		6.61		5.411		0.38		-335.3		9.7		200	11.47	2.4	" "
0946	26.0	<3%	6.60	<0.1	5.432	<3%	0.36	<0.5 mg/L	-338.2	<10	9.8	<10	200	11.48	3.4	" "
0951	26.0		6.60		5.448		0.35		-338.9		9.6		200	11.48	4.4	" "

Stop Purge Time: 0951	Sample Time: 0953	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW14-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW15
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1113	Transducer Redeployment time: 1156		General Well Condition: Good	
Depth to Water (ft): 14.34	Screened Interval Top (ft): 14.5		Pump Intake Depth (ft): 24.4	
Well Depth (ft): 34.7	Screened/Open Interval Bottom (ft): 34.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1119				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1124	28.7		7.20		5.210		3.44		-56.4		375.2		250	14.34	0.5	clear/none
1129	26.1		7.07		5.132		0.74		-54.5		98.2		250	14.34	1.75	" "
1134	25.7		7.06		5.134		0.66		-51.9		50.3		250	14.34	3.0	" "
1139	25.5	<3%	7.06	<0.1	5.133	<3%	0.62	<10%	-50.2	<10	18.5	<10%	250	14.34	4.25	" "
1144	25.5		7.06		5.131		0.60		-48.3		18.0		250	14.34	5.5	" "
1149	25.6		7.06		5.137		0.59		-47.5		17.9		250	14.34	6.75	" "

Stop Purge Time: 1149	Sample Time: 1150		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW15-EM20		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/ HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW16
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 22.94	Screened Interval Top (ft): 21.8			Pump Intake Depth (ft): 31.27
Well Depth (ft): 39.60	Screened/Open Interval Bottom (ft): 41.6			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0727				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0730	26.2		6.91		4.370		1.00		-105.6		98.8		300	22.96		clear/none
0733	25.8		6.89		4.402		0.50		-141.9		130.2		"	"		grayish/none
0736	25.8		6.90		4.423		0.31		-168.0		130.5		"	"		"
0739	25.8		6.91		4.435		0.23		-177.1		176.2		"	"		"
0732	25.9	<1%	6.91	0	4.438	<1%	0.21	<.5	-178.6	2.7	177.5	1.8%	"	"		"
0735	25.8		6.91		4.442		0.20		-179.8		179.3		"	"	5.7	"

Stop Purge Time: 0736	Sample Time: 0737	QA/QC Sample Time(s): ~~0740~~ 0742
	Sample ID: SWFTS-MW16-EM20	QA/QC Sample ID(s): SWFTS-20190701-EB

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/5/19	Well ID: SWFTS-MW17
Field Sampler(s): S. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 27.0	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 38.7	
Well Depth (ft): 51.6	Screened/Open Interval Bottom (ft): 52.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0827				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0830	26.6		7.40		4.152		5.62		187.5		17.9		300	27.0		clear/none
0833	26.1		7.31		4.169		5.04		198.2		15.4		"	"		"
0836	26.1		7.31		4.170		4.97		202.9		12.5		"	"		"
0839	26.3	<1%	7.31	0	4.160	<1%	4.96	1%	207.5	3.0	9.0	<10	"	"		"
0842	26.3		7.31		4.156		4.92		210.2		8.0		"	"		"
0845	26.2		7.31		4.155		4.91		210.5		7.7		"	"	5.7	"

Stop Purge Time: 0846	Sample Time: 0847	QA/QC Sample Time(s): ~~0845~~ 0840	
	Sample ID: SWFTS-MW17-EM20	QA/QC Sample ID(s): ~~DUP~~ SWFTS-20190705-FB	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW18
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.19	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 25.90	
Well Depth (ft): 35.6	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0817				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0820	26.3		7.11		4.642		1.57		14.7		156.2		300	16.20		brownish/
0823	25.7		7.09		4.617		0.57		14.0		186.3		"	"		none
0826	25.5		7.10		4.613		0.47		17.3		154.2		"	"		"
0829	25.4	<1%	7.10	0	4.610	<1%	0.43	<.5	17.8	0.8	150.5	6%	"	"		"
0832	25.4		7.10		4.613		0.41		18.1		145.6		"	"	4.8	"

Stop Purge Time: 0833	Sample Time: 0834	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW18-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: SWFTS-MW19
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.78	Screened Interval Top (ft): 11.1		Pump Intake Depth (ft): 21.0	
Well Depth (ft): 31.3	Screened/Open Interval Bottom (ft): 30.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0634				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0636	23.7		7.16		2.928		2.46		182.9		33.9		250	10.78	0.5	clear/none
0641	22.8		7.12		2.922		1.73		188.6		39.0		250	10.79	1.75	" "
0646	22.9		7.13		2.925		1.61		186.1		9.8		250	10.79	3.0	" "
0651	22.7	<3%	7.13	<0.1	2.928	<3%	1.57	<10%	184.5	<10	7.5	<10	250	10.79	4.25	" "
0656	22.7		7.13		2.930		1.54		183.5		6.8		250	10.79	5.5	" "

Stop Purge Time: 0656	Sample Time: 0658	QA/QC Sample Time(s): 0658	
	Sample ID: SWFTS-MW19-EM20	QA/QC Sample ID(s): SWFTS-MW19-EM20-FD	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: SWFTS-MW20
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 13.31	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 24.8	
Well Depth (ft): 37.6	Screened/Open Interval Bottom (ft): 37.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0730				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0732	25.6		6.51		7.068		2.34		198.9		315.6		250	13.32	0.5	clear/none
0737	24.7		6.54		6.730		0.67		177.0		151.7		250	13.31	1.75	" "
0742	24.7		6.56		6.674		0.55		160.0		70.5		250	13.31	3.0	" "
0747	24.6	<3%	6.56	<0.1	6.648	<3%	0.48	<0.5 mg/l	150.2	<10	32.3	<10%	250	13.31	4.25	" "
0752	24.7		6.57		6.657		0.45		145.1		31.8		250	13.31	5.5	" "
0757	24.7		6.57		6.615		0.43		141.9		31.5		250	13.31	6.75	" "

Stop Purge Time: 0757	Sample Time: 0759	QA/QC Sample Time(s): 0810	
	Sample ID: SWFTS-MW20-EM20	QA/QC Sample ID(s): SWFTS-20190702-FB	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW21
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 16.30	Screened Interval Top (ft): 14.5		Pump Intake Depth (ft): 26.9	
Well Depth (ft): 38.1	Screened/Open Interval Bottom (ft): 39.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1131				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1133	27.0		6.94		6.068		1.46		111.1		412.2		300	16.32		brownish/
1136	26.2		6.94		6.036		0.51		97.1		332.9		"	"		none
1139	26.3		6.98		6.023		0.36		83.4		226.4		"	"		"
1142	26.1		6.99		6.011		0.30		76.0		174.4		"	"		"
1145	26.0		6.99		6.015		0.28		70.6		118.4		"	"		"
1148	25.8	<1%	6.99	0.01	6.013	<1%	0.26	<.5	70.0	1.7	115.5	8.3%	"	"		"
1151	25.9		7.00		6.019		0.25		68.9		109.3		"	"	6.3	"

Stop Purge Time: 1152	Sample Time: 1153		QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW21-EM20		QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/2/19	Well ID: MW-22

Field Sampler(s): Jeff Richeson

Transducer Removal Time: N/A	Transducer Redeployment time: N/A	General Well Condition: Good
Depth to Water (ft): 11.66	Screened Interval Top (ft): 11.4	Pump Intake Depth (ft): 21.3
Well Depth (ft): 31.6	Screened/Open Interval Bottom (ft): 31.2	Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11	Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0831

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0833	24.6		7.28		3.622		1.30		139.2		90.8		250	11.66	0.5	clear/none
0838	24.4		7.19		3.623		0.66		142.1		61.2		250	11.66	1.75	" "
0843	24.2		7.16		3.669		0.54		143.6		50.1		250	11.66	3.0	" "
0848	24.3		7.13		3.792		0.49		144.9		25.2		250	11.66	4.25	" "
0853	24.3	<3%	7.12	<0.1	3.770	<3%	0.46	<0.5 mg/l	145.6	<10	24.7	<10%	250	11.66	5.5	" "
0858	24.3		7.10		3.819		0.43		146.4		24.4		250	11.66	6.75	" "

Stop Purge Time: 0858	Sample Time: 0900	QA/QC Sample Time(s): 0915
	Sample ID: SWFTS-MW22-EM20	QA/QC Sample ID(s): SWFTS-20190702-EB

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/3/19	Well ID: MW23
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0605	Transducer Redeployment time: 0657		General Well Condition: Good	
Depth to Water (ft): 13.01	Screened Interval Top (ft): 16.4		Pump Intake Depth (ft): 26.3	
Well Depth (ft): 36.0	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0613				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0615	22.0		7.27		2.965		2.20		168.8		70.0		250	13.01	0.5	Clear/none
0620	22.1		7.10		2.932		0.69		167.3		28.3		250	13.01	1.75	" "
0625	22.2		7.10		2.931		0.55		165.4		13.1		250	13.01	3.0	" "
0630	22.2	<3%	7.10	<0.1	2.932	<3%	0.54	<10%	163.8	<10	9.8	<10	250	13.01	4.25	" "
0635	22.2		7.10		2.934		0.52		161.5		9.6		250	13.01	5.5	" "
0640	22.2		7.09		2.934		0.50		160.5		9.3		250	13.01	6.75	" "

Stop Purge Time: 0640	Sample Time: 0642	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW23	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/ HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/1/19	Well ID: SWFTS-MW24
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —			General Well Condition: Good
Depth to Water (ft): 13.41	Screened Interval Top (ft): 12.5			Pump Intake Depth (ft): 24.9
Well Depth (ft): 37.1	Screened/Open Interval Bottom (ft): 37.3			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1218				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1220	28.4		7.01		5.048		2.64		125.2		127.4		300	13.41		clear/none
1223	26.8		6.96		4.992		0.94		119.1		74.5		"	"		"
1226	26.6		6.98		4.988		0.80		111.9		51.4		"	"		"
1229	26.6		6.99		4.994		0.68		107.0		40.6		"	"		"
1232	26.4	<1%	6.99	0	4.996	<1%	0.67	4.6%	106.2	1.6	43.2	7.6%	"	"		"
1235	26.4		6.99		4.992		0.65		105.4		43.7		"	"	5.4	"

Stop Purge Time: 1236	Sample Time: 1237	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW24-EM20	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM20	Date: 7/3/19	Well ID: MW25
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0508		Transducer Redeployment time: 0556		General Well Condition: Good
Depth to Water (ft): 10.89		Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 28.5
Well Depth (ft): 43.2		Screened/Open Interval Bottom (ft): 42.2		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0514				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0516	23.1		6.94		5.175		2.88		149.4		252.4		250	10.90	0.5	clear/none
0521	23.2		6.79		5.191		0.69		150.6		211.6		250	10.90	1.75	" "
0526	23.2		6.79		5.195		0.58		150.4		121.5		250	10.90	3.0	" "
0531	23.2		6.80		5.171		0.49		136.9		53.7		250	10.90	4.25	" "
0536	23.1	<3%	6.80	<0.1	5.166	<3%	0.48	<0.5 mg/l	140.2	<10	54.9	<10%	250	10.90	5.5	" "
0541	23.1		6.80		5.162		0.47				54.2		250	10.90	6.75	" "

Stop Purge Time: 0541	Sample Time: 0543	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW25-EM20	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: N/A mg/L HACH Kit Ferrous Iron: N/A mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM21	Date: 8/9/19
Task Manager: D. Grady	Field Sampler(s): Jeff Richeson	Recorded by: Jeff Richeson
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 321 672	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1006	PC-91	TOC	11.52	20.02	Good
1003	PC-92	TOC	11.15	37.15	Good
	PC-94	TOC			
0955	PC-58	TOC	21.85	38.75	Good
1030	PC-88	TOC	6.91	46.64	Good
1024	PC-97	TOC	5.44	30.79	Good
1100	COH-2B1	TOC	16.73	64.50	Good
	SWFTS-MW01	TOC			
1009	SWFTS-MW02	TOC	12.92	21.99	Good
	SWFTS-MW03	TOC			
1012	SWFTS-MW04	TOC	10.22	39.81	Good
1054	SWFTS-MW05A	TOC	18.19	28.36	Good
1057	SWFTS-MW05B	TOC	18.14	41.76	Good
1033	SWFTS-MW06A	TOC	5.76	21.16	Good
1036	SWFTS-MW06B	TOC	5.99	35.15	Good
1020	SWFTS-MW07A	TOC	13.39	29.93	Good
1017	SWFTS-MW07B	TOC	13.10	38.59	Good
1046	SWFTS-MW08A	TOC	16.49	34.89	Good
1049	SWFTS-MW08C	TOC	14.86	69.74	Good
	SWFTS-MW09A	TOC			
	SWFTS-MW09B	TOC			
1042	SWFTS-MW10A	TOC	~~9.43~~ 11.36	34.99	Good
1,39	SWFTS-MW10C	TOC	9.43	63.28	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: Seep Well Field Treatability Study	Task No: M11, EM21	Date: 8/9/19
Task Manager: D. Grady	Field Sampler(s):	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
0956	SWFTS-MW11	TOC	17.56	39.25	Good
1000	SWFTS-MW12	TOC	19.06	40.00	Good
1003	SWFTS-MW13	TOC	24.18	47.50	Good
1006	SWFTS-MW14	TOC	11.60	36.05	Good
1010	SWFTS-MW15	TOC	~~36.05~~ 14.49	33.95	Good
1013	SWFTS-MW16	TOC	23.08	39.60	Good
1016	SWFTS-MW17	TOC	27.12	51.60	Good
1020	SWFTS-MW18	TOC	16.34	35.53	Good
1024	SWFTS-MW19	TOC	10.90	30.40	Good
1026	SWFTS-MW20	TOC	13.44	35.79	Vault cracked
1029	SWFTS-MW21	TOC	16.45	38.00	Good
1032	SWFTS-MW22	TOC	11.80	31.46	Good
1034	SWFTS-MW23	TOC	13.15	36.10	Good
1037	SWFTS-MW24	TOC	13.57	37.17	Good
1041	SWFTS-MW25	TOC	11.00	43.25	Good
1045	MW01		15.04	38.55	Good
1048	MW03		14.02	41.74	Good
1051	PC-94		13.63	20.15	Good
1053	MW9A		14.28	29.02	Good
1055	MW9B		14.41	39.06	Good

BMP = Below Measuring Point

TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: Seep Well Field Treatability Study | Task No.: M11 - EM21 | Rental from: EquipCo | Task Manager: D. Grady

Type: YSI PRO DSS | Serial Number: YSIPRODSS.17

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
8/12/19	1445	22.0	3.96	7.04	10.17	231.7	1.013	93.6	0.2	22.1	4.01	7.01	10.01	235.3	1.010	93.3	0.0
8/13/19	1510	22.2	3.98	7.05	9.97	232.6	1.020	93.2	0.4	21.9	4.00	7.02	10.03	235.2	1.010	93.4	0.0
8/14/19	1445	22.2	3.97	7.06	10.01	235.5	1.011	93.3	0.3	21.7	4.00	7.01	10.00	235.9	1.010	93.5	0.0
8/15/19	1440	21.9	3.98	7.05	9.95	234.9	1.015	93.9	0.4	21.7	4.00	7.01	10.00	235.6	1.010	93.2	0.0

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: [illegible] DATE: 8/2/19

RENTAL CUSTOMER: tetra tech

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS17

SERIAL NUMBER: 16J 104740

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	X	S5029
2. pH ZERO	pH 7	X	S3906
pH SLOPE	pH 4	X	51238
pH SLOPE	pH 10	X	44934
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	X	N/A
4. TURBIDITY ZERO	0.0 NTU's	X	N/A
TURBIDITY SPAN	20 NTU's	X	N/A
5. REDOX (ORP)	231mV (YSI Zobell solution)	X	012616

2885 151st Pl. NE, Redmond WA, 98052 Phone (888) 234-5678 Fax (925) 305-1303

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: CoH-2B1
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0933	Transducer Redeployment time: 1017		General Well Condition: Good	
Depth to Water (ft): 16.73	Screened Interval Top (ft): —		Pump Intake Depth (ft): 62	
Well Depth (ft): 64.50	Screened/Open Interval Bottom (ft): —		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0939				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0941	25.8		7.40		3.630		2.49		-40.2		156.3		200	16.74	0.4	clear/none
0946	24.1		7.28		3.641		0.80		44.5		135.1		200	16.74	1.4	" "
0951	24.0		7.28		3.648		0.67		58.7		100.5		200	16.74	2.4	" "
0956	23.8		7.28		3.643		0.54		75.9		40.6		200	16.74	3.4	" "
1001	23.9		7.29		3.641		0.49		79.3		21.3		200	16.74	4.4	" "
1006	23.9	<3%	7.30	<0.1	3.639	<3%	0.45	<0.5	80.5	<10	20.8	<10%	200	16.74	5.4	" "
1011	23.9		7.29		3.635		0.43	mg/l	80.2	mv	20.3		200	16.74	6.4	" "

Stop Purge Time: 1011	Sample Time: 1012		QA/QC Sample Time(s): N/A	
	Sample ID: CoH-2B1-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: PC-58
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): ~~21.85~~ 21.80	Screened Interval Top (ft): 10.1		Pump Intake Depth (ft): 30.6	
Well Depth (ft): 38.75	Screened/Open Interval Bottom (ft): 35.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1051				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1053	27.3		7.39		3.774		1.55		108.7		60.8		250	21.80	0.5	Clear/none
1058	24.6		7.35		3.717		0.66		108.2		16.0		250	21.80	1.75	" "
1103	24.7		7.36		3.716		0.49		103.5		9.6		250	21.80	3.0	" "
1108	24.6	<3%	7.36	<0.1	3.715	<3%	0.48	<0.5 mg/L	100.2	<10 MV	9.4	<10	250	21.80	4.25	" "
1113	24.5		7.36		3.714		0.47		97.8		9.3		250	21.80	5.5	" "

Stop Purge Time: 1113	Sample Time: 1114		QA/QC Sample Time(s): N/A	
	Sample ID: PC-58-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: PC-88
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1144		Transducer Redeployment time: 1229		General Well Condition: Good
Depth to Water (ft): 6.81		Screened Interval Top (ft): 39.9		Pump Intake Depth (ft): 44.9
Well Depth (ft): 46.64		Screened/Open Interval Bottom (ft): 49.9		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1149				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1151	27.0		7.45		3.553		2.02		107.3		48.7		250	6.81	0.5	clear/none
1156	26.0		7.42		3.536		0.65		95.1		21.4		250	6.81	1.75	" "
1201	25.9		7.43		3.512		0.49		99.2		19.9		250	6.81	3.0	" "
1206	25.9		7.42		3.502		0.45		99.9		13.4		250	6.81	4.25	" "
1211	25.8	<3%	7.43	<0.1	3.507	<3%	0.39	<0.5 mg/l	100.1	<10 MV	13.0	<10%	250	6.81	5.5	" "
1216	25.7		7.43		3.505		0.39		100.1		12.8		250	6.81	6.75	" "

Stop Purge Time: 1216	Sample Time: 1217	QA/QC Sample Time(s): 1217	
	Sample ID: PC-88-EM21	QA/QC Sample ID(s): PC-88-EM21-FD	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: PC-91
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 11.52	Screened Interval Top (ft): 11		Pump Intake Depth (ft): 16'	
Well Depth (ft): 20.02	Screened/Open Interval Bottom (ft): 21		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0703				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0705	24.3		6.57		4.160		1.37		229.2		16.4		250	10.53	0.5	Clear/none
0710	24.3		6.61		4.200		0.62		205.0		9.2		250	10.53	1.75	" "
0715	24.3		6.63		4.215		0.49		167.3		7.3		250	10.53	3.0	" "
0720	24.4	<3%	6.63	<0.1	4.214	<3%	0.46	<0.5 mg/L	162.5	<10 mV	7.0	<10	250	10.53	4.25	" "
0725	24.4		6.64		4.222		0.44		159.2		6.7		250	10.53	5.5	" "

Stop Purge Time: 0725	Sample Time: 0727		QA/QC Sample Time(s): N/A	
	Sample ID: PC-91-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: PC-92
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 11.15	Screened Interval Top (ft): 26.2		Pump Intake Depth (ft): 31.5	
Well Depth (ft): 37.15	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0752				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0754	25.10		7.30		3.333		1.75		199.2		12.2		250	11.16	0.5	Clear/none
0759	24.3		7.27		3.320		0.89		136.5		9.7		250	11.16	1.75	" "
0804	24.2		7.26		3.317		0.48		125.7		8.2		250	11.16	3.0	" "
0809	24.2	<3%	7.27	<0.1	3.312	<3%	0.45	<0.5 mg/l	128.8	<10 mV	9.0	<10	250	11.16	4.25	" "
0814	24.2		7.26		3.310		0.41		132.7		7.2		250	11.16	5.5	" "

Stop Purge Time: 0814	Sample Time: 0815		QA/QC Sample Time(s): N/A	
	Sample ID: PC-92-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCl
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: PC-94
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 13.63	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 17	
Well Depth (ft): 20.15	Screened/Open Interval Bottom (ft): 21.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0950				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0952	27.5		7.07		5.282		2.19		170.4		69.3		250	13.65	0.5	clear/none
0957	25.9		7.01		5.278		1.58		163.0		48.1		250	13.65	1.75	" "
1002	25.6		7.02		5.274		1.57		155.4		18.3		250	13.65	3.0	" "
1007	25.5		7.01		5.274		1.20		150.0		15.7		250	13.65	4.25	" "
1012	25.4	<3%	7.01	<0.1	5.275	<3%	1.18	<10%	146.4	<10 mV	15.3	<10%	250	13.65	5.5	" "
1017	25.4		7.01		5.275		1.19		142.6		15.0		250	13.65	6.75	" "

Stop Purge Time: 1017	Sample Time: 1018		QA/QC Sample Time(s): N/A	
	Sample ID: PC-94-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/$H2SO_4$		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: PC-97
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 5.44	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 30.79	Screened/Open Interval Bottom (ft): 32.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1313				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1315	26.0		7.32		3.467		2.21		75.6		28.6		250	5.43	0.5	clear/none
1320	24.5		7.27		3.460		0.65		61.2		13.2		250	5.44	1.75	" "
1325	24.0		7.28		3.461		0.53		61.7		11.1		250	5.44	3.0	" "
1330	24.0		7.29		3.455		0.46		58.9		9.8		250	5.44	4.25	" "
1335	24.0	<3%	7.28	<0.1	3.455	<3%	0.41	<0.5 mg/l	58.1	<10 mV	9.5	<10	250	5.44	5.5	" "
1340	24.0		7.28		3.450		0.39		58.9		9.0		250	5.44	6.75	" "

Stop Purge Time: 1340	Sample Time: 1341	QA/QC Sample Time(s): N/A
	Sample ID: PC-97-EM21	QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/ HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: SWFTS-MW01
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 15.04	Screened Interval Top (ft): 23.9		Pump Intake Depth (ft): 31.5	
Well Depth (ft): 38.55	Screened/Open Interval Bottom (ft): 38.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1134				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1136	26.5		7.12		5.501		1.38		115.6		17.3		250	15.03	0.5	clear / slight sulfide odor
1141	25.9		6.98		5.496		0.53		100.2		14.7		250	15.03	1.75	clear / no odor
1146	25.6		6.99		5.500		0.45		94.5		12.7		250	15.04	3.0	clear / no odor
1151	25.6		6.98		5.506		0.40		92.3		13.4		250	15.04	4.25	" "
1156	25.6	<3%	6.98	<0.1	5.501	<3%	0.37	<0.5 mg/L	91.2	<10 mV	13.6	<10%	250	15.04	5.5	" "
1201	25.6		6.98		5.502		0.36		92.0		13.8		250	15.04	6.75	" "

Stop Purge Time: 1201	Sample Time: 1202		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW01-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW02
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0744		Transducer Redeployment time: 0825		General Well Condition: Good
Depth to Water (ft): 12.92		Screened Interval Top (ft): 18.1		Pump Intake Depth (ft): 25.5
Well Depth (ft): 21.99		Screened/Open Interval Bottom (ft): 32.8		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0748				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0750	26.2		7.03		6.762		2.03	114.7 ~~6.770~~ SR			49.8		250	12.93	0.5	clear/none
0755	25.8		6.94		6.762		0.62	113.2 ~~6.754~~ SR			42.7		250	12.94	1.75	" "
0800	25.7		6.94		6.778		0.48		111.9		20.3		250	12.94	3.0	" "
0805	25.6		6.93		6.843		0.41		108.7		12.3		250	12.94	4.25	" "
0810	25.6		6.92		6.880		0.38		105.9		12.6		250	12.94	5.5	" "
0815	25.6	<3%	6.92	<0.1	6.901	<3%	0.36	<0.5 mg/l	103.9	<10 mV	11.9	<10%	250	12.94	6.75	" "

Stop Purge Time: 0815	Sample Time: 0816	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW02-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW03
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0646	Transducer Redeployment time: 0730		General Well Condition: Good	
Depth to Water (ft): 14.02	Screened Interval Top (ft): 27		Pump Intake Depth (ft): 34.5	
Well Depth (ft): 41.74	Screened/Open Interval Bottom (ft): 41.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0652				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0654	24.9		7.19		5.948		2.65		148.1		53.5		250	14.02	0.5	clear/none
0659	24.6		7.03		6.083		0.69		150.4		30.1		250	14.02	1.75	" "
0704	24.5		7.03		6.081		0.53		148.4		27.4		250	14.02	3.0	" "
0709	24.4		7.03		6.080		0.44		145.6		18.3		250	14.02	4.25	" "
0714	24.5	<3%	7.02	<0.1	6.080	<3%	0.41	<0.5 mg/l	144.1	<10 mV	17.7	<10%	250	14.02	5.5	" "
0719	24.5		7.02		6.081		0.40		142.8		17.4		250	14.02	6.75	" "

Stop Purge Time: 0719	Sample Time: 0720		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW03-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW04
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.22	Screened Interval Top (ft): 25.5		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 39.81	Screened/Open Interval Bottom (ft): 40.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1229				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1231	25.9		7.36		3.389		1.88		65.0		70.2		250	10.22	0.5	clear/none
1236	24.8		7.32		3.422		0.65		66.3		32.4		250	10.22	1.75	" "
1241	24.7		7.32		3.419		0.49		65.0		15.0		250	10.22	3.0	" "
1246	24.5	<3%	7.32	<0.1	3.436	<3%	0.43	<0.5 mg/L	62.3	<10 mV	14.3	<10%	250	10.22	4.25	" "
1251	24.5		7.31		3.445		0.39		59.1		13.9		250	10.22	5.5	" "

Stop Purge Time: 1251	Sample Time: 1253	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW04-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW05A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 18.19	Screened Interval Top (ft): 18.8		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 28.36	Screened/Open Interval Bottom (ft): 28.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1223				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1225	28.2		7.03		6.594		1.27		-198.4		14.9		250	18.23	0.5	clear/none
1230	26.4		6.95		6.586		0.45		-202.2		6.2		250	18.24	1.75	" "
1235	26.1		6.94		6.582		0.38		-204.6		4.3		250	18.25	3.0	" "
1240	26.0	<3%	6.93	<0.1	6.587	<3%	0.34	<0.5 mg/L	-206.1	<10 mV	3.5	<10	250	18.25	4.25	" "
1245	26.1		6.92		6.575		0.30		-207.5		3.3		250	18.25	5.5	" "

Stop Purge Time: 1245	Sample Time: 1247	QA/QC Sample Time(s): 1247	
	Sample ID: SWFTS-MW05A-EM21	QA/QC Sample ID(s): SWFTS-MW05A-EM21-MS/MSD	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	3	250 mL Amber Glass w/ HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

JR 8/27/19

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: ~~SWFTS-MW06B~~ SWFTS-MW05B-EM21
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A		Transducer Redeployment time: N/A		General Well Condition: Good
Depth to Water (ft): 18.14		Screened Interval Top (ft): 31.7		Pump Intake Depth (ft): 36.5
Well Depth (ft): 41.76		Screened/Open Interval Bottom (ft): 41.4		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1318				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1320	27.5		6.82		5.706		1.38		-104.3		17.7		250	18.15	0.5	clear/none
1325	26.7		6.81		5.701		0.56		-104.3		11.2		250	18.16	1.75	" "
1330	26.7		6.81		5.702		0.44		-98.0		9.7		250	18.16	3.0	" "
1335	26.5	<3%	6.81	<0.1	5.703	<3%	0.39	<0.5 mg/L	-95.1	<10 mV	9.2	<10	250	18.16	4.25	" "
1340	26.6		6.81		5.699		0.38		-93.2		9.0		250	18.16	5.5	" "

Stop Purge Time: 1340	Sample Time: 1341 JR 8/27/19	QA/QC Sample Time(s):	SWFTS-20190813-EB
	Sample ID: ~~SWFTS-MW06B-EM21~~ SWFTS-MW05B-EM21	QA/QC Sample ID(s):	1405

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3		250 mL Amber Glass w/H3PO4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW06A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 5.75	Screened Interval Top (ft): 11.2		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 21.16	Screened/Open Interval Bottom (ft): 20.8		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1050				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1052	27.0		7.31		3.489		2.09		-139.3		87.0		250	5.75	0.5	clear/slight sulfide odor
1057	25.1		7.26		3.567		0.57		-56.6		20.4		250	5.75	1.75	" "
1102	24.7		7.27		3.559		0.51		-37.2		15.9		250	5.75	3.0	clear/no odor
1107	24.4		7.27		3.552		0.43		-22.8		13.2		250	5.75	4.25	" "
1112	24.3	<3%	7.26	<0.1	3.543	<3%	0.38	<0.5 mg/l	-17.2	<10 mV	13.0	<10%	250	5.75	5.5	" "
1117	24.4		7.26		3.545		0.37		-13.8		12.5		250	5.75	6.75	" "

Stop Purge Time: 1117	Sample Time: 1118	QA/QC Sample Time(s): 1119	
	Sample ID: SWFTS-MW06A-EM21	QA/QC Sample ID(s): SWFTS-MW06A-EM21-FD	

Observations/Comments:
HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW06B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1130		Transducer Redeployment time: 1213		General Well Condition: Good
Depth to Water (ft): 5.94		Screened Interval Top (ft): 25.6		Pump Intake Depth (ft): 30.5
Well Depth (ft): 35.15		Screened/Open Interval Bottom (ft): 35.2		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1140				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1142	25.9		7.28		3.416		1.25		-30.0		61.7		250	5.94	0.5	clear/none
1147	25.1		7.26		3.410		0.55		-2.1		22.3		250	5.94	1.75	" "
1152	25.0		7.27		3.407		0.45		18.3		12.1		250	5.94	3.0	" "
1157	24.9	<3%	7.27	<0.1	3.405	<3%	0.39	<0.5 mg/l	20.5	<10 mV	11.0	<10%	250	5.95	4.25	" "
1202	24.9		7.27		3.402				19.6		11.4		250	5.95	5.5	" "

Stop Purge Time: 1202	Sample Time: 1203		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW06B-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: SWFTS-MW07A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 13.39	Screened Interval Top (ft): 14.7		Pump Intake Depth (ft): 22	
Well Depth (ft): 29.93	Screened/Open Interval Bottom (ft): 29.2		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0705				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0707	24.3		7.24		4.903		2.27		162.3		5.7		250	13.40	0.5	clear/none
0712	24.0		7.19		4.924		0.57		167.7		4.3		250	13.40	1.75	" "
0717	24.0		7.19		4.923		0.49		167.4		4.1		250	13.40	3.0	" "
0722	24.0	<3%	7.20	<0.1	4.921	<3%	0.45	<0.5 mg/L	166.7	<10 mV	4.1	<10	250	13.40	4.25	" "
0727	24.0		7.20		4.924		0.43		165.8		4.2		250	13.40	5.5	" "

Stop Purge Time: 0727	Sample Time: 0728		QA/QC Sample Time(s): N/A		
	Sample ID: SWFTS-MW07A-EM21		QA/QC Sample ID(s): N/A		

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: SWFTS-MW07B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0619		Transducer Redeployment time: 0654		General Well Condition: Good
Depth to Water (ft): 13.10		Screened Interval Top (ft): 33.4		Pump Intake Depth (ft): 35.7
Well Depth (ft): 38.59		Screened/Open Interval Bottom (ft): 37.9		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0626				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0628	23.8		7.27		4.291		2.51		206.7		6.8		250	13.10	0.5	clear/none
0633	23.8		7.21		4.308		0.70		204.7		5.4		250	13.10	1.75	" "
0638	23.8		7.21		4.313		0.49		199.7		4.7		250	13.10	3.0	" "
0643	23.8	<3%	7.22	<0.1	4.316	<3%	0.45	<0.5 mg/l	197.0	<10 mV	4.6	<10	250	13.10	4.25	" "
0648	23.8		7.22		4.314		0.42		194.9		4.8		250	13.10	5.5	" "

Stop Purge Time: 0648	Sample Time: 0649		QA/QC Sample Time(s): N/A		
	Sample ID: SWFTS-MW07B-EM21		QA/QC Sample ID(s): N/A		

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: SWFTS-MW08A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 16.49	Screened Interval Top (ft): 19.7		Pump Intake Depth (ft): 27.0	
Well Depth (ft): 34.89	Screened/Open Interval Bottom (ft): 34.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1248				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1250	27.2		7.27		4.813		1.99		91.0		73.2		250	16.70	0.5	clear/none
1255	26.0		7.22		4.792		0.70		99.4		40.5		250	16.71	1.75	" "
1300	26.0		7.22		4.781		0.56		101.8		17.0		250	16.72	3.0	" "
1305	25.5	<3%	7.22	<0.1	4.780	<3%	0.49	<0.5 mg/l	102.4	<10 mV	7.8	<10	250	16.72	4.25	" "
1310	25.6		7.23		4.778		0.46		102.6		7.3		250	16.72	5.5	" "
1315	25.6		7.22		4.783		0.45		102.5		7.5		250	16.72	6.75	" "

Stop Purge Time: 1315 Sample Time: 1316 QA/QC Sample Time(s): 1345

Sample ID: SWFTS-MW08A-EM21 QA/QC Sample ID(s): SWFTS-20190815-EB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: SWFTS-MW09A
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 1218	Transducer Redeployment time: 1259		General Well Condition: Good	
Depth to Water (ft): 14.28	Screened Interval Top (ft): 18.9		Pump Intake Depth (ft): 24	
Well Depth (ft): 29.02	Screened/Open Interval Bottom (ft): 28.5		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1226				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1228	27.5		7.04		5.292		2.25		99.0		6.3		250	14.27	0.5	clear/none
1233	25.8		6.97		5.222		0.72		92.3		9.2		250	14.28	1.75	" "
1238	25.4		6.98		5.207		0.47		90.1		8.8		250	14.28	3.0	" "
1243	25.3	<3%	6.98	<0.1	5.197	<3%	0.46	<0.5 mg/L	89.3	<10 mV	8.1	<10	250	14.28	4.25	" "
1248	25.4		6.98		5.195		0.44		88.3		7.8		250	14.28	5.5	" "

Stop Purge Time: 1248	Sample Time: 1250	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW09A-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: SWFTS-MW09B
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 14.41	Screened Interval Top (ft): 33.9		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.06	Screened/Open Interval Bottom (ft): 38.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1309				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1311	27.8		7.17		5.299		2.75		204.8		12.5		250	14.40	0.5	clear/none
1316	26.4		7.07		5.264		0.79		204.1		5.7		250	14.41	1.75	" "
1321	25.9		7.07		5.247		0.56		193.0		7.5		250	14.41	3.0	" "
1326	25.9	<3%	7.07	<0.1	5.243	<3%	0.55	<10%	190.1	<10 mV	9.0	<10	250	14.41	4.25	" "
1331	25.8		7.07		5.237		0.53		188.4		7.7		250	14.41	5.5	" "

Stop Purge Time: 1331	Sample Time: 1332	QA/QC Sample Time(s): 1350
	Sample ID: SWFTS-MW09B-EM21	QA/QC Sample ID(s): SWFTS-20190812-FB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID: SWFTS-MW10A-
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0845	Transducer Redeployment time: 0933		General Well Condition: Good	
Depth to Water (ft): 11.36	Screened Interval Top (ft): 20.1		Pump Intake Depth (ft): 27.4	
Well Depth (ft): 34.99	Screened/Open Interval Bottom (ft): 34.7		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0857				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0859	26.2		6.93		5.129		1.36		135.0		5.6		250	11.37	0.5	clear/none
0904	25.6		6.91		5.116		0.55		60.8		17.4		250	11.37	1.75	" "
0909	25.4		6.91		5.110		0.47		32.4		9.7		250	11.37	3.0	" "
0914	25.4	<3%	6.92	<0.1	5.114	<3%	0.40	<0.5 mg/l	30.3	<10 mV	9.0	<10	250	11.37	4.25	" "
0919	25.3		6.92		5.110		0.38		30.0		8.8		250	11.37	5.5	" "

Stop Purge Time: 0919	Sample Time: 0920	QA/QC Sample Time(s): 0920
	Sample ID: SWFTS-MW10A-EM21	QA/QC Sample ID(s): SWFTS-MW10A-EM21-MS/MSD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: SWFTS-MW11
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 17.56	Screened Interval Top (ft): 14.2		Pump Intake Depth (ft): 26.6	
Well Depth (ft): 39.25	Screened/Open Interval Bottom (ft): 39		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0753				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0755	26.4		7.42		5.407		5.79		145.9		6.9		250	17.56	0.5	clear/none
0800	25.3		7.34		5.469		5.05		154.3		5.0		250	17.56	1.75	" "
0805	25.3		7.34		5.473		5.01		155.6		5.1		250	17.56	3.0	" "
0810	25.3	<3%	7.35	<0.1	5.472	<3%	4.97	<10%	157.0	<10 mV	4.8	<10	250	17.56	4.25	" "
0815	25.3		7.35		5.471		4.95		157.4		4.7		250	17.56	5.5	" "

Stop Purge Time: 0815	Sample Time: 0816	QA/QC Sample Time(s): 0816
	Sample ID: SWFTS-MW11-EM21	QA/QC Sample ID(s): SWFTS-MW11-EM21-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/16/19	Well ID: SWFTS-MW12
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 19.06	Screened Interval Top (ft): 15.5		Pump Intake Depth (ft): 28	
Well Depth (ft): 40.00	Screened/Open Interval Bottom (ft): 40.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0721				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0723	24.4		7.38		6.653		4.60		204.1		8.4		200	19.06	0.4	Clear/none
0728	24.2		7.31		6.710		3.48		206.9		9.3		200	19.06	1.4	" "
0733	24.2		7.31		6.704		3.40		207.2		9.2		200	19.06	2.4	" "
0738	24.2	<3%	7.31	<0.1	6.705	<3%	3.36	<10%	207.3	<10 mV	8.4	<10	200	19.06	3.4	" "
0743	24.3		7.31		6.712		3.35		207.2		7.9		200	19.06	4.4	" "

Stop Purge Time: 0743	Sample Time: 0744	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW12-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/16/19	Well ID: SWFTS-MW13
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 24.18	Screened Interval Top (ft): 17.4		Pump Intake Depth (ft): 32.3	
Well Depth (ft): 47.50	Screened/Open Interval Bottom (ft): 47.2		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0812				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0814	25.3		7.43		6.930		6.25		181.2		7.3		200	24.18	0.4	clear/none
0819	24.8		7.32		7.228		5.09		186.3		6.4		200	24.18	1.4	" "
0824	24.8		7.31		7.247		4.79		188.3		7.4		200	24.18	2.4	" "
0829	24.9	<3%	7.31	<0.1	7.251	<3%	4.65	<10%	189.4	<10 mV	8.2	<10	200	24.18	3.4	" "
0834	24.8		7.31		7.248		4.55		189.9		7.0		200	24.18	4.4	" "

Stop Purge Time: 0834	Sample Time: 0836	QA/QC Sample Time(s): N/A
	Sample ID: SWFTS-MW13-EM21	QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4	500 mL poly w/HNO3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	250 mL Amber Glass w/H3PO4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW14
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 11.60	Screened Interval Top (ft): 16.5		Pump Intake Depth (ft): 26.5	
Well Depth (ft): 36.05	Screened/Open Interval Bottom (ft): 36.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1130				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1132	28.4		6.74		5.941		0.99		-288.0		14.7		250	11.60	0.5	Gray / sulfide odor
1137	27.2		6.69		5.900		0.29		-336.3		4.2		250	11.60	1.75	" "
1142	27.1		6.68		5.911		0.25		-334.9		2.9		250	11.60	3.0	" "
1147	26.8	<3%	6.65	<0.1	5.907	<3%	0.23	<0.5 mg/l	-332.0	<10 mV	2.8	<10	250	11.60	4.25	" "
1152	26.9		6.64		5.919		0.22		-331.5		2.9		250	11.60	5.5	" "

Stop Purge Time: 1152	Sample Time: 1154	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW14-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.04 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID:	SWFTS-MW15
Field Sampler(s):	Jeff Richeson				
Transducer Removal Time:	1017	Transducer Redeployment time:	1114	General Well Condition:	Good
Depth to Water (ft):	14.49	Screened Interval Top (ft):	14.5	Pump Intake Depth (ft):	24.5
Well Depth (ft):	33.95	Screened/Open Interval Bottom (ft):	34.3	Well Diameter (in):	2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time:	1025				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1027	27.0		7.31		5.398		3.50		59.1		70.1		250	14.49	0.5	clear/none
1032	25.5		7.17		5.333		0.88		54.8		41.0		250	14.50	1.75	" "
1037	25.2		7.17		5.335		0.66		49.8		28.8		250	14.50	3.0	" "
1042	25.2		7.17		5.336		0.60		51.7		19.7		250	14.50	4.25	" "
1047	25.2		7.17		5.341		0.57		54.9		12.3		250	14.50	5.5	" "
1052	25.2	<3%	7.17	<0.1	5.339	<3%	0.56	<10%	55.2	<10 MV	11.8	10%	250	14.50	6.75	" "
1057	25.3		7.17		5.340		0.56		55.7		11.5		250	14.50	8.0	" "

Stop Purge Time:	1057	Sample Time:	1058	QA/QC Sample Time(s):	N/A	
		Sample ID:	SWFTS-MW15-EM21	QA/QC Sample ID(s):	N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW16
Field Sampler(s): Jeff Richeson				
Transducer Removal Time:	Transducer Redeployment time:		General Well Condition: Good	
Depth to Water (ft): 23.08	Screened Interval Top (ft): 21.4		Pump Intake Depth (ft): 31.5	
Well Depth (ft): 39.60	Screened/Open Interval Bottom (ft): 41.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0934				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				Gray
0936	27.6		6.93		5.102		2.02		-79.6		83.4		250	23.10	0.5	~~clear~~ none
0941	25.7		6.90		5.198		0.54		-88.5		23.7		250	23.11	1.75	" "
0946	25.6		6.90		5.263		0.42		-93.0		9.8		250	23.11	3.0	" "
0951	25.7	<3%	6.89	<0.1	5.270	<3%	0.38	<0.5 mg/L	-94.0	<10 mV	9.6	<10	250	23.11	4.25	" "
0956	25.6		6.89		5.278		0.35		-94.5		9.9		250	23.11	5.5	" "

Stop Purge Time: 0956	Sample Time: 0958		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW16-EM21		QA/QC Sample ID(s): N/A	
Observations/Comments: 1.5				
HACH Kit Sulfide: ~~0.03~~ 0.0 mg/L	HACH Kit Ferrous Iron: 0.0 mg/L			
Bottle Set Summary 0.04				

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/ [redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/16/19	Well ID: SWFTS-MW17
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 27.12	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 37.4	
Well Depth (ft): 51.60	Screened/Open Interval Bottom (ft): 52.3		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0634				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor	
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*					
0636	24.9		7.49		4.702		6.50		280.0		12.9		250	27.12	0.5	Clear	None
0641	24.9		7.33		4.898		5.10		272.3		7.4		250	27.12	1.75	"	"
0646	24.9		7.33		4.896		5.07		264.3		6.3		250	27.12	3.0	"	"
0651	24.9	<3%	7.34	<0.1	4.889	<3%	5.02	<10%	258.5	<10 mV	7.6	<10	250	27.12	4.25	"	"
0656	24.9		7.34		4.889		5.02		255.1		6.8		250	27.12	5.5	"	"

Stop Purge Time: 0656	Sample Time: 0657		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW17-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW18
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 16.34	Screened Interval Top (ft): 16.2		Pump Intake Depth (ft): 26	
Well Depth (ft): 35.53	Screened/Open Interval Bottom (ft): 36.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0844				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0846	25.4		7.21		5.187		2.42		200.9		98.0		250	16.34	0.5	clear/none
0851	24.9		7.08		5.184		0.66		151.7		32.7		250	16.34	1.75	" "
0856	24.6		7.08		5.181		0.49		130.2		12.5		250	16.34	3.0	" "
0901	24.6	<3%	7.08	<0.1	5.190	<3%	0.41	<0.5 mg/L	128.7	<10 mV	12.2	<10%	250	16.34	4.25	" "
0906	24.5		7.09		5.194		0.39		129.8		12.4		250	16.34	5.5	" "

Stop Purge Time: 0906	Sample Time: 0907	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW18-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/15/19	Well ID: SWFTS-MW19
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 10.90	Screened Interval Top (ft): 11.1		Pump Intake Depth (ft): 21.0	
Well Depth (ft): 30.40	Screened/Open Interval Bottom (ft): 30.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0845				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0847	25.10		7.39		3.159		2.90		129.2		32.1		250	10.90	0.5	clear/none
0852	24.4		7.31		3.141		1.82		136.2		17.2		250	10.90	1.75	" "
0857	24.3		7.31		3.171		1.70		137.7		11.4		250	10.90	3.0	" "
0902	24.4		7.31		3.141		1.63		138.4		7.9		250	10.90	4.25	" "
0907	24.3	<3%	7.30	<0.1	3.143	<3%	1.61	<10%	138.9	<10 mV	7.3	<10	250	10.90	5.5	" "
0912	24.4		7.30		3.144		1.60		139.2		6.3		250	10.90	6.75	" "

Stop Purge Time: 0912	Sample Time: 0913	QA/QC Sample Time(s): 0913
	Sample ID: SWFTS-MW19-EM21	QA/QC Sample ID(s): SWFTS-MW19-EM21-FD

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/[redacted] HCL
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW20
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good (vault cracked)	
Depth to Water (ft): 13.44	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 25	
Well Depth (ft): 35.79	Screened/Open Interval Bottom (ft): 37.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0703				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0705	25.1		6.56		7.522		1.59		268.1		96.3		250	13.44	0.5	clear/none
0710	25.0		6.61		7.099		0.63		230.1		52.8		250	13.44	1.75	" "
0715	25.0		6.64		6.910		0.48		132.3		14.2		250	13.44	3.0	" "
0720	24.9	<3%	6.66	<0.1	6.891	<3%	0.44	<0.5 mg/l	128.2	<10 mV	13.8	<10%	250	13.44	4.25	" "
0725	24.9		6.66		6.879		0.42		131.1		13.4		250	13.44	5.5	" "

Stop Purge Time: 0725	Sample Time: 0727		QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW20-EM21		QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/13/19	Well ID: SWFTS-MW21
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 16.45	Screened Interval Top (ft): 14.5		Pump Intake Depth (ft): 27	
Well Depth (ft): 38.00	Screened/Open Interval Bottom (ft): 39.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0752				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0754	24.9		7.17		6.864		2.15		177.9		62.4		250	16.47	0.5	Clear/none
0759	24.5		7.04		6.900		0.64		145.2		40.1		250	16.48	1.75	" "
0804	24.4		7.03		6.933		0.49		127.6		17.3		250	16.48	3.0	" "
0809	24.3		7.01		6.962		0.46		125.2		14.4		250	16.47	4.25	" "
0814	24.4	<3%	7.01	<0.1	6.970	<3%	0.40	<0.5 mg/l	126.1	<10 mV	14.1	<10%	250	16.47	5.5	" "
0819	24.3		7.01		6.973		0.38		126.0		13.9		250	16.47	6.75	" "

Stop Purge Time: 0819	Sample Time: 0820	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW21-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/12/19	Well ID:	SWFTS-MW22
Field Sampler(s):	Jeff Richeson				
Transducer Removal Time:	N/A	Transducer Redeployment time:	N/A	General Well Condition:	Good
Depth to Water (ft):	11.80	Screened Interval Top (ft):	11.4	Pump Intake Depth (ft):	21.5
Well Depth (ft):	31.46	Screened/Open Interval Bottom (ft):	31.2	Well Diameter (in):	2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time:	1042				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1044	26.7		7.30		3.896		1.79		181.8		82.7		250	11.79	0.5	clear/none
1049	25.4		7.24		3.871		0.67		140.1		33.2		250	11.80	1.75	" "
1054	25.0		7.23		3.913		0.49		118.8		13.7		250	11.80	3.0	" "
1059	24.8	<3%	7.21	<0.1	3.980	<3%	0.41	<0.5 mg/l	119.5	<10 MV	13.0	<10%	250	11.80	4.25	" "
1104	24.9		7.19		4.030		0.40		120.2		13.5		250	11.80	5.5	" "

Stop Purge Time:	1104	Sample Time:	1105	QA/QC Sample Time(s):	N/A
		Sample ID:	SWFTS-MW22-EM21	QA/QC Sample ID(s):	N/A

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW23
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0948	Transducer Redeployment time: 1030		General Well Condition: Good	
Depth to Water (ft): 13.15	Screened Interval Top (ft): 16.4		Pump Intake Depth (ft): 26.2	
Well Depth (ft): 36.10	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0956				

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0958	26.1		7.41		3.343		2.60		111.8		194.7		250	13.13	0.5	clear/none
1003	24.3		7.27		3.308		0.75		114.6		50.0		250	13.15	1.75	" "
1008	24.0		7.26		3.311		0.56		113.9		22.2		250	13.15	3.0	" "
1013	24.1		7.26		3.311		0.48		112.6		8.7		250	13.15	4.25	" "
1018	24.0	<3%	7.26	<0.1	3.314	<3%	0.45	<0.5 mg/l	110.5	<10 mV	7.9	<10	250	13.15	5.5	" "
1023	24.0		7.26		3.311		0.42		108.2		7.5		250	13.15	6.75	" "

Stop Purge Time: 1023	Sample Time: 1024	QA/QC Sample Time(s): N/A	
	Sample ID: SWFTS-MW23-EM21	QA/QC Sample ID(s): N/A	

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW24
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: N/A	Transducer Redeployment time: N/A		General Well Condition: Good	
Depth to Water (ft): 13.57	Screened Interval Top (ft): 12.5		Pump Intake Depth (ft): 25	
Well Depth (ft): 37.17	Screened/Open Interval Bottom (ft): 37.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0604				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0606	24.1		7.07		5.642		2.38		173.5		55.3		250	13.58	0.5	clear/none
0611	24.1		7.02		5.635		0.88		170.9		18.1		250	13.57	1.75	" "
0616	24.1		7.02		5.636		0.63		167.0		9.5		250	13.57	3.0	" "
0621	24.0	<3%	7.02	<0.1	5.635	<3%	0.62	<10%	164.1	<10 mV	9.3	<10	250	13.57	4.25	" "
0626	24.0		7.03		5.639		0.63		160.6		9.6		250	13.57	5.5	" "

Stop Purge Time: 0626	Sample Time: 0627	QA/QC Sample Time(s): N/A
	Sample ID: SWFTS-MW24-EM21	QA/QC Sample ID(s): N/A

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/[redacted] HCL	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Treatability Study	Task Manager: D. Grady	Task No: M11 - EM21	Date: 8/14/19	Well ID: SWFTS-MW25
Field Sampler(s): Jeff Richeson				
Transducer Removal Time: 0840	Transducer Redeployment time: 0930		General Well Condition: Good	
Depth to Water (ft): 11.00	Screened Interval Top (ft): 12.4		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 43.25	Screened/Open Interval Bottom (ft): 42.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0847				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0849	25.5		7.17		5.522		2.98		116.3		298.2		250	11.00	0.5	clear/none
0854	24.5		7.08		5.496		0.64		119.6		190.1		250	11.00	1.75	" "
0859	24.5		7.08		5.487		0.52		118.9		140.3		250	11.00	3.0	" "
0904	24.4		7.08		5.475		0.45		117.3		71.7		250	11.00	4.25	" "
0909	24.4	}	7.08	}	5.476	}	0.42	}	116.4	}	49.5	}	250	11.00	5.5	" "
0914	24.4	<3%	7.08	<0.1	5.474	<3%	0.40	<0.5 mg/l	115.6	<10 mV	47.2	<10%	250	11.00	6.75	" "
0919	24.3	}	7.08	}	5.470	}	0.39	}	115.3	}	46.0	}	250	11.00	8.0	" "

Stop Purge Time: 0919	Sample Time: 0920	QA/QC Sample Time(s): 0937
	Sample ID: SWFTS-MW25-EM21	QA/QC Sample ID(s): SWFTS-20190814-FB

Observations/Comments:

HACH Kit Sulfide: 0.0 mg/L HACH Kit Ferrous Iron: 0.0 mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/HCl	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: SWF Area Bioremediation Treatability Study | Task No: M11, EM22 | Date: 11/4/19

T[illegible]Manager: D. Grady | Field Sampler(s): JPM, CJL | Recorded by: CJL/JPM

Equipment Model/Type: Solinst Water Level Meter | *Serial Number:* CJL-59610

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
10:17	PC-91	TOC	10.89	19.83	Good
10:11	PC-92	TOC	10.49	36.99	Good
09:08	PC-94	TOC	12.75	19.97	Good
11:43	PC-58	TOC	20.72	38.55	Good- monument
09 44	PC-88	TOC	6.22	46.45	No Gasket
09:33	PC-97	TOC	4.81	30.57	No Gasket
11:53	COH-2B1	TOC	16.71	64.24	Good - locked, Monument
10 30	SWFTS-MW01	TOC	14.60	38.31	Good
10 03	SWFTS-MW02	TOC	12.24	31.40	No Gasket
0859	SWFTS-MW03	TOC	13.66	41.56	Good
0952	SWFTS-MW04	TOC	6.54	39.56	Good
10 37	SWFTS-MW05A	TOC	17.81	28.15	Good
10 50	SWFTS-MW05B	TOC	17.75	41.52	Good
09 25	SWFTS-MW06A	TOC	5.15	20.85	Good
0920	SWFTS-MW06B	TOC	5.39	35.02	Very Rusted Bolts
11 31	SWFTS-MW07A	TOC	12.63	29.68	Good
11 35	SWFTS-MW07B	TOC	12.33	38.35	Good
Lat 11:12	SWFTS-MW08A	TOC	15.95	34.67	Good
11:15	SWFTS-MW08C	TOC	14.27	69.60	Good
0840	SWFTS-MW09A	TOC	13.89	28.81	Good
0845	SWFTS-MW09B	TOC	14.02	28.92	Missing bolt
0940	SWFTS-MW10A	TOC	10.75	34.74	Good
0945	SWFTS-MW10C	TOC	8.78	63.15	Good

↑ Do not sample 10C / 8C

BMP = Below Measuring Point | TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: SWF Area Bioremediation Treatability Study | Task No: M11, EM22 | Date: 11/4/19

T Manager: D. Grady | Field Sampler(s): JPM, CL | Recorded by: JPM

Equipment Model/Type: Solinst Water Level Meter | *Serial Number:*

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
1200	SWFTS-MW11	TOC	16.85	39.10	Good
1150	SWFTS-MW12	TOC	18.43	39.95	Good
1115	SWFTS-MW13	TOC	23.66	47.36	Good
1000	SWFTS-MW14	TOC	10.94	36.00	Good
1130	SWFTS-MW15	TOC	14.92	34.66	Good
1040	SWFTS-MW16	TOC	22.39	39.39	Good
1100	SWFTS-MW17	TOC	26.64	51.35	Good
1030	SWFTS-MW18	TOC	15.90	35.26	Good
0930	SWFTS-MW19	TOC	10.35	30.15	Good
1015	SWFTS-MW20	TOC	12.97	35.45	missing 2 bolts
1215	SWFTS-MW21	TOC	16.06	37.45	missing 1 bolt
0855	SWFTS-MW22	TOC	11.39	31.45	missing 1 bolt
0905	SWFTS-MW23	TOC	12.72	35.90	Good
0835	SWFTS-MW24	TOC	13.26	36.98	Good
0915	SWFTS-MW25	TOC	10.62	43.01	Good

BMP = Below Measuring Point

TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: SWF Area Biomediation Treatability Study | Task No.: M11 - EM22 | Rental from: EquipCo | Task Manager: D. Grady

Type: YSI Pro DSS | Serial Number: 16F104658

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
11/04/19	16 30	22.0	4.02	7.10	10.07	230.1	0.999	3.17	-0.3	22.2	3.99	7.02	10.03	236.0	1.000	8.21	-0.0
11/05/19	15 40	24.5	3.93	7.03	9.96	231.9	0.961	7.64	-0.4	23.3	3.99	7.01	10.01	232.4	1.000	8.01	0.0
11/06/19	07 09	14.8						9.84		14.0			~~10~~			10.04	
11/06/19	1520	21.9	3.96	7.04	9.78	234.4	0.963	101.2	0.3	22.9	4.02	7.02	10.02	234.7	0.966	8.16	0.0

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: SWF Area Biomediation Treatability Study | Task No.: M11 - EM22 | Rental from: EquipCO | Task Manager: D. Grady

Type: YSI Pro DSS | Serial Number: 17M100629

Date	Time	Pre-Calibration								Post-Calibration							
		Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
11/4/19	1630	22.1	3.91	7.13	10.01	230.1	1.010	7.97	-0.9	22.5	3.97	7.02	10.05	236.6	1.000	8.58	-0.1 ~~1.1~~ [illegible]
11/5/19	1552	25.9	4.00	7.16	9.90	234.2	0.959	8.19	0.2	23.1	4.00	7.01	10.03	233.4	1.000	8.23	0.0
11/6/19	1540	22.3	4.06	7.09	9.88	232.9	1.003	8.36	1.3	21.7	4.00	7.00	10.00	234.8	1.000	8.45	0.0

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: CLB DATE: 10/31/2019

RENTAL CUSTOMER: TetraTech Gold

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS.11

SERIAL NUMBER: 16F104658

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	58747
2. pH ZERO	pH 7	✓	57633
pH SLOPE	pH 4	✓	57705
pH SLOPE	pH 10	✓	58745
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	—	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	✓	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	10312019
TURBIDITY SPAN	20 NTU's	✓	10312019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	050119

2100 Meridian Park Blvd, Concord, CA 94520 Phone (888) 234-5678 Fax (925) 305-1301

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: CLB DATE: 10/31/2019

RENTAL CUSTOMER: TetraTech Gold

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS.30

SERIAL NUMBER: 17H100629

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	58747
2. pH ZERO	pH 7	✓	57633
pH SLOPE	pH 4	✓	57705
pH SLOPE	pH 10	✓	58745
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	—	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	✓	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	10312019
TURBIDITY SPAN	20 NTU's	✓	10312019
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	050119

2100 Meridian Park Blvd, Concord, CA 94520 Phone (888) 234-5678 Fax (925) 305-1301

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/04/19	Well ID: COH-2B1
Field Sampler(s):				
Transducer Removal Time: 12:05		Transducer Redeployment time: 1240		General Well Condition: Good
Depth to Water (ft): 16.71		Screened Interval Top (ft): Unknown		Pump Intake Depth (ft): 62.0
Well Depth (ft): 64.24		Screened/Open Interval Bottom (ft): unknown		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 12:25				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1230	24.7		7.27		4.281		1.95		41.7		339.2		160	16.70	0.5	white/none
1235	24.5		7.22		4.187		1.19		58.3		191.5		180	16.70	1.4	↓
1240	24.1		7.24		4.201		0.84		95.0		161.9		200	16.69	2.4	clear
1245	24.2		7.21		4.232		0.73		105.6		126.7		200	16.69	~~2.93.4~~	
1250	24.2	0.0°C	7.21	0.00	4.252	0.5%	0.67	8.2%	111.7	6.1 mv	105.7	16.6%	200	16.69	~~3.44.4~~	
1255	24.1	0.1°C	7.21	0.00	4.242	0.2%	0.62	7.4%	115.2	~~3.5 mv 3.1%~~	106.9	0.1%	200	16.69	~~3.95.4~~	
1300	24.1	0.0°C	7.21	0.00	4.322	1.9%	0.61	1.6%	118.2	~~3.5 mv 2.6% in 11 of 19~~	106.5	0.37%	200	16.69	~~4.46.4~~	

Stop Purge Time: 1330 Sample Time: 1310 QA/QC Sample Time(s): —

Sample ID: COH-2B1-EM22 QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/07/19 | Well ID: PC-58

Field Sampler(s): C. Lerkins

Transducer Removal Time: NA | Transducer Redeployment time: NA | General Well Condition: Good

Depth to Water (ft): 20.76 | Screened Interval Top (ft): 10.1 | Pump Intake Depth (ft) ~~25.6~~ 27.9

Well Depth (ft): 35.3 | Screened/Open Interval Bottom (ft): 35.1 | Well Diameter (in): 2" OK 11/07/19

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0700

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0705	21.0		7.32		3.531		1.23		206.3		20.0		200	20.32	1.0	Clear/None
0710	21.2		7.32		3.533		0.86		205.3		10.1		200	20.31	2.0	Clear
0715	21.3		7.32		3.529		0.74		204.1		8.7		200	20.81	3.0	
0718	21.6		7.32		3.526		0.69		202.8		6.2		200	20.81	3.6	
0721	21.5		7.32		3.527		0.67		202.1		6.7		200	20.31	4.2	
0724	21.4		7.32		3.531		0.64		201.3		5.6		200	20.81	4.8	

Stop Purge Time: 07:35 | Sample Time: 0725 | QA/QC Sample Time(s): NA

Sample ID: PC-58-EM22 | QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/07/19	**Well ID:** PC-88
Field Sampler(s): C. Larkins				
Transducer Removal Time: 8:03	Transducer Redeployment time: 09:15		General Well Condition: Missing Gasket	
Depth to Water (ft): 6.31	Screened Interval Top (ft): 39.9		Pump Intake Depth (ft): 44.9	
Well Depth (ft): 50 H	Screened/Open Interval Bottom (ft): 49.9		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0810				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0815	22.3		7.39		4.120		1.87		172.8		5.5		160	6.33	0.8	Clear, None
0820	22.8		7.36		4.143		1.04		181.9		3.3		160	6.31	1.6	
0825	23.0		7.35		4.152		0.86		188.1		2.9		160	6.31	2.4	
0830	22.9		7.35		4.152		0.76		191.6		2.8		160	6.31	3.2	
0833	22.9		7.34		4.152		0.72		193.1		3.1		160	6.31	4.0	
0836	22.9		7.34		4.150		0.66		194.3		2.4		160	6.31	4.8	
0839	23.0		7.34		4.149		0.64		194.9		2.8		160	6.31	5.6	

Stop Purge Time: 0902	Sample Time: 0840	QA/QC Sample Time(s): 0840
	Sample ID: PC-88-EM22	QA/QC Sample ID(s): PC-88-EM22-FD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L **HACH Kit Ferrous Iron:** 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass ~~w/H_2SO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/06/19 | Well ID: PC-91

Field Sampler(s): C. Larkins

Transducer Removal Time: NA | Transducer Redeployment time: NA | General Well Condition: Good

Depth to Water (ft): 10.89 | Screened Interval Top (ft): 11.0 | Pump Intake Depth (ft): 16.0

Well Depth (ft): 21.5 | Screened/Open Interval Bottom (ft): 21.0 | Well Diameter (in): 2"

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 10:02

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1007	24.9		6.76		5.402		2.50		199.5		76.4		200	10.96	1.0	Brown
1012	26.1		6.71		5.418		1.16		217.0		45.0		200	10.98	2.0	clear
1017	26.4		6.69		5.337		0.87		222.0		35.3		200	10.96	3.0	No odor
1022	26.4		6.69		5.275		0.74		221.4		27.1		200	10.96	4.0	
Rinse Flow Cell and Sensors																
1032	26.6		6.68		5.202		0.73		240.2		21.0		200	10.96	6	
1035	26.7		6.67		5.190		0.66		234.8		19.5		200	10.96	6.6	
1038	26.7	0.0	6.67	0.0	5.173	0.017	0.61	0.05	230.0	5.2	17.9	1.6	200	10.96	7.2	
1041	26.8	0.1	6.66	0.01	5.159	0.014	0.58	0.03	224.6	5.4	16.7	1.2	200	10.96	7.8	
1044	26.9	0.1	6.66	0.0	5.149	0.010	0.56	0.02	221.6	3.0	16.2	0.5	200	10.96	8.4	

Stop Purge Time: 10 57 | Sample Time: 10 45 | QA/QC Sample Time(s): NA

Sample ID: PC-91-EM22 | QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/06/19	Well ID: PC-92
Field Sampler(s): C Lorkins				
Transducer Removal Time: NA	Transducer Redeployment time: NA		General Well Condition: Good	
Depth to Water (ft): 10.48	Screened Interval Top (ft): 26.2		Pump Intake Depth (ft): 31.2	
Well Depth (ft): 36.7	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 08 50				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0855	22.7		7.33		3.730		1.38		207.9		22.0		220	10.66	1.2	Clear/None
0900	22.8		7.27		3.740		0.93		209.5		14.7		220	10.67	2.4	
0905	22.8		7.26		3.766		0.77		209.2		9.7		220	10.67	3.6	
0908	22.8		7.25		3.884		0.71		209.4		9.3		220	10.67	~~4.8~~ 4.26	
0911	22.9		7.25		4.018		0.67		209.3		8.7		220	10.67	4.92	
0914	22.8		7.25		4.139		0.64		207.9		9.8		220	10.67	5.58	
0917	22.9		7.24		4.234		0.62		206.8		9.1		220	10.67	6.24	
0920	22.8	0.1	7.24	0	4.279	0.045	0.60	0.02	204.7	2.1	10.5	1.4	220	10.67	6.90	
0923	22.9	0.1	7.24	0	4.299	0.020	0.58	0.02	203.2	1.5	11.0	0.5	220	10.67	7.56	
0926	22.9	0	7.24	0	4.301	0.002	0.56	0.02	202.7	0.5	8.2	<10	220	10.67	8.22	

Stop Purge Time: 09.41 Sample Time: 09:30 QA/QC Sample Time(s): NA

Sample ID: PC-92-EM22 QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date:	**Well ID:** PC-94

Field Sampler(s): C. Calkins

Transducer Removal Time: NA	Transducer Redeployment time: N/A	General Well Condition: Good
Depth to Water (ft): 13.21	Screened Interval Top (ft): 11.3	Pump Intake Depth (ft): 16.3
Well Depth (ft): 21.3	Screened/Open Interval Bottom (ft): 21.3	Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11	Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0650

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0655	19.8		7.14		5.076		4.97		252.4		113.4		200	13.32	1	Clear/None
0700	21.3		7.20		5.169		3.67		244.5		77.0		200	13.31	2	Clear
0705	21.8		7.23		5.167		3.75		242.7		53.5		200	13.31	3	Clear
Stop Purge to recalibrate DO Sensor - 0725 Resume purging																
07~~30~~	~~Reso~~ 21.6		7.25		5.153		3.85		223.8		26.7		200	13.31	4	
0735	21.8		7.26		5.185		3.82		247.1		19.2		200	13.31	5	
0745	21.9		7.23		5.088		3.97		188.5		16.4		200	13.31	7	
0750	21.3		7.29		5.166		4.02		275.3		10.5		200	13.31	8	
0755	21.6		7.28		5.172		3.94		295.7		9.1		200	13.31	9	
0800	21.7	0.1	7.29	0.01	5.178	0.006	3.99	0.05	311.7	16.0	8.2	<10	200	13.31	10	
0803	21.7	0	7.28	0.01	5.173	0.005	3.91	0.08	320.5	9.2	6.8	<10	200	13.31	10.6	
0806	21.7	0	7.28	0	5.175	0.002	3.82	0.09	330.2	10.3	6.2	<10	200	13.31	11.2	

Switched YSI + Flow Cell [illegible]

Stop Purge Time: 08:22	**Sample Time:** 08:10	**QA/QC Sample Time(s):** NA	
	Sample ID: PC-94-EM22	**QA/QC Sample ID(s):** NA	

Observations/Comments:

HACH Kit Sulfide: 0 **mg/L** **HACH Kit Ferrous Iron:** 0 **mg/L**

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/06/19	Well ID: PC-97
Field Sampler(s): C. Larkins				
Transducer Removal Time: NA	Transducer Redeployment time: NA		General Well Condition: Missing Gasket	
Depth to Water (ft): 4.85	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 33.0	Screened/Open Interval Bottom (ft): 32.5		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1334				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1339	22.6		7.28		3.218		1.48		182.7		120.6		200	5.00	1.0	Clear/None
1344	22.4		7.28		3.211		0.82		184.7		57.9		200	5.00	2.0	
1349	22.4		7.28		3.210		0.73		185.3		26.5		200	5.00	3.0	
~~1355~~	Rinsed Flow Cell w/DI															
1356	22.3		7.27		3.210		0.83		203.2		11.9		200	5.00	4.6	
1359	22.3		7.27		3.212		0.67		199.6		10.7		200	5.00	5.2	
1402	22.2	0.1	7.28	0.01	3.213	0.001	0.61	0.06	196.6	3.0	9.1	<10	200	5.00	5.8	
1405	22.2	0.0	7.28	0.00	3.211	0.002	0.59	0.02	194.2	2.4	8.3	<10	200	5.00	6.4	
1408	22.2	0.0	7.28	0.00	3.211	0.00	0.56	0.03	192.0	2.2	5.8	<10	200	5.00	7.0	

Stop Purge Time: 1420 Sample Time: 14:10 QA/QC Sample Time(s): NA

Sample ID: PC-97-EM22 QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/05/19	Well ID: SWFTS-MW01
Field Sampler(s):				
Transducer Removal Time: NA	Transducer Redeployment time: NA		General Well Condition: Good	
Depth to Water (ft): 14.56	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 39.4	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 10:15				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1020	24.7		6.95		5.227		1.96		144.9		45.0		200	14.68	1.0	Clear / none
1025	24.7		6.96		5.249		0.84		110.2		43.4		200	14.68	2.0	
1030	24.7		6.96		5.234		0.69		82.3		35.7		200	14.68	3.0	
1035	24.7		6.95		5.225		0.60		61.0		47.3		200	14.68	4.0	
1040	24.7		6.95		5.227		0.55		56.8		58.2		200	14.68	5.0	
1043	24.8		6.95		5.223		0.53		58.8		67.3		200	14.68	~~6.0~~ 5.6	
1046	24.8		6.95		5.220		0.51		61.3		67.9		200	14.68	~~7.0~~ 6.2	
1049	24.7		6.95		5.219		0.49		66.6		73.8		200	14.68	6.8	

Stop Purge Time: 1105 Sample Time: 10:55 QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW01-EM22 QA/QC Sample ID(s): ~~NA~~

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic	500 mL Plastic	500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	9	250 mL Plastic	250 mL w/H_2SO_4 2	250 mL poly w/HNO_3 1	250 mL Amber Glass ~~w/H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/07/19 | Well ID: SWFTS-MW02

Field Sampler(s): C. Larkins

Transducer Removal Time: 1310 | Transducer Redeployment time: 14:35 | General Well Condition: Good

Depth to Water (ft): 12.25 | Screened Interval Top (ft): 18.4 | Pump Intake Depth (ft): 25.5

Well Depth (ft): 33.5 | Screened/Open Interval Bottom (ft): 33.1 | Well Diameter (in): 2"

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 13:15

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
1320	26.0		6.85		6.901		1.34		141.1		176.2		200	12.36	1	Gray/No odor
1325	26.0		6.79		6.912		0.81		116.8		103.4		200	12.36	2	Gray
1330	25.9		6.79		6.915		0.67		113.4		97.6		200	12.36	3	Gray
1335	26.2		6.77		6.966		0.64		111.2		54.5		200	12.36	4	clear
1340	26.1		6.77		6.989		0.59		111.0		71.1		200	12.36	5	
1345	Rinsed Flow Cell w/ DI												200	12.36	6	
1350	25.9		6.75		7.015		0.63		129.0		21.5		200	12.36	7	
1353	25.9		6.75		7.018		0.59		125.6		21.3		200	12.36	CJL 11/7/19 7.6	
1356	25.8		6.76		7.014		0.58		122.1		35.7		200	12.36	8.4	
1401	25.9		6.76		7.018		0.54		119.8		17.3		200	12.36	9.4	
1406	25.9		6.76		7.027		0.61		120.1		12.5		200	12.36	10.4	
1409	25.9		6.76		7.032		0.53		119.2		13.1		200	12.36	11.0	
1412	26.0		6.76		7.035		0.51		120.8		12.2		200	12.36	11.6	
1415	26.1		6.76		7.031		0.49		119.9		9.8		200	12.36	12.2	

Stop Purge Time: 1426 | Sample Time: ~~1400~~ 1420 | QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW02-EM22 | QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ f/<1		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/04/19	Well ID: ~~SWF~~ SWFTS-MW03
Field Sampler(s):				
Transducer Removal Time: ~~455~~ 13:55		Transducer Redeployment time: ~~1040~~ 15:18		General Well Condition: Good
Depth to Water (ft): 13.65		Screened Interval Top (ft): 27.2		Pump Intake Depth (ft): 34.4
Well Depth (ft):		Screened/Open Interval Bottom (ft): 42.1		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 14 50				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1415	24.6		6.95		5.699		1.30		185.1		66.0		200	13.65	0.5	Clear/None
1420	24.5		6.93		5.705		0.76		188.0		104.7		200	13.66	1.0	
1425	24.4		6.93		5.705		0.65		188.4		31.4		200	13.66	1.5	
1430	24.3		6.93		5.704		0.59		188.3		25.3		200	13.66	2.0	
1435	24.4	0.1	6.93	0.00	5.702	0.002	0.55	6.8%	187.9	0.4mV	23.2	8.3%	200	13.66	2.5	
1440	24.3	0.1	6.93	0.00	5.704	0.002	0.53	3.6%	187.8	0.1mV	26.4	13.8%	200	13.66	3.0	
1445	24.2	0.1	6.93	0.00	5.704	0.000	0.52	1.9%	188.0	0.2mV	25.3	4.1%	200	13.66	3.5	

Stop Purge Time: 15:10	Sample Time: 1450	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW03-EM22	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic	500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/7/19	Well ID: SWFTS - MW04
Field Sampler(s): JPM				
Transducer Removal Time: N/A		Transducer Redeployment time: N/A		General Well Condition: Good
Depth to Water (ft): 9.62		Screened Interval Top (ft): 25.8		Pump Intake Depth (ft): 32
Well Depth (ft): 40.9		Screened/Open Interval Bottom (ft): 40.4		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1330				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1335	26.0		7.45		3.122		2.11		-23.6		120.2		200	9.62	.6	clear/none
1336	25.5		7.34		3.080		1.34		-25.1		140.5		200	9.62	1.2	"
1339	25.4		7.31		3.107		0.69		-12.9		14.2		200	9.62	1.8	"
1342	25.3		7.30		3.145		0.51		-14.6		14.8		200	9.62	2.4	"
1345	25.2		7.29		3.185		0.47		-15.5		15.0		200	9.62	3.0	"
1348	25.1		7.28		3.207		0.43		-16.5		16.7		200	9.62	3.6	"
1351	25.0		7.26		3.355		0.38		-15.9		19.5		200	9.62	4.2	"
1354	25.1		7.25		3.435		0.62		4.0		10.9		200	9.62	4.8	"
1357	25.0		7.23		3.451		0.39		-2.9		12.6		200	9.62	5.4	"
1400	24.9		7.23		3.452		0.37		-6.5		13.1		200	9.62	6.0	"
1403	24.9		7.23		3.455		0.36		-7.2		12.9		200	9.62	6.6	"

Stop Purge Time: 1404 Sample Time: 1405 QA/QC Sample Time(s):

Sample ID: SWFTS-MW04-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
	125 mL w/EDA		250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/05/19	Well ID: SWFTS-MW05A
Field Sampler(s):				
Transducer Removal Time: NA		Transducer Redeployment time: NA		General Well Condition: Good
Depth to Water (ft): 17.79		Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8
Well Depth (ft): 29.4		Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 07:20				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0725	22.9		6.95		6.715		1.27		260.1		15.5		200	17.88	~~0.5~~ 1.0	Clear / None
0730	23.5		6.91		6.731		0.88		247.9		11.9		200	17.91	2.0	
0735	23.7		6.91		6.732		0.72		239.1		6.2		200	17.90	3.0	
0740	23.8		6.91		6.723		0.70		235.8		7.0		200	17.92	4.0	
0745	23.8		6.91		6.721		0.64		232.0		5.7		200	17.91	5.0	
0750	23.9		6.91		6.723		0.62		229.0		5.6		200	17.92	6.0	
0755	23.9		6.91		6.723		0.60		226.6		4.9		200	17.92	7.0	

Stop Purge Time: 0820 Sample Time: 0800 QA/QC Sample Time(s): 0800

Sample ID: SWFTS-MW05A-EM22 QA/QC Sample ID(s): SWFTS-MW05A-EM22-MS/MSD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic	500 mL Plastic	500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	5 250 mL w/H_2SO_4	2 250 mL poly w/HNO_3	1 250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/05/19	Well ID: SWFTS-MW05B
Field Sampler(s):				
Transducer Removal Time: NA		Transducer Redeployment time: NA		General Well Condition: Good
Depth to Water (ft): 17.73		Screened Interval Top (ft): 32.3		Pump Intake Depth (ft): 36.6
Well Depth (ft): 42.5		Screened/Open Interval Bottom (ft): 42.0		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 08:40				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0845	23.6		6.86		5.638		1.56		126.9		15.6		200	17.78	1.0	Clear/None
0850	23.9		6.77		5.631		0.90		122.8		13.2		200	17.86	2.0	
0855	23.9		6.76		5.625		0.66		132.9		20.9		200	17.83	3.0	
0900	24.0		6.76		5.634		0.58		140.7		30.5		200	17.86	4.0	
0905	24.0		6.76		5.636		0.55		146.7		66.9		200	17.86	5.0	
0910	24.0		6.76		5.628		0.52		150.3		95.9		200	17.86	6.0	
0915	24.3		6.76		5.626		0.53		155.8		119.2		200	17.84	7.0	
0920	24.3		6.76		5.641		0.51		159.6		145.1		200	17.84	8.0	
0923	24.3	0	6.76	0	5.630	0.2%	0.50	2%	160.6	1.0	150.0	3.4%	160	17.86	8.8	
0926	24.3	0	6.76	0	5.630	0	0.49	<0.5	161.7	1.1	159.8	6.5%	160	17.86	9.6	
0929	24.3	0	6.76	0	5.626	0.1%	0.48	<0.5	162.8	0.7% 1.1	160.1	0.2%	160	17.86	10.4	

Stop Purge Time: 0945 Sample Time: 0930 QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW05B-EM22 QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/06/19	Well ID: SWFTS-MW06A
Field Sampler(s): C. Larkins				
Transducer Removal Time: NA	Transducer Redeployment time: NA		General Well Condition: Good	
Depth to Water (ft): 5.19	Screened Interval Top (ft): 11.5		Pump Intake Depth (ft): 16.2	
Well Depth (ft): 21.9	Screened/Open Interval Bottom (ft): 21.4		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 11:25				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
11:30	23.9		7.24		3.511		1.23		66.8		31.0		200	5.34	1.0	Clear
11:35	23.9		7.24		3.511		0.89		65.9		~~20~~ 18.4		200	5.33	2.0	Clear
11:40	23.8		7.23		3.517		0.67		84.2		9.6		200	5.34	3.0	
11:43	23.8	0.0	7.23	0	3.518	0.001	0.64	0.03	90.9	6.7	8.2	<10	200	5.34	3.6	
11:46	23.7	0.1	7.23	0	3.524	0.006	0.61	0.03	90.5	0.4	8.9	~~0.7~~ <10	200	5.34	4.2	
11:49	23.8	0.1	7.23	0	3.522	0.002	0.62	0.01	88.4	2.1	7.4	<10	200	5.34	4.8	

Stop Purge Time: 12:08 Sample Time: 11:55 QA/QC Sample Time(s): 11:55

Sample ID: SWFTS-MW06A-EM22 QA/QC Sample ID(s): SWFTS-MW06A-EM22-FD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/06/19	Well ID: SWFTS-MW06B
Field Sampler(s): C Larkins				
Transducer Removal Time: 12:22	Transducer Redeployment time: 13:15		General Well Condition: Good	
Depth to Water (ft): 5.41	Screened Interval Top (ft): 25.9		Pump Intake Depth (ft): 30.3	
Well Depth (ft): 36.0	Screened/Open Interval Bottom (ft): 35.5		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 12 28				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1232	23.3		7.24		3.633		2.05		160.5		130.1		200	5.52	1.0	Gray Turb.
1237	23.2		7.22		3.632		1.04		163.7		137.8		200	5.52	2.0	N. Odor
1242	23.3		7.22		3.634		0.79		167.6		70.9		200	5.52	3.0	Clear
1245	23.2		7.22		3.634		0.70		169.0		56.4		200	5.52	4.0	
1248	23.3	0.1	7.22	0	3.635	0.001	0.66	0.04	170.3	1.3	50.1	6.3	200	5.52	5.0	
1251	23.4	0.1	7.22	0	3.636	0.001	0.62	0.04	171.2	0.9	48.8	1.3	200	5.52	6.0	
1254	23.4	0.0	7.22	0	3.634	0.002	0.59	0.03	171.6	0.4	51.9	2.1	200	5.52	7.0	

Stop Purge Time: 13:08	Sample Time: ~~12 5~~ 7300	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW06B-EM22	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/07/19	Well ID: SWFTS-MW07A
Field Sampler(s): C Larkins				
Transducer Removal Time: NA	Transducer Redeployment time: NA		General Well Condition: Good	
Depth to Water (ft): 12.65	Screened Interval Top (ft): 15.0		Pump Intake Depth (ft): 22.0	
Well Depth (ft): 30.1	Screened/Open Interval Bottom (ft): 29.5		Well Diameter (in): 4"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0938				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0942	23.9		7.18		4.931		1.61		189.0		1.6		200	12.72	1.0	Clear/None
0947	24.0		7.15		4.952		0.87		196.9		1.5		200	12.72	2.0	
0952	24.0		7.14		4.959		0.73		200.2		1.4		200	12.72	3.0	
0955	24.1		7.14		4.961		0.79		201.0		1.4		200	12.72	3.6	
0958	24.1		7.14		4.968		0.68		201.3		1.4		200	12.72	4.2	
1001	24.1		7.14		4.962		0.66		201.2		1.4		200	12.72	4.8	
1004	24.2		7.14		4.969		0.62		200.9		1.4		200	12.72	5.4	

Stop Purge Time: 1017	Sample Time: 10:05	QA/QC Sample Time(s): NA
	Sample ID: SWFTS-MW07A-EM22	QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4	2	250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/07/19	Well ID: SWFTS-MW07B
Field Sampler(s): C. Larkins				
Transducer Removal Time: 10:32	Transducer Redeployment time: 11 35		General Well Condition: Good	
Depth to Water (ft): 12.34	Screened Interval Top (ft): 33.8		Pump Intake Depth (ft): 35.7	
Well Depth (ft): 38.9	Screened/Open Interval Bottom (ft): 38.3		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 10 40				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1045	24.0		7.19		4.349		0.99		167.2		5.6		220	12.48	1.1	Clear/None
1050	24.1		7.18		4.354		0.72		178.4		3.9		220	12.49	2.2	
1055	24.1		7.18		4.352		0.63		185.4		3.1		220	12.50	3.3	
1100	24.1		7.18		4.352		0.58		189.0		2.9		220	12.50	4.4	
1103	24.2		7.18		4.351		0.56		190.7		2.8		220	12.51	5.06	
1106	24.1		7.18		4.347		0.59		192.2		3.2		220	12.51	5.72	

Stop Purge Time: 11:20 | Sample Time: 11:10 | QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW07B-EM22 | QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: _____mg/L HACH Kit Ferrous Iron: _____mg/L

Bottle Set Summary

3x VOA w/HCl	125 mL Plastic	500 mL Plastic	500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4		
125 mL w/EDA	250 mL Plastic	250 mL w/H_2SO_4	250 mL poly w/HNO_3	250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass		

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/07/19 | Well ID: SWFTS-MW08A

Field Sampler(s): C. Larkins

Transducer Removal Time: NA | Transducer Redeployment time: | General Well Condition: Good

Depth to Water (ft): 15.85 | Screened Interval Top (ft): 20.2 | Pump Intake Depth (ft): 27.0

Well Depth (ft): 35.3 | Screened/Open Interval Bottom (ft): 34.8 | Well Diameter (in): 4"

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 12:10

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1215	24.0		7.18		5.018		1.96		200.5		1.4		200	16.08	1.0	Clear/None
1220	23.9		7.17		5.027		1.10		203.0		1.5		200	16.09	2.0	
1225	23.8		7.17		5.025		0.90		203.5		1.7		200	16.09	3.0	
1228	23.9		7.17		5.025		0.84		203.9		1.6		200	16.09	3.6	
1231	23.9		7.17		5.025		0.80		203.9		1.6		200	16.09	4.2	
1234	23.9		7.17		5.026		0.76		203.8		1.6		200	16.09	4.8	

Stop Purge Time: 1246 | Sample Time: 12:40 | QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW08A-EM22 | QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass ~~w/H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/5/19 | Well ID: SWFTS - MW09A

Field Sampler(s): JP Masters

Transducer Removal Time: 0806 | Transducer Redeployment time: 0855 | General Well Condition: Good

Depth to Water (ft): 13.90 | Screened Interval Top (ft): 19.3 | Pump Intake Depth (ft): 20'

Well Depth (ft): 28.81 | Screened/Open Interval Bottom (ft): 28.9 | Well Diameter (in): 4"

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0811

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0814	23.2		6.99		4.886		2.08		214.3		55.7		200	13.90	.6	clear/none
0817	23.4		6.99		4.888		~~2.05~~ 1.47		212.2		59.7		200	13.90	1.2	"
0820	23.6		6.99		4.889		1.11		213.9		4.2		200	13.90	1.8	"
0823	23.5		6.99		4.889		0.86		209.5		3.8		200	13.90	2.4	"
0826	23.6		6.99		4.885		0.74		205.5		4.2		200	13.90	3.0	"
0829	23.6		6.99		4.886		0.72		204.3		4.3		200	13.90	3.6	"
0832	23.6		6.99		4.888		0.70		203.5		4.1		200	13.90	4.2	"

Stop Purge Time: 0833 | Sample Time: 0835 | QA/QC Sample Time(s):

Sample ID: SWFTS-MW09A-EM22 | QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/5/19	Well ID: SWETS - MW09B
Field Sampler(s): JPM				
Transducer Removal Time: n/a		Transducer Redeployment time: n/a		General Well Condition: missing 1 bolt
Depth to Water (ft): 14.05		Screened Interval Top (ft): ~~19.3~~ 34.4		Pump Intake Depth (ft): 25'
Well Depth (ft): 28.92		Screened/Open Interval Bottom (ft): ~~38.9~~ 39.8		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0914				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0917	24.2		7.21		4.902		5.29		199.9		9.5		120	14.05	.36	clear/none
0920	23.8		7.10		4.923		3.37		210.5		11.0		120	14.05	.72	"
0923	23.7		7.07		4.924		2.73		212.3		11.8		120	14.05	1.08	"
0926	23.8		7.06		4.924		1.88		215.1		12.0		120	14.05	1.44	"
0929	23.8		7.06		4.933		1.53		218.9		11.3		120	14.05	1.80	"
0932	24.1		7.06		4.935		1.49		220.1		2.6		120	14.05	2.16	"
0935	23.9		7.07		4.938		1.48		221.5		2.7		120	14.05	2.52	"

Stop Purge Time: 0936 Sample Time: 0938 QA/QC Sample Time(s):

Sample ID: SWETS-MW09B-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1 250 mL Amber Glass w/H_3PO_4	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/6/19	Well ID: SWETS - 10A
Field Sampler(s): JPM				
Transducer Removal Time: 0641		Transducer Redeployment time: 0758		General Well Condition: Good
Depth to Water (ft): 10.80		Screened Interval Top (ft): 20.4'		Pump Intake Depth (ft): 27'
Well Depth (ft): 34.74'		Screened/Open Interval Bottom (ft): 35'		Well Diameter (in): 4"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0647				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0650	23.0		6.82		5.735		1.40		98.1		11.2		220	10.80	.66	Clear/none
0653	23.3		6.82		5.764		1.09		92.4		22.3		220	10.80	1.32	"
0656	23.4		6.81		5.794		0.85		85.8		32.1		220	10.80	1.98	"
0659	23.4		6.81		5.805		0.61		76.6		33.0		220	10.80	2.64	"
0702	23.4		6.81		5.795		0.53		71.1		32.8		220	10.80	3.30	"
0705	23.9		6.81		5.802		0.50		69.5		34.2		220	10.80	3.96	"
0708	23.5		6.81		5.802		0.49		67.2		33.5		220	10.80	4.62	"

Stop Purge Time: 0710 Sample Time: 0715 QA/QC Sample Time(s): 0715

Sample ID: SWETS-MW10A-EM22 QA/QC Sample ID(s): SWETS-MW10A-EM22-MS/MSD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

2	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic	4	250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/H_3PO_4 w/HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/7/19 | Well ID: SWFTS-MW11

Field Sampler(s): JPM

Transducer Removal Time:	n/a	Transducer Redeployment time:	n/a	General Well Condition:	Good
Depth to Water (ft):	16.91	Screened Interval Top (ft):	14.8	Pump Intake Depth (ft):	26
Well Depth (ft):	40.0	Screened/Open Interval Bottom (ft):	39.6	Well Diameter (in):	4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	

Purge Start Time: ~~0929~~ 0929

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0932	24.1		7.39		5.259		5.64		-98.7		4.4		200	16.91	.6	clear/none
0935	24.4		7.36		5.260		5.63		-89.0		4.7		200	16.91	1.2	"
0938	24.6		7.32		5.267		5.64		-65.0		4.9		200	16.91	1.8	"
0941	24.5		7.31		5.264		5.70		-51.2		5.0		200	16.91	2.4	"
0944	24.8		7.30		5.269		5.74		-36.6		5.2		200	16.91	3.0	"
0947	24.6		7.29		5.266		5.77		-29.4		5.1		200	16.91	3.6	"
0950	24.6		7.29		5.266		5.78		-26.5		5.2		200	16.91	4.2	"
0953	24.7		7.29		5.266		5.79		-23.4		5.1		200	16.91	4.8	"

Stop Purge Time: 0954 | Sample Time: 0955 | QA/QC Sample Time(s): 0955

Sample ID: SWFTS-MW11-EM22 | QA/QC Sample ID(s): SWFTS-MW11-EM22-FD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

2	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4		
2	125 mL w/EDA	2	250 mL Plastic	4	250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass		

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/7/19	Well ID: SWFTS - MW12
Field Sampler(s): JPM				
Transducer Removal Time: n/a		Transducer Redeployment time: n/a		General Well Condition: Good
Depth to Water (ft): 18.46		Screened Interval Top (ft): 15.8		Pump Intake Depth (ft): ≥8
Well Depth (ft): 41		Screened/Open Interval Bottom (ft): 40.6		Well Diameter (in): 4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0815				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0818	22.9		6.31		6.401		0.68		-250.1		20.1		500	18.46	.6	clear/sulfur
0821	23.4		6.29		6.467		0.38		-269.7		18.3		200	18.59	1.2	"
0824	23.5		6.29		6.447		0.32		-282.9		17.7		200	18.60	1.8	"
0827	23.5		6.29		6.429		0.29		-287.7		20.1		200	18.60	2.4	"
0830	23.6		6.29		6.427		0.30		-291.8		20.3		200	18.60	3.0	"
0833	23.6		6.29		6.425		0.29		-293.6		20.5		200	18.60	3.6	"

Stop Purge Time: 0834 Sample Time: 0839 QA/QC Sample Time(s):

Sample ID: SWFTS-MW12-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 1.4 mg/L HACH Kit Ferrous Iron: 2.0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass ~~w/H3PO4~~ w/HCL	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/6/19	Well ID: SWTS - MW13
Field Sampler(s): JPM				
Transducer Removal Time: n/a	Transducer Redeployment time: n/a		General Well Condition: Good	
Depth to Water (ft): 23.66	Screened Interval Top (ft): 17.8		Pump Intake Depth (ft): 32	
Well Depth (ft): 48	Screened/Open Interval Bottom (ft): 47.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1330				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1333	25.1		7.18		7.570		3.21		15.7		9.7		200	23.65	.6	clear / none
1336	25.1		7.17		7.570		3.11		16.6		9.8		200	23.65	1.2	"
1339	24.9		7.16		7.569		3.43		22.7		13.8		200	23.65	1.8	"
1342	24.9		7.13		7.547		3.07		20.4		15.5		200	23.65	2.4	"
1345	~~24.9~~ 25.1		7.16		7.564		3.75		27.2		5.5		200	23.65	3.0	"
1348	25.1		7.13		7.566		3.74		30.5		5.0		200	23.65	3.6	"
1351	25.2		7.13		7.559		3.80		34.5		4.8		200	23.65	4.2	"
1354	25.1		7.13		7.562		3.81		36.3		5.4		200	23.65	4.8	"

Stop Purge Time: 1355 Sample Time: 1356 QA/QC Sample Time(s):

Sample ID: SWTS-MW13-EM2222 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/H3PO4 w/HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/6/19 | Well ID: SWFTS - MW14

Field Sampler(s): JPM

Transducer Removal Time: N/a | Transducer Redeployment time: N/a | General Well Condition: Good

Depth to Water (ft): 10.94 | Screened Interval Top (ft): 16.6 | Pump Intake Depth (ft): 26

Well Depth (ft): 37 | Screened/Open Interval Bottom (ft): 36.6 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0812

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0815	25.0		6.66		5.957		0.80		-353.4		21		200	10.96	.6	Clear/Yes
0818	25.3		6.65		5.957		0.45		-343.3		17.9		200	10.96	1.2	" Slight
0821	25.2		6.64		5.952		0.35		-336.9		21.5		≥00	10.96	1.8	"
0824	25.2		6.64		5.887		0.25		-344.6		29.4		≥00	10.96	2.4	"
0827	25.2		6.64		5.911		0.23		-335.5		45.6		≥00	10.96	3.0	"
0830	25.3		6.63		5.935		0.28		-329.9		4.7		200	10.96	3.6	"
0833	25.3		6.63		5.936		0.23		-335.9		5.9		≥00	10.96	4.2	"
0836	25.4		6.63		5.935		0.21		-338.7		6.4		≥00	10.96	4.8	"
0839	25.4		6.63		5.932		0.21		-341.6		5.5		200	10.96	5.4	"

Stop Purge Time: 0840 | Sample Time: 0842 | QA/QC Sample Time(s):

Sample ID: SWFTS-MW14-EM22 | QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0.24 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass ~~w/H3PO4~~ w/HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/6/19	Well ID: SWFTS - MW15
Field Sampler(s): JPM				
Transducer Removal Time: 0923		Transducer Redeployment time: 1025		General Well Condition: Good
Depth to Water (ft): 13.95		Screened Interval Top (ft): 14.8'		Pump Intake Depth (ft): 24
Well Depth (ft): 35'		Screened/Open Interval Bottom (ft): 34.6'		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0927				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0930	23.8		7.17		5.365		1.62		-158.7		53.6		200	13.91	.6	clear/none
0933	23.8		7.18		5.356		1.66		-155.7		31.3		200	13.92	1.2	"
0936	23.9		7.18		5.353		1.91		-152.0		22.4		200	13.92	1.8	"
0939	23.8		7.17		5.354		1.82		-149.1		15.6		200	13.92	2.4	"
0942	23.9		7.18		5.354		2.08		-143.6		10.7		200	13.92	3.0	"
0945	23.9		7.18		5.357		1.98		-142.3		9.7		200	13.92	3.6	"
0948	23.9		7.17		5.356		1.99		-145.4		9.3		200	13.92	4.2	"

Stop Purge Time: 0950 Sample Time: 0952 QA/QC Sample Time(s):

Sample ID: SWFTS-MW15-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass ~~w/H3PO4~~ w/HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/6/19	Well ID: SWFTS - MW16
Field Sampler(s): JPM				
Transducer Removal Time: N/a		Transducer Redeployment time: N/a		General Well Condition: Good
Depth to Water (ft): 22.59		Screened Interval Top (ft): 21.8		Pump Intake Depth (ft): 31'
Well Depth (ft): 42		Screened/Open Interval Bottom (ft): 41.6		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1154				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1157	26.2		6.73		4.742		0.80		-127.9		59.6		200	~~22.61~~	.6	clear/slight sulfur smell
1200	26.0		6.74		4.726		0.56		-138.2		66.4		200	22.61	1.2	"
1203	25.9		6.75		4.722		0.43		-153.3		103.9		200	22.61	1.8	"
1206	25.8		6.75		4.723		0.40		-166.6		69.5		200	22.61	2.4	"
1209	25.9		6.76		4.727		0.38		-178.5		70.4		200	22.61	3.0	"
1212	25.9		6.76		4.722		0.34		-191.6		29.1		200	22.61	3.6	"
1215	25.8		6.77		4.726		0.26		-216.6		21.9		200	22.61	4.2	"
1218	25.7		6.77		4.728		0.23		-224.8		20.5		200	22.61	4.8	"
1221	25.7		6.78		4.730		0.21		-226.5		20.7		200	22.61	5.4	"
1224	25.7		6.77		4.731		0.21		-228.3		19.8		200	22.61	6.0	"

Stop Purge Time: 1228	Sample Time: 1228	QA/QC Sample Time(s):	
	Sample ID: SWFTS-MW16-EM22	QA/QC Sample ID(s):	

Observations/Comments:
HACH Kit Sulfide: 0.04 mg/L HACH Kit Ferrous Iron: 3.0 mg/L

Bottle Set Summary

3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	250 mL Amber Glass w/H2SO4
125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass ~~w/H3PO4~~ w/HCl	500 mL Amber Glass

ATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:
pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/7/19 | Well ID: SWFTS - MW17

Field Sampler(s): JPM

Transducer Removal Time: n/a | Transducer Redeployment time: n/a | General Well Condition: Good

Depth to Water (ft): 26.71 | Screened Interval Top (ft): 22.8' | Pump Intake Depth (ft): 37'

Well Depth (ft): 53' | Screened/Open Interval Bottom (ft): 52.6' | Well Diameter (in): 4"

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0706

Time	Temp. (°C) READ	Temp. (°C) CHANGE*	pH (pH Units) READ	pH (pH Units) CHANGE*	Conductivity (mS/cm) READ	Conductivity (mS/cm) CHANGE*	DO (mg/L) READ	DO (mg/L) CHANGE*	ORP (mV) READ	ORP (mV) CHANGE*	Turbidity (NTU) READ	Turbidity (NTU) CHANGE*	Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
0709	22.5		7.25		4.926		5.60		102.9		9.8		200	26.71	.6	Clear/none
0712	23.2		7.24		4.996		5.38		107.3		13.9		200	26.71	1.2	"
0715	23.3		7.23		5.007		5.35		109.4		16.0		200	26.71	1.8	"
0718	23.5		7.23		5.020		5.31		112.1		15.4		200	26.71	2.4	"
0721	23.4		7.23		5.030		5.32		112.9		15.1		200	26.71	3.0	"
0724	23.3		7.23		5.040		5.25		115.0		11.2		200	26.71	3.6	"
0727	23.2		7.25		5.044		5.24		115.3		10.8		200	26.71	4.2	"
0730	23.3		7.23		5.046		5.25		115.1		11.1		200	26.71	4.8	"

Stop Purge Time: 0732 | Sample Time: 0735 | QA/QC Sample Time(s):

Sample ID: SWFTS-MW17-EM22 | QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4		
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 w/HCl		500 mL Amber Glass		

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/6/19	Well ID: SWFTS - MW18
Field Sampler(s): SPM				
Transducer Removal Time: n/a		Transducer Redeployment time: n/a		General Well Condition: Good
Depth to Water (ft): 15.92		Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26
Well Depth (ft): 37.0'		Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1038				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1041	26.1		6.70		6.027		1.55		5.9		123.0		200	15.92	.6	clear/none
1044	25.9		6.69		5.963		0.80		1.8		67.5		200	15.92	1.2	clear/none
1047	25.8		6.69		5.932		0.68		0.2		50.4		200	15.92	1.8	"
1050	25.7		6.70		5.882		0.54		-2.2		41.3		200	15.92	2.4	"
1053	25.7		6.71		5.830		0.49		5.6		24.9		200	15.92	3.0	"
1056	25.8		6.71		5.804		0.38		2.3		20.6		200	15.92	3.6	"
1059	25.8		6.71		5.800		0.36		1.3		16.5		200	15.92	4.2	"
1102	25.7		6.71		5.776		0.33		0.1		15.9		200	15.92	4.8	"
1105	25.7		6.72		5.756		0.31		-1.3		13.9		200	15.92	5.4	"
1108	25.8		6.72		5.755		0.30		-1.6		13.1		200	15.92	6.0	"
1111	25.8		6.72		5.751		0.30		-2.2		13.5		200	15.92	6.6	"

Stop Purge Time: 1112 Sample Time: 1115 QA/QC Sample Time(s):

Sample ID: SWFTS-MW18-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/5/19	Well ID: SWFTS - MW19
Field Sampler(s): JPM				
Transducer Removal Time: n/a		Transducer Redeployment time: n/a		General Well Condition: Good
Depth to Water (ft): 10.36		Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 18'
Well Depth (ft): 30.15		Screened/Open Interval Bottom (ft): 31.1		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1306				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1309	26.3		7.11		3.248		3.74		184.8		88.2		200	10.40	.6	clear/none
1312	26.1		7.12		3.242		3.19		187.3		82.3		200	10.38	1.2	"
1315	26.1		7.12		3.241		3.01		187.9		77.3		200	10.38	1.8	"
1318	26.1		7.12		3.257		1.92		194.0		14.7		200	10.38	2.4	"
1321	26.1		7.12		3.255		1.46		193.0		10.3		200	10.38	3.0	"
1324	26.2		7.12		3.255		1.31		193.0		8.4		200	10.38	3.6	"
1327	26.2		7.12		3.256		1.30		193.1		7.9		200	10.38	4.2	"
1330	26.2		7.12		3.256		1.28		193.2		7.2		200	10.38	4.8	"

(Add 1 hour)

Stop Purge Time: ~~1332~~ 1432 Sample Time: ~~1335~~ 1435 QA/QC Sample Time(s): ~~1335~~ 1435

Sample ID: SWFTS-MW19-EM22 QA/QC Sample ID(s): SWFTS-MW19-EM22-FD

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

2	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic	4	250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date:	Well ID: SWFTS-MW20
Field Sampler(s):				
Transducer Removal Time: NA	Transducer Redeployment time:			General Well Condition: Missing Bolts
Depth to Water (ft): 12.92	Screened Interval Top (ft): 12.8			Pump Intake Depth (ft): 24.8
Well Depth (ft): 38.0	Screened/Open Interval Bottom (ft): 37.6			Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 13:03				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1307	26.0		6.55		7.619		1.46		187.5		206.9		200	12.98	1.0	Grey/Brown
1312	26.0		6.56		7.503		0.87		148.5		145.6		200	12.98	2.0	
1317	26.0		6.57		7.320		0.71		127.9		103.3		200	12.98	3.0	
1322	26.0		6.58		7.232		0.61		111.7		65.5		200	12.98	4.0	
1327	25.9		6.58		7.256		0.59		108.3		44.5		200	12.98	5.0	
1332	26.0		6.58		7.228		0.55		103.7		32.6		200	12.98	6.0	
1337	25.8		6.58		7.220		0.53		100.4		84.4		200	12.98	7.0	
1342	25.6		6.54				0.90		144.8		15.3		200	12.98	8.0	Rinsed Probe w/DI
1347	25.8		6.58		7.198		0.58		114.2		12.4		200	12.98	9.0	
1350	25.8		6.57		7.259		0.56		110.0		11.1		200	12.98	10.0	
1353	25.9		6.58		7.240		0.52		105.2		11.2		200	12.98	11.0	
1356	25.9		6.58		7.247		0.49		103.6		10.1		200	12.98	12.0	

Stop Purge Time: 14:12 Sample Time: 14:00 QA/QC Sample Time(s): 13:30

Sample ID: SWFTS-MW20-EM22 QA/QC Sample ID(s): SWFTS-20191105-FB

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/5/19	Well ID: SWFS-MW22
Field Sampler(s): JPM				
Transducer Removal Time: n/a	Transducer Redeployment time: n/a		General Well Condition: missing 1 bolt	
Depth to Water (ft): 11.38	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): ~20'	
Well Depth (ft): 31.45	Screened/Open Interval Bottom (ft): 31.6		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1032				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1035	24.9		7.15		3.718		1.09		188.9		134.1		200	11.38	.6	brown/none
1038	24.8		7.15		3.717		0.75		189.1		157.6		200	11.38	1.2	"
1041	24.8		7.15		3.724		0.70		194.2		168.2		200	11.38	1.8	"
1044	24.7		7.14		3.729		0.66		193.5		171.3		200	11.38	2.4	"
1047	24.7		7.16		3.745		0.61		198.0		170.5		200	11.38	3.0	"
1050	24.5		7.11		3.766		0.52		196.3		135.0		200	11.38	3.6	"
1053	24.6		7.11		3.783		0.49		199.7		100.2		200	11.38	4.2	clear/none
1056	24.6		7.10		3.794		0.46		196.6		82.5		200	11.38	4.8	"
1059	24.6		7.10		3.801		0.42		195.1		69.0		200	11.38	5.4	"
1102	24.7		7.10		3.805		0.40		193.7		67.8		200	11.38	6.0	"
1105	24.7		7.10		3.807		0.39		192.9		66.8		200	11.38	6.6	"

Stop Purge Time: 1106	Sample Time: 1108	QA/QC Sample Time(s):
	Sample ID: SWFS-MW22-EM22	QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass ~~w/H_3PO_4~~ w/HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date: 11/5/19	Well ID: SWFTS - MW23	
Field Sampler(s): JPM					
Transducer Removal Time: 1154		Transducer Redeployment time: 1252		General Well Condition: Good	
Depth to Water (ft): 12.73		Screened Interval Top (ft): 13.8		Pump Intake Depth (ft): 20'	
Well Depth (ft): 35.9		Screened/Open Interval Bottom (ft): 33.6		Well Diameter (in): 2"	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1258					

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1301	25.2		7.10		3.408		1.43		198.5		7.4		120	12.73	.36	clear/none
1304	25.1		7.09		3.397		0.90		199.3		6.0		120	12.73	.72	"
1307	25.1		7.09		3.398		0.77		198.4		5.9		120	12.73	1.08	"
1310	25.0		7.09		3.400		0.69		197.1		6.1		120	12.73	1.44	"
1313	25.0		7.09		3.397		0.68		195.9		6.0		120	12.73	1.80	"
1316	25.0		7.09		3.398		0.64		195.8		6.0		120	12.73	2.16	"

Stop Purge Time: 1318 Sample Time: 1320 QA/QC Sample Time(s):

Sample ID: SWFTS-MW23-EM22 QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4		
1	125 mL w/EDA	1	250 mL Plastic	2	250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ w/HCl		500 mL Amber Glass		

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study | Task Manager: D. Grady | Task No: M11 - EM22 | Date: 11/5/19 | Well ID: SWFTS-MW24

Field Sampler(s): JP Masters

Transducer Removal Time: n/a | Transducer Redeployment time: n/a | General Well Condition: Good

Depth to Water (ft): 13.28 | Screened Interval Top (ft): 12.8 | Pump Intake Depth (ft): 21

Well Depth (ft): 36.98 | Screened/Open Interval Bottom (ft): 37.6 | Well Diameter (in): 2

Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE | GW Disposal: GW-11 | Equipment Decon. Method: Alconox/DI Rinse SOP

Purge Start Time: 0705

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0710	23.5		6.99		5.441		1.90		267		25.8		.2	13.3	1	Clear/none
0715	24.0		6.99		5.462		1.31		263.5		10.9		.2	13.3	2	"
0718	24.0		6.98		5.477		1.15		257.2		4.8		.2	13.3	2.6	"
0721	24.3		6.98		5.479		1.08		253.1		4.2		.2	13.3	3.2	"
0724	24.1		6.98		5.481		1.33		250.2		3.7		.2	13.3	3.8	"
0727	24.2		6.98		5.483		1.36		248.9		3.5		.2	13.3	4.4	"
0730	24.2		6.98		5.485		1.34		249.1		3.2		.2	13.3	5.0	"

Stop Purge Time: 0732 | Sample Time: 0735 | QA/QC Sample Time(s):

Sample ID: SWFTS-MW24-EM22 | QA/QC Sample ID(s):

Observations/Comments:

HACH Kit Sulfide: 0 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic	500 mL Plastic	500 mL w/H_2SO_4	500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic	250 mL w/H_2SO_4 2	250 mL poly w/HNO_3 1	250 mL Amber Glass w/H_3PO_4/HCL	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM22	Date:	Well ID:
Field Sampler(s):				
Transducer Removal Time: 11:28		Transducer Redeployment time: 12:30		General Well Condition: Good
Depth to Water (ft): 10.62		Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 27.3
Well Depth (ft): 43.0		Screened/Open Interval Bottom (ft): 42.6		Well Diameter (in): 2"
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1135				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1140	24.3		7.00		5.370		1.29		186.3		276.9		200	10.68	1.0	Brown/none
1145	24.3		6.99		5.363		0.80		193.0		185.2		200	10.68	2.0	
1150	24.4		6.99		5.359		0.70		194.0		176.0		200	10.68	3.0	
1155	24.3		6.99		5.370		0.63		194.4		177.4		200	10.68	4.0	
1200	24.4		6.99		5.366		0.59		194.5		123.4		200	10.68	5.0	
1203	24.4		6.99		5.370		0.56		193.9		116.0		200	10.68	5.6	
1206	24.5		6.99		5.369		0.54		193.3		121.6		200	10.68	6.2	

Stop Purge Time: 1222 Sample Time: 1210 QA/QC Sample Time(s): NA

Sample ID: SWFTS-MW25-EM22 QA/QC Sample ID(s): NA

Observations/Comments:

HACH Kit Sulfide: 0.1 mg/L HACH Kit Ferrous Iron: 0 mg/L

Bottle Set Summary

1	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4	2	250 mL poly w/HNO3	1	250 mL Amber Glass w/~~H3PO4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Page ___ of ___

Task Name: SWF Area Bioremediation Treatability Study	Task No: M11, EM23	Date: 12/16/19
Task Manager: D. Grady	Field Sampler(s): J. Bunkers	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 264523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
0916	PC-91	TOC	9.72	20.00	Good
0918	PC-92	TOC	9.24	37.15	Good
0830	PC-94	TOC	12.64	20.15	Good
0728	PC-58	TOC	17.45	38.80	Good
0945	PC-88	TOC	4.30	46.60	Good
0941	PC-97	TOC	3.34	30.75	Good
1007	COH-2B1	TOC	16.52	64.25	Good
0838	SWFTS-MW01	TOC	13.85	38.50	Good
0951	SWFTS-MW02	TOC	11.00	31.55	Good
0820	SWFTS-MW03	TOC	13.12	41.70	Good
1032	SWFTS-MW04	TOC	8.17	39.75	Good
0747	SWFTS-MW05A	TOC	17.25	28.35	Good
0750	SWFTS-MW05B	TOC	17.18	41.75	Good
0925	SWFTS-MW06A	TOC	3.68	21.15	Good
0928	SWFTS-MW06B	TOC	3.87	35.20	Good
0955	SWFTS-MW07A	TOC	11.12	29.85	Good
0957	SWFTS-MW07B	TOC	10.78	38.60	Good
0759	SWFTS-MW08A	TOC	15.12	34.90	Good
0803	SWFTS-MW08C	TOC	13.27	69.75	Good
0833	SWFTS-MW09A	TOC	13.18	29.00	Good
0835	SWFTS-MW09B	TOC	13.31	39.05	Good
1026	SWFTS-MW10A	TOC	9.54	34.85	Good
1029	SWFTS-MW10C	TOC	7.49	63.25	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

WELL WATER LEVEL MEASUREMENT LOG

Task Name: SWF Area Bioremediation Treatability Study	Task No: M11, EM23	Date: 12/16/19
Task Manager: D. Grady	Field Sampler(s): J. Bunkers	Recorded by: Jesse Bunkers
Equipment Model/Type: Solinst Water Level Meter	*Serial Number:* 269523	

Time	Well ID	Measuring Point	Depth to Static Water Level (ft BMP)	Total Depth (ft BMP)	Condition of Well and Well Seal
0911	SWFTS-MW11	TOC	15.58	39.30	Good
0806	SWFTS-MW12	TOC	17.54	40.00	Good
0735	SWFTS-MW13	TOC	22.93	37.50	Good
0859	SWFTS-MW14	TOC	9.70	36.50	Good
0855	SWFTS-MW15	TOC	12.95	33.80	Good
0921	SWFTS-MW~~16~~ 19	TOC	9.30	30.25	Good
0739	SWFTS-MW17	TOC	25.92	51.55	Good
0754	SWFTS-MW18	TOC	15.15	35.45	Good
1012	SWFTS-MW~~19~~ 16	TOC	21.82	39.55	Good
0843	SWFTS-MW~~20~~ 22	TOC	10.59	31.60	Good
0743	SWFTS-MW21	TOC	15.41	37.85	Good
0848	SWFTS-MW~~22~~ 20	TOC	12.13	35.55	Good
0825	SWFTS-MW~~23~~ 24	TOC	12.75	37.05	Good
0933	SWFTS-MW~~24~~ 23	TOC	11.96	36.05	Good
0936	SWFTS-MW25	TOC	10.09	43.20	Good

BMP = Below Measuring Point TOC = Top of Casing (Well Riser)

TETRA TECH

CALIBRATION LOG - WATER QUALITY METER

NERT, Henderson, NV

Task Name: SWF Area Biomediation Treatability Study	Task No.: M11 - EM23	Rental from: Equipco	Task Manager: D. Grady
Type:		Serial Number: YSIPRODSS.16	

		Pre-Calibration								Post-Calibration							
Date	Time	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)	Temp (°C)	pH (pH = 4.0)	pH (pH = 7.0)	pH (pH = 10.0)	ORP (mV)	Cond. (mS/cm)	DO (~~mg/L~~ %)	Turbidity (NTU)
12/18/19	0820	16.4	3.89	7.00	9.98	239.4	0.992	84.4	0.10	16.3	4.00	7.00	10.00	242.4	1.000	95.5	0.00
12/19/19	0630	15.0	3.98	7.00	9.98	242.0	0.999	96.0	0.00	15.0	4.00	7.00	10.00	242.4	1.000	97.0	0.00
12/19/20	0700	16.3	3.99	7.01	9.99	239.6	0.993	96.0	0.00	16.3	4.00	7.00	10.00	242.4	1.000	97.5	0.00

EQUIPCO RENTALS

YSI ProDSS RENTAL
CALIBRATION CERTIFICATE

SERVICE TECHNICIAN: LD DATE: 12/11/19

RENTAL CUSTOMER: TETRA TECH - GOLDEN

INSTRUMENT INFORMATION

RENTAL I.D. NUMBER: YSIPRODSS.16

SERIAL NUMBER: 16J104182

CALIBRATION INFORMATION

PARAMETER:	STANDARD:	PASS ( )	LOT #
1. CONDUCTIVITY	1,000 µMhos	✓	031277
2. pH ZERO	pH 7	✓	031274
pH SLOPE	pH 4	✓	58524
pH SLOPE	pH 10	✓	52337
3. DISSOLVED OXYGEN	Air Calibration Barometric pressure = 760mmHg	✓	N/A
DISSOLVED OXYGEN ZERO TEST	(Sodium Sulfite)	—	N/A
4. TURBIDITY ZERO	0.0 NTU's	✓	121119
TURBIDITY SPAN	20 NTU's	✓	121119
5. REDOX (ORP)	231mV (YSI Zobell solution)	✓	111819

2100 Meridian Park Blvd, Concord, CA 94520 Phone (888) 234-5678 Fax (925) 305-1301

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: COH-231
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 0853	Transducer Redeployment time: 0939		General Well Condition: Good	
Depth to Water (ft): 16.52	Screened Interval Top (ft): –		Pump Intake Depth (ft): 62.0	
Well Depth (ft): 64.25	Screened/Open Interval Bottom (ft): –		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0901				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0907	20.6		7.19		3.401		1.57		-55.7		315.67		165	16.60		brownish/milky
0910	21.0		7.20		3.387		1.26		-39.2		135.20		"	"		rotten egg odor
0913	21.1		7.21		3.394		1.14		-25.8		92.30		"	"		"
0916	21.1		7.21		3.395		1.10		-16.1		89.45		"	"		"
0919	21.3		7.21		3.390		0.98		-11.3		59.64		"	"		"
0922	21.4	<1%	7.21	0	3.386	<1%	0.93	8%	-7.2	5	58.83	7%	"	"		"
0925	21.4		7.21		3.386		0.91		-6.3		56.27		"	"	4.5	"

Stop Purge Time: 0926	Sample Time: 0930	QA/QC Sample Time(s): 0940
	Sample ID: COH-231-EM23	QA/QC Sample ID(s): SWFTS-20191218-EB

Observations/Comments:

HACH Kit Sulfide: – mg/L HACH Kit Ferrous Iron: – mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: PC-58
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.45	Screened Interval Top (ft): 10.1		Pump Intake Depth (ft): 22.6	
Well Depth (ft): 38.80	Screened/Open Interval Bottom (ft): 35.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1219				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1221	20.6		7.27		3.641		2.12		68.5		7.89		200	17.55		clear/none
1224	21.1		7.25		3.675		1.45		66.7		1.81		120	17.60		"
1227	21.7		7.25		3.678		1.22		62.1		1.17		"	"		"
1230	21.9		7.25		3.691		1.02		55.3		1.02		"	"		"
1233	21.8	<1%	7.25	0.01	3.689	<1%	1.00	2%	53.4	2.8	0.94	<10	"	"		"
1236	21.8		7.24		3.688		1.00		52.5		1.15		"	"	5.7	"

Stop Purge Time: 1237	Sample Time: 1240	QA/QC Sample Time(s): —	
	Sample ID: PC-58-EM23	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: PC-88
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1142	Transducer Redeployment time: 1210		General Well Condition: Good	
Depth to Water (ft): 4.30	Screened Interval Top (ft): 39.9		Pump Intake Depth (ft): 44.9	
Well Depth (ft): 46.60	Screened/Open Interval Bottom (ft): 49.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1144				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1146	21.5		7.38		3.591		2.12		50.0		47.71		300	4.30		clear/none
1149	22.0		7.32		3.732		1.04		50.5		~~50~~ 29.92		"	"		"
1152	22.1		7.31		3.725		0.85		46.6		9.85		"	"		"
1155	22.1	0	7.31	0	3.721	<1%	0.83	2%	45.8	1.3	9.75	<10	"	"		"
1158	22.1		7.31		3.724		0.83		45.3		9.17		"	"	4.8	"

Stop Purge Time: 1159	Sample Time: 1200	QA/QC Sample Time(s): 1200
	Sample ID: PC-88-EM23	QA/QC Sample ID(s): PC-88 EM23-FD

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: PC-91
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 9.72	Screened Interval Top (ft): 11.0		Pump Intake Depth (ft): 16.0	
Well Depth (ft): 20.00	Screened/Open Interval Bottom (ft): 21.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1145				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1147	22.7		6.63		4.765		1.60		-79.7		75.20		300	9.72		clear/none
1150	24.4		6.57		4.725		0.79		-79.2		60.00		"	"		"
1153	24.6		6.56		4.637		0.71		-70.8		35.13		"	"		"
1156	25.0	}	6.55	}	4.570	}	0.62	}	-62.0	}	28.34	}	"	"		"
1159	25.0	} 0	6.55	} 0	4.561	} <1%	0.61	} 1%	-60.4	} 2.6	29.55	} 3%	"	"		"
1202	25.0	}	6.55	}	4.563	}	0.61	}	-59.4	}	29.22	}	"	"	5.5	"

Stop Purge Time: 1203	Sample Time: 1205		QA/QC Sample Time(s): —		
	Sample ID: PC-91-EM23		QA/QC Sample ID(s): —		

Observations/Comments:

HACH Kit Sulfide: ~~\~~ mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	**Well ID:** PC-92
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 9.24	Screened Interval Top (ft): 26.2		Pump Intake Depth (ft): 31.2	
Well Depth (ft): 37.15	Screened/Open Interval Bottom (ft): 36.2		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1214				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1216	22.4		7.15		3.117		1.04		-30.6		5.83		300	9.25		clear/none
1219	21.9		7.17		3.245		0.84		-45.4		6.49		"	"		"
1222	21.8		7.17		3.278		0.74		-53.9		9.11		"	"		"
1225	21.9	<1%	7.18	0.01	3.288	<1%	0.68	9%	-58.8	6.1	9.80	<10	"	"		"
1228	21.9		7.18		3.282		0.67		-60.0		9.03		"	"	4.5	"

Stop Purge Time: 1229	**Sample Time:** 1230	**QA/QC Sample Time(s):** —
	Sample ID: PC-92-EM23	**QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: — mg/L **HACH Kit Ferrous Iron:** — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 + Cl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: PC-94
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.64	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 16.3	
Well Depth (ft): 20.15	Screened/Open Interval Bottom (ft): 21.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0834				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0836	18.4		7.19		4.672		6.63		92.2		260.34		300	12.64		clear/none
0848	20.0		7.07		4.640		2.54		150.4		>1000		"	"		brown
0851	21.3	<1%	7.08	0.01	4.660	<1%	1.86	5%	129.7	0	>1000	0	"	"		"
0854	21.3		7.08		4.653		1.79		129.7		>1000		"	"		"
0857	21.4		7.07		4.653		1.78		129.7		>1000		"	"	7.5	"

Stop Purge Time: 0858	Sample Time: 0900	QA/QC Sample Time(s): —
	Sample ID: ~~SWFS~~ PC-94-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: ~ mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: PC-97
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 3.34	Screened Interval Top (ft): 22.5		Pump Intake Depth (ft): 27.5	
Well Depth (ft): 30.75	Screened/Open Interval Bottom (ft): 32.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1103				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1105	20.4		7.33		2.687		1.73		42.6		225.25		300	3.34		cloudy/none
1108	20.9		7.29		2.695		1.00		38.0		93.18		"	"		"
1111	21.0	}	7.28	}	2.699	}	0.87	}	29.4	}	90.88	}	"	"		"
1114	21.0	0	7.28	0	2.699	<1%	0.84	7%	27.0	4	92.96	3%	"	"		"
1117	21.0	}	7.28	}	2.693	}	0.81	}	25.4	}	92.22	}	"	"	4.8	"

Stop Purge Time: 1118	Sample Time: 1120	QA/QC Sample Time(s): —
	Sample ID: PC-97-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: SWFTS-MW01
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.85	Screened Interval Top (ft): 24.2		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 38.50	Screened/Open Interval Bottom (ft): 38.9		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1000				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1004	22.4		7.10		4.914		1.80		-130.4		174.55		300	~~38.50~~ 13.85		clear/faint
1007	23.2		7.04		4.995		1.12		-128.6		159.30		"	13.85		egg odor
1010	23.6		7.03		5.003		0.99		-128.4		80.53		"	"		"
1013	23.7		7.02		4.996		0.94		-117.3		86.04		"	"		"
1016	23.8	1%	7.02	0	4.996	<1%	0.91	6%	-113.7	6.2	87.54	2%	"	"		"
1019	23.9		7.02		4.998		0.89		-111.1		87.33		"	"	6	"

Stop Purge Time: 1020	Sample Time: 1022	QA/QC Sample Time(s): 1030	
	Sample ID: SWFTS-MW01-EM23	QA/QC Sample ID(s): SWFTS-20191218-FB	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW02
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1109		Transducer Redeployment time: 1135		General Well Condition: Good
Depth to Water (ft): 11.00		Screened Interval Top (ft): 18.4		Pump Intake Depth (ft): 25.5
Well Depth (ft): 31.55		Screened/Open Interval Bottom (ft): 33.1		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1110				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1112	24.1		6.86		5.974		1.23		-192.4		310.20		300	11.00		pinkish/mild
1115	24.7		6.82		5.975		0.77		-196.1		320.97		"	"		rotten odor
1118	25.0		6.80		5.975		0.65		-197.6		336.50		"	"		"
1121	25.0	0	6.79	0.01	5.980	<1%	0.63	4%	-197.7	0.3	321.85	1%	"	"		"
1124	25.0		6.79		5.987		0.60		-197.9		319.18		"	"	4.5	"

Stop Purge Time: 1125	Sample Time: 1128	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW02-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: _____mg/L HACH Kit Ferrous Iron: —mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 MCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW03
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 0912	Transducer Redeployment time: 0935		General Well Condition: Good	
Depth to Water (ft): 13.12	Screened Interval Top (ft): 27.2		Pump Intake Depth (ft): 34.4	
Well Depth (ft): 41.70	Screened/Open Interval Bottom (ft): 42.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0913				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0916	20.6		7.02		5.241		2.17		103.9		160.93		300	13.12		cloudy/none
0919	22.4		6.96		5.318		1.14		109.2		140.75		"	"		"
0922	22.6		6.96		5.328		0.98		109.2		140.68		"	"		"
0925	22.5	<1%	6.95	0.01	5.321	<1%	0.96	4%	109.0	0.3	141.25	1%	"	"		"
0928	22.5		6.95		5.322		0.95		108.9		140.39		"	"	5.1	"

Stop Purge Time: 0929	Sample Time: 0930	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW03-EM23	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW04
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 8.17	Screened Interval Top (ft): 25.8		Pump Intake Depth (ft): 32.8	
Well Depth (ft): 39.75	Screened/Open Interval Bottom (ft): 40.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1320				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1322	22.0		7.32		3.240		2.04		75.5		105.77		300	8.17		clear/none
1325	22.5		7.24		3.425		1.01		82.8		125.81		"	"		"
1328	22.6		7.24		3.474		0.92		83.8		125.25		"	"		"
1331	22.5	<1%	7.23	0.01	3.485	<1%	0.90	4%	84.0	0.2	122.12	5%	"	"		"
1334	22.5		7.23		3.486		0.89		84.0		120.34		"	"	4.8	"

Stop Purge Time: 1335	Sample Time: 1337	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW04-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: SWFTS-MW05A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.25	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.8	
Well Depth (ft): 28.35	Screened/Open Interval Bottom (ft): 29.3		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1346				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1348	23.4		6.89		6.725		1.36		73.2		44.40		300	17.25		clear/mild
1351	23.8		6.89		6.742		1.05		75.4		18.10		"	"		rotten odor
1354	23.9		6.88		6.736		0.84		74.8		18.13		"	"		"
1357	23.9	0	6.88	0	6.735	2.1%	0.83	1%	74.7	0.3	18.14	6%	"	"		"
1400	23.9		6.88		6.733		0.83		74.5		17.55		"	"	4.8	"

Stop Purge Time: 1401	Sample Time: 1403	QA/QC Sample Time(s): 1403
	Sample ID: SWFTS-MW05A-EM23	QA/QC Sample ID(s): SWFTS-MW05A-EM23-MS/MSD

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: SWFTS-MW05B
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.18	Screened Interval Top (ft): 32.3		Pump Intake Depth (ft): 36.6	
Well Depth (ft): 41.75	Screened/Open Interval Bottom (ft): 42.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1419				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1421	22.4		6.81		5.544		1.63		-84.8		64.21		300	17.18		clear/none
1424	23.1		6.79		5.630		1.00		-48.4		51.37		"	"		"
1427	23.2		6.79		5.634		0.88		-30.2		50.95		"	"		"
1430	23.4		6.78		5.634		0.80		-19.7		52.52		"	"		"
1433	23.4		6.78		5.649		0.75		-10.8		53.24		"	"		"
1436	23.3	<1%	6.78	0	5.650	<1%	0.72	4%	-8.4	3.6	54.20	2%	"	"		"
1439	23.3		6.78		5.646		0.72		-7.2		54.34		"	"	9.6	"

Stop Purge Time: 1440	Sample Time: 1445	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW05B-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW06A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 3.68	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 16.2	
Well Depth (ft): 21.15	Screened/Open Interval Bottom (ft): 21.4		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1211				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1213	20.9		7.39		2.975		1.65		-3.9		134.14		300	3.68		clear/none
1216	21.5		7.29		2.968		1.17		12.8		133.38		"	"		"
1219	21.9		7.26		2.971		0.89		23.9		98.13		"	"		"
1222	21.9	<1%	7.25	0.02	2.974	<1%	0.82	9%	27.9	4.7	99.08	1%	"	"		"
1225	21.8		7.24		2.974		0.80		28.6		99.90		"	"	5.4	"

Stop Purge Time: 1226	Sample Time: 1228	QA/QC Sample Time(s): 1228
	Sample ID: SWFTS-MW06A-EM23	QA/QC Sample ID(s): SWFTS-MW06A-EM23-FD

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	2	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW06B
Field Sampler(s): J. Burkers				
Transducer Removal Time: 1239	Transducer Redeployment time: 1307		General Well Condition: Good	
Depth to Water (ft): 3.87	Screened Interval Top (ft): 25.9		Pump Intake Depth (ft): 30.3	
Well Depth (ft): 35.20	Screened/Open Interval Bottom (ft): 35.5		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1242				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1244	20.9		7.26		3.140		2.03		83.9		20671		300	3.87		cloudy/none
1247	21.3		7.21		3.154		1.20		86.3		133.73		"	"		"
1250	21.5		7.22		3.157		0.95		85.7		103.01		"	"		"
1253	21.4	} 1%	7.22	} 0	3.157	} <1%	0.85	} 3%	84.2	} 0.8	99.84	} 1%	"	"		"
1256	21.5		7.22		3.155		0.82		83.7		99.21		"	"		"
1259	21.6		7.22		3.155		0.82		83.4		99.97		"	"	5.7	"

Stop Purge Time: 1300	Sample Time: 1302	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW06B-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	6	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: SWFTS-MW07A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 11.12	Screened Interval Top (ft): 15.0		Pump Intake Depth (ft): 22.0	
Well Depth (ft): 29.85	Screened/Open Interval Bottom (ft): 29.5		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1009				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1011	22.8		7.22		4.337		1.49		25.6		2.31		300	11.12		clear/none
1014	23.3		7.20		4.339		0.98		15.0		2.21		"	11.15		"
1017	23.5		7.18		4.343		0.83		3.2		2.06		"	"		"
1020	23.4		7.17		4.350		0.77		-5.0		1.94		"	"		"
1023	23.4	<1%	7.16	0.01	4.360	<1%	0.74	5%	-10.8	6.8	1.81	<10	"	"		"
1026	23.5		7.16		4.359		0.73		-11.8		1.74		"	"	6.3	"

Stop Purge Time: 1029	Sample Time: 1030	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07A-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: SWFTS-MW07B
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1035	Transducer Redeployment time: 1058			General Well Condition: Good
Depth to Water (ft): 10.78	Screened Interval Top (ft): 33.8			Pump Intake Depth (ft): 35.7
Well Depth (ft): 38.60	Screened/Open Interval Bottom (ft): 38.3			Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11			Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1037				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1039	22.3		7.20		4.040		1.57		5.2		34.60		300	10.78		clear/none
1042	22.7		7.18		4.169		0.90		0.4		19.69		"	"		"
1045	22.6		7.17		4.248		0.83		-4.3		9.20		"	"		"
1048	22.7	<1%	7.17	0.01	4.259	<1%	0.84	4%	-4.8	0.7	8.61	<10	"	"		"
1051	22.7		7.16		4.260		0.81		-5.0		8.97		"	"	4.8	"

Stop Purge Time: 1052	Sample Time: 1055	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW07B-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID:	SWFTS-MW08A
Field Sampler(s):	J. Bunkers				
Transducer Removal Time:	—	Transducer Redeployment time:	—	General Well Condition:	Good
Depth to Water (ft):	15.12	Screened Interval Top (ft):	20.2	Pump Intake Depth (ft):	27.0
Well Depth (ft):	34.90	Screened/Open Interval Bottom (ft):	34.8	Well Diameter (in):	4
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time:	1356				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1352	21.1		7.28		4.770		2.90		83.1		2.30		300	15.12		clear/none
1355	22.5		7.14		4.847		1.38		89.5		0.93		"	"		"
1358	22.7		7.15		4.849		1.14		90.9		0.86		"	"		"
1401	22.7	0	7.15	0	4.849	0	1.10	5%	91.0	<1%	0.87	<10	"	"		"
1404	22.7		7.15		4.849		1.09		91.0		0.83		"	"	4.8	"

Stop Purge Time:	1405	Sample Time:	1407	QA/QC Sample Time(s):	—	
		Sample ID:	SWFTS-MW08A-EM23	QA/QC Sample ID(s):	—	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4	
	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: SWFTS-MW09A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1035	Transducer Redeployment time: 1105		General Well Condition: Good	
Depth to Water (ft): 13.18	Screened Interval Top (ft): 19.3		Pump Intake Depth (ft): 23.7	
Well Depth (ft): 29.00	Screened/Open Interval Bottom (ft): 28.9		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1039				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1041	21.7		7.07		4.669		2.16		30.7		11.11		300	13.18		clear/none
1044	22.8		7.02		4.733		1.14		45.7		19.23		"	"		"
1047	22.8		7.03		4.716		0.93		50.3		9.15		"	"		"
1050	22.9		7.03		4.725		0.82		52.4		9.26		"	"		"
1053	22.9	0	7.03	0	4.717	<1%	0.77	7%	52.0	1.5	8.73	<10	"	"		"
1056	22.9		7.03		4.716		0.76		51.9		9.50		"	"	5.4	"

Stop Purge Time: 1057	Sample Time: 1100	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW09A-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	**Well ID:** SWFTS-MW09B
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 13.31	Screened Interval Top (ft): 34.4		Pump Intake Depth (ft): 36.2	
Well Depth (ft): 39.05	Screened/Open Interval Bottom (ft): 39.0		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1121				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1123	22.3		7.14		4.746		1.66		45.3		8.00		300	13.28		clear/none
1126	22.8		7.12		4.781		1.08		56.4		3.94		"	"		"
1129	22.9		7.12		4.789		0.91		58.9		3.53		"	"		"
1132	22.9	0	7.12	0	4.789	0	0.89	6%	58.9	0	3.44	<10	"	"		"
1135	22.9		7.12		4.789		0.87		58.9		3.20		"	"	4.5	"

Stop Purge Time: 1136	**Sample Time:** 1140	**QA/QC Sample Time(s):** —
	Sample ID: SWFTS-MW09B-EM23	**QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: — mg/L **HACH Kit Ferrous Iron:** — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW10A
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1240	Transducer Redeployment time: 13/4		General Well Condition: Good	
Depth to Water (ft): 9.54	Screened Interval Top (ft): 20.4		Pump Intake Depth (ft): 27.4	
Well Depth (ft): 34.85	Screened/Open Interval Bottom (ft): 35.0		Well Diameter (in): 27.4 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1244				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1247	22.9		6.85		5.375		1.20		-11.3		87.25		300	9.54		clear/mild
1250	23.3		6.84		5.431		0.95		-16.9		122.91		"	9.57		rotten odor
1253	23.4		6.84		5.424		0.83		-27.5		186.54		"	"		"
1256	23.6	} 0	6.84	} 0	5.440	} <1%	0.70	} 3%	-38.1	} 0.7	188.24	} <10%	"	"		"
1259	23.6		6.84		5.433		0.68		-38.7		178.89		"	"		"
1302	23.6		6.84		5.436		0.69		-38.8		174.62		"	"	5.4	"

Stop Purge Time: 1303	Sample Time: 1305	QA/QC Sample Time(s): 1305
	Sample ID: SWFTS-MW10A-EM23	QA/QC Sample ID(s): SWFTS-MW10A-~~2019-12~~ EM23 -MS/MSD

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 **CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW11
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.58	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 26.6	
Well Depth (ft): 39.30	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0857				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0903	21.7		7.36		5.181		6.10		141.4		1.97		300	15.55		clear/mild
0906	22.8		7.30		5.236		5.97		171.5		1.45		"	"		rotten odor
0909	22.9		7.28		5.243		5.96		182.9		1.41		"	"		"
0912	23.0		7.27		5.246		5.92		192.6		1.45		"	"		"
0915	23.0	<1%	7.27	0	5.239	<1%	5.91	<1%	198.3	6.6	1.21	<10	"	"		"
0918	23.1		7.27		5.242		5.91		199.2		1.34		"	"	7	"

Stop Purge Time: 0919	Sample Time: 0922	QA/QC Sample Time(s): 0922	/ 0930
	Sample ID: SWFTS-MW11-EM23	QA/QC Sample ID(s): SWFTS-MW11-EM23-FD	/ SWFTS-20191217-~~EM23-FB~~

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	3	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	250 mL Amber Glass w/H_2SO_4
3	125 mL w/EDA	3	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	3	250 mL Amber Glass w/H_3PO_4 HCl	500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: SWFTS-MW12
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 17.54	Screened Interval Top (ft): 15.8		Pump Intake Depth (ft): 27.9	
Well Depth (ft): 40.00	Screened/Open Interval Bottom (ft): 40.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0848				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0850	20.4		6.78		5.049		2.03		-180.3		70.23		500	17.55		clear/rotten
0853	22.6		6.86		5.177		1.16		-207.9		299.49		"	"		egg odor
0856	23.0		6.84		5.170		1.00		-216.8		63.25		"	"		"
0859	22.8		6.83		5.162		0.88		-223.2		65.48		"	"		"
0902	22.8	<1%	6.83	0	5.155	<1%	0.86	5%	-225.1	3.9	60.89	7%	"	"		"
0905	22.9		6.83		5.150		0.84		-227.1		61.23		"	"	5.7	"

Stop Purge Time: 0906	Sample Time: 0908	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW12-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl		125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
	125 mL w/EDA		250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: SWFTS-MW13
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 22.93	Screened Interval Top (ft): 17.8		Pump Intake Depth (ft): 32.3	
Well Depth (ft): 37.50	Screened/Open Interval Bottom (ft): 47.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0945				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0947	20.2		7.25		6.555		4.65		9.1		5.82		300	22.90		clear/none
0950	21.5		7.26		6.725		4.34		21.8		5.27		"	"		"
0953	22.1		7.26		6.764		4.23		30.2		4.57		"	"		"
0956	22.1	0	7.26	<1%	6.760	<1%	4.21	1%	31.3	1.6	4.47	<10	"	"		"
0959	22.1		7.25		6.760		4.20		31.8		4.49		"	"	4.8	"

Stop Purge Time: 1000	Sample Time: 1002	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW13-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	)	250 mL Amber Glass w/H_2SO_4	
)	125 mL w/EDA	)	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW14
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 9.70	Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.4	
Well Depth (ft): 36.50	Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1023				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1026	23.8		6.72		5.230		0.65		-258.2		28.59		300	9.70		clear/strong
1029	23.9		6.74		5.219		0.48		-286.8		67.25		"	"		rotten egg odor
1032	23.8	<1%	6.74	0	5.216	<1%	0.47	<0.5	-289.1	3.9	68.50	3%	"	"		"
1035	23.9		6.74		5.220		0.47		-291.7		69.23		"	"	4	"

Stop Purge Time: 1036	Sample Time: 1040	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW14-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW15
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 0945		Transducer Redeployment time: 1014		General Well Condition: Good
Depth to Water (ft): 12.95		Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 24.4
Well Depth (ft): 33.80		Screened/Open Interval Bottom (ft): 34.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 0950				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0953	23.1		6.81		4.975		0.96		217.3		247.20		300	12.95		reddish/mild
0956	23.5		6.80		4.977		0.86		207.5		206.35		"	"		rotten odor
0959	23.6		6.79		4.978		0.84		190.2		51.00		"	"		"
1002	23.6	0	6.79	0.01	4.983	<1%	0.81	4%	187.5	4	46.76	5%	"	"		"
1005	23.6		6.78		4.982		0.80		186.2		47.53		"	"	5.0	"

Stop Purge Time: 1006	Sample Time: 1008	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW15-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/16/19	Well ID: SWFTS-MW16
Field Sampler(s): S. Bunters				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 21.82	Screened Interval Top (ft): 21.8		Pump Intake Depth (ft): 31.3	
Well Depth (ft): 39.55	Screened/Open Interval Bottom (ft): 41.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0718				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0721	20.9		6.93		4.380		2.21		-57.2		49.30		300	21.75		clear/none
0724	22.2		6.87		4.480		2.03		-67.9		43.30		"	"		mild odor-BO.
0727	22.1	<1%	6.86	<0.1	4.546	2%	1.82	10%	-71.5	<10	43.59	<1%	"	"		"
0730	22.1		6.89		4.566		2.00		-72.9		43.60		"	"	5.1	"

Stop Purge Time: 0731	Sample Time: 0735	QA/QC Sample Time(s): ~~0740~~	
	Sample ID: SWFTS-MW16-EM23	QA/QC Sample ID(s): ~~—~~ SWFTS-20191217-EB	

Observations/Comments:

HACH Kit Sulfide: ~ mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3	2	250 mL Amber Glass w/~~H2SO4~~ HCl
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/20/19	Well ID: SWFTS-MW17
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 25.92	Screened Interval Top (ft): 22.8		Pump Intake Depth (ft): 37.4	
Well Depth (ft): 51.55	Screened/Open Interval Bottom (ft): 52.6		Well Diameter (in): 4	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0918				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0920	17.8		7.62		4.569		6.97		-121.0		11.45		300	25.92		clear/none
0923	21.5		7.32		4.678		5.88		-53.6		20.97		"	"		"
0926	22.2		7.30		4.696		5.75		-19.0		21.66		"	"		"
0929	22.4		7.29		4.694		5.70		4.5		20.69		"	"		"
0932	22.4	0	7.29	0	4.704	<1%	5.72	<1%	8.6	5.8	20.18	5%	"	"		"
0935	22.4		7.29		4.701		5.71		10.3		19.26		"	"	5.7	"

Stop Purge Time: 0936	Sample Time: 0938	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW17-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW18
Field Sampler(s): J. Bunkers				
Transducer Removal Time:		Transducer Redeployment time:		General Well Condition: Good
Depth to Water (ft): 15.15		Screened Interval Top (ft): 16.8		Pump Intake Depth (ft): 26.1
Well Depth (ft): 35.45		Screened/Open Interval Bottom (ft): 36.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1408				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1410	23.4		6.81		5.006		1.11		46.5		381.50		300	15.15		brownish/none
1413	23.4		6.83		4.986		0.98		38.5		282.95		"	"		"
1416	23.6		6.86		4.908		0.76		27.3		141.69		"	"		"
1419	23.7		6.86		4.882		0.66		16.2		144.23		"	"		"
1422	23.7	<1%	6.87	0.01	4.876	<1%	0.65	3%	14.4	3.1	147.95	<10%	"	"		"
1425	23.6		6.87		4.861		0.64		13.1		142.21		"	"	5.4	"

Stop Purge Time: 1426	Sample Time: 1430	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW18-GM23	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/H_3PO_4 HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW19
Field Sampler(s): JoBunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 9.30	Screened Interval Top (ft): 11.3		Pump Intake Depth (ft): 21.0	
Well Depth (ft): 30.25	Screened/Open Interval Bottom (ft): 31.1		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0711				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0713	21.5		7.25		3.075		2.48		159.2		111.23		300	9.30		cloudy/none
0716	22.3		7.24		3.090		2.20		151.3		84.64		"	"		"
0719	22.9		7.17		3.110		2.11		142.6		52.15		"	"		"
0722	23.0		7.18		3.110		2.06		134.2		33.68		"	"		"
0725	23.1	}	7.18	}	3.123	}	2.04	}	128.7	}	25.20	}	"	"		"
0728	23.1	0	7.18	0	3.116	<1%	2.03	<1%	127.9	1.6	25.14	3%	"	"		"
0731	23.1		7.18		3.117		2.03		127.1		24.23		"	"	7.2	"

Stop Purge Time: 0734	Sample Time: 0736	QA/QC Sample Time(s): 0736	
	Sample ID: SWFTS-MW19-EM23	QA/QC Sample ID(s): SWFTS-MW19-EM23-FD	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	2	125 mL Plastic		500 mL Plastic		500 mL w/$H2SO_4$		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
2	125 mL w/EDA	2	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	2	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/17/19	Well ID: SWFTS-MW20
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.13	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 26.9	
Well Depth (ft): 35.55	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1323				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1325	23.1		6.57		6.920		1.29		40.1		303.49		300	12.13		brownish/none
1328	24.0		6.56		6.916		0.89		32.4		299.70		"	"		"
1331	24.1		6.58		6.723		0.74		20.4		219.23		"	"		"
1334	24.0	<1%	6.59	0	6.608	<1%	0.68	5%	14.3	2	141.36	5%	"	"		"
1337	24.1		6.59		6.579		0.65		13.1		135.96		"	"		"
1340	24.0		6.59		6.564		0.65		12.3		134.15		"	"	5.4	"

Stop Purge Time: 1341	Sample Time: 1345	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW20-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/18/19	Well ID: SWFTS-MW21
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 15.41	Screened Interval Top (ft): 14.8		Pump Intake Depth (ft): 26.9	
Well Depth (ft): 37.85	Screened/Open Interval Bottom (ft): 39.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 1317				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1320	22.0		6.91		6.040		1.88		31.1		190.80		300	15.41		clear/none
1323	23.5		6.90		6.112		1.14		41.3		117.41		"	"		"
1326	23.8		6.88		6.129		0.95		43.3		71.42		"	"		"
1329	24.0	}	6.87	}	6.115	}	0.83	}	42.5	}	51.59	}	"	"		"
1332	24.0	} 0	6.87	} 0	6.113	} < 1%	0.82	} 1%	42.1	} 0.6	48.89	} 6%	"	"		"
1335	24.0	}	6.87	}	6.114	}	0.82	}	41.9	}	49.33	}	"	"	5.7	"

Stop Purge Time: 1336	Sample Time: 1338	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW21-EM23	QA/QC Sample ID(s): —

Observations/Comments:
HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:
± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW22
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 10.59	Screened Interval Top (ft): 11.8		Pump Intake Depth (ft): 21.3	
Well Depth (ft): 31.60	Screened/Open Interval Bottom (ft): 31.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0755				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0757	20.4		7.26		3.477		1.74		93.7		229.56		300	10.59		reddish/none
0800	22.0		7.24		3.508		1.05		96.8		190.44		"	"		"
0803	22.2		7.21		3.526		0.93		96.4		161.24		"	"		"
0806	22.3	<1%	7.19	0.01	3.554	<1%	0.86	7%	94.9	1.4	140.30	1%	"	"		"
0809	22.2		7.19		3.553		0.82		93.9		142.49		"	"		"
0812	22.2		7.18		3.547		0.80		93.5		141.35		"	"	5.7	"

Stop Purge Time: 0813	Sample Time: 0815	QA/QC Sample Time(s): —
	Sample ID: SWFTS-MW22-EM23	QA/QC Sample ID(s): —

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	**Well ID:** SWFTS-MW23
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1005		Transducer Redeployment time: 1028		General Well Condition: Good
Depth to Water (ft): 11.96		Screened Interval Top (ft): 13.8		Pump Intake Depth (ft): 26.3
Well Depth (ft): 36.05		Screened/Open Interval Bottom (ft): 33.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1006				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1008	20.98		7.27		3.148		2.34		86.5		47.31		300	12.00		clear/none
1011	21.9	0	7.20	0	3.129	<1%	1.38	69%	91.4	1.2	9.60	<10	"	"		"
1014	21.9		7.20		3.127		1.43		92.5		7.96		"	"		"
1017	21.9		7.20		3.126		1.41		92.6		7.61		"	"	3.9	"

Stop Purge Time: 1018	**Sample Time:** 1020	**QA/QC Sample Time(s):** —
	Sample ID: SWFTS-MW23-EM23	**QA/QC Sample ID(s):** —

Observations/Comments:

HACH Kit Sulfide: — mg/L **HACH Kit Ferrous Iron:** — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3		250 mL Amber Glass w/H_2SO_4	
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_3PO_4~~ HCl		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRA TECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW24
Field Sampler(s): J. Bunkers				
Transducer Removal Time: —	Transducer Redeployment time: —		General Well Condition: Good	
Depth to Water (ft): 12.75	Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 24.9	
Well Depth (ft): 37.05	Screened/Open Interval Bottom (ft): 37.6		Well Diameter (in): 2	
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE	GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP	
Purge Start Time: 0939				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
0941	20.9		7.20		5.055		3.33		99.3		265.69		300	12.75		cloudy/none
0944	23.5		7.07		5.147		1.99		107.9		98.03		"	"		"
0947	23.7		7.05		5.143		1.73		108.1		35.90		"	"		"
0950	23.7		7.04		5.131		1.48		105.2		9.35		"	"		clear/none
0953	23.7	0	7.04	0	5.120	<1%	1.47	<1%	104.7	1.2	8.25	<10	"	"		"
0956	23.7		7.04		5.123		1.47		104.0		6.39		"	"	6.6	"

Stop Purge Time: 0957	Sample Time: 1000	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW24-EM23	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	5	125 mL Plastic		500 mL Plastic		500 mL w/H2SO4		500 mL poly w/HNO3		250 mL Amber Glass w/H2SO4
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H2SO4		250 mL poly w/HNO3	1	250 mL Amber Glass w/H3PO4 HCl		500 mL Amber Glass

*INDICATOR PARAMETERS HAVE STABLIZED WHEN **3 CONSECUTIVE READINGS** ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

TETRATECH

LOW FLOW GROUNDWATER SAMPLING LOG

NERT, Henderson, NV

Task Name: SWF Area Bio Treatability Study	Task Manager: D. Grady	Task No: M11 - EM23	Date: 12/19/19	Well ID: SWFTS-MW25
Field Sampler(s): J. Bunkers				
Transducer Removal Time: 1031		Transducer Redeployment time: 1107		General Well Condition: Good
Depth to Water (ft): 10.09		Screened Interval Top (ft): 12.8		Pump Intake Depth (ft): 27.3
Well Depth (ft): 43.20		Screened/Open Interval Bottom (ft): 42.6		Well Diameter (in): 2
Pump/Tubing Type: QED Bladder Pump & TLPE/LDPE		GW Disposal: GW-11		Equipment Decon. Method: Alconox/DI Rinse SOP
Purge Start Time: 1033				

Time	Temp. (°C)		pH (pH Units)		Conductivity (mS/cm)		DO (mg/L)		ORP (mV)		Turbidity (NTU)		Purge Rate (ml/min)	Depth to Water (ft)	Cum. Vol. Purged (L)	Color/Odor
	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*	READ	CHANGE*				
1035	19.4		7.11		4.903		3.03		90.2		>1000		300	10.09		~~clear~~/ none
1038	22.1		7.01		4.999		1.11		98.2		905.08		"	10.09		brown "
1041	22.4		7.01		5.005		0.93		98.7		699.66		"	"		"
1044	22.3		7.01		5.008		0.84		97.8		492.23		"	"		"
1047	22.8		7.26		0.037		6.18		103.0		247.71		"	"		"
1050	22.3		7.00		5.020		0.89		101.0		198.18		"	"		"
1053	22.4	<1%	7.01	0	5.012	<1%	0.75	1%	93.4	1.6	190.86	6%	"	"		"
1056	22.4		7.01		5.012		0.74		92.5		185.16		"	"		"
1059	22.5		7.01		5.015		0.74		91.8		180.03		"	"	8.7	"

Stop Purge Time: 1100	Sample Time: 1102	QA/QC Sample Time(s): —	
	Sample ID: SWFTS-MW25-EM23	QA/QC Sample ID(s): —	

Observations/Comments:

HACH Kit Sulfide: — mg/L HACH Kit Ferrous Iron: — mg/L

Bottle Set Summary

	3x VOA w/HCl	1	125 mL Plastic		500 mL Plastic		500 mL w/H_2SO_4		500 mL poly w/HNO_3	1	250 mL Amber Glass w/~~H_2SO_4~~ HCl	1
1	125 mL w/EDA	1	250 mL Plastic		250 mL w/H_2SO_4		250 mL poly w/HNO_3		250 mL Amber Glass w/H_3PO_4		500 mL Amber Glass	

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN:

± 0.1 for pH; ± 3% for Cond and Temp; ± 10 mv for ORP; ± 10% or <0.5 mg/L for DO; ± 10% or <10 NTU Turbidity

Appendix F
Data Validation Summary Report

NDEP comments on the DVSR for the Seep Well Field Area Bioremediation Treatability Study - 2019 Annual Progress Report were received on June 10, 2020. The DVSR was revised based on NDEP's comments and resubmitted on July 16, 2020 as a standalone document. Because the DVSR has already been submitted, it has not been reincluded in this revision to the Seep Well Field Area Bioremediation Treatability Study - 2019 Annual Progress Report .

Appendix G
Comprehensive Data Tables

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	1,700	1,800	0.71	2.3	970
	EM01	9/22/2017	N	440-192818-16	Unknown	36.0 - 66.0	1,700	1,600	0.53 J	2.7	990
	EM03	10/5/2017	N	440-193712-10	Unknown	36.0 - 66.0	1,800	1,400	0.60	2.6	940
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	1,800	1,600	0.58	2.3	1,000
	EM05	10/26/2017	N	440-195136-4	Unknown	36.0 - 66.0	1,900	1,400	0.42 J	2.6	1,000
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	1,700	5,000	0.40	2.6	950
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	1,500	1,400	0.57 J	2.9	1,100
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	1,800	1,200	<0.55	2.3	940
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	1,700	1,200	0.45	11	910
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	3,000	2,400	1.4	1.9	1,100
	EM13	8/16/2018	N	440-218296-11	Unknown	36.0 - 66.0	1,500	980	0.53 J	2.6	940
	EM14	9/11/2018	N	440-219886-10	Unknown	36.0 - 66.0	2,800	3,800	1.5	1.9	1,300
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	1,700	1,000	0.54 J	2.7	960
	EM16	1/3/2019	N	440-229111-4	Unknown	36.0 - 66.0	3,200	3,800	2.5	2.0	1,300
	EM17	2/25/2019	N	440-234705-2	Unknown	36.0 - 66.0	3,300	4,100	2.1	2.2	1,300
	EM18	4/9/2019	N	440-238618-6	Unknown	36.0 - 66.0	1,800	570	0.65 J-	2.5	930
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	1,700	520	0.57	2.4	960
	EM20	7/1/2019	N	440-245068-4	Unknown	36.0 - 66.0	1,800	680	0.59	2.7	920
	EM21	8/15/2019	N	440-248187-7	Unknown	36.0 - 66.0	1,900	660	0.68	2.7	980
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	2,600	3,200	1.6	1.9	1,300
	EM23	12/18/2019	N	440-257733-1	Unknown	36.0 - 66.0	1,800	610 J-	0.45	2.2	900
LVWPS-MW101A	EM11	7/12/2018	N	440-215795-1	Alluvium	23.3 - 33.0	6,300	25,000	15	0.82 J	--
LVWPS-MW104	EM11	7/12/2018	N	440-215795-2	Alluvium	23.8 - 33.5	4,900	35,000	10	1.1	--
	EM13	8/15/2018	N	440-218208-8	Alluvium	23.8 - 33.5	4,600	36,000	10	1.5	2,200
	EM14	9/13/2018	N	440-220125-8	Alluvium	23.8 - 33.5	4,200	36,000	11	1.4	2,300
	EM15	10/10/2018	N	440-221975-5	Alluvium	23.8 - 33.5	4,800	37,000	11	1.8	--
LVWPS-MW107A	EM11	7/12/2018	N	440-215795-7	Alluvium	24.8 - 34.5	4,700	9,000	6.1	0.90 J	--
LVWPS-MW108A	EM11	7/12/2018	N	440-215795-5	Alluvium	20.8 - 40.7	7,200	17,000	7.2	1.3	--
	EM11	7/12/2018	FD	440-215795-6	Alluvium	20.8 - 40.7	7,300	17,000	7.2	1.3	--
	EM13	8/15/2018	N	440-218208-6	Alluvium	20.8 - 40.7	5,700	11,000	6.2	1.9	1,500
	EM14	9/13/2018	N	440-220125-4	Alluvium	20.8 - 40.7	4,800	9,200	6.1 J+	1.6	1,500
	EM15	10/10/2018	N	440-221975-1	Alluvium	20.8 - 40.7	5,300	9,800	5.5	1.9	--
LVWPS-MW109	EM11	7/12/2018	N	440-215795-3	Alluvium	36.8 - 51.5	6,100	25,000	8.9	1.2	--
	EM13	8/15/2018	N	440-218208-7	Alluvium	36.8 - 51.5	4,800	16,000	7.9	1.9	1,900
	EM14	9/13/2018	N	440-220125-1	Alluvium	36.8 - 51.5	4,500	9,200	6.7 J+	1.3	1,900
	EM15	10/10/2018	N	440-221975-6	Alluvium	36.8 - 51.5	4,400	7,300	6.9	1.9	--
LVWPS-MW111A	EM11	7/12/2018	N	440-215795-8	Alluvium	20.8 - 40.5	9,100	28,000	7.2	1.8	--
	EM13	8/15/2018	N	440-218208-9	Alluvium	20.8 - 40.5	7,800	30,000	7.9	2.0	1,800
	EM14	9/13/2018	N	440-220125-2	Alluvium	20.8 - 40.5	6,500	30,000	8.1 J+	1.4	1,900
	EM15	10/10/2018	N	440-221975-2	Alluvium	20.8 - 40.5	7,100	28,000	8.4	1.8	--
LVWPS-MW112A	EM11	7/12/2018	N	440-215795-4	Alluvium	28.8 - 48.0	5,200	28,000	10	1.5	--
	EM15	10/10/2018	N	440-221975-4	Alluvium	28.8 - 48.0	4,700	24,000	10	1.7	--

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	2,600	19,000	9.9	3.4	1,200
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	2,600	17,000	9.5	2.8	1,500
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	1,800	11,000	9.0	3.2	1,100
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	2,100	16,000	10	2.9	1,100
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	3,100	24,000	12	2.9	1,200
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	3,700	35,000	12	5.4	1,300
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	1,400	12,000	9.8	2.7	1,300
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	1,200	10,000	9.9	2.7	1,400
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	1,100	9,800	10	2.6	1,500
	EM13	8/15/2018	N	440-218208-5	Alluvium	7.8 - 32.8	1,300	13,000	10	3.1	1,500
	EM14	9/13/2018	N	440-220125-5	Alluvium	7.8 - 32.8	1,500	22,000	14	2.5	1,100
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	1,300	13,000	12	3.5	930
	EM16	1/3/2019	N	440-229111-7	Alluvium	7.8 - 32.8	980	8,000	10	3.5	1,100
	EM17	3/1/2019	N	440-235133-2	Alluvium	7.8 - 32.8	1,700 J+	13,000	12	2.8	1,400
	EM18	4/9/2019	N	440-238618-10	Alluvium	7.8 - 32.8	1,400	11,000	9.1 J-	2.6	1,500
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	1,600	12,000	11	2.9	1,400
	EM20	7/5/2019	N	440-245261-5	Alluvium	7.8 - 32.8	1,600	13,000	11	3.9	1,200
	EM21	8/15/2019	N	440-248187-8	Alluvium	7.8 - 32.8	1,500	10,000	12	3.7	1,100
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	1,000	8,700	10	3.1	940
	EM23	12/20/2019	N	440-257938-9	Alluvium	7.8 - 32.8	4,000	30,000	13	2.4	980
PC-88	EM01	9/22/2017	N	440-192818-10	Alluvium	40.0 - 50.0	15,000	6,900	4.8	2.7	1,000
	EM02	9/28/2017	N	440-193167-7	Alluvium	40.0 - 50.0	14,000 J+	6,300	5.8	2.8	1,100
	EM03	10/4/2017	N	440-193622-6	Alluvium	40.0 - 50.0	15,000	6,100	5.1	2.6	1,000
	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	15,000	6,200	4.6	2.5	1,000
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	15,000	6,000	4.6	2.6	1,000
	EM05	10/25/2017	N	440-195026-9	Alluvium	40.0 - 50.0	15,000	5,400	5.0	2.8	1,000
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	15,000	5,700	4.5	2.8	990
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	16,000	5,700	4.6	2.9	1,000
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	19,000	20,000	9.9	2.7	1,200
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	6,700	14,000	12	3.0	720
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	9,100	20,000	13	2.2	870
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	7,100	11,000	11	2.3	710
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	6,600	11,000	12	2.5	700
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	16,000	12,000	7.8	2.4	910
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	16,000	12,000	7.6	2.3	910
	EM13	8/16/2018	N	440-218296-9	Alluvium	40.0 - 50.0	10,000	6,700	6.0	2.9	930
	EM13	8/16/2018	FD	440-218296-10	Alluvium	40.0 - 50.0	11,000	6,800	6.0	2.9	940
	EM14	9/12/2018	N	440-220031-15	Alluvium	40.0 - 50.0	19,000	13,000	6.7	2.6	1,000
	EM14	9/12/2018	FD	440-220031-16	Alluvium	40.0 - 50.0	19,000	13,000	6.7	2.4	1,000
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	15,000	15,000	6.3 J-	2.7	1,000
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	15,000	15,000	7.5	2.7	1,000
	EM16	1/3/2019	N	440-229111-5	Alluvium	40.0 - 50.0	12,000	9,900	7.5	2.7	850
	EM16	1/3/2019	FD	440-229111-6	Alluvium	40.0 - 50.0	12,000	9,900	7.5	2.8	860
	EM17	2/28/2019	N	440-235000-8	Alluvium	40.0 - 50.0	9,300	5,700	4.4	2.9	770

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
PC-88 (continued)	EM17	2/28/2019	FD	440-235000-9	Alluvium	40.0 - 50.0	9,100	5,700	4.4	3.1	770
	EM18	4/9/2019	N	440-238618-7	Alluvium	40.0 - 50.0	12,000	11,000	5.1 J-	2.6	910
	EM18	4/9/2019	FD	440-238618-8	Alluvium	40.0 - 50.0	13,000	10,000	5.0 J-	2.7	900
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	10,000	6,200	4.9	2.6	850
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	10,000	6,400	5.0	2.5	850
	EM20	7/5/2019	N	440-245261-3	Alluvium	40.0 - 50.0	8,800	5,100	3.4	3.2	710
	EM20	7/5/2019	FD	440-245261-4	Alluvium	40.0 - 50.0	10,000	5,000	3.4	3.2	720
	EM21	8/15/2019	N	440-248187-9	Alluvium	40.0 - 50.0	9,700	3,300	2.8	3.0	740
	EM21	8/15/2019	FD	440-248187-10	Alluvium	40.0 - 50.0	9,900	3,300	3.1	3.0	730
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	11,000	14,000	5.6	2.5	850
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	11,000	15,000	5.5	2.4	830
	EM23	12/20/2019	N	440-257938-7	Alluvium	40.0 - 50.0	11,000	9,200	5.4	2.2	860
	EM23	12/20/2019	FD	440-257938-8	Alluvium	40.0 - 50.0	12,000	9,100	5.1	2.2	850
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	2,400	1,700	1.4	2.7	1,100
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	2,500	1,600	1.2	2.4	840
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	2,400	1,500	1.1	2.3	790
	EM01	9/21/2017	N	440-192728-6	Alluvium	11.5 - 21.5	1,600	820	0.50 J	2.3	730
	EM02	9/27/2017	N	440-193062-16	Alluvium	11.5 - 21.5	1,700	810	0.57	2.8	770
	EM03	10/4/2017	N	440-193625-2	Alluvium	11.5 - 21.5	1,300	590	0.58	2.9	700
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	960	440	0.35	2.5	770
	EM05	10/25/2017	N	440-195026-4	Alluvium	11.5 - 21.5	750	370	0.62	2.7	740
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	700	610	0.65 J-	2.8	670
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	770	520	0.38	2.5	650
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	900	1,100	0.88 J	2.8	770
	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	930	1,200	0.78	2.5	700
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	860	260	0.56	2.4	650
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	190	<5.0	<0.28	2.7	480
	EM12	7/27/2018	N	440-216872-16	Alluvium	11.5 - 21.5	160	<2.0	--	--	--
	EM13	8/14/2018	N	440-218109-1	Alluvium	11.5 - 21.5	310	12 J	<0.28	3.0	--
	EM14	9/12/2018	N	440-220031-12	Alluvium	11.5 - 21.5	440	21	<0.28	2.6	560
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	460	80	<0.55	3.1	570
	EM16	12/20/2018	N	440-228491-4	Alluvium	11.5 - 21.5	220	47 J	<0.11	3.2	540
	EM17	2/26/2019	N	440-234812-3	Alluvium	11.5 - 21.5	67	<10	<0.55	3.8	520
	EM18	4/10/2019	N	440-238544-6	Alluvium	11.5 - 21.5	190	38 J	<0.55	4.5	480
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	120	56	0.81	3.6	500
	EM20	7/1/2019	N	440-245046-1	Alluvium	11.5 - 21.5	120	52	<0.28	3.8	460
	EM21	8/12/2019	N	440-247878-1	Alluvium	11.5 - 21.5	39 J+	14 J	<0.28	3.6	450
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	1.5 J	<10	<0.55	5.9	460
	EM23	12/17/2019	N	440-257635-9	Alluvium	11.5 - 21.5	6.9	<10	<0.55	4.3	440
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	9,600	17,000	4.2	2.8	1,200
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	4,400	10,000	2.6	2.8	1,100
	EM01	9/21/2017	N	440-192728-7	Alluvium	26.5 - 36.5	3,100	7,700	1.7	2.6	960
	EM02	9/27/2017	N	440-193062-8	Alluvium	26.5 - 36.5	3,500	6,800	1.7	2.8	950
	EM03	10/4/2017	N	440-193625-3	Alluvium	26.5 - 36.5	3,700	7,100	2.6	2.8	950

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
PC-92 (continued)	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	3,700	7,300	2.1	2.8	1,100
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	3,700	6,700	2.0	2.6	1,100
	EM05	10/25/2017	N	440-195026-3	Alluvium	26.5 - 36.5	4,000	6,900	2.3	2.9	1,100
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	2,100	1,300	1.6	3.2	790
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	2,100	1,300	1.1	3.3	930
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	3,300	4,600	2.1	3.0	980
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	3,300	4,800	1.8	3.0	1,100
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	4,900	7,700	2.7	3.2	950
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	5,000	7,400	2.7	3.2	960
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	7,900	19,000	4.5	2.5	1,100
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	8,000	18,000	4.5	2.5	1,200
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	9,200	22,000	5.6	2.4	1,200
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	7,300	17,000	4.2	2.3	1,000
	EM12	7/27/2018	N	440-216872-15	Alluvium	26.5 - 36.5	5,200	15,000	--	--	--
	EM13	8/15/2018	N	440-218208-1	Alluvium	26.5 - 36.5	4,700	13,000	3.1	3.0	910
	EM14	9/12/2018	N	440-220031-13	Alluvium	26.5 - 36.5	4,100	12,000	2.6	2.6	950
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	4,200	12,000	3.4	2.9	980
	EM16	12/20/2018	N	440-228491-5	Alluvium	26.5 - 36.5	3,500	13,000	2.6	3.1	820
	EM17	2/26/2019	N	440-234812-2	Alluvium	26.5 - 36.5	2,700	13,000	1.5	2.7	880
	EM18	4/10/2019	N	440-238544-7	Alluvium	26.5 - 36.5	3,100	8,200	2.2	2.7	870
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	2,500	6,000	1.5	2.3	750
	EM20	7/1/2019	N	440-245046-2	Alluvium	26.5 - 36.5	3,100	7,000	1.8	3.4	840
	EM21	8/12/2019	N	440-247878-2	Alluvium	26.5 - 36.5	2,800	3,500	1.1	3.3	630
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	4,000	11,000	2.0	2.8	970
	EM23	12/17/2019	N	440-257635-10	Alluvium	26.5 - 36.5	3,100	7,700	2.0	2.8	810
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	13,000	51,000	12	1.7	1,800
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	14,000	47,000	12	1.3	1,800
	EM01	9/20/2017	N	440-192728-5	Alluvium	9.5 - 19.5	2,300	3,800	0.58 J	34	1,800
	EM02	9/26/2017	N	440-193062-14	Alluvium	9.5 - 19.5	2,000	3,700	<1.1	37	1,800
	EM03	10/5/2017	N	440-193712-18	Alluvium	9.5 - 19.5	1,700	3,600	1.3 J	5.2	1,600
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	970	2,900	0.78 J	3.9	1,700
	EM05	10/26/2017	N	440-195136-1	Alluvium	9.5 - 19.5	540	1,300	1.4	3.1	1,700
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	1,500	1,300	0.57 J	2.2	1,300
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	4,300	9,300	0.68	2.1	1,400
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	7,200	19,000	4.9	2.1	1,500
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	6,400	16,000	4.8	1.9	1,500
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	6,700	18,000	6.3	1.5	1,400
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	4,200	7,200	5.6	2.0	1,600
	EM12	7/27/2018	N	440-216872-12	Alluvium	9.5 - 19.5	1,500	1,600	--	--	--
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	2,600	1,800	3.2	2.2	1,500
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	3,500	6,200	5.2	1.7	1,500
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	3,900	10,000	8.2	1.9	1,500
	EM16	12/28/2018	N	440-228887-2	Alluvium	9.5 - 19.5	3,200	9,000	8.3	1.7	1,400
	EM17	2/27/2019	N	440-234938-1	Alluvium	9.5 - 19.5	3,100	6,700	6.4	1.8	1,400
	EM18	4/11/2019	N	440-238688-6	Alluvium	9.5 - 19.5	3,000	5,600	5.2	1.8	1,500

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
PC-94 (continued)	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	3,600	11,000	7.6	1.7	1,500
	EM20	7/5/2019	N	440-245259-1	Alluvium	9.5 - 19.5	4,100	16,000	8.2	2.9	1,400
	EM21	8/12/2019	N	440-247878-4	Alluvium	9.5 - 19.5	4,600	16,000	7.8	2.0	1,200
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	4,200	16,000	7.8	1.6	1,300
	EM23	12/19/2019	N	440-257866-4	Alluvium	9.5 - 19.5	4,000	16,000	6.3	1.7	1,200
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	1,900	180	0.84	3.0	800
	EM01	9/22/2017	N	440-192818-13	Alluvium	23.0 - 33.0	2,900	360	2.1	3.0	1,000
	EM01	9/22/2017	FD	440-192818-12	Alluvium	23.0 - 33.0	2,900	340	2.2	3.0	1,000
	EM02	9/28/2017	N	440-193167-9	Alluvium	23.0 - 33.0	2,600	370	2.1	3.6	1,100
	EM02	9/28/2017	FD	440-193167-10	Alluvium	23.0 - 33.0	2,700	380	2.0	3.6	1,100
	EM03	10/4/2017	N	440-193622-8	Alluvium	23.0 - 33.0	2,900	460	2.6	2.7	900
	EM03	10/4/2017	FD	440-193625-1	Alluvium	23.0 - 33.0	2,900	410	2.3	2.8	970
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	2,500	400	2.5	2.7	1,000
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	2,700	390	2.3	2.8	1,000
	EM05	10/25/2017	N	440-195026-6	Alluvium	23.0 - 33.0	3,400	390	2.9	2.8	1,100
	EM05	10/25/2017	FD	440-195026-7	Alluvium	23.0 - 33.0	3,300	410	2.9	2.9	1,100
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	1,600	190	1.8	3.2	1,200
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	2,600	320	1.6	3.0	930
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	3,000	320	1.9	3.0	930
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	1,500	77	0.56	3.3	750
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	900	<10	0.19	3.3	710
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	820	<5.0	0.088 J	3.2	610
	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	1,700	91	0.32	3.0	690
	EM13	8/16/2018	N	440-218296-8	Alluvium	23.0 - 33.0	1,100	85	0.38 J+	3.4	760
	EM14	9/12/2018	N	440-220031-17	Alluvium	23.0 - 33.0	2,400	210	0.82	3.0	760
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	1,700	160	0.71	3.4	820
	EM16	1/3/2019	N	440-229111-3	Alluvium	23.0 - 33.0	1,500	64	0.33	3.2	680
	EM17	2/28/2019	N	440-235000-7	Alluvium	23.0 - 33.0	1,300	80	0.71	3.5	720
	EM18	4/9/2019	N	440-238618-9	Alluvium	23.0 - 33.0	1,600	150	0.71 J-	3.0	790
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	2,300	280	1.8	3.1	920
	EM20	7/5/2019	N	440-245261-2	Alluvium	23.0 - 33.0	2,800	360	1.9	3.7	950
	EM21	8/14/2019	N	440-248104-11	Alluvium	23.0 - 33.0	3,100	330	1.7	3.3	860
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	1,800	30	1.3	2.8	790
	EM23	12/20/2019	N	440-257938-6	Alluvium	23.0 - 33.0	1,100	48 J	0.29	3.1	670
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	20,000	51,000	12	--	--
SWFTS-IW01A	EM06	11/14/2017	N	440-196558-6	Alluvium	15.8 - 25.6	42	--	<0.55	610 J-	--
SWFTS-IW01A	EM06	11/14/2017	N	440-196558-7	Alluvium	15.8 - 25.6	--	--	--	610 J-	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	20,000	48,000	11	--	--
	EM06	11/14/2017	N	440-196558-8	Alluvium	26.9 - 36.7	--	--	--	160 J-	--
	EM06	11/15/2017	N	440-196690-5	Alluvium	26.9 - 36.7	170	--	<0.55	220	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	22,000	52,000	12	2.0	2,100
	EM06	11/14/2017	N	440-196558-9	Alluvium	16.8 - 26.6	--	--	--	3,900 J-	--

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	22,000	55,000	12	2.8	2,100
	EM06	11/14/2017	N	440-196558-10	Alluvium	26.3 - 36.1	--	--	--	3,100 J-	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	21,000	58,000	13	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	21,000	53,000	12	--	--
	EM07	12/11/2017	N	440-198276-1	Alluvium	16.8 - 36.6	--	--	--	340 J-	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	17,000	42,000	11	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	16,000	42,000	12	--	--
	EM07	12/11/2017	N	440-198276-2	Alluvium	19.8 - 34.6	--	--	--	4,600 J-	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	15,000	45,000	12	1.7	1,800
	EM07	12/11/2017	N	440-198276-3	Alluvium	14.6 - 34.4	--	--	--	3,700 J-	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	15,000	46,000	12	--	--
	EM06	11/14/2017	N	440-196558-11	Alluvium	16.8 - 26.6	--	--	--	440 J-	--
	EM06	11/15/2017	N	440-196690-6	Alluvium	16.8 - 26.6	230	--	<0.55	630	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	15,000	41,000	12	--	--
	EM06	11/14/2017	N	440-196558-12	Alluvium	28.8 - 33.6	--	--	--	600 J-	--
	EM06	11/15/2017	N	440-196690-7	Alluvium	28.8 - 33.6	20	--	<0.55	660	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	15,000	45,000	11	--	--
	EM07	12/11/2017	N	440-198276-4	Alluvium	17.3 - 37.1	--	--	--	5,600 J-	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	14,000	40,000	12	--	--
	EM07	12/11/2017	N	440-198276-5	Alluvium	17.5 - 37.3	--	--	--	6,700 J-	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	11,000	48,000	12	1.7	1,800
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	11,000	47,000	12	1.4	1,800
	EM07	12/11/2017	N	440-198276-6	Alluvium	26.6 - 46.4	--	--	--	290 J-	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	7,800	37,000	14	--	--
	EM07	12/11/2017	N	440-198276-8	Alluvium	26.8 - 46.6	--	--	--	290 J-	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	5,600	6,600	2.0	2.6	1,000
	EM07	12/11/2017	N	440-198276-7	Alluvium	17.3 - 37.1	--	--	--	1,000 J-	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	6,200	7,800	2.5	--	--
	EM07	12/11/2017	N	440-198276-9	Alluvium	14.3 - 39.1	--	--	--	2,700 J-	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	19,000	52,000	14	--	--
	EM06	11/14/2017	N	440-196558-13	Alluvium	15.8 - 25.6	--	--	--	3,700 J-	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	21,000	53,000	12	--	--
	EM06	11/14/2017	N	440-196558-14	Alluvium	27.8 - 37.6	--	--	--	1,100 J-	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	21,000	51,000	11	1.9	1,800
	EM06	11/14/2017	N	440-196558-15	Alluvium	16.2 - 36.1	--	--	--	4,600	--
	EM06	11/14/2017	FD	440-196558-16	Alluvium	16.2 - 36.1	--	--	--	4,500 J-	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	15,000	44,000	13	--	--
	EM07	12/11/2017	N	440-198276-10	Alluvium	16.4 - 36.2	--	--	--	1,300 J-	--
	EM07	12/11/2017	FD	440-198276-11	Alluvium	16.4 - 36.2	--	--	--	1,300 J-	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	17,000	45,000	11	--	--
	EM07	12/11/2017	N	440-198276-12	Alluvium	17.3 - 27.1	--	--	--	2,800 J-	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	15,000	44,000	12	--	--
	EM07	12/11/2017	N	440-198276-13	Alluvium	26.5 - 36.3	--	--	--	940 J-	--

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	13,000	47,000	12	1.4	1,600
	EM06	11/14/2017	N	440-196558-17	Alluvium	17.3 - 37.1	--	--	--	6,500 J-	--
	EM06	11/15/2017	N	440-196690-8	Alluvium	17.3 - 37.1	<19	--	<1.1	7,500	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	14,000	47,000	12	--	--
	EM06	11/14/2017	N	440-196558-18	Alluvium	18.1 - 38.1	--	--	--	1.8	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	6,400	57,000	16	--	--
	EM07	12/11/2017	N	440-198276-14	Alluvium	24.3 - 44.1	--	--	--	4,100 J-	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	4,400	31,000	17	1.0	2,300
	EM06	11/14/2017	N	440-196558-19	Alluvium	30.8 - 50.6	--	--	--	6,500 J-	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	15,000	49,000	12	1.6	4,700
	EM01	9/19/2017	N	440-192627-1	Alluvium	24.2 - 38.9	2,100	39,000	<0.55	11	1,800
	EM02	9/26/2017	N	440-193062-2	Alluvium	24.2 - 38.9	4,300	10,000	1.4 J	4.3	1,800
	EM03	10/4/2017	N	440-193625-6	Alluvium	24.2 - 38.9	5,000	13,000	3.3	2.5	1,600
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	5,600	15,000	3.3	2.2	1,600
	EM05	10/25/2017	N	440-195026-8	Alluvium	24.2 - 38.9	15,000	18,000	5.1	2.1	1,500
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	7,900	22,000	4.9	1.9	1,500
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	8,000	24,000	5.3	1.9	1,500
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	3,900	12,000	3.4	2.7	1,400
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	6,900	26,000	5.3	1.9	1,400
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	9,400	36,000	8.9	1.4	1,600
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	3,100	6,900	1.4	2.4	1,300
	EM12	7/27/2018	N	440-216872-13	Alluvium	24.2 - 38.9	5,500	28,000	--	--	--
	EM12	7/27/2018	FD	440-216872-14	Alluvium	24.2 - 38.9	5,500	28,000	--	--	--
	EM13	8/16/2018	N	440-218296-6	Alluvium	24.2 - 38.9	6,100	34,000	6.4	2.0	1,300
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	6,300	34,000	8.4	1.9	1,400
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	4,700 J	24,000	7.1	2.1	1,300
	EM16	12/27/2018	N	440-228818-1	Alluvium	24.2 - 38.9	4,300	7,400	9.9	1.8	1,300
	EM17	2/26/2019	N	440-234812-11	Alluvium	24.2 - 38.9	1,300	<10	1.7	2.6	1,100
	EM18	4/10/2019	N	440-238531-1	Alluvium	24.2 - 38.9	3,800	<10	5.2	1.9	1,200
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	4,100	<10	6.4	1.6	1,200
	EM20	7/1/2019	N	440-245068-5	Alluvium	24.2 - 38.9	4,100	<10	5.4	2.1	1,300
	EM21	8/12/2019	N	440-247878-6	Alluvium	24.2 - 38.9	3,800	<10	3.9	1.9	1,100
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	54	<10	<0.55	2.7	870
	EM23	12/18/2019	N	440-257733-3	Alluvium	24.2 - 38.9	3,600	<10	3.7	1.7	1,100
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	25,000	58,000	11	2.2	2,200
	EM01	9/21/2017	N	440-192818-4	Alluvium	18.4 - 33.1	23,000	52,000	8.5	2.1	1,800
	EM02	9/27/2017	N	440-193062-11	Alluvium	18.4 - 33.1	23,000	47,000	9.4	2.2	2,000
	EM03	10/4/2017	N	440-193712-3	Alluvium	18.4 - 33.1	22,000	45,000	8.7	2.0	1,900
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	20,000	23,000	6.2	2.3	1,900
	EM05	10/26/2017	N	440-195218-2	Alluvium	18.4 - 33.1	21,000	34,000	4.6 J-	2.5	2,000
	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	17,000	32,000	6.5	2.5	1,900
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	19,000	38,000	6.7	2.1	2,800
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	14,000	28,000	4.7	2.5	1,700
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	4,400	7,400	0.80	2.5	1,300
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	4,600	6,100	0.95 J	2.3	1,500

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	3,700	5,100	1.7	1.9	1,600
	EM12	7/27/2018	N	440-216872-11	Alluvium	18.4 - 33.1	2,100	3,900	--	--	--
	EM13	8/15/2018	N	440-218208-3	Alluvium	18.4 - 33.1	1,700	2,600	0.74 J	2.5	1,400
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	1,300	2,500	<0.55	2.5	1,300
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	1,400	950	<1.1	3.0	1,300
	EM16	12/20/2018	N	440-228491-3	Alluvium	18.4 - 33.1	620	77 J	<0.55	2.4	1,400 J+
	EM17	2/25/2019	N	440-234705-3	Alluvium	18.4 - 33.1	740	32 J	<1.1	2.5	1,300
	EM18	4/9/2019	N	440-238618-3	Alluvium	18.4 - 33.1	1,300	82 J	<1.1 UJ	2.1	1,500
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	3,200	50 J	<1.1	2.3	1,500
	EM20	7/2/2019	N	440-245153-8	Alluvium	18.4 - 33.1	4,200	<4.0	<0.55	2.5	1,400
	EM21	8/14/2019	N	440-248104-3	Alluvium	18.4 - 33.1	3,900	<20	<0.28	2.4	1,500
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	2,700	<10	<0.28	2.2	1,200
	EM23	12/17/2019	N	440-257635-8	Alluvium	18.4 - 33.1	6,800	2,700	2.6	1.9	1,300
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	9,900	47,000	13	1.6	2,200
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	9,200	47,000	13	1.7	2,400
	EM01	9/21/2017	N	440-192728-12	Alluvium	27.2 - 42.1	<4.8	<100	<0.55	4.2	2,300
	EM02	9/27/2017	N	440-193167-1	Alluvium	27.2 - 42.1	4.8	<100	<0.55	3.0	2,200
	EM03	10/4/2017	N	440-193712-7	Alluvium	27.2 - 42.1	<0.95	<50	<0.55	2.3	2,300
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	21	<100	<0.55	2.0	2,200
	EM05	10/26/2017	N	440-195136-5	Alluvium	27.2 - 42.1	990	3,200	0.73 J	2.1	2,100
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	3,200	15,000	3.2	1.7	2,100
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	3,700	22,000	4.3	1.8	1,900
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	3,400	33,000	4.2	1.7	1,900
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	4,200	27,000	6.4	1.5	2,000
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	4,300	30,000	7.9	1.4	2,100
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	1,300	3,000	1.3	2.3	2,000
	EM12	7/27/2018	N	440-216872-10	Alluvium	27.2 - 42.1	1,900 J+	1,800	--	--	--
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	1,900	280 J	3.6	1.9	1,900
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	2,200	<10	4.9	1.5	1,900
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	2,200	<20	5.9	2.0	2,000
	EM16	1/2/2019	N	440-229018-3	Alluvium	27.2 - 42.1	2,500	<10	7.7	1.8	2,000
	EM17	2/27/2019	N	440-234938-3	Alluvium	27.2 - 42.1	2,700	27 J	10	1.5	2,000
	EM18	4/10/2019	N	440-238531-7	Alluvium	27.2 - 42.1	2,700	130	8.4	1.4	2,100
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	2,800	150	7.7	1.4	2,000
	EM20	7/1/2019	N	440-245068-10	Alluvium	27.2 - 42.1	2,800	550	8.2	1.9	2,000
	EM21	8/14/2019	N	440-248104-2	Alluvium	27.2 - 42.1	3,000	2,700	8.5	1.8	2,000
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	2,100	1,000	6.8	1.6	2,000
	EM23	12/19/2019	N	440-257866-5	Alluvium	27.2 - 42.1	2,600	770	7.7	1.5	1,700
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	14,000	26,000	5.5	2.3	1,400
	EM01	9/20/2017	N	440-192627-5	Alluvium	25.8 - 40.4	3,600	4,900	1.3	2.6	750
	EM01	9/20/2017	FD	440-192627-6	Alluvium	25.8 - 40.4	3,600	4,800	1.3	2.6	820
	EM02	9/27/2017	N	440-193062-3	Alluvium	25.8 - 40.4	3,600	5,400	1.5	3.1	780
	EM02	9/27/2017	FD	440-193062-4	Alluvium	25.8 - 40.4	3,500	5,400	1.5	3.1	860
	EM03	10/4/2017	N	440-193712-1	Alluvium	25.8 - 40.4	4,000	4,700	1.5	2.7	840
	EM03	10/4/2017	FD	440-193712-2	Alluvium	25.8 - 40.4	3,900	4,700	1.9	2.6	840

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW04 (continued)	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	2,900	3,900	1.3	2.7	810
	EM05	10/24/2017	N	440-194947-6	Alluvium	25.8 - 40.4	3,600	4,200	1.4	2.9	840
	EM05	10/24/2017	FD	440-194947-7	Alluvium	25.8 - 40.4	3,500	4,200	1.5	3.0	880
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	3,500	3,400	1.6	3.0	900
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	4,000	4,700	1.8	2.9	910
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	5,200	8,000	2.4	2.7	900
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	6,100	14,000	3.5	2.5	1,100
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	4,100	3,700	1.4	2.8	860
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	6,400	15,000	4.5	2.5	940
	EM13	8/16/2018	N	440-218296-1	Alluvium	25.8 - 40.4	3,100	8,700	1.9 J+	2.9	730
	EM14	9/12/2018	N	440-220031-14	Alluvium	25.8 - 40.4	4,000	9,100	2.6	2.9	820
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	3,400	8,300	2.0	3.0	790
	EM16	1/3/2019	N	440-229111-2	Alluvium	25.8 - 40.4	3,500	6,900	1.6	3.1	630
	EM17	3/1/2019	N	440-235133-5	Alluvium	25.8 - 40.4	3,500 J+	8,900	2.6	2.9	840
	EM18	4/9/2019	N	440-238618-2	Alluvium	25.8 - 40.4	3,100	7,500	2.3 J-	2.8	870
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	2,400	5,300	1.2	3.0	690
	EM20	7/5/2019	N	440-245261-1	Alluvium	25.8 - 40.4	2,100	4,000	1.2	3.7	720
	EM21	8/14/2019	N	440-248104-10	Alluvium	25.8 - 40.4	3,300	5,400	1.7	3.4	730
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	2,600	4,900	1.9	2.9	770
	EM23	12/19/2019	N	440-257866-12	Alluvium	25.8 - 40.4	4,200	9,600	2.3	2.8	820
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	7,400	67,000	18	1.4	3,000
	EM01	9/20/2017	N	440-192728-3	Alluvium	19.3 - 29.3	5,700	51,000	17	1.1	2,500
	EM02	9/27/2017	N	440-193062-9	Alluvium	19.3 - 29.3	5,600	44,000	18	1.2	2,500
	EM03	10/3/2017	N	440-193472-4	Alluvium	19.3 - 29.3	5,800	46,000	16	0.80 J	2,400
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	5,600	44,000	16	1.3	2,700
	EM05	10/23/2017	N	440-194846-4	Alluvium	19.3 - 29.3	4,700	43,000	15	1.3	2,600
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	5,500	38,000	16	1.4	2,500
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	5,300	43,000	17	1.3	2,500
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	6,400	53,000	18	1.4	2,600
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	6,600	58,000	16	1.1	2,500
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	6,400 J	55,000	17	1.0	2,600
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	5,200	46,000	15	0.87 J	2,300
	EM12	7/27/2018	N	440-216872-8	Alluvium	19.3 - 29.3	4,300	41,000	--	--	--
	EM13	8/14/2018	N	440-218109-2	Alluvium	19.3 - 29.3	3,600	35,000	10 J+	1.5	--
	EM14	9/11/2018	N	440-219886-7	Alluvium	19.3 - 29.3	3,400	30,000	9.5	1.2	2,500
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	4,200	34,000	12	1.3	2,300
	EM16	12/20/2018	N	440-228491-11	Alluvium	19.3 - 29.3	5,000	21,000	16	1.3	2,600
	EM17	2/27/2019	N	440-234938-5	Alluvium	19.3 - 29.3	4,300	10,000	17	1.5	2,500
	EM18	4/10/2019	N	440-238531-9	Alluvium	19.3 - 29.3	3,100	56 J	13	1.5	2,500
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	2,600	17 J	13	1.6	2,500
	EM20	7/1/2019	N	440-245068-6	Alluvium	19.3 - 29.3	2,700	<20	14	1.7	2,400
	EM21	8/13/2019	N	440-247965-7	Alluvium	19.3 - 29.3	3,100	33 J	13	1.9	2,500
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	3,600 J+	30 J	14	1.8	2,500
	EM23	12/18/2019	N	440-257733-8	Alluvium	19.3 - 29.3	3,400	<10	12	1.3	2,400

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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	7,200	48,000	13	1.5	2,500
	EM01	9/22/2017	N	440-192818-8	Alluvium	32.3 - 42.0	190	300	<0.55	39	2,100
	EM02	9/27/2017	N	440-193062-10	Alluvium	32.3 - 42.0	<0.95	<50	<0.55	57	2,200
	EM03	10/3/2017	N	440-193472-5	Alluvium	32.3 - 42.0	8.3	<50	<0.55	90	1,900
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	<0.95	<100	<0.55	100	2,000
	EM05	10/23/2017	N	440-194846-5	Alluvium	32.3 - 42.0	<0.95	<100	<0.55	68	1,800
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	<0.95	16 J	<0.55	3.2	1,800
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	990	5,300	0.36 J	2.3	2,000
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	2,000	11,000	4.2	2.2	2,100
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	2,600	18,000	4.6	1.7	1,900
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	2,600	18,000	5.4	1.9	2,100
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	190	1,500	0.66 J-	2.4	1,600
	EM12	7/27/2018	N	440-216872-7	Alluvium	32.3 - 42.0	240	1,600	--	--	--
	EM13	8/14/2018	N	440-218109-3	Alluvium	32.3 - 42.0	420	2,000	<0.55	2.5	--
	EM14	9/11/2018	N	440-219886-8	Alluvium	32.3 - 42.0	860	4,800	1.3	1.9	1,900
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	1,400	8,700	2.5	2.3	1,800
	EM16	12/20/2018	N	440-228491-12	Alluvium	32.3 - 42.0	2,100	8,000	4.7	2.1	2,100
	EM17	2/27/2019	N	440-234938-4	Alluvium	32.3 - 42.0	910	240	3.8	2.1	1,900
	EM18	4/10/2019	N	440-238531-10	Alluvium	32.3 - 42.0	1,200	19 J	3.3	2.0	1,800
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	1,200	<4.0	4.3	1.9	1,700
	EM20	7/1/2019	N	440-245068-7	Alluvium	32.3 - 42.0	1,400	<10	4.8	2.4	1,900
	EM21	8/13/2019	N	440-247965-8	Alluvium	32.3 - 42.0	1,600	<10	4.8	2.3	1,900
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	790	13 J	1.6 J	2.3	1,700
	EM23	12/18/2019	N	440-257733-9	Alluvium	32.3 - 42.0	1,200	<10	3.4	1.9	2,300
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	170	<10	<0.11	3.6	570
	EM01	9/21/2017	N	440-192818-2	Alluvium	11.8 - 21.4	2,400	220	1.5	3.0	890
	EM02	9/27/2017	N	440-193167-3	Alluvium	11.8 - 21.4	2,600	320	1.7	3.3	930
	EM03	10/3/2017	N	440-193622-4	Alluvium	11.8 - 21.4	2,700	300	2.0 J-	2.8	920
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	5,500	1,100	1.9	3.0	970
	EM05	10/23/2017	N	440-194846-7	Alluvium	11.8 - 21.4	2,300	350	1.9	3.3	1,000
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	3,300	380	2.5	2.8	1,500
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	3,600	520	2.6	2.7	1,100
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	1,800	200	0.88	3.4	890
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	1,500	77	0.36	3.1	750
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	760 J	10 J	0.11	3.1	650
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	880	13 J	0.11	3.1	650
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	830	21	0.11 J	2.9	640
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	840	20	<0.11	2.9	650
	EM13	8/14/2018	N	440-218109-4	Alluvium	11.8 - 21.4	1,500	96	0.28	3.4	--
	EM13	8/14/2018	FD	440-218109-5	Alluvium	11.8 - 21.4	1,500	95	0.29	3.3	--
	EM14	9/11/2018	N	440-219886-15	Alluvium	11.8 - 21.4	1,700	150	0.42	3.4	750
	EM14	9/11/2018	FD	440-219886-16	Alluvium	11.8 - 21.4	1,600	140	0.43	3.3	810
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	2,400	210	0.84	3.5	800
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	2,100	210	0.79	3.6	780
	EM16	12/28/2018	N	440-228887-3	Alluvium	11.8 - 21.4	1,700	760	0.41	3.6	740

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW06A (continued)	EM16	12/28/2018	FD	440-228887-4	Alluvium	11.8 - 21.4	1,600	760	0.42	3.5	730
	EM17	2/27/2019	N	440-234933-6	Alluvium	11.8 - 21.4	1,600	93	0.42	3.1	760
	EM17	2/27/2019	FD	440-234933-7	Alluvium	11.8 - 21.4	1,500	95	0.43	3.1	830
	EM18	4/10/2019	N	440-238544-2	Alluvium	11.8 - 21.4	1,500	120	0.60	3.4	760
	EM18	4/10/2019	FD	440-238544-3	Alluvium	11.8 - 21.4	1,500	120	0.59	3.3	760
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	1,800	170	1.0	3.0	800
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	1,800	160	0.86	3.2	800
	EM20	7/1/2019	N	440-245046-5	Alluvium	11.8 - 21.4	2,500	350 J	1.3	3.6	880
	EM20	7/1/2019	FD	440-245046-6	Alluvium	11.8 - 21.4	2,800	310 J	1.2	3.7	890
	EM21	8/14/2019	N	440-248104-7	Alluvium	11.8 - 21.4	3,200	390	1.7	3.7	950
	EM21	8/14/2019	FD	440-248104-8	Alluvium	11.8 - 21.4	3,300	380	1.7	3.2	970
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	2,500	330	1.3	3.3	910
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	2,600	320	1.3	3.2	910
	EM23	12/19/2019	N	440-257866-9	Alluvium	11.8 - 21.4	1,900	180	0.77	3.0	810
	EM23	12/19/2019	FD	440-257866-10	Alluvium	11.8 - 21.4	1,900	190	0.77	2.8	780
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	1,000	490	0.13 J	3.5	620
	EM01	9/21/2017	N	440-192728-9	Alluvium	25.9 - 35.5	2,000	350	0.70	2.8	770
	EM02	9/27/2017	N	440-193167-4	Alluvium	25.9 - 35.5	2,000	360	0.76	3.3	780
	EM03	10/3/2017	N	440-193622-5	Alluvium	25.9 - 35.5	2,500	340	1.0	2.8	790
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	4,400	380	1.1	3.1	820
	EM05	10/23/2017	N	440-194846-6	Alluvium	25.9 - 35.5	2,000	390	1.3	3.1	890
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	2,800	400	1.8	2.9	970
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	3,200	590	2.2	2.9	990
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	2,900	480	1.9	3.1	1,100
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	2,500	370	1.1	2.8	900
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	1,800	270	0.56	2.9	780
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	880	140	0.18 J	2.9	660
	EM13	8/14/2018	N	440-218109-6	Alluvium	25.9 - 35.5	1,200	170	0.14	3.8	--
	EM14	9/11/2018	N	440-219886-14	Alluvium	25.9 - 35.5	1,700	230	0.23	3.3	720
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	1,700	260	0.36 J	4.1	720
	EM16	12/28/2018	N	440-228887-5	Alluvium	25.9 - 35.5	1,900	270	0.66	3.1	770
	EM17	2/28/2019	N	440-235000-6	Alluvium	25.9 - 35.5	1,600	230	0.53	3.2	760
	EM18	4/10/2019	N	440-238544-4	Alluvium	25.9 - 35.5	1,600	210	1.2	3.4	740
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	1,700	220	0.43	3.7	750
	EM20	7/1/2019	N	440-245046-4	Alluvium	25.9 - 35.5	2,100	340	0.73	3.6	780
	EM21	8/14/2019	N	440-248104-9	Alluvium	25.9 - 35.5	2,900	420	1.4	3.2	840
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	3,000	530	1.6	<0.65	930
	EM23	12/19/2019	N	440-257866-11	Alluvium	25.9 - 35.5	2,500	410	1.0	2.9	820
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	14,000	44,000	11	2.1	1,600
	EM01	9/20/2017	N	440-192627-7	Alluvium	15.0 - 29.5	14,000	41,000	11	2.0	1,700
	EM02	9/26/2017	N	440-192973-1	Alluvium	15.0 - 29.5	15,000	36,000	11	2.3	1,600
	EM03	10/3/2017	N	440-193472-6	Alluvium	15.0 - 29.5	16,000	37,000	10	2.1	1,600
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	12,000	39,000	12	2.0	1,600
	EM05	10/24/2017	N	440-194947-4	Alluvium	15.0 - 29.5	14,000	38,000	10	2.3	1,700
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	16,000	40,000	12	2.1	1,600

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	14,000	35,000	11	2.1	1,600
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	12,000	36,000	12	2.2	1,600
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	11,000	36,000	12	1.8	1,300
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	11,000	40,000	13	1.7	1,400
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	11,000	44,000	14	1.6	1,300
	EM13	8/16/2018	N	440-218296-2	Alluvium	15.0 - 29.5	8,600	76,000	15	2.0	1,300
	EM14	9/12/2018	N	440-220031-6	Alluvium	15.0 - 29.5	9,500	42,000	17	1.8	1,400
	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	9,300	40,000	17	2.1	1,300
	EM16	1/2/2019	N	440-229018-10	Alluvium	15.0 - 29.5	8,100	35,000	15	1.8	1,300
	EM17	2/28/2019	N	440-235000-10	Alluvium	15.0 - 29.5	7,300	34,000	15	2.5	1,200
	EM18	4/12/2019	N	440-238733-5	Alluvium	15.0 - 29.5	7,600	36,000	16	1.7	1,200
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	6,800	35,000	15	1.9	1,200
	EM20	7/3/2019	N	440-245218-6	Alluvium	15.0 - 29.5	7,800	36,000	14	2.2	1,200
	EM21	8/15/2019	N	440-248187-1	Alluvium	15.0 - 29.5	8,500	38,000	15	2.1	1,100
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	7,900	35,000	13	1.8	1,100
	EM23	12/20/2019	N	440-257938-4	Alluvium	15.0 - 29.5	8,900	35,000	13	1.8	1,000
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	13,000	40,000	11	2.0	1,800
	EM01	9/20/2017	N	440-192627-8	Alluvium	33.8 - 38.3	10,000	33,000	9.0	1.8	1,300
	EM02	9/26/2017	N	440-192973-2	Alluvium	33.8 - 38.3	11,000	29,000	10	2.2	1,500
	EM03	10/3/2017	N	440-193472-7	Alluvium	33.8 - 38.3	9,400	28,000	9.9	1.6	1,400
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	8,400	28,000	11	1.7	1,400
	EM05	10/24/2017	N	440-194947-3	Alluvium	33.8 - 38.3	9,300	29,000	11	1.2	1,400
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	9,700	29,000	12	2.0	1,300
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	9,400	30,000	12	1.9	1,300
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	9,700	37,000	14	2.2	1,300
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	11,000	47,000	16	1.7	1,300
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	9,100	34,000	13	1.9	1,200
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	8,300	43,000	16	1.7	1,300
	EM13	8/16/2018	N	440-218296-3	Alluvium	33.8 - 38.3	6,500	44,000	17	2.0	1,200
	EM14	9/12/2018	N	440-220031-7	Alluvium	33.8 - 38.3	6,200	31,000	17	1.8	1,200
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	5,700	28,000	16	1.8	1,100
	EM16	1/3/2019	N	440-229111-1	Alluvium	33.8 - 38.3	6,100	32,000	13	1.6	900
	EM17	2/28/2019	N	440-235000-11	Alluvium	33.8 - 38.3	6,700	40,000	15	2.3	1,000
	EM18	4/12/2019	N	440-238733-4	Alluvium	33.8 - 38.3	7,500	39,000	14	1.6	1,100
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	7,600	37,000	14	1.4	1,100
	EM20	7/3/2019	N	440-245218-5	Alluvium	33.8 - 38.3	6,500	30,000	13	2.1	1,000
	EM21	8/15/2019	N	440-248187-2	Alluvium	33.8 - 38.3	7,200	33,000	13	2.0	940
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	6,400	33,000	12	1.6	890
	EM23	12/20/2019	N	440-257938-5	Alluvium	33.8 - 38.3	9,800	38,000	13	1.4	950
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	14,000	20,000	11	1.5	1,700
	EM01	9/20/2017	N	440-192627-9	Alluvium	20.2 - 34.8	10,000	47,000	12	1.4	1,500
	EM01	9/20/2017	FD	440-192627-10	Alluvium	20.2 - 34.8	10,000	46,000	13	1.4	1,500
	EM02	9/26/2017	N	440-192973-4	Alluvium	20.2 - 34.8	9,800	40,000	12	1.7	1,600
	EM02	9/26/2017	FD	440-192973-5	Alluvium	20.2 - 34.8	10,000	42,000	12	1.8	1,600
	EM03	10/5/2017	N	440-193712-16	Alluvium	20.2 - 34.8	7,800	42,000	14	1.6	1,600

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW08A (continued)	EM03	10/5/2017	FD	440-193712-15	Alluvium	20.2 - 34.8	9,800	49,000	12	2.0	1,500
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	9,500	43,000	12	1.6	1,500
	EM05	10/23/2017	N	440-194846-1	Alluvium	20.2 - 34.8	8,100	41,000	14	1.8	1,500
	EM05	10/23/2017	FD	440-194846-2	Alluvium	20.2 - 34.8	8,100	40,000	12	1.8	1,500
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	9,000	43,000	14	1.6	1,500
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	8,900	45,000	14	1.6	1,400
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	9,500	54,000	14	1.9	1,600
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	9,100	59,000	15	1.5	1,500
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	9,100	55,000	17	1.5	1,700
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	7,500	63,000	15	1.3	1,400
	EM13	8/16/2018	N	440-218296-4	Alluvium	20.2 - 34.8	5,500	47,000	15	1.8	1,300
	EM14	9/12/2018	N	440-220031-10	Alluvium	20.2 - 34.8	5,600	43,000	15	1.6	1,400
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	5,500	42,000	15	1.8	1,400
	EM16	1/2/2019	N	440-229018-4	Alluvium	20.2 - 34.8	7,200	45,000	15	2.0	1,500
	EM17	2/28/2019	N	440-235000-5	Alluvium	20.2 - 34.8	7,500	53,000	16	1.7	1,300
	EM18	4/12/2019	N	440-238733-1	Alluvium	20.2 - 34.8	7,100	50,000	15	1.4	1,300
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	7,600	46,000	14	1.5	1,300
	EM20	7/1/2019	N	440-245068-11	Alluvium	20.2 - 34.8	6,700	44,000	14	1.9	1,200
	EM21	8/15/2019	N	440-248187-11	Alluvium	20.2 - 34.8	6,500	41,000	12	1.9	1,300
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	6,400	17,000	13	1.5	1,100
	EM23	12/19/2019	N	440-257866-13	Alluvium	20.2 - 34.8	9,100	49,000	13	1.3	1,300
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	7,800	55,000	13	1.3	2,800
	EM07	12/14/2017	N	440-198571-2	UMCf	49.9 - 69.5	9,300	50,000	13	1.1	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	14,000	50,000	13	1.6	1,700
	EM01	9/21/2017	N	440-192818-1	Alluvium	19.3 - 28.9	3,400	1,200	<0.55	51	1,700
	EM02	9/28/2017	N	440-193167-14	Alluvium	19.3 - 28.9	54	<100	<0.55	40	1,700
	EM03	10/4/2017	N	440-193712-5	Alluvium	19.3 - 28.9	420	200	<0.55	22	1,800
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	8.4 J+	55	<0.55	7.5	1,600
	EM05	10/25/2017	N	440-195026-2	Alluvium	19.3 - 28.9	1,300	1,700	<0.55	2.9	1,600
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	3,400	8,400	1.2	2.1	1,500
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	5,400	16,000	2.7	2.1	1,500
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	6,800	16,000	5.3	2.1	1,500
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	6,700	18,000	6.4	1.8	1,500
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	7,300	19,000	8.0	1.6	1,400
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	2,800	2,700	3.1	2.0	1,400
	EM12	7/27/2018	N	440-216872-9	Alluvium	19.3 - 28.9	1,900	1,600	--	--	--
	EM13	8/14/2018	N	440-218109-9	Alluvium	19.3 - 28.9	7,200	7,600	4.5	2.2	1,400
	EM14	9/11/2018	N	440-219886-12	Alluvium	19.3 - 28.9	4,000	13,000	6.5	1.7	1,500
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	4,600	15,000	7.7	2.0	1,400
	EM16	12/27/2018	N	440-228818-5	Alluvium	19.3 - 28.9	3,600	14,000	9.1	1.8	1,400
	EM17	2/26/2019	N	440-234812-12	Alluvium	19.3 - 28.9	2,400	5,600	3.8	2.1	1,200
	EM18	4/10/2019	N	440-238531-3	Alluvium	19.3 - 28.9	3,500	12,000	6.0	1.8	1,400
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	2,900	6,000	6.6	1.8	1,400
	EM20	7/2/2019	N	440-245153-10	Alluvium	19.3 - 28.9	3,500	13,000	6.5	2.2	1,400
	EM21	8/12/2019	N	440-247878-7	Alluvium	19.3 - 28.9	4,800	20,000	8.0	1.8	1,200

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW09A (continued)	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	2,500	8,400	3.6	2.0	1,200
	EM23	12/18/2019	N	440-257733-5	Alluvium	19.3 - 28.9	5,400	20,000	6.9 J+	1.7	1,000
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	13,000	46,000	12	1.8	1,900
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	15,000	46,000	12	1.8	1,800
	EM01	9/21/2017	N	440-192728-13	Alluvium	34.4 - 39.0	220	390	<0.55	30	1,700
	EM02	9/28/2017	N	440-193167-15	Alluvium	34.4 - 39.0	990	2,500	<0.55	25	1,700
	EM03	10/4/2017	N	440-193712-6	Alluvium	34.4 - 39.0	430	1,000	<1.1	29	1,500
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	1,400	3,000	1.1	18	1,500
	EM05	10/25/2017	N	440-195026-1	Alluvium	34.4 - 39.0	2,700	7,700	1.7	2.4	1,400
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	2,400	8,600	2.1	2.1	1,200
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	3,500	13,000	3.4	2.1	1,300
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	800	1,400	<1.1	2.5	1,200
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	7,700	28,000	5.9	1.8	1,600
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	7,400	23,000	7.9	1.8	1,600
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	6,500	15,000	7.0	1.9	1,500
	EM12	7/26/2018	N	440-216784-1	Alluvium	34.4 - 39.0	6,600	20,000	--	--	--
	EM13	8/14/2018	N	440-218109-8	Alluvium	34.4 - 39.0	6,400	24,000	9.7	2.1	1,500
	EM14	9/11/2018	N	440-219886-13	Alluvium	34.4 - 39.0	6,600	28,000	11	1.6	1,500
	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	6,500	24,000	10	2.0	1,400
	EM16	12/28/2018	N	440-228887-1	Alluvium	34.4 - 39.0	5,500	21,000	11	1.7	1,300
	EM17	2/28/2019	N	440-235000-1	Alluvium	34.4 - 39.0	5,800	25,000	16 J-	1.9	1,400
	EM18	4/10/2019	N	440-238531-5	Alluvium	34.4 - 39.0	8,300	32,000	11	1.6	1,400
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	7,300	30,000	10	1.6	1,300
	EM20	7/2/2019	N	440-245153-11	Alluvium	34.4 - 39.0	6,900	30,000	11	1.9	1,300
	EM21	8/12/2019	N	440-247878-8	Alluvium	34.4 - 39.0	7,200	28,000	11	1.9	1,100
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	7,400	26,000	9.4	1.7	1,100
	EM23	12/18/2019	N	440-257733-6	Alluvium	34.4 - 39.0	8,300	28,000	11	1.5	1,100
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	13,000	27,000	5.1	2.8	1,400
	EM01	9/21/2017	N	440-192818-5	Alluvium	20.4 - 35.0	1.9 J	<50	<0.55	23	960
	EM02	9/27/2017	N	440-193062-5	Alluvium	20.4 - 35.0	100	<100	0.66 J	12	990
	EM03	10/4/2017	N	440-193625-5	Alluvium	20.4 - 35.0	14	<100	<0.28	10	920
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	<0.95	13 J	<0.11	13	920
	EM05	10/24/2017	N	440-194947-8	Alluvium	20.4 - 35.0	14	630	<0.28	6.3	730
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	11	<50	<0.28	4.2	690
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	15	<50	<0.28	4.0	670
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	160	190	<0.28	3.2	790
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	170	180	<0.28	3.4	770
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	990	1,400	<1.1	3.2	1,100
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	1,000	1,300	1.3 J	3.3	1,200
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	2,300	4,000	0.37 J	2.8	1,300
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	2,200	4,000	0.36 J	2.8 J-	1,300
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	4,300	4,800	0.96 J	2.5	1,300
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	3,000 J-	40 J	0.89 J	2.2	1,300
	EM12	7/26/2018	N	440-216784-2	Alluvium	20.4 - 35.0	1,300	<10	--	--	--
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	1,500	<10	<0.55	3.0	1,300

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW10A (continued)	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	1,500	<10	<0.55	2.9	1,200
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	2,300	<20	<0.55	2.8	1,200
	EM16	12/20/2018	N	440-228491-6	Alluvium	20.4 - 35.0	3,000	83	1.3	3.4	1,300
	EM17	2/26/2019	N	440-234812-4	Alluvium	20.4 - 35.0	3,900	1,200	2.1 J	2.6	1,400
	EM18	4/10/2019	N	440-238544-1	Alluvium	20.4 - 35.0	2,800	1,400	1.7	2.8	1,400
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	1,500	34 J	1.2	3.3	1,200
	EM20	7/1/2019	N	440-245046-3	Alluvium	20.4 - 35.0	1,500	<10	0.84 J	3.4	1,000
	EM21	8/12/2019	N	440-247878-3	Alluvium	20.4 - 35.0	870	<10	<0.55	3.1	930
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	2,600	310	1.4	3.6 J-	1,100
	EM23	12/17/2019	N	440-257635-11	Alluvium	20.4 - 35.0	4,000 J+	3,600	2.1	4.4	1,200
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	8,300	39,000	7.6	1.5	2,400
	EM07	12/12/2017	N	440-198371-9	UMCf	43.5 - 63.1	9,200	38,000	8.4	1.3	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	13,000 J+	41,000	12	1.8	1,900
	EM01	9/20/2017	N	440-192627-11	Alluvium	14.8 - 39.6	13,000	40,000	11	1.7	1,700
	EM02	9/26/2017	N	440-192973-3	Alluvium	14.8 - 39.6	14,000	37,000	12	2.1	1,800
	EM03	10/3/2017	N	440-193472-1	Alluvium	14.8 - 39.6	13,000	36,000	12	1.8	1,800
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	16,000	38,000	11	1.6	1,800
	EM05	10/24/2017	N	440-194947-9	Alluvium	14.8 - 39.6	13,000	36,000	12	5.7	1,800
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	14,000	37,000	12	1.7	1,800
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	12,000	40,000	11	2.0	1,800
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	12,000	45,000	14	1.7	1,900
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	12,000	46,000	13	1.9	2,000
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	13,000	49,000	14	1.5	1,900
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	13,000	49,000	14	1.5	2,100
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	13,000	52,000	14	1.5	1,900
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	12,000	48,000	14	1.4	1,900
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	11,000	52,000	16	1.2	1,900
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	11,000	52,000	16	1.2	1,900
	EM13	8/16/2018	N	440-218296-12	Alluvium	14.8 - 39.6	9,400	53,000	16	1.7	1,900
	EM13	8/16/2018	FD	440-218296-13	Alluvium	14.8 - 39.6	9,600	52,000	16	1.8	1,900
	EM14	9/12/2018	N	440-220031-8	Alluvium	14.8 - 39.6	11,000	52,000	16	1.5	1,800
	EM14	9/12/2018	FD	440-220031-9	Alluvium	14.8 - 39.6	11,000	52,000	16	1.4	1,800
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	10,000	54,000	17	1.6	1,900
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	11,000	52,000	17	1.7	1,900
	EM16	1/2/2019	N	440-229018-8	Alluvium	14.8 - 39.6	8,600	44,000	16	1.5	1,700
	EM16	1/2/2019	FD	440-229018-9	Alluvium	14.8 - 39.6	8,400	45,000	16	1.5	1,700
	EM17	3/1/2019	N	440-235133-3	Alluvium	14.8 - 39.6	7,900 J+	42,000	17	1.5	1,700
	EM17	3/1/2019	FD	440-235133-4	Alluvium	14.8 - 39.6	7,700 J+	41,000	17	1.6	1,700
	EM18	4/12/2019	N	440-238733-6	Alluvium	14.8 - 39.6	7,700	41,000	15	1.9	1,600
	EM18	4/12/2019	FD	440-238733-7	Alluvium	14.8 - 39.6	7,800	42,000	17	1.4	1,600
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	8,000	44,000	14	1.7	1,500
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	7,800	44,000	16	1.8	1,600
	EM20	7/3/2019	N	440-245218-3	Alluvium	14.8 - 39.6	7,100	43,000	16	1.9	1,500
	EM20	7/3/2019	FD	440-245218-4	Alluvium	14.8 - 39.6	7,500	43,000	17	1.9	1,500
	EM21	8/15/2019	N	440-248187-3	Alluvium	14.8 - 39.6	9,200	43,000	16	1.8	1,400

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW11 (continued)	EM21	8/15/2019	FD	440-248187-4	Alluvium	14.8 - 39.6	8,900	43,000	16	1.8	1,400
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	7,600	42,000	14	1.5	1,300
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	7,400	43,000	14	1.5	1,300
	EM23	12/17/2019	N	440-257635-3	Alluvium	14.8 - 39.6	8,200	21,000	14	1.6	1,600
	EM23	12/17/2019	FD	440-257635-4	Alluvium	14.8 - 39.6	8,300	20,000	14	1.4	1,600
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	5,100	37,000	16	0.88 J	2,600
	EM01	9/19/2017	N	440-192627-2	Alluvium	15.8 - 40.6	5,100	36,000	14	1.1	2,700
	EM02	9/26/2017	N	440-192973-10	Alluvium	15.8 - 40.6	4,900	34,000	14	1.6	2,600
	EM03	10/3/2017	N	440-193622-2	Alluvium	15.8 - 40.6	5,400	34,000	14 J-	0.78 J	2,500
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	4,800	35,000	13	0.93 J	2,600
	EM05	10/24/2017	N	440-194947-10	Alluvium	15.8 - 40.6	5,000	37,000	14	1.2	2,600
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	4,700	33,000	14	0.99 J	2,700
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	4,900	30,000	13	1.5	2,800
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	4,500	26,000	12	1.6	2,300
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	6,400	39,000	14	1.3	2,300
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	4,200	28,000	13	0.89 J	2,700
	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	4,600	35,000	13	0.69 J	2,500
	EM13	8/16/2018	N	440-218296-14	Alluvium	15.8 - 40.6	4,000	34,000	14	1.2	2,800
	EM14	9/12/2018	N	440-220031-11	Alluvium	15.8 - 40.6	4,800	36,000	14	1.1	2,400
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	4,200	28,000	14	1.3	2,400
	EM16	1/2/2019	N	440-229018-7	Alluvium	15.8 - 40.6	5,800	55,000	17	1.2	2,500
	EM17	2/28/2019	N	440-235000-4	Alluvium	15.8 - 40.6	3,700	29,000	14	1.1	2,700
	EM18	4/12/2019	N	440-238733-2	Alluvium	15.8 - 40.6	4,500	31,000	14	1.2	2,500
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	4,400	32,000	12	0.87 J	2,700
	EM20	7/5/2019	N	440-245259-4	Alluvium	15.8 - 40.6	4,300	33,000	13 J+	1.2	2,600
	EM21	8/16/2019	N	440-248259-2	Alluvium	15.8 - 40.6	4,200	31,000	13	1.2	2,800
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	<4.8	88 J	<0.55	560	1,300
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	<4.8	<20	<0.55	610 J-	78
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	<4.8	<20	<0.55	610 J-	84
	EM23	12/20/2019	N	440-257938-1	Alluvium	15.8 - 40.6	<4.8	<10	<0.55	230	2.6 J
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	4,600	40,000	12	1.6	2,100
	EM01	9/20/2017	N	440-192627-12	Alluvium	17.8 - 47.6	10,000	52,000	17	1.1	2,500
	EM02	9/26/2017	N	440-192973-9	Alluvium	17.8 - 47.6	6,200	53,000	18	1.4	2,500
	EM03	10/3/2017	N	440-193622-1	Alluvium	17.8 - 47.6	6,900	100	17 J-	1.1	2,600
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	6,300	51,000	16	0.98 J	2,900
	EM05	10/24/2017	N	440-194947-11	Alluvium	17.8 - 47.6	6,100	52,000	19	1.3	2,800
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	5,900	49,000	16	0.93 J	2,800
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	6,200	49,000	16	1.2	2,800
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	5,800	50,000	15	1.5	2,600
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	6,400	52,000	16 J+	1.2	2,700
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	6,000	49,000	18	1.1	2,700
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	6,300	49,000	16	0.80 J	2,700
	EM13	8/16/2018	N	440-218296-15	Alluvium	17.8 - 47.6	5,200	54,000	17	1.3	2,600
	EM14	9/13/2018	N	440-220125-6	Alluvium	17.8 - 47.6	5,000	48,000	16	1.2	2,700
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	5,800	55,000	17	1.2	2,600

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW13 (continued)	EM16	1/2/2019	N	440-229018-6	Alluvium	17.8 - 47.6	3,900	28,000	13	1.1	2,400
	EM17	2/28/2019	N	440-235000-3	Alluvium	17.8 - 47.6	5,500	53,000	18	1.1	2,900
	EM18	4/12/2019	N	440-238733-3	Alluvium	17.8 - 47.6	5,300	45,000	18	1.2	2,500
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	5,300	45,000	17	0.94 J	2,600
	EM20	7/5/2019	N	440-245259-5	Alluvium	17.8 - 47.6	5,600	48,000	17	1.3	2,700
	EM21	8/16/2019	N	440-248259-3	Alluvium	17.8 - 47.6	5,200	51,000	18	1.3	2,600
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	6,200	50,000	16	1.2	2,700
	EM23	12/20/2019	N	440-257938-3	Alluvium	17.8 - 47.6	5,300	43,000	14	0.84 J	2,400
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	23,000	54,000	12	2.6	2,000
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	22,000	52,000	12	2.3	2,000
	EM01	9/20/2017	N	440-192728-1	Alluvium	16.8 - 36.6	<9.5	<100	<0.55	100	1,900
	EM02	9/26/2017	N	440-193062-15	Alluvium	16.8 - 36.6	<4.8	2,400	<1.1	81	1,800
	EM03	10/3/2017	N	440-193622-3	Alluvium	16.8 - 36.6	4.8	<100	<0.55 UJ	36	1,500
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	<9.5	<50	<0.55	4.1	1,200
	EM05	10/27/2017	N	440-195218-4	Alluvium	16.8 - 36.6	26	<50	<0.28	3.5	1,100
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	20 J+	<50	<0.55	3.1	1,100
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	1,600	2,400	<0.55	2.6	1,200
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	2,200	<100	<1.1	670	780
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	5,500	<50	<0.28	220	410
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	4,300	26 J	<0.55	91	160
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	6.5	<25	<0.55	180	110
	EM12	7/26/2018	N	440-216784-3	Alluvium	16.8 - 36.6	<95	<10	--	--	--
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	8.2 J	<10	<0.55	130	320
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	6.4 J	<10	<0.55	91	440
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	<0.95	<20	<1.1	80	610
	EM16	12/20/2018	N	440-228491-2	Alluvium	16.8 - 36.6	<0.95	<10	<0.28	16	720 J+
	EM17	2/26/2019	N	440-234812-1	Alluvium	16.8 - 36.6	<0.95	<10	<0.55	6.2	790
	EM18	4/9/2019	N	440-238618-4	Alluvium	16.8 - 36.6	38	150	<0.55 UJ	5.3	600
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	<0.95	<20	<0.55	6.3	830
	EM20	7/2/2019	N	440-245153-7	Alluvium	16.8 - 36.6	2.8 J	<4.0	<0.11	6.5	860
	EM21	8/13/2019	N	440-247965-6	Alluvium	16.8 - 36.6	<0.50	<10	<0.55	6.7	870
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	<0.95	28 J	<0.55	5.6	990
	EM23	12/17/2019	N	440-257635-7	Alluvium	16.8 - 36.6	<4.8	<10	<0.55	4.0	1,200

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	15,000	43,000	10	1.6	1,700
	EM01	9/20/2017	N	440-192728-2	Alluvium	14.8 - 34.6	11,000	40,000	10	1.6	1,600
	EM02	9/26/2017	N	440-193062-13	Alluvium	14.8 - 34.6	12,000	41,000	11	1.5	1,600
	EM03	10/4/2017	N	440-193625-4	Alluvium	14.8 - 34.6	11,000	39,000	12	1.4	1,500
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	18,000	40,000	11	1.6	1,500
	EM05	10/27/2017	N	440-195218-3	Alluvium	14.8 - 34.6	13,000	38,000	13	1.8	1,600
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	9,900	38,000	12	1.8	1,600
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	13,000	38,000	12	1.6	1,700
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	12,000	47,000	11	1.6	1,600
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	12,000	52,000	12	1.7	1,600
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	13,000	59,000	14	1.4	1,500
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	9,300	45,000	12 J-	3.5	1,500
	EM12	7/26/2018	N	440-216784-4	Alluvium	14.8 - 34.6	6,800	39,000	--	--	--
	EM13	8/15/2018	N	440-218208-12	Alluvium	14.8 - 34.6	9,000	52,000	16	1.9	1,400
	EM14	9/11/2018	N	440-219886-2	Alluvium	14.8 - 34.6	7,800	48,000	16	1.4	1,500
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	6,400	28,000	7.5	3.3	1,500
	EM16	12/20/2018	N	440-228491-1	Alluvium	14.8 - 34.6	5,300	33,000	9.4	1.8	1,400
	EM17	2/25/2019	N	440-234705-1	Alluvium	14.8 - 34.6	6,200	31,000	9.2	3.0	1,200
	EM18	4/9/2019	N	440-238618-11	Alluvium	14.8 - 34.6	9,700	53,000	14 J-	1.4	1,400
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	9,200	48,000	15	1.6	1,300
	EM20	7/2/2019	N	440-245153-9	Alluvium	14.8 - 34.6	8,800	49,000	13	2.0	1,300
	EM21	8/13/2019	N	440-247965-5	Alluvium	14.8 - 34.6	6,400	50,000	14	1.7	1,200
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	9,900	46,000	13	1.4	1,200
	EM23	12/17/2019	N	440-257635-6	Alluvium	14.8 - 34.6	9,700	46,000	13	1.3	1,200
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	8,400	38,000	12	1.6	2,100
	EM01	9/22/2017	N	440-192818-7	Alluvium	21.8 - 41.6	1,700	8,700	3.3	120	1,900
	EM02	9/26/2017	N	440-192973-6	Alluvium	21.8 - 41.6	1,300	8,800	3.8	68	2,000
	EM03	10/3/2017	N	440-193472-3	Alluvium	21.8 - 41.6	1,600	6,300	2.7	92	1,800
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	1,100	5,800	2.1	180	1,500
	EM05	10/24/2017	N	440-194947-2	Alluvium	21.8 - 41.6	830	4,700	1.5	180	520
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	<0.95	4,000	1.2	110	480
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	490	3,100	1.1	5.9	550
	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	620	2,800	<1.1	7.7	1,000
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	9,000	46,000	12	1.5	1,700
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	1,500 J	11,000	3.5	2.3	1,600
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	<4.8	<5.0	<0.55	7.9	690
	EM12	7/26/2018	N	440-216784-5	Alluvium	21.8 - 41.6	<0.95	<4.0	--	--	--
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	12	67	<0.28	3.2	1,100
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	200	1,400	0.42 J	2.9	1,300
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	340	2,200	0.76 J	2.8	1,800
	EM16	12/19/2018	N	440-228394-1	Alluvium	21.8 - 41.6	270	2,300	1.0 J	2.5	1,600
	EM17	2/26/2019	N	440-234812-7	Alluvium	21.8 - 41.6	<0.95	<10	<0.55	5.6	970
	EM18	4/9/2019	N	440-238618-12	Alluvium	21.8 - 41.6	<0.95	<10	<0.55 UJ	2.9	970
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	<0.95 UJ	<10	<0.55	3.5	1,100
	EM20	7/1/2019	N	440-245068-1	Alluvium	21.8 - 41.6	<0.95	<10	<0.55	4.0	1,100

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM21	8/13/2019	N	440-247965-4	Alluvium	21.8 - 41.6	19	100	<0.55	3.6	1,300
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	<0.95	<40	<0.55	3.2	820
	EM23	12/17/2019	N	440-257635-1	Alluvium	21.8 - 41.6	<4.8	<10	<0.55	2.3	990
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	3,200	--	16	1.1	2,200
	EM01	9/19/2017	N	440-192627-3	Alluvium	22.8 - 52.6	2,600	18,000	16	1.2	2,200
	EM01	9/19/2017	FD	440-192627-4	Alluvium	22.8 - 52.6	2,600	18,000	16	1.3	2,300
	EM02	9/26/2017	N	440-192973-7	Alluvium	22.8 - 52.6	2,800	17,000	17	1.5	2,300
	EM02	9/26/2017	FD	440-192973-8	Alluvium	22.8 - 52.6	2,800	17,000	17	1.5	2,300
	EM03	10/3/2017	N	440-193472-8	Alluvium	22.8 - 52.6	3,300	19,000	15	1.1	2,300
	EM03	10/3/2017	FD	440-193472-9	Alluvium	22.8 - 52.6	3,300	19,000	16	1.0	2,300
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	2,800	16,000	16	1.3	2,500
	EM05	10/24/2017	N	440-194947-1	Alluvium	22.8 - 52.6	2,700	15,000	17	1.2	2,200
	EM05	10/24/2017	FD	440-194947-5	Alluvium	22.8 - 52.6	2,700	15,000	16	2.2	2,200
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	2,300	16,000	17	1.3	2,200
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	2,200	15,000	17	1.2	2,100
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	2,200	14,000	16	1.2	2,100
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	2,300	13,000	16	1.2	2,100
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	2,000	15,000	16	2.1	2,100
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	2,000	14,000	15	1.2	1,900
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	1,900 J-	11,000	15	1.1	2,000
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	1,300	11,000	15	1.1	1,900
	EM13	8/16/2018	N	440-218296-19	Alluvium	22.8 - 52.6	1,600	12,000	16	1.4	2,000
	EM14	9/12/2018	N	440-220031-5	Alluvium	22.8 - 52.6	1,900	13,000	15	1.0	1,900
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	2,100	15,000	16	1.6	2,100
	EM16	1/2/2019	N	440-229018-5	Alluvium	22.8 - 52.6	1,700	11,000	15	1.2	1,900
	EM17	2/28/2019	N	440-235000-2	Alluvium	22.8 - 52.6	1,700	13,000	15	1.3	2,000
	EM18	4/11/2019	N	440-238688-5	Alluvium	22.8 - 52.6	1,700	12,000	14	1.3	2,000
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	1,900	13,000	14	1.1	1,900
	EM20	7/5/2019	N	440-245259-3	Alluvium	22.8 - 52.6	1,800	13,000	16	1.3	2,000
	EM21	8/16/2019	N	440-248259-1	Alluvium	22.8 - 52.6	2,200	13,000	16	1.4	2,100
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	2,100	15,000	12	1.3	1,600
	EM23	12/20/2019	N	440-257938-2	Alluvium	22.8 - 52.6	2,100	16,000	14	1.2	2,000
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	13,000	52,000	12	1.5	1,600
	EM01	9/21/2017	N	440-192728-8	Alluvium	16.8 - 36.6	9,700	34,000	8.9	2.0	1,700
	EM02	9/27/2017	N	440-193167-5	Alluvium	16.8 - 36.6	11,000	36,000	12	2.2	1,700
	EM03	10/3/2017	N	440-193472-2	Alluvium	16.8 - 36.6	8,100	30,000	8.6	1.5	1,700
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	9,700	40,000	12	1.7	1,800
	EM05	10/23/2017	N	440-194846-3	Alluvium	16.8 - 36.6	8,200	38,000	12	1.7	1,700
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	11,000	37,000	11	1.8	1,800
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	9,100	39,000	12	1.6	1,600
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	8,900	45,000	12	2.3	1,600
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	2,000	11,000	3.9	2.5	1,400
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	2,100	11,000	3.5	2.4	1,500
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	9,200	50,000	13	1.5	1,600
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	6,900	41,000	11	1.6	1,700

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW18 (continued)	EM12	7/26/2018	N	440-216784-6	Alluvium	16.8 - 36.6	6,100	43,000	--	--	--
	EM13	8/15/2018	N	440-218208-14	Alluvium	16.8 - 36.6	5,900	41,000	13	2.0	1,700
	EM14	9/11/2018	N	440-219886-1	Alluvium	16.8 - 36.6	5,600	41,000	13	1.6	1,700
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	5,300	41,000	13	2.1	1,400
	EM16	12/20/2018	N	440-228491-8	Alluvium	16.8 - 36.6	5,000	38,000	15	1.8	1,500
	EM17	2/26/2019	N	440-234812-9	Alluvium	16.8 - 36.6	4,600	28,000	11	1.9	1,600
	EM18	4/9/2019	N	440-238618-13	Alluvium	16.8 - 36.6	4,800	26,000	11 J-	1.6	1,700
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	4,600	25,000	12	1.5	1,600
	EM20	7/1/2019	N	440-245068-3	Alluvium	16.8 - 36.6	4,300	29,000	12	1.9	1,600
	EM21	8/13/2019	N	440-247965-3	Alluvium	16.8 - 36.6	4,600	25,000	12	1.8	1,400
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	2,600	6,600	2.8	2.0	1,400
	EM23	12/17/2019	N	440-257635-13	Alluvium	16.8 - 36.6	4,200	19,000	8.8	1.9	1,400
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	840	130	0.33	2.6	660
	EM01	9/21/2017	N	440-192728-10	Alluvium	11.3 - 31.1	1,400	220	0.51	2.3	670
	EM02	9/28/2017	N	440-193167-6	Alluvium	11.3 - 31.1	1,400	260	0.74	2.8	680
	EM03	10/5/2017	N	440-193712-13	Alluvium	11.3 - 31.1	1,400	220	0.63	2.6	690
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	1,400	220 J+	0.70	2.2	760
	EM05	10/27/2017	N	440-195218-5	Alluvium	11.3 - 31.1	1,900	250	0.77	2.6	720
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	1,500	270	0.97	2.3	740
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	2,000	410	1.2	2.4	780
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	1,900	610	0.73	2.6	890
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	1,800	650	0.71	2.2	860
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	1,800	820	0.70	2.2	960
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	1,700	760	0.67	2.2	910
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	2,000	1,100	0.52	1.9	840
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	2,000	1,000	0.52	1.9	850
	EM12	7/26/2018	N	440-216784-7	Alluvium	11.3 - 31.1	1,800	890	--	--	--
	EM12	7/26/2018	FD	440-216784-8	Alluvium	11.3 - 31.1	1,700	890	--	--	--
	EM13	8/15/2018	N	440-218208-15	Alluvium	11.3 - 31.1	1,700	900	0.44	2.4	820
	EM14	9/11/2018	N	440-219886-6	Alluvium	11.3 - 31.1	1,500	850	0.37	2.0	790
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	2,000	870	0.41 J	2.4	800
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	1,700	870	0.40 J	2.4	800
	EM16	12/27/2018	N	440-228818-3	Alluvium	11.3 - 31.1	1,400	760	0.36	2.4	860
	EM16	12/27/2018	FD	440-228818-4	Alluvium	11.3 - 31.1	1,300	760	0.36	2.1	860
	EM17	2/27/2019	N	440-234933-1	Alluvium	11.3 - 31.1	1,300	590	0.35	2.1	900
	EM17	2/27/2019	FD	440-234933-2	Alluvium	11.3 - 31.1	1,300	560	0.38 J	2.1	940
	EM18	4/10/2019	N	440-238544-5	Alluvium	11.3 - 31.1	1,500	530	0.33 J	2.2	840
	EM18	4/10/2019	FD	440-238544-8	Alluvium	11.3 - 31.1	1,300	510	0.37 J	2.1	880
	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	1,200	420	0.18 J	3.3	790
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	1,200	400	0.24	3.2	830
	EM20	7/2/2019	N	440-245153-1	Alluvium	11.3 - 31.1	1,100	340	0.11	2.9	740
	EM20	7/2/2019	FD	440-245153-2	Alluvium	11.3 - 31.1	1,100	340	0.11	3.1	740
	EM21	8/15/2019	N	440-248187-5	Alluvium	11.3 - 31.1	1,200	260	<0.28	2.6	680
	EM21	8/15/2019	FD	440-248187-6	Alluvium	11.3 - 31.1	1,200	260	<0.28	2.6	690
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	1,300	270	0.36 J	2.3	780

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	1,300	270	0.37 J	2.3	800
	EM23	12/19/2019	N	440-257866-1	Alluvium	11.3 - 31.1	1,200	420	0.31 J	2.0	810
	EM23	12/19/2019	FD	440-257866-2	Alluvium	11.3 - 31.1	1,300	370	0.32 J	2.1	820
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	20,000	51,000	13	1.7	2,200
	EM01	9/21/2017	N	440-192818-3	Alluvium	12.8 - 37.6	17,000	30,000	7.3	2.5	2,000
	EM02	9/26/2017	N	440-193062-1	Alluvium	12.8 - 37.6	16,000	33,000	7.6	3.0	2,100
	EM03	10/4/2017	N	440-193712-4	Alluvium	12.8 - 37.6	19,000	38,000	9.6	2.6	2,200
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	14,000	42,000	8.5	2.2	2,000
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	14,000	40,000	9.1	2.2	2,100
	EM05	10/25/2017	N	440-195026-5	Alluvium	12.8 - 37.6	17,000	40,000	11	2.6	2,100
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	7,900	16,000	4.0	3.0	1,700
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	16,000	43,000	8.5	2.2	2,200
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	6,600	16,000	3.2	2.5	1,600
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	11,000	24,000	5.2	2.2	2,100
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	6,700	14,000	3.3	2.3	1,600
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	6,700	16,000	3.2	2.8	1,600
	EM12	7/26/2018	N	440-216784-9	Alluvium	12.8 - 37.6	7,500	19,000	--	--	--
	EM13	8/15/2018	N	440-218208-16	Alluvium	12.8 - 37.6	4,300	5,600	2.8	2.8	1,500
	EM13	8/15/2018	FD	440-218208-17	Alluvium	12.8 - 37.6	4,300	5,700	2.7	2.8	1,400
	EM14	9/11/2018	N	440-219886-3	Alluvium	12.8 - 37.6	3,400	8,500	2.3 J	2.6	1,400
	EM14	9/11/2018	FD	440-219886-4	Alluvium	12.8 - 37.6	3,900	9,500	6.9 J	2.6	1,500
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	4,000	5,900	2.2	3.0	1,400
	EM16	12/20/2018	N	440-228491-7	Alluvium	12.8 - 37.6	2,800	830	2.1	2.8	1,500 J+
	EM17	2/26/2019	N	440-234812-5	Alluvium	12.8 - 37.6	1,500	170	1.5 J	3.2	1,100
	EM18	4/9/2019	N	440-238618-5	Alluvium	12.8 - 37.6	1,400	300	1.7 J	2.9	1,600
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	1,000	69 J	1.3 J	2.8	1,600
	EM20	7/2/2019	N	440-245153-3	Alluvium	12.8 - 37.6	870	37 J	0.70 J	4.0	1,400
	EM21	8/13/2019	N	440-247965-1	Alluvium	12.8 - 37.6	390	23 J	0.41 J	3.4	1,400
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	430	26 J	<1.1	3.4	1,400
	EM23	12/17/2019	N	440-257635-12	Alluvium	12.8 - 37.6	290	30 J	<1.1	2.8	1,400
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	5,800	49,000	15	0.94 J	2,600
	EM01	9/21/2017	N	440-192728-11	Alluvium	14.8 - 39.6	5,200	15,000	3.9	7.5	2,600
	EM02	9/27/2017	N	440-193062-12	Alluvium	14.8 - 39.6	950	4,700	1.8 J	19	2,800
	EM03	10/5/2017	N	440-193712-17	Alluvium	14.8 - 39.6	1,100	7,700	3.2	24	2,500
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	820	4,200	1.8	25	2,500
	EM05	10/27/2017	N	440-195218-6	Alluvium	14.8 - 39.6	890	5,000	2.0	2.8	2,600
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	2,300	13,000	3.7	2.1	2,500
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	3,500	26,000	4.7	1.6	2,500 J-
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	4,800	34,000	11	1.6	2,600
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	4,900	33,000	11	1.6	2,600
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	4,600	32,000	10	1.1	2,800
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	4,400	27,000	10	1.3	2,700
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	1,300	7,900	2.8	3.7	2,600
	EM12	7/27/2018	N	440-216872-3	Alluvium	14.8 - 39.6	1,000	9,000	--	--	--
	EM13	8/15/2018	N	440-218208-18	Alluvium	14.8 - 39.6	1,300	2,900	1.9	2.7	2,000

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW21 (continued)	EM14	9/12/2018	N	440-220031-4	Alluvium	14.8 - 39.6	2,000	2,600	1.3	2.2	1,900
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	2,700	2,600	2.9	1.9	2,200
	EM16	12/20/2018	N	440-228491-13	Alluvium	14.8 - 39.6	3,000	5,200	7.5	1.6	2,500
	EM17	2/26/2019	N	440-234812-10	Alluvium	14.8 - 39.6	2,800	2,500	9.3	1.4	2,700
	EM18	4/10/2019	N	440-238531-8	Alluvium	14.8 - 39.6	2,400	200	7.1	1.3	2,500
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	3,100	530	9.6	1.3	2,600
	EM20	7/1/2019	N	440-245068-8	Alluvium	14.8 - 39.6	3,400	4,500	11	1.8	2,400
	EM21	8/13/2019	N	440-247965-2	Alluvium	14.8 - 39.6	4,000	5,400	11	1.5	2,500
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	690	1,200	1.9	5.2	2,500
	EM23	12/18/2019	N	440-257733-7	Alluvium	14.8 - 39.6	810	230	2.0	1.5	2,100
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	5,000	7,900	2.2	2.2	980
	EM01	9/20/2017	N	440-192728-4	Alluvium	11.8 - 31.6	4,000	6,700	1.7	2.2	930
	EM02	9/27/2017	N	440-193167-2	Alluvium	11.8 - 31.6	3,800	6,300	1.7	2.6	980
	EM03	10/5/2017	N	440-193712-14	Alluvium	11.8 - 31.6	3,500	6,000	1.7	2.7	920
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	2,600	5,700	1.4	2.3	1,000
	EM05	10/26/2017	N	440-195136-10	Alluvium	11.8 - 31.6	3,700	5,500	1.6	2.6	930
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	3,000	4,400	1.3	2.5	960
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	2,500	4,900	1.4	2.6	1,000
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	2,000	2,400	0.89 J	2.4	880
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	2,000	2,600	0.83	2.4	900
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	1,900	1,800	<0.055	2.2	19
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	2,900	840	0.81	2.3	970
	EM12	7/27/2018	N	440-216872-4	Alluvium	11.8 - 31.6	2,200	3,600	--	--	--
	EM13	8/16/2018	N	440-218296-16	Alluvium	11.8 - 31.6	2,400	1,300	0.95 J+	2.4	980
	EM14	9/11/2018	N	440-219886-5	Alluvium	11.8 - 31.6	2,800	1,600 J+	1.2	2.2	1,000
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	3,100	1,600	1.2	2.7	930
	EM16	12/27/2018	N	440-228818-2	Alluvium	11.8 - 31.6	2,400	1,700	1.3	2.4	910
	EM17	2/27/2019	N	440-234933-3	Alluvium	11.8 - 31.6	2,500	2,100	1.5	2.4	950
	EM18	4/11/2019	N	440-238688-2	Alluvium	11.8 - 31.6	2,500	2,700	1.7	2.4	1,000
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	2,500	2,500	1.6	3.4	930
	EM20	7/2/2019	N	440-245153-5	Alluvium	11.8 - 31.6	2,300	2,200	1.5	2.7	920
	EM21	8/12/2019	N	440-247878-5	Alluvium	11.8 - 31.6	2,300	2,300	1.3	2.6	660
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	2,000	2,300	1.2	2.4	820
	EM23	12/19/2019	N	440-257866-3	Alluvium	11.8 - 31.6	1,600	2,200	0.92	2.2	840
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	930	20	0.14 J	2.9	3,300
	EM01	9/22/2017	N	440-192818-15	Alluvium	13.8 - 33.6	1,700	160 J	0.64	3.1	760
	EM02	9/28/2017	N	440-193167-13	Alluvium	13.8 - 33.6	1,700	120	0.67	3.3	740
	EM03	10/5/2017	N	440-193712-11	Alluvium	13.8 - 33.6	1,900	<2,000	0.79	3.2	760
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	4,000	220	0.88	2.9	780
	EM05	10/26/2017	N	440-195136-11	Alluvium	13.8 - 33.6	2,400	270	1.2	2.8	820
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	2,400	270	1.4	3.0	900
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	2,800	370	1.5	2.7	970
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	2,800	300 J-	1.6	3.1	1,000
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	2,100	180	0.83	2.8	910
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	1,400	120	0.43	2.8	700

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Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	1,000	18 J	0.11	2.7	710
	EM13	8/16/2018	N	440-218296-17	Alluvium	13.8 - 33.6	870	28	0.055 J	3.2	710
	EM14	9/12/2018	N	440-220031-1	Alluvium	13.8 - 33.6	1,300	52	0.11	2.7	720
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	1,500	95 J	<0.28	3.2	740
	EM16	12/28/2018	N	440-228887-6	Alluvium	13.8 - 33.6	1,700	110	0.46	2.9	760
	EM17	2/27/2019	N	440-234933-4	Alluvium	13.8 - 33.6	1,400	66	0.30	2.9	780
	EM18	4/11/2019	N	440-238688-3	Alluvium	13.8 - 33.6	1,400	76	0.26	3.3	760
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	1,400	100	0.35	2.9	790
	EM20	7/3/2019	N	440-245218-2	Alluvium	13.8 - 33.6	1,800	160	0.73	3.4	740
	EM21	8/14/2019	N	440-248104-6	Alluvium	13.8 - 33.6	2,500	250	1.2	3.1	880
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	3,000	310	1.4	2.7	920
	EM23	12/19/2019	N	440-257866-7	Alluvium	13.8 - 33.6	2,300	290	0.94	2.6	930
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	13,000	47,000	13	1.3	1,900
	EM01	9/22/2017	N	440-192818-9	Alluvium	12.8 - 37.6	9,400	32,000	9.0	1.7	1,900
	EM02	9/28/2017	N	440-193167-12	Alluvium	12.8 - 37.6	5,200	12,000	4.5	4.3	1,900
	EM03	10/5/2017	N	440-193712-12	Alluvium	12.8 - 37.6	7,800	34,000	9.4	2.0	3,900
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	4,400	17,000	4.7	1.9	1,900
	EM05	10/26/2017	N	440-195136-3	Alluvium	12.8 - 37.6	7,000	24,000	7.9	2.0 J-	1,900
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	4,100	14,000	3.9	1.9	1,900
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	6,600	26,000	6.1	1.5	1,900
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	6,100	22,000	6.9	2.0	1,800
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	4,800	15,000	5.4	1.6	1,600 J
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	4,800	12,000	6.6	1.5	2,000
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	5,000	6,100	7.3	1.3	1,800
	EM12	7/27/2018	N	440-216872-5	Alluvium	12.8 - 37.6	4,000	7,100	--	--	--
	EM13	8/15/2018	N	440-218208-11	Alluvium	12.8 - 37.6	4,000	4,800	7.6	1.9	1,800
	EM14	9/12/2018	N	440-220031-3	Alluvium	12.8 - 37.6	3,700	3,500	6.1	1.6	1,800
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	3,500	2,700	6.5	2.0	1,700
	EM16	1/2/2019	N	440-229018-2	Alluvium	12.8 - 37.6	3,500	2,000	7.7	1.7	1,800
	EM17	2/27/2019	N	440-234938-2	Alluvium	12.8 - 37.6	3,400	2,100	7.8	1.5	1,700
	EM18	4/10/2019	N	440-238531-6	Alluvium	12.8 - 37.6	2,700	1,100	6.1	1.5	1,700
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	2,700	1,900	5.8	1.6	1,700
	EM20	7/1/2019	N	440-245068-9	Alluvium	12.8 - 37.6	2,800	1,900	5.1	2.0	1,900
	EM21	8/14/2019	N	440-248104-1	Alluvium	12.8 - 37.6	3,400	5,500	6.9	1.9	1,700
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	3,500	6,900	6.9	1.6	1,700
	EM23	12/19/2019	N	440-257866-6	Alluvium	12.8 - 37.6	2,400	2,400	5.4	1.4	1,600
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	17,000	43,000	10	1.8	1,700
	EM01	9/22/2017	N	440-192818-14	Alluvium	12.8 - 42.6	280	<200	<0.55	13	1,800
	EM02	9/28/2017	N	440-193167-11	Alluvium	12.8 - 42.6	370	130	<0.55	4.8	1,900
	EM03	10/5/2017	N	440-193712-9	Alluvium	12.8 - 42.6	230	<500	<0.55	3.3	1,600
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	140	160	<0.55	2.7	1,600
	EM05	10/26/2017	N	440-195136-2	Alluvium	12.8 - 42.6	420	170	<0.28	2.6	830
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	440	630	<0.55	2.5	1,400
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	2,300	1,700	<0.55	2.3	1,300
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	2,800	4,700	<1.1	2.4	1,500

Table G.1
Groundwater Analytical Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	EPA 314.0	EPA 300.1	Anions by EPA 300.0	SM5310B/ SW9060	Anions by EPA 300.0
							Perchlorate	Chlorate	Nitrate (as N)	Total Organic Carbon	Sulfate
							µg/L	µg/L	mg/L	mg/L	mg/L
SWFTS-MW25 (continued)	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	4,600	11,000	2.8	2.0	1,400
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	5,700	3,600	4.2	1.9	1,600
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	4,300	2,100	3.6	1.7	1,500
	EM12	7/27/2018	N	440-216872-6	Alluvium	12.8 - 42.6	3,500	2,300	--	--	--
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	4,500	4,300	5.2	2.3	1,500
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	5,200	6,800	6.9	1.9	1,400
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	5,000	7,600	7.9	2.0	1,400
	EM16	1/2/2019	N	440-229018-1	Alluvium	12.8 - 42.6	6,300	11,000	8.7	2.0	1,500
	EM17	2/27/2019	N	440-234933-5	Alluvium	12.8 - 42.6	4,000	6,400	4.9	2.0	1,400
	EM18	4/11/2019	N	440-238688-4	Alluvium	12.8 - 42.6	5,300	13,000	7.4	2.1	1,400
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	5,700	15,000	9.2	1.9	1,400
	EM20	7/3/2019	N	440-245218-1	Alluvium	12.8 - 42.6	5,600	15,000	8.1	2.2	1,200
	EM21	8/14/2019	N	440-248104-4	Alluvium	12.8 - 42.6	6,600	19,000	8.2	2.5	1,200
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	6,100	14,000	7.7	1.8	1,200
	EM23	12/19/2019	N	440-257866-8	Alluvium	12.8 - 42.6	6,000	15,000	7.4	1.7	1,200

Notes:
FD - Field duplicate
J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J- - The result is an estimated quantity, but the result may be biased low.
J+ - The result is an estimated quantity, but the result may be biased high.
mg/L - milligrams per liter
µg/L - micrograms per liter
N - Normal field sample
UMCf- Upper Muddy Creek Formation
< - The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
---- Not tested.

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	520	--	--	<0.050	0.018	<0.0010	1.4	<0.0025	160	<0.0025	<0.0050
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	570	--	--	<0.050	0.016	<0.0010	1.5	<0.0025	160	<0.0025	<0.0050
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	--	--	--	<0.050	0.017	<0.0010	1.5	<0.0025	190	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	--	--	--	<0.25	<0.025	<0.0050	1.5	<0.013	160	<0.013	<0.025
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	--	--	--	<0.050	0.015	<0.0010	1.4	<0.0025	150	<0.0025	<0.0050
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	--	--	<0.00025	0.37	0.020	<0.0010	1.5	<0.0025	210	0.0095 J+	<0.0050
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	--	--	--	<0.050	0.020	<0.0010	2.0	<0.0025	220	0.018	<0.0050
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	520	--	--	<0.050	0.025	<0.0010	2.0	<0.0025	230	0.026	<0.0050
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	440	--	--	<0.050	0.015	<0.0010	1.7	<0.0025	160	0.012	<0.0050
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	610	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	--	--	--	<0.050	0.018	<0.0010	1.8	<0.0025	190	0.025	<0.0050
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	--	--	--	0.081 J	0.016	<0.0010	1.5	<0.0025	150	0.011	<0.0050
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	--	--	--	<0.050	0.017	<0.0010	1.9	<0.0025	190	0.030	<0.0050
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	--	--	<0.00025	0.072 J	0.017	<0.0010	1.3	<0.0025	140	0.016 J+	<0.0050
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	810	--	--	<0.050	0.016	<0.0010	1.5	<0.0025	180	<0.0025	<0.0050
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	800	--	--	<0.050	0.017	<0.0010	1.5	<0.0025	180	<0.0025	<0.0050
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	800	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	800	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	--	--	--	<0.050	0.020	<0.0010	1.1	<0.0025	150	<0.0025	<0.0050
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	--	--	--	<0.050	0.019	<0.0010	1.1	<0.0025	150	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	--	--	--	0.088 J	0.019	<0.0010	1.5	<0.0025	180	<0.0025	<0.0050
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	--	--	--	0.059 J	0.020	<0.0010	1.4	<0.0025	180	<0.0025	<0.0050
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	--	--	--	<0.050	0.015	<0.0010	1.2	<0.0025	130	<0.0025	<0.0050
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	--	--	--	<0.050	0.014	<0.0010	1.1	<0.0025	120	<0.0025	<0.0050
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	--	--	<0.00025	<0.050	0.015	<0.0010	0.96	<0.0025	130	0.0056 J+	<0.0050
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	--	--	<0.00025	<0.050	0.016	<0.0010	1.0	<0.0025	120	0.0042 J	<0.0050
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	590	--	--	<0.050	0.012	<0.0010	1.3	<0.0025	150	<0.0025	0.0063 J
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	630	--	--	<0.050	0.012	<0.0010	1.3	<0.0025	160	<0.0025	0.0063 J
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	600	--	--	<0.050	0.012	<0.0010	1.3	<0.0025	140	<0.0025	0.0062 J
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	580	--	--	<0.050	0.011	<0.0010	1.2	<0.0025	130	<0.0025	0.0060 J
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	520	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	--	<0.14	--	<0.050	0.014	<0.0010	1.4	<0.0025	130	<0.0025	0.0050 J
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	--	--	--	<0.050	0.015	<0.0010	1.5	<0.0025	160	<0.0025	<0.0050
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	--	--	--	<0.25	<0.025	<0.0050	1.7	<0.013	190	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	--	--	--	<0.050	0.026	<0.0010	1.9	<0.0025	190	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	--	--	0.33	0.051 J	0.044	<0.0010	2.2	<0.0025	180	<0.0025	<0.0050
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	970	--	--	<0.050	0.018	<0.0010	1.8	<0.0025	300	<0.0025	<0.0050
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	800	--	--	<0.050	0.017	<0.0010	1.4	<0.0025	190	<0.0025	<0.0050
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	710	<0.35	<0.00025	<0.050	0.016	<0.0010	1.2	<0.0025	200	<0.0025	<0.0050
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	670	<0.35	<0.00025	<0.050	0.016	<0.0010	1.3	<0.0025	200	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	500	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	600	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	--	<0.14	<0.00025	<0.050	0.029	<0.0010	1.5	<0.0025	240	<0.0025	<0.0050
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	--	<0.35	<0.00025	<0.050	0.027	<0.0010	1.4	<0.0025	220	<0.0025	<0.0050
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	--	--	--	<0.050	0.018	<0.0010	1.6	<0.0025	230	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	--	--	--	0.068 J	0.017	<0.0010	1.6	<0.0025	210	<0.0025	<0.0050
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	--	--	--	<0.050	0.019	<0.0010	1.0	<0.0025	150	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	--	--	0.0055	0.057 J	0.019	<0.0010	1.3	<0.0025	220	0.0048 J	<0.0050
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	1,300	--	--	<0.050	0.026	<0.0010	2.9	<0.0025	390	0.035	<0.0050
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	1,300	--	--	0.37	0.033	<0.0010	2.7	<0.0025	430	0.038	<0.0050
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	1,200	<0.70	<0.00025	0.38 J+	0.044	<0.0010	2.6	<0.0025	360	<0.0025	0.018
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	1,100	<0.70	--	0.098 J	0.030	<0.0010	2.7	<0.0025	320	<0.0025	0.012
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	--	<1.4	--	<0.050	0.030	<0.0010	2.9	<0.0025	320	<0.0025	0.0073 J
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	--	<0.70	--	4.1	0.077	<0.0010	2.5	<0.0025	270	0.0067	0.0097 J
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	--	<0.70	--	0.052 J	0.029	<0.0010	2.6 J+	<0.0025	300	<0.0025	0.0066 J
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	--	<0.70	--	<0.050	0.028	<0.0010	2.5	<0.0025	290	<0.0025	0.013
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	--	<0.25	--	0.77	0.030	<0.0010	2.7	<0.0025	310	<0.0025	0.010
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	--	0.41 J	--	<0.050	0.026	<0.0010	2.6	<0.0025	290	<0.0025	0.0082 J
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	--	<0.25	--	0.076 J	0.027	<0.0010	2.8	<0.0025	310	<0.0025	0.013
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	--	--	--	<0.050	0.028	<0.0010	2.3	<0.0025	270	<0.0025	0.0067 J
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	--	--	<0.00025	0.056 J	0.028	<0.0010	2.0	<0.0025	240	0.0037 J	0.0068 J
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	--	--	--	0.050 J	0.025	<0.0010	0.96	<0.0025	220	<0.0025	0.0062 J
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	540	--	--	0.051 J	0.021	<0.0010	1.1	<0.0025	230	<0.0025	<0.0050
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	540	--	--	0.056 J	0.023	<0.0010	1.3	<0.0025	260	<0.0025	0.0054 J
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	580	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	--	--	--	<0.050	0.022	<0.0010	0.90	<0.0025	170	<0.0025	0.0060 J
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	--	--	--	0.059 J	0.020	<0.0010	0.99	<0.0025	180	<0.0025	0.0065 J
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	--	--	--	<0.050	0.021	<0.0010	1.0	<0.0025	190	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	--	--	<0.00025	0.066 J	0.018	<0.0010	1.0	<0.0025	160	0.0046 J	0.0060 J
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	0.00061 J	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	<0.00025	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	<0.00025	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	1,400	--	--	<0.050	0.024	<0.0010	2.9	<0.0025	390	0.031	<0.0050
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	1,400	<0.70	<0.00025	<0.050	0.029	<0.0010	2.7	<0.0025	330	0.0037 J	0.0090 J
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	1,500	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	--	--	--	<0.050	0.036	<0.0010	2.5	<0.0025	280	<0.0025	<0.0050
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	<0.25	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	--	--	--	<0.25	0.039 J	<0.0050	2.8	<0.013	290	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	--	--	--	<0.050	0.047	<0.0010	2.3	<0.0025	240	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	--	--	4.3	0.057 J	0.051	<0.0010	2.0	<0.0025	190	0.0053 J+	<0.0050
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	--	--	--	<0.050	0.015	<0.0010	3.2	<0.0025	520	<0.0025	<0.0050
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	1,600	<1.4	<0.00025	<0.050	0.015	<0.0010	2.9	<0.0025	450	<0.0025	<0.0050

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	1,800	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	--	--	--	<0.050	0.021	<0.0010	2.8	<0.0025	320	<0.0025	<0.0050
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	<0.25	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	--	--	--	0.68 J+	0.032 J	<0.0050	3.0	<0.013	340	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	--	--	--	<0.050	0.025	<0.0010	3.0	<0.0025	350	<0.0025	<0.0050
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	--	--	3.3	0.11	0.027	<0.0010	2.7	<0.0025	290	0.0049 J	0.0055 J
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	--	--	--	<0.050 UJ	0.021	<0.0010	3.2	<0.0025	450	0.039	<0.0050
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	--	--	--	0.34 J	0.023	<0.0010	3.2	<0.0025	440	0.038	<0.0050
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	1,100	<0.70	<0.00025	<0.050	0.021	<0.0010	3.0	<0.0025	440	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	1,000	<0.70	--	<0.050	0.034	<0.0010	2.9	<0.0025	410	<0.0025	<0.0050
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	--	<1.4	--	0.43 J+	0.040	<0.0010	3.1	<0.0025	420	<0.0025	<0.0050
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	--	<0.70	--	0.10 J+	0.026	<0.0010	2.6	<0.0025	360	<0.0025	<0.0050
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	--	<0.35	--	0.13 J+	0.032	<0.0010	3.1	<0.0025	480	<0.0025	<0.0050
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	--	<0.70	--	<0.050	0.030	<0.0010	2.9 J+	<0.0025	390	<0.0025	<0.0050
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	--	<0.25	--	0.18	0.031	<0.0010	2.9	<0.0025	410	<0.0025	<0.0050
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	--	<0.25	--	0.056 J	0.028	<0.0010	2.9	<0.0025	400	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	--	--	--	0.49 J	0.034 J	<0.0050	3.1	<0.013	460	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	--	--	--	<0.050	0.027	<0.0010	3.0	<0.0025	460	<0.0025	<0.0050
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	--	--	0.038	0.11	0.023	<0.0010	2.6	<0.0025	370	0.0042 J	<0.0050
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	--	--	--	<0.050	0.018	<0.0010	2.0	<0.0025	330	<0.0025	<0.0050
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	570	<0.14	<0.00025	<0.050	0.018	<0.0010	1.1	<0.0025	140	<0.0025	<0.0050
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	590	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	--	--	--	<0.050	0.020	<0.0010	1.4	<0.0025	160	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	--	--	--	0.072 J	0.017	<0.0010	1.4	<0.0025	170	<0.0025	<0.0050
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	--	--	--	<0.050	0.018	<0.0010	1.1	<0.0025	150	<0.0025	<0.0050
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	--	--	<0.00025	<0.050	0.015	<0.0010	1.1	<0.0025	150	<0.0025	<0.0050
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	--	--	--	0.32 J	0.034 J	<0.0050	3.7	<0.013	820	0.075	<0.025
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	1,000	--	--	<0.050	0.026	<0.0010	3.0	<0.0025	700	0.056	<0.0050
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	1,000	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	--	--	--	<0.050	0.024	<0.0010	3.2	<0.0025	680	0.045	<0.0050
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	--	--	--	0.40 J	0.032 J	<0.0050	3.4 J+	<0.013	680	0.029	<0.025
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	--	--	--	<0.050	0.025	<0.0010	3.2	<0.0025	630	0.017	<0.0050
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	--	--	3.7	0.055 J	0.024	<0.0010	2.6	<0.0025	600	0.022 J+	<0.0050

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	--	--	--	0.16	0.020	<0.0010	3.2	<0.0025	560	0.050	<0.0050
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	990	--	--	<0.050	0.11	<0.0010	2.7	<0.0025	490	<0.0025	<0.0050
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	970	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	--	--	--	<0.050	0.032	<0.0010	2.9	<0.0025	430	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	--	--	--	<0.25	0.038 J	<0.0050	2.7	<0.013	450	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	--	--	--	<0.050	0.029	<0.0010	2.5	<0.0025	420	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	--	--	3.3	0.056 J	0.028	<0.0010	2.4	<0.0025	420	0.0041 J	<0.0050
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	--	--	--	<0.050	0.025	<0.0010	0.86	<0.0025	180	<0.0025	0.0050 J
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	510	--	--	<0.050	0.022	<0.0010	1.1	<0.0025	230	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	620	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	--	--	--	<0.050	0.017	<0.0010	0.84	<0.0025	150	<0.0025	<0.0050
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	--	--	--	<0.050	0.019	<0.0010	0.94	<0.0025	170	<0.0025	0.0051 J
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	--	--	--	0.074 J	0.021	<0.0010	1.0	<0.0025	190	<0.0025	<0.0050
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	--	--	--	0.073 J	0.019	<0.0010	0.92	<0.0025	170	<0.0025	<0.0050
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	--	--	--	<0.050	0.017	<0.0010	0.88	<0.0025	180	<0.0025	0.0052 J
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	--	--	--	<0.050	0.018	<0.0010	0.92	<0.0025	160	<0.0025	0.0055 J
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	--	--	<0.00025	0.10	0.017	<0.0010	1.2	<0.0025	200	0.0056 J+	0.0050 J
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	--	--	<0.00025	0.13	0.018	<0.0010	1.2	<0.0025	200	0.0041 J	0.0054 J
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	--	--	--	0.081 J	0.019	<0.0010	0.95	<0.0025	160	<0.0025	0.0061 J
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	470	--	--	<0.050	0.018	<0.0010	0.91	<0.0025	190	<0.0025	0.0056 J
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	540	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	--	--	--	<0.050	0.014	<0.0010	0.99	<0.0025	160	<0.0025	0.0057 J
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	--	--	--	0.094 J	0.016	<0.0010	0.99	<0.0025	180	<0.0025	0.0063 J
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	--	--	--	<0.050	0.015	<0.0010	0.96	<0.0025	180	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	--	--	<0.00025	0.11	0.018	<0.0010	1.1	<0.0025	220	0.0044 J	0.0056 J
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	--	--	--	<0.050	0.019	<0.0010	3.0	<0.0025	380	<0.0025	<0.0050
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	1,300	--	--	<0.050	0.018	<0.0010	2.6	<0.0025	370	<0.0025	<0.0050
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	1,300	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	--	--	--	<0.050	0.017	<0.0010	2.3	<0.0025	290	<0.0025	<0.0050

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	--	--	--	<0.25	<0.025	<0.0050	2.3	<0.013	270	<0.013	<0.025
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	--	--	--	<0.050	0.017	<0.0010	1.7	<0.0025	210	0.0036 J	<0.0050
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	--	--	<0.00025	0.060 J	0.016	<0.0010	1.8	<0.0025	190	0.0050 J+	<0.0050
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	--	--	--	<0.050	0.021	<0.0010	2.6	<0.0025	380	<0.0025	<0.0050
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	1,100	--	--	<0.050	0.017	<0.0010	2.3	<0.0025	280	0.0033 J	<0.0050
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	1,000	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	--	--	--	<0.050	0.018	<0.0010	2.0	<0.0025	250	0.0043 J	<0.0050
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	--	--	--	<0.25	<0.025	<0.0050	2.1	<0.013	210	<0.013	<0.025
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	--	--	--	<0.050	0.016	<0.0010	2.1	<0.0025	220	<0.0025	<0.0050
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	--	--	<0.00025	0.073 J	0.015	<0.0010	1.4	<0.0025	170	0.0087 J+	<0.0050
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	1,300	--	--	<0.050	0.025	<0.0010	2.9	<0.0025	400	0.043	<0.0050
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	1,100	--	--	<0.050	0.022	<0.0010	2.5	<0.0025	320	0.038	<0.0050
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	1,000	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	--	--	--	<0.050	0.022	<0.0010	2.3	<0.0025	280	0.044	<0.0050
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	--	--	--	<0.25	0.026 J	<0.0050	2.3	<0.013	260	0.045	<0.025
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	--	--	--	<0.050	0.023	<0.0010	1.9	<0.0025	250	0.042	<0.0050
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	--	--	<0.00025	0.057 J	0.024	<0.0010	1.6	<0.0025	230	0.042 J+	<0.0050
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	1,500	--	--	0.096 J	0.015	<0.0010	2.7	<0.0025	590	0.056	<0.0050
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	1,300	--	--	<0.050	0.025	<0.0010	2.8	<0.0025	330	0.035	<0.0050
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	1,200	--	--	<0.050	0.075	<0.0010	2.4	<0.0025	340	<0.0025	0.0071 J
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	1,300	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	--	--	--	<0.050	0.035	<0.0010	2.4	<0.0025	270	<0.0025	0.0056 J
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	--	--	--	<0.25	0.044 J	<0.0050	3.0	<0.013	290	<0.013	<0.025
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	--	--	--	<0.050	0.036	<0.0010	2.2	<0.0025	270	<0.0025	0.0059 J
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	--	--	0.012	0.051 J	0.032	<0.0010	2.0	<0.0025	230	0.0050 J+	<0.0050
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	1,300	--	--	0.067 J	0.017	<0.0010	2.7	<0.0025	380	0.015	<0.0050
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	1,300	--	--	0.072 J	0.016	<0.0010	2.3	<0.0025	390	0.015	<0.0050
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	1,200	--	--	<0.050	0.090	<0.0010	2.7	<0.0025	320	<0.0025	0.0061 J
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	1,200	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	--	--	--	<0.050	0.042	<0.0010	2.4	<0.0025	280	0.0029 J	<0.0050

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	--	--	--	<0.25	0.046 J	<0.0050	2.6	<0.013	290	<0.013	<0.025
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	--	--	--	<0.050	0.032	<0.0010	2.1	<0.0025	260	0.0039 J	<0.0050
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	--	--	<0.00025	0.058 J	0.032	<0.0010	1.8	<0.0025	220	0.0055 J+	<0.0050
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	1,200	--	--	0.14	0.020	<0.0010	2.1	<0.0025	350	<0.0025	<0.0050
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	910	--	--	<0.050	0.058	<0.0010	1.5	<0.0025	200	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	910	<0.35	0.031	<0.050	0.046	<0.0010	1.5	<0.0025	180	<0.0025	<0.0050
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	920	<0.35	0.033	<0.050	0.047	<0.0010	1.6	<0.0025	170	<0.0025	<0.0050
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	--	<1.4	4.0	<0.050	0.040	<0.0010	2.3	<0.0025	260	<0.0025	<0.0050
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	--	<1.4	4.1	<0.050	0.040	<0.0010	2.3	<0.0025	260	<0.0025	<0.0050
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	--	<0.35	3.3	0.072 J	0.035	<0.0010	2.5	<0.0025	300	<0.0025	<0.0050
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	--	<0.35	2.8	<0.050	0.032	<0.0010	2.3	<0.0025	280	<0.0025	<0.0050
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	--	<0.70	2.7	<0.050	0.035	<0.0010	2.7	<0.0025	340	<0.0025	<0.0050
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	--	<0.70	2.4	<0.050	0.026	<0.0010	2.4	<0.0025	290	<0.0025	<0.0050
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	--	<0.25	2.2	<0.050	0.024	<0.0010	2.2	<0.0025	270	<0.0025	<0.0050
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	--	<0.25	1.5	<0.050	0.023	<0.0010	2.1	<0.0025	250	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	--	<0.25	2.0	<0.25	0.028 J	<0.0050	2.3	<0.013	280	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	--	--	--	<0.050	0.022	<0.0010	2.1	<0.0025	240	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	--	--	0.56	0.065 J	0.022	<0.0010	2.2 J	<0.0025	250	0.0040 J	<0.0050
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	1,500	--	--	<0.050	0.015	<0.0010	3.1	<0.0025	600	0.0070	<0.0050
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	1,300	<1.4	0.0037	0.098 J	0.040	<0.0010	2.9	<0.0025	430	0.021	<0.0050
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	1,300	<0.70	<0.00025	<0.050	0.021	<0.0010	2.8	<0.0025	370	0.018	<0.0050
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	1,500	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	--	<0.70	<0.00025	<0.050	0.017	<0.0010	2.6	<0.0025	320	0.021	<0.0050
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	--	<0.70	<0.00025	<0.050	0.017	<0.0010	2.6	<0.0025	320	0.020	<0.0050
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	--	<0.50	<0.00025	<0.050	0.024	<0.0010	3.2	<0.0025	360	0.029	<0.0050
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	--	<0.50	<0.00025	<0.050	0.017	<0.0010	2.7	<0.0025	350	0.024	<0.0050
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	--	--	--	<0.050	0.016	<0.0010	2.3	<0.0025	260	0.018	<0.0050
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	--	--	--	<0.050	0.016	<0.0010	2.3	<0.0025	260	0.017	<0.0050
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	--	--	<0.00025	0.062 J	0.014	<0.0010	1.9	<0.0025	220	0.017 J+	<0.0050
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	--	--	<0.00025	0.066 J	0.015	<0.0010	2.0	<0.0025	220	0.017 J+	<0.0050
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	950	--	--	<0.050	0.033	<0.0010	3.4	<0.0025	530	0.035	<0.0050
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	910	<0.70	<0.00025	<0.050	0.028	<0.0010	3.3	<0.0025	530	0.032	<0.0050
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	990	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	--	--	--	<0.050	0.030	<0.0010	3.4	<0.0025	510	0.030	<0.0050
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	--	--	--	<0.050	0.024	<0.0010	3.2	<0.0025	460	0.028	<0.0050
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	--	--	--	<0.050	0.028	<0.0010	3.4	<0.0025	560	0.029	<0.0050
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	--	--	<0.00025 UJ	<0.25	0.094	<0.0050	3.6	<0.013	510	<0.013	<0.025
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	0.084 J	0.077 J	0.14 J-	<0.0010 UJ	3.5 J-	<0.0025 UJ	440 J-	0.0030 J	<0.0050 UJ
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	--	--	0.091 J	0.080 J	0.13 J-	<0.0010 UJ	3.2 J-	<0.0025 UJ	390 J-	0.0027 J	<0.0050 UJ
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	900	<1.4	0.0059	0.072 J	0.029	<0.0010	2.9	<0.0025	580	0.020	<0.0050
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	1,200	--	--	<0.050	0.024	<0.0010	3.4	<0.0025	650	0.056	<0.0050
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	1,100	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	--	--	--	<0.050	0.027	<0.0010	2.9	<0.0025	570	0.055	<0.0050
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	--	--	--	<0.050	0.027	<0.0010	3.4	<0.0025	680	0.062	<0.0050
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	--	--	--	<0.050	0.025	<0.0010	3.0	<0.0025	610	0.056	<0.0050
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	--	--	<0.00025	<0.25	0.025 J	<0.0050	3.1	<0.013	590	0.065 J+	<0.025
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	1,700	<1.4	<0.00025	0.084 J	0.022	<0.0010	2.9	<0.0025	520	<0.0025	<0.0050
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	1,700	<1.4	<0.00025	0.061 J	0.022	<0.0010	3.0	<0.0025	510	<0.0025	<0.0050
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	1,500	<0.70	0.013	<0.050	0.066	<0.0010	2.8	<0.0025	350	<0.0025	<0.0050
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	1,500	<0.70	0.049	0.25 J+	0.053	<0.0010	2.6	<0.0025	300	<0.0025	<0.0050
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	--	<1.4	0.76 J-	<0.10	0.037	0.0020 J	2.8	<0.0050	490	<0.0050	<0.010
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	--	<0.35	2.3	<0.25	0.042 J	<0.0050	2.8 J+	<0.013	320	<0.013	<0.025
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	--	<0.70	7.4	<0.25	0.11	<0.0050	2.8	<0.013	220	<0.013	<0.025
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	--	<0.70	12	<0.050	0.31	<0.0010	2.7	<0.0025	220	<0.0025	<0.0050
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	--	<0.25	9.9	<0.050	0.28	<0.0010	2.5	<0.0025	220	<0.0025	<0.0050
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	--	<0.25	9.0	0.051 J	0.29	<0.0010	2.8	<0.0025	230	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	--	<0.50	12	<0.25	0.33	<0.0050	2.9	<0.013	280	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	--	--	--	<0.050	0.15	<0.0010	2.5	<0.0025	230	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	--	--	9.3	0.066 J	0.12	<0.0010	2.3	<0.0025	200	0.0058 J+	<0.0050
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	1,300	<0.70	<0.00025	1.2	0.040	<0.0010	2.7	<0.0025	410	0.032	<0.0050
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	1,100	<0.70	<0.00025	<0.050	0.018	<0.0010	2.5	<0.0025	290	0.031	<0.0050
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	1,200	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	--	<0.70	--	0.098 J	0.027	<0.0010	2.9	<0.0025	340	0.036	<0.0050
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	--	--	--	<0.050	0.025	<0.0010	2.4	<0.0025	270	0.024	<0.0050
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	--	--	--	<0.25	0.079	<0.0050	2.5	<0.013	270	<0.013	<0.025
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	--	--	--	0.076 J	0.028	<0.0010	2.0	<0.0025	250	0.028	<0.0050
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	--	--	<0.00025	0.15	0.021	<0.0010	1.8	<0.0025	230	0.033 J+	<0.0050
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	1,100	--	--	1.7	0.052	<0.0010	3.0	<0.0025	510	0.037	<0.0050
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	960	<0.70	0.00092 J	<0.050	0.058	<0.0010	2.7	<0.0025	380	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	970	<0.70	0.67	2.5	0.50	<0.0010	2.5	<0.0025	220	0.0050	<0.0050
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	--	<1.4	6.9	0.48 J+	0.22	<0.0010	3.0	<0.0025	320	<0.0025	<0.0050
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	--	<0.70	0.027	0.26 J+	0.025	<0.0010	2.3	<0.0025	300	0.025	<0.0050
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	--	<0.070	11	<0.10	0.16	<0.0020	2.8	<0.0050	340	<0.0050	<0.010
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	--	<0.70	10	<0.050	0.13	<0.0010	2.8	<0.0025	270	<0.0025	<0.0050
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	--	<0.13	9.2	0.23	0.11	<0.0010	2.5	<0.0025	250	<0.0025	<0.0050
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	--	<0.13	12	<0.050	0.10	<0.0010	2.4	<0.0025	260	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	--	<0.25	8.6	0.057 J	0.080	<0.0010	2.8	<0.0025	320	<0.0025	<0.0050
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	--	--	--	0.29	0.091	<0.0010	2.2	<0.0025	270	<0.0025	<0.0050
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	--	--	11	0.11	0.13	<0.0010	2.0	<0.0025	220	0.022 J+	<0.0050
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	650	--	--	0.063 J	0.027	<0.0010	1.7	<0.0025	610	0.023	<0.0050
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	670	<0.70	<0.00025	<0.050	0.024	<0.0010	1.8	<0.0025	580	0.018	<0.0050
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	580	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	570	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	--	--	--	<0.050	0.021	<0.0010	1.4	<0.0025	490	0.011	<0.0050
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	--	--	--	<0.050	0.020	<0.0010	1.4	<0.0025	490	0.015	<0.0050
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	--	--	--	<0.050	0.020	<0.0010	1.4	<0.0025	480	0.012	<0.0050
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	--	--	<0.00025	0.079 J	0.021	<0.0010	1.4	<0.0025	510	0.018 J+	<0.0050
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	1,200	<0.70	<0.00025	0.063 J	0.031	<0.0010	2.8	<0.0025	460	0.042	<0.0050
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	1,100	--	--	<0.050	0.022	<0.0010	2.6	<0.0025	350	0.023	<0.0050
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	1,100	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	--	<0.35	0.020	<0.050	0.024	<0.0010	3.0	<0.0025	380	0.026	<0.0050
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	--	--	--	<0.050	0.024	<0.0010	2.6	<0.0025	320	0.028	<0.0050
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	--	--	--	0.063 J	0.022	<0.0010	2.5	<0.0025	290	0.027	<0.0050
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	--	--	--	<0.050	0.028	<0.0010	2.4	<0.0025	320	0.014	<0.0050
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	--	--	1.1	0.087 J	0.041	<0.0010	2.6	<0.0025	300	0.0057 J+	0.0098 J
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	440	<0.14	<0.00025	0.079 J	0.011	<0.0010	0.94	<0.0025	160	<0.0025	0.0054 J
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	480	--	--	<0.050	0.012	<0.0010	0.99	<0.0025	170	<0.0025	<0.0050
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	460	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	--	--	--	<0.050	0.012	<0.0010	1.0	<0.0025	180	<0.0025	<0.0050
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	--	--	--	<0.050	0.013	<0.0010	1.1	<0.0025	180	<0.0025	0.0052 J
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	--	--	--	0.078 J	0.012	<0.0010	1.2	<0.0025	180	<0.0025	0.0052 J
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	--	--	--	0.070 J	0.013	<0.0010	1.2	<0.0025	190	<0.0025	0.0052 J

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	--	--	--	<0.050	0.011	<0.0010	1.0	<0.0025	170	<0.0025	<0.0050
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	--	--	--	<0.050	0.011	<0.0010	1.0	<0.0025	170	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	--	--	<0.00025	0.051 J	0.012	<0.0010	1.1	<0.0025	170	0.0056 J+	0.0053 J
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	--	--	<0.00025	<0.050	0.012	<0.0010	1.0	<0.0025	160	0.0052 J+	0.0055 J
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	1,700	--	--	0.083 J	0.018	<0.0010	3.2	<0.0050	600	<0.0025	<0.0050
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	1,500	<1.4	<0.00025	<0.050	0.018	<0.0010	3.2	<0.0025	530	0.018 J	<0.0050
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	1,600	<1.4	<0.00025	<0.050	0.019	<0.0010	3.4	<0.0025	570	<0.0025 UJ	<0.0050
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	1,500	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	--	--	--	<0.050	0.032	<0.0010	3.2	<0.0025	410	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	--	--	--	<0.25	0.039 J	<0.0050	3.5	<0.013	420	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	--	--	--	<0.050	0.034	<0.0010	3.3	<0.0025	370	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	--	--	3.6	0.077 J	0.038	<0.0010	3.8	<0.0025	400	0.0051 J+	0.0054 J
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	1,000	<1.4	<0.00025	0.83	0.048	<0.0020	3.7	<0.0050	670	0.053	<0.010
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	1,000	<0.70	<0.00025	<0.050	0.044	<0.0010	3.0	<0.0025	590	<0.0025	0.015
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	1,300	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	--	1.7	0.0094	<0.10	0.040	<0.0020	4.3	<0.0050	680	<0.0050	<0.010
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	--	--	--	<0.050	0.033	<0.0010	3.6	<0.0025	540	<0.0025	0.0054 J
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	--	--	--	<0.25	0.036 J	<0.0050	3.6	<0.013	550	<0.013	<0.025
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	--	--	--	<0.050	0.030	<0.0010	3.3	<0.0025	560	0.0073	<0.0050
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	--	--	1.0	0.076 J	0.030	<0.0010	3.4	<0.0025	520	0.0053 J+	0.0067 J
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	690	<0.35	<0.00025	15	0.41	<0.0010	1.4	<0.0025	200	0.016	0.013
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	740	--	--	<0.050	0.023	<0.0010	1.5	<0.0025	180	<0.0025	0.0057 J
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	730	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	--	--	0.066	<0.050	0.023	<0.0010	1.5	<0.0025	200	<0.0025	<0.0050
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	--	--	0.0015	<0.25	<0.025	<0.0050	1.5	<0.013	190	<0.013	<0.025
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	--	--	--	<0.050	0.016	<0.0010	1.4	<0.0025	170	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	--	--	<0.00025	0.19	0.020	<0.0010	1.5	<0.0025	160	0.0054 J+	0.0051 J
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	2,100	--	--	0.052 J	0.015	<0.0010	0.86	<0.0025	190	<0.0025	<0.0050
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	460	<0.14	<0.00025	<0.050	0.016	<0.0010	0.94	<0.0025	200	<0.0025	<0.0050
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	540	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Anions by EPA 300.0		Dissolved Gases by RSK-175	Dissolved Metals by SW6010B							
							Chloride	Nitrite (as N)	Methane	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	--	--	--	0.058 J	0.013	<0.0010	0.97	<0.0025	160	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	--	--	--	0.084 J	0.015	<0.0010	1.1	<0.0025	190	<0.0025	0.0051 J
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	--	--	--	<0.050	0.014	<0.0010	0.93	<0.0025	180	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	--	--	<0.00025	0.057 J	0.015	<0.0010	1.0	<0.0025	200	0.0052 J+	<0.0050
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	1,200	<0.70	<0.00025	0.064 J	0.028	<0.0010	2.9	<0.0025	460	0.038	<0.0050
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	1,200	--	--	<0.050	0.022	<0.0010	2.8	<0.0025	410	0.015	<0.0050
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	1,200	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	--	--	--	<0.050	0.019	<0.0010	2.7	<0.0025	320	<0.0025	<0.0050
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	--	--	--	0.066 J	0.021	<0.0010	3.2	<0.0025	370	<0.0025	<0.0050
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	--	--	--	<0.050	0.020	<0.0010	2.7	<0.0025	350	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	--	--	<0.00025	0.058 J	0.017	<0.0010	2.5	<0.0025	320	0.0061 J+	<0.0050
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	1,400	<1.4	<0.00025	0.063 J	0.018	<0.0010	2.6	<0.0025	450	0.0050	<0.0050
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	1,300	--	--	0.077 J	0.044	<0.0010	2.6	<0.0025	350	<0.0025	0.0060 J
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	1,500	<0.70	--	1.7	0.050	<0.0010	2.3	<0.0025	310	<0.0025	0.0055 J
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	--	<0.70	--	0.15	0.042	<0.0010	2.9	<0.0025	340	<0.0025	0.0066 J
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	--	<1.4	--	5.9	0.086	<0.0010	2.8	<0.0025	310	0.011	0.010
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	--	<0.70	--	0.089 J	0.036	<0.0010	2.7	<0.0025	320	<0.0025	<0.0050
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	--	<3.5	--	0.077 J	0.039	<0.0010	2.7	<0.0025	330	<0.0025	0.0051 J
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	--	<0.70	<0.00025	0.37	0.037	<0.0010	2.4	<0.0025	280	<0.0025	<0.0050
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	--	<0.25	--	1.1	0.034	<0.0010	2.4	<0.0025	290	<0.0025	<0.0050
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	--	<0.25	--	0.074 J	0.036	<0.0010	2.4 J	<0.0025	270 J	<0.0025	<0.0050
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	--	<0.50	<0.00025	0.073 J	0.036	<0.0010	2.7	<0.0025	310	<0.0025	<0.0050
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	--	--	--	0.13	0.029	<0.0010	2.2	<0.0025	250	<0.0025	<0.0050
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	--	--	<0.00025	0.35	0.029	<0.0010	2.1	<0.0025	230	0.0046 J	<0.0050

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	0.0054 J	<0.050	<0.0038	85	0.089	0.21	0.017	<0.10	23	28
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	<0.0050	<0.050	<0.0038	86	0.12	0.21	0.016	<0.10	24	32
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	<0.0050	<0.050	<0.0038	120	0.12	0.18	0.014	<0.10	30	33
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	<0.025	<0.25	<0.019	95	0.16	0.21	<0.025	<0.50	22	36
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	0.024	<0.050	<0.0038	81	0.14	0.16	0.026	<0.10	24	35
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	<0.0050	0.32	<0.0038	130	0.36	0.21	0.013	<0.10	32	35
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0035	160	0.014 J	0.18	<0.0050	<0.10	48	36
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0038	170	<0.015	0.18	<0.0050	<0.10	43	35
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0038	120	<0.015	0.15	<0.0050	<0.10	39	35
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0038	140	<0.015	0.14	<0.0050	<0.10	39	35
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0038	110	<0.015	0.14	<0.0050	<0.10	35	38
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	0.026	<0.050	<0.0038	140	<0.015	0.16	0.017	<0.10	42	37
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0038	110	<0.015	0.14 J+	<0.0050	<0.10	33	36
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	75	0.61	0.041	0.0079 J	<0.10	21	35
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	0.0072 J	<0.050	<0.0038	76	0.62	0.043	0.0085 J	<0.10	21	35
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	63	0.58	0.025	0.0077 J	<0.10	18	34
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	62	0.59	0.024	0.0069 J	<0.10	18	34
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	71	0.60	0.036	<0.025	<0.10	19	37
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	73	0.59	0.035	<0.025	<0.10	19	36
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	0.022	<0.050	<0.0038	52	0.45	0.032	0.021	<0.10	18	39
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	0.021	<0.050	<0.0038	49	0.42	0.029	0.019	<0.10	17	35
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	<0.0050	<0.050	0.0056	55	0.44	0.026 J+	0.0081 J	<0.10	15	31
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	<0.0050	<0.050	<0.0038	57	0.46	0.024 J+	0.0071 J	<0.10	15	33
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	0.0080 J	<0.050	<0.0035	86	0.040	0.090	0.015	<0.10	25	35
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	<0.0050	<0.050	<0.0038	84	0.047	0.089	0.019	<0.10	26	36
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	<0.0050	<0.050	<0.0038	84	0.047	0.085	0.015	<0.10	25	36
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	<0.0050	<0.050	<0.0038	73	0.045	0.087	0.016	<0.10	25	35
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	0.0071 J	<0.050	<0.0038	79	0.041	0.092	0.028	<0.10	27	40
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	<0.0050	<0.050	<0.0038	95	0.54	0.053	0.025	<0.10	28	38
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	<0.025	<0.25	<0.019	120	0.51	0.066 J	<0.025	<0.50	30	45
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	0.025	<0.050	<0.0038	110	1.3	0.082	0.035	<0.10	29	45
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	<0.0050	<0.050	<0.0038	110	1.1	0.11	0.017	<0.10	32	43
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	<0.0050	0.053 J	<0.0035	110	0.82	0.049	0.0096 J	<0.10	31	34
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	<0.0050	<0.050	<0.0038	87	0.53	0.046	0.010	<0.10	23	32
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	0.0055 J	<0.050	<0.0038	89	0.52	0.036	0.015	<0.10	25	32
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	<0.0050	<0.050	<0.0038	92	0.54	0.037	0.014	<0.10	26	34
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	0.0085 J	<0.050	<0.0038	100	1.2	0.041	0.036	<0.10	28	40
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	0.0078 J	<0.050	<0.0038	98	1.1	0.038	0.033	<0.10	26	37
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	<0.0050	<0.050	<0.0038	96	0.80	0.058	0.015	<0.10	26	35
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	<0.0050	<0.050	<0.0038	96	0.52	0.052	<0.025	<0.10	27	37
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	0.022	<0.050	<0.0038	60	0.68	0.042	0.028	<0.10	18	35
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	<0.0050	<0.050	<0.0038	100	0.72	0.050 J+	0.014	<0.10	24	34
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0035	180	<0.010	0.16	<0.0050	<0.10	60	34
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	<0.0050	0.37	<0.0038	190	<0.015	0.16	<0.0050	<0.10	62	35
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	<0.0050	0.55	<0.0038	190	3.0	0.83	0.0097 J	<0.10	61	34
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	0.0052 J	0.085 J	<0.0038	160	2.8	0.57	0.025	0.13 J	58	28
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	170	2.6	0.37	0.026	<0.10	57	35
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	0.0065 J	4.0	<0.0038	150	3.0	0.27	0.0085 J	0.21	52	42
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	160	2.2	0.26	0.0076 J	<0.10	57	33
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	160	5.2	0.19	0.0087 J	<0.10	53	31
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	<0.0050	0.33	<0.0038	160	4.4	0.20	0.010	<0.10	55	36
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	160	3.6	0.19	0.0086 J	<0.10	53	34
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	160	4.7	0.21	<0.025	<0.10	57	35
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	0.033	0.079 J	<0.0038	140	3.5	0.18	0.028	<0.10	52	33
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	<0.0050	<0.050	<0.0038	120	2.7	0.20	<0.0050	<0.10	46	32
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	0.0053 J	0.058 J	<0.0038	72	0.98	0.023	0.021	<0.10	24	34
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	<0.0050	<0.050	<0.0038	89	1.1	0.022	0.014	<0.10	23	33
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	<0.0050	<0.050	<0.0038	98	1.3	0.024	0.017	<0.10	26	37
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	<0.0050	<0.050	<0.0038	70	0.86	0.025	0.020	<0.10	20	37
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	<0.0050	<0.050	<0.0038	71	0.86	0.025	0.019	<0.10	21	39
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	0.028	<0.050	<0.0038	77	1.0	0.022	0.031	<0.10	22	35
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	<0.0050	<0.050	<0.0038	71	0.91	0.025 J+	0.015	<0.10	19	37
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	<0.0050	<0.050	<0.0035	190	<0.010	0.16	<0.0050	<0.10	57	35
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	0.0052 J	<0.050	<0.0038	170	3.7	0.44	0.011	<0.10	54	32
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	<0.0050	0.055 J	<0.0038	150	4.6	0.41	0.0096 J	<0.10	51	33
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	<0.025	<0.25	<0.019	160	4.0	0.18	<0.025	<0.50	52	37
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	0.026	<0.050	<0.0038	120	5.5	0.15	0.026	<0.10	46	35
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	<0.0050	<0.050	<0.0038	110	4.3	0.20	0.0065 J	<0.10	43	34
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	0.0061 J	<0.050	<0.0035	240	1.7	0.17	<0.0050	<0.10	48	35
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	<0.0050	<0.050	<0.0038	220	1.6	0.16	0.0073 J	<0.10	46	34

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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	<0.0050	<0.050	<0.0038	170	1.6	0.17	0.0099 J	<0.10	40	36
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	<0.025	0.42 J	<0.019	190	1.9	0.21	<0.025	<0.50	38	41
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	0.037	<0.050	<0.0038	170	2.2	0.21	0.035	<0.10	40	37
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	<0.0050	0.080 J	<0.0038	140	2.5	0.14 J+	0.0096 J	<0.10	37	29
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	<0.0050	<0.050 UJ	<0.0035	210	<0.010	0.29	<0.0050	<0.10	63	35
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	<0.0050	0.32 J	<0.0035	210	<0.010	0.27	<0.0050	<0.10	63	36
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	<0.0050	<0.050	<0.0038	230	6.6	0.51	0.15	<0.10	69	33
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	<0.0050	<0.050	<0.0038	200	3.8	0.33	0.095	<0.10	62	29
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	0.0051 J	0.34 J+	<0.0038	200	2.7	0.28	0.066	<0.10	64	36 J+
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	<0.0050	0.058 J	<0.0038	170	2.3	0.28	0.031	<0.10	57	31
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	<0.0050	<0.50	<0.0038	220	2.6	0.30	0.036	<0.10	72	36
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	<0.0050	<0.050	<0.0038	180	2.6	0.26	0.036	<0.10	60	33
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	<0.0050	0.17	<0.0038	190	2.5	0.27	0.035	<0.10	60	35
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	<0.0050	<0.050	<0.0038	200	2.5	0.27	0.033	<0.10	60	35
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	<0.025	0.36 J	<0.019	220	2.8	0.29	0.037 J	<0.50	62	37
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	0.043	0.054 J	<0.0038	220	2.6	0.34	0.056	<0.10	60	37
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	<0.0050	0.061 J	<0.0038	180	2.1	0.29	0.018	<0.10	54	34
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	<0.0050	<0.050	<0.0035	110	1.2	0.056	0.012	<0.10	29	35
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	0.0050 J	<0.050	<0.0038	54	0.63	0.035	0.015	<0.10	19	34
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	<0.0050	0.17	<0.0038	65	0.77	0.051	0.017	<0.10	20	33
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	<0.0050	<0.050	<0.0038	61	0.72	0.052	<0.025	<0.10	21	39
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	0.023	<0.050	<0.0038	56	0.70	0.045	0.030	<0.10	18	38
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	<0.0050	<0.050	<0.0038	59	0.71	0.042	0.014	<0.10	18	32
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	<0.025	0.28 J	<0.018	290	0.13	0.38	<0.025	<0.50	87	35
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	<0.0050	<0.050	<0.0038	210	<0.015	0.37	<0.0050	<0.10	80	33
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	<0.0050	<0.050	<0.0038	190	<0.015	0.36	<0.0050	<0.10	75	33
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	<0.025	<0.25	<0.019	230	<0.075	0.38	<0.025	<0.50	76	40
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	0.054	<0.050	<0.0038	210	<0.015	0.31	0.042	<0.10	73	38
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	<0.0050	<0.050	<0.0038	210	<0.015	0.25	<0.0050	<0.10	66	35

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	<0.0050	0.16	<0.0035	220	<0.010	0.30	<0.0050	<0.10	78	37
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	<0.0050	0.68	<0.0038	210	11	0.10	0.044	<0.10	70	38
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	<0.0050	2.6	<0.0038	200	2.1	0.22	0.0050 J	<0.10	64	47
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	<0.025	<0.25	<0.019	210	2.4	0.27	<0.025	<0.50	64	38
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	0.038	<0.050	<0.0038	190	2.1	0.27	0.048	<0.10	63	37
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	<0.0050	<0.050	<0.0038	200	1.9	0.20	0.015	<0.10	60	38
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0035	58	0.62	0.026	0.014	<0.10	21	36
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	90	1.0	0.025	0.015	<0.10	24	37
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	60	0.68	0.021	0.018	<0.10	18	33
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	65	0.76	0.025	0.020	<0.10	20	38
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	73	0.86	0.023	0.019	<0.10	21 J+	40
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	<0.0050	0.051 J	<0.0038	66	0.79	0.018 J	0.016	<0.10	19 J+	36
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	67	0.76	0.019 J	0.015	<0.10	19	34
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	<0.0050	<0.050	<0.0038	73	0.79	0.021	0.016	<0.10	19	35
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	<0.0050	0.083 J	<0.0038	83	0.94	0.026 J+	0.014	<0.10	21	27
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	<0.0050	0.10	<0.0038	86	0.97	0.027 J+	0.014	<0.10	22	39
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	<0.0050	0.090 J	<0.0035	65	0.78	0.029	0.015	<0.10	17	37
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	<0.0050	<0.050	<0.0038	75	0.97	0.027	0.017	<0.10	20	35
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	<0.0050	<0.050	<0.0038	61	0.80	0.026	0.019	<0.10	18	36
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	<0.0050	<0.050	<0.0038	69	0.86	0.026	0.021	<0.10	20	39
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	0.025	<0.050	<0.0038	67	0.88	0.028	0.031	<0.10	19	39
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	<0.0050	0.080 J	<0.0038	84	1.1	0.026 J+	0.014	<0.10	20	36
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	<0.0050	<0.050	<0.0035	180	1.1	0.12	<0.0050	<0.10	42	36
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	<0.0050	<0.050	<0.0038	180	1.1	0.11	<0.0050	<0.10	43	36
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	<0.0050	<0.050	<0.0038	140	0.81	0.11	<0.0050	<0.10	39	36

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	<0.025	<0.25	<0.019	130	0.80	0.11	<0.025	<0.50	34	37
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	0.028	<0.050	<0.0038	85	0.63	0.085	0.020	<0.10	34	40
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	<0.0050	<0.050	<0.0038	94	0.55	0.11 J+	<0.0050	<0.10	29	34
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	<0.0050	<0.050	<0.0035	160	1.1	0.12	<0.0050	<0.10	45	38
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	<0.0050	<0.050	<0.0038	120	0.94	0.098	<0.0050	<0.10	39	38
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	<0.0050	0.053 J	<0.0038	100	0.75	0.075	0.0059 J	<0.10	36	35
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	<0.025	<0.25	<0.019	95	0.66	0.091 J	<0.025	<0.50	31	40
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	0.029	<0.050	<0.0038	100	0.57	0.11	0.020	<0.10	35	36
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	<0.0050	<0.050	<0.0038	71	0.51	0.081 J+	0.0050 J	<0.10	27	35
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	<0.0050	<0.050	<0.0035	170	<0.010	0.15	<0.0050	<0.10	83	36
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	0.0051 J	<0.050	<0.0038	140	<0.015	0.14	<0.0050	<0.10	74	36
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	<0.0050	<0.050	<0.0038	130	<0.015	0.14	<0.0050	<0.10	67	35
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	<0.025	<0.25	<0.019	130	<0.075	0.16	<0.025	<0.50	61	37
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	0.031	<0.050	<0.0038	110	<0.015	0.14	0.021	<0.10	59	35
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	<0.0050	<0.050	<0.0038	110	<0.015	0.13 J+	<0.0050	<0.10	52	32
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	0.0068 J	<0.050	<0.0035	370	<0.010	0.22	<0.0050	<0.10	64	31
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	<0.0050	<0.050	<0.0035	180	<0.010	0.16	<0.0050	<0.10	54	34
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	<0.0050	0.29	<0.0038	180	9.4	1.0	0.014	<0.10	61	28
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	<0.0050	<0.050	<0.0038	150	3.8	0.17	0.016	<0.10	54	30
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	<0.025	<0.25	<0.019	180	4.4	0.22	<0.025	<0.50	54	38
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	0.032	<0.050	<0.0038	140	3.4	0.16	0.029	<0.10	52	30
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	<0.0050	<0.050	<0.0038	120	2.7	0.18	0.0096 J	<0.10	47	32
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	<0.0050	0.068 J	<0.0035	180	0.68	0.10	<0.0050	<0.10	51	36
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	0.0061 J	<0.050	<0.0035	170	0.73	0.096	<0.0050	<0.10	52	35
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	<0.0050	0.35	<0.0038	160	6.8	0.17	0.011	<0.10	56	30
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	<0.0050	<0.050	<0.0038	140	2.5	0.13	0.013	<0.10	53	33

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	<0.025	<0.25	<0.019	150	2.4	0.15	<0.025	<0.50	54	37
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	0.033	<0.050	<0.0038	120	1.8	0.14	0.028	<0.10	53	35
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	<0.0050	<0.050	<0.0038	100	1.7	0.12	0.0088 J	<0.10	39	33
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	<0.0050	0.13	<0.0035	150	1.1	0.11	0.013	<0.10	35	35
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	<0.0050	0.37	<0.0038	99	4.3	0.014 J	0.013	<0.10	24	37
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	<0.0050	0.21	<0.0038	89	2.2	0.010 J	0.025	<0.10	23	36
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	<0.0050	0.21	<0.0038	90	2.2	<0.010	0.024	<0.10	23	37
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	<0.0050	0.36	<0.0038	150	2.2	0.044	0.025	<0.10	32	41
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	<0.0050	0.36	<0.0038	150	2.2	0.043	0.026	<0.10	32	41
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	<0.0050	0.15	<0.0038	170	2.4	0.085	0.011 J	<0.10	35	37
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	<0.0050	0.13	<0.0038	150	2.2	0.082	0.027 J	<0.10	34	35
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	<0.0050	0.11	<0.0038	190	2.5	0.096	0.016	<0.10	45	40
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	<0.0050	<0.050	<0.0038	160	2.1	0.080	0.012	<0.10	37	32
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	<0.0050	<0.050	<0.0038	140	1.8	0.067	0.014	<0.10	34	37
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	<0.0050	<0.050	<0.0038	140	1.7	0.068	0.019	<0.10	33	37 J+
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	<0.025	<0.25	<0.019	160	1.9	0.076 J	<0.025	<0.50	34 J+	38
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	0.031	0.071 J	<0.0038	130	1.5	0.083	0.031	<0.10	32	37
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	<0.0050	0.073 J	<0.0038	130	1.5	0.086 J+	0.0096 J	<0.10	32	35
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	<0.0050	<0.050	<0.0035	330	0.024	0.017 J	<0.0050	<0.10	60	27
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0076	240	0.17	0.19	<0.0050	<0.10	59	35
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	200	0.21	0.14	<0.0050	<0.10	52	37
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	190	<0.015	0.17	<0.0050	<0.10	48	38
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	190	<0.015	0.17	<0.0050	<0.10	48	38
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	210	<0.015	0.23	<0.0050	<0.10	57	46
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	210	<0.015	0.20	<0.0050	<0.10	49	41
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	0.033	<0.050	<0.0038	140	<0.015	0.20	0.022	<0.10	45	39
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	0.032	<0.050	<0.0038	140	<0.015	0.19	0.021	<0.10	44	39
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	120	<0.015	0.19	<0.0050	<0.10	37	35
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	<0.0050	<0.050	0.0042 J	120	<0.015	0.19	<0.0050	<0.10	37	35
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	<0.0050	<0.050	<0.0038	280	<0.015	0.46	<0.0050	<0.10	50	35
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	<0.0050	<0.050	<0.0038	250	<0.015	0.47	<0.0050	<0.10	56	33
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	<0.0050	<0.050	<0.0038	260	<0.015	0.48	<0.0050	<0.10	56	35
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	<0.0050	<0.050	<0.0038	210	<0.015	0.42	<0.0050	<0.10	54	36
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	0.052	<0.050	<0.0038	250	<0.015	0.49	0.040	<0.10	59	35
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	<0.025	1.3	<0.019	260	44	<0.050	<0.025	1.9	53	47
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	<0.0050 UJ	0.088 J	<0.0038 UJ	240 J-	36 J-	<0.010 UJ	<0.0050 UJ	1.6 J-	51 J-	34 J-
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	<0.0050 UJ	0.074 J	<0.0038 UJ	220 J-	32 J-	<0.010 UJ	<0.0050 UJ	1.4 J-	46 J-	31 J-
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	<0.0050	<0.050	<0.0038	250	0.19	0.39	<0.0050	<0.10	70	24
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	<0.0050	<0.050	<0.0038	250	<0.015	0.47	<0.0050	<0.10	72	33
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	<0.0050	<0.050	<0.0038	220	<0.015	0.42	<0.0050	<0.10	70	34
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	<0.0050	<0.050	<0.0038	250	<0.015	0.47	<0.025	<0.10	75	37
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	0.056	<0.050	<0.0038	220	<0.015	0.45	0.045	<0.10	71	37
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	<0.025	<0.25	<0.019	260	<0.075	0.48	<0.025	<0.50	62	26
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	250	1.4	0.13	<0.0050	<0.10	50	36
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	260	1.4	0.13	0.0053 J	<0.10	50	37
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	<0.0050	1.2	<0.0038	190	4.9	<0.010	<0.0050	<0.10	39	39
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	<0.0050	1.1	<0.0038	180	3.3	0.033	0.0052 J	<0.10	36	38
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	<0.010	1.6	<0.0076	200	6.7	<0.020	0.039	2.7	41	52
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	<0.025	<0.25	<0.019	180	1.6	<0.050	0.026 J	<0.50	35 J+	46
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	<0.025	<0.25	<0.019	170	0.64	<0.050	<0.025	<0.50	37 J+	43
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	<0.0050	0.062 J	<0.0038	170	0.76	<0.010	<0.0050	0.47	36	43
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	<0.0050	0.087 J	<0.0038	160	0.48	<0.010	<0.0050	0.30	34	40
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	190	0.43	<0.010	0.0060 J	0.29	38	44
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	<0.025	<0.25	<0.019	200	0.43	<0.050	<0.025	<0.50	37	43
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	0.026	0.085 J	<0.0038	150	0.33	<0.010	0.019	0.20	37	36
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	140	0.43	0.012 J	<0.0050	0.16 J	34	30
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	<0.0050	0.95	<0.0038	160	0.079	0.12	<0.0050	<0.10	69	39
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	<0.0050	<0.050	<0.0038	130	0.038	0.12	<0.0050	<0.10	61	36
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	0.0082 J	0.12	<0.0038	160	<0.015	0.18	0.026	<0.10	62	39
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	<0.0050	0.17	<0.0038	130	0.64	0.27	<0.0050	<0.10	53	36
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	<0.025	0.30 J	<0.019	140	5.9	0.16	<0.025	<0.50	50	36
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	<0.0050	0.13	<0.0038	110	0.57	0.12	<0.0050	<0.10	50	35
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	<0.0050	0.14	0.0060	100	0.13	0.12 J+	<0.0050	<0.10	46	34
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	<0.0050	1.5	<0.0038	230	0.055	0.28	<0.0050	<0.10	72	42
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	<0.0050	2.3	<0.0038	200	7.9	0.17	0.013	<0.10	65	33
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	0.0065 J	3.6	<0.0038	130	1.8	0.055 J+	0.025	0.24	53	42
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	<0.0050	3.0	<0.0038	190	7.6	0.077	0.025	0.12 J	55	40 J+
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	<0.0050	0.18	<0.0038	150	0.27	0.15	<0.0050	<0.10	52	33
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	<0.010	1.1	<0.0076	210	3.1	0.13	<0.010	<0.20	61	41
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	<0.0050	0.85	<0.0038	190	4.5	<0.010	<0.0050	<0.10	53	43
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	<0.0050	3.3	<0.0038	160	1.7	0.014 J	<0.0050	<0.10	55	42
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	<0.0050	2.9	<0.0038	170	2.5	0.044	<0.0050	<0.10	52	37 J+
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	<0.0050	4.5	<0.0038	190	3.2	0.057	0.0064 J	<0.10	60	40
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	<0.0050	4.3	<0.0038	170	2.0	0.013 J	<0.0050	<0.10	51	35
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	<0.0050	2.8	<0.0038	130	1.3	<0.010	0.016	<0.10	48	36
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	<0.0050	<0.050	<0.0038	210	<0.015	0.23	<0.0050	<0.10	85	36
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	0.0051 J	<0.050	<0.0038	180	<0.015	0.28	<0.0050	<0.10	89	35
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	<0.0050	<0.050	<0.0038	150	<0.015	0.22	<0.0050	<0.10	79	36
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	<0.0050	<0.050	<0.0038	160	<0.015	0.21	<0.0050	<0.10	76	36
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	0.049	<0.050	<0.0038	150	<0.015	0.22	0.036	<0.10	78	36
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	<0.0050	<0.050	<0.0038	160	<0.015	0.23	<0.0050	<0.10	77	33
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	0.0064 J	<0.050	<0.0038	210	<0.015	0.17	0.0050 J	<0.10	76	32
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	170	0.81	0.20	0.0060 J	<0.10	59	33
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	0.0090 J	<0.050	<0.0038	190	0.44	0.23	0.032	<0.10	60	38
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	160	0.16	0.22	0.0053 J	<0.10	53	34
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	<0.0050	<0.050	<0.0038	140	0.096	0.20	<0.025	<0.10	51	36
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	0.031	<0.050	<0.0038	150	0.95	0.24	0.028	<0.10	48	36
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	<0.0050	0.052 J	<0.0038	160	2.8	0.29	0.013	<0.10	42	33
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	65	<0.015	0.051	0.014	<0.10	19	36
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	68	<0.015	0.050	0.012	<0.10	23	38
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	70	<0.015	0.049	0.014	<0.10	21	34
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	74	<0.015	0.050	0.014	<0.10	21	34
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	70	<0.015	0.061	0.016	<0.10	22	38
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	73	<0.015	0.061	0.015	<0.10	23	40

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	0.023	<0.050	<0.0038	67	<0.015	0.064	0.026	<0.10	19	35
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	0.022	0.058 J	<0.0038	69	<0.015	0.063	0.027	<0.10	19	36
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	<0.0050	<0.050	<0.0038	68	<0.015	0.066 J+	0.012	<0.10	21	37
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	<0.0050	<0.050	0.0040 J	65	<0.015	0.062 J+	0.012	<0.10	20	36
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	0.0074 J	<0.050	<0.0038	290	0.27	0.22	<0.0050	<0.10	41	38
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	<0.0050	0.057 J	<0.0038	260	2.0	0.27	0.015	<0.10	47	33
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	270	1.7	0.28	0.0072 J	<0.10	50	40
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	210	2.1	0.16	0.013	<0.10	40	38
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	<0.025	<0.25	<0.019	240	2.7	0.16	<0.025	<0.50	41	43
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	0.041	0.060 J	<0.0038	200	5.6	0.19	0.057	<0.10	37	40
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	<0.0050	0.068 J	<0.0038	210	3.7	0.14	0.036	<0.10	38	45
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	<0.010	0.64	<0.0038	300	0.060	0.43	<0.010	<0.20	65	38
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	<0.0050	0.12	<0.0038	240	2.2	0.64	0.0078 J	<0.10	62	30
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	0.014 J	<0.10	<0.0076	290	1.5	0.47	0.050	<0.20	70	36
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	<0.0050	<0.050	<0.0038	260	2.3	0.26	0.0055 J	<0.10	59	33
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	<0.025	<0.25	<0.019	260	3.3	0.33	<0.025	<0.50	57	32
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	0.052	<0.050	<0.0038	240	5.8	0.38	0.045	<0.10	57	32
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	<0.0050	0.059 J	<0.0038	230	5.3	0.24	<0.0050	<0.10	53	34
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	0.016	15	<0.0038	110	0.79	0.15	0.027	0.77	29 J+	59
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	<0.0050	<0.050	<0.0038	98	0.96	0.13	0.014	<0.10	27	36
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	<0.0050	<0.050	<0.0038	110	0.69	0.10	0.016	<0.10	28	36
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	<0.025	<0.25	<0.019	110	0.29	0.12	<0.025	<0.50	26	38
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	0.026	<0.050	<0.0038	90	0.14	0.13	0.025	<0.10	24	37
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	<0.0050	0.15	<0.0038	88	0.20	0.12	0.014	<0.10	24	38
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	<0.0050	<0.050	<0.0038	63	0.083	0.025	0.013	<0.10	19	37
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	0.0055 J	<0.050	<0.0038	72	0.10	0.028	0.015	<0.10	21	39
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	<0.0050	<0.050	<0.0038	60	0.088	0.027	0.015	<0.10	18	36
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	<0.0050	<0.050	<0.0038	66	0.10	0.030	0.018	<0.10	20	42
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	0.024	<0.050	<0.0038	63	0.11	0.030	0.030	<0.10	18	29 J
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	<0.0050	<0.050	<0.0038	74	0.13	0.026 J+	0.012	<0.10	19	36
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	210	<0.015	0.22	<0.0050	<0.10	55	34
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	0.013 J+	<0.050	<0.0038	190	<0.015	0.60	<0.0050	<0.10	57	33
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	170	0.65	0.24	0.0088 J	<0.10	48	34
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	180	0.68	0.27	0.010	<0.10	57	40
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	0.040	<0.050	<0.0038	160	0.27	0.24	0.030	<0.10	49	37
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	<0.0050	<0.050	<0.0038	150	<0.015	0.25	<0.0050	<0.10	44	36
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	<0.0050	<0.050	<0.0038	210	0.96	0.11	<0.0050	<0.10	46	37
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	<0.0050	<0.050	<0.0038	180	4.2	0.13	0.011	<0.10	43	32
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	<0.0050	1.6	<0.0038	160	5.5	0.080	0.014	0.10 J	40	30
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	0.0082 J	0.19	<0.0038	190	7.3	0.11	0.038	<0.10	47	37
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	0.016	4.3	0.0055	170	6.7	0.074	0.041	1.5	40	49
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	<0.0050	0.10	<0.0038	170	5.7	0.11	0.031	<0.10	43	36
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	<0.0050	0.057 J	<0.0038	180	5.2	0.11	0.013	<0.10	48	36
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	<0.0050	0.29	<0.0038	160	4.3	0.090	0.012	<0.10	39	33
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	<0.0050	0.25	<0.0038	150	3.9	0.086	0.012	<0.10	39	35
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	<0.0050	<0.050	<0.0038	150 J	3.7 J	0.093	0.012	<0.10	38	35 J
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	<0.0050	<0.050	<0.0038	160	3.5	0.11	<0.025	<0.10	42	38
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	0.032	0.19	<0.0038	120	2.4	0.11	0.027	<0.10	38	35
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	<0.0050	0.25	<0.0038	120	2.2	0.13	0.0072 J	<0.10	34	35

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	<0.0050	600	4.0 J+	<0.050	<0.0025	<0.050	0.035	<0.012	<0.50	61
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	<0.0050	550	3.9	<0.050	<0.0025	<0.050	0.029	<0.012	<0.50	63
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	<0.0050	530	4.8	<0.050	<0.0025	<0.050	0.025	<0.012	<5.0	63
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	<0.025	590	4.0	<0.25	<0.013	<0.25	0.035 J	<0.060	<2.5	60
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	<0.0050	530	3.6	<0.050	<0.0025	<0.050	0.036	<0.012	<5.0	55
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	<0.0050	600	5.2	<0.050	0.014 J+	<0.050	0.032	<0.012	<0.50	75
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	<0.0050	590	6.5	<0.050	<0.0025	<0.050	0.066	<0.012	<0.50	89
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	<0.0050	600	6.4	<0.050	<0.0025	<0.050	0.064	<0.012	<1.0	100
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	<0.0050	450	4.6	<0.050	<0.0025	<0.050	0.058	<0.012	<2.5	110
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	<0.0050	490	5.6	<0.050	<0.0025	<0.050	0.053	<0.012	<5.0	100
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	<0.0050	410	4.3	<0.050	<0.0025	<0.050	0.059	<0.012	<2.5	100
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	<0.0050	550	5.4	<0.050	<0.0025	<0.050	0.069	<0.012	<5.0	94
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	<0.0050	410	4.1	<0.050	<0.0025	<0.050	0.061	0.013 J	<0.50	100
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	<0.0050	760	4.3	<0.050	<0.0025	<0.050	0.082	<0.012	<0.50	120
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	<0.0050	760	4.4	<0.050	<0.0025	<0.050	0.084	<0.012	<0.50	120
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	<0.0050	650	3.7	<0.050	<0.0025	<0.050	0.078	<0.012	<5.0	120
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	<0.0050	650	3.7	<0.050	<0.0025	<0.050	0.078	<0.012	<5.0	130
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	<0.0050	770	4.3	<0.050	<0.0025	<0.050	0.081	<0.012	<2.5	130
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	<0.0050	740	4.3	<0.050	<0.0025	<0.050	0.079	<0.012	<2.5	130
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	<0.0050	650	3.1	<0.050	<0.0025	<0.050	0.11	<0.012	<5.0	130
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	<0.0050	600	2.8	<0.050	<0.0025	<0.050	0.099	<0.012	<5.0	130
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	<0.0050	600	3.2	<0.050	<0.0025	<0.050	0.084	<0.012	<0.50	130
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	<0.0050	630	2.9	<0.050	<0.0025	<0.050	0.089	<0.012	<0.50	130
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	<0.0050	550	3.8	<0.050	<0.0025	<0.050	0.055	<0.012	<0.50	75
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	<0.0050	600	3.8	<0.050	<0.0025	<0.050	0.052	<0.012	<1.0	78
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	<0.0050	570	3.6	<0.050	<0.0025	<0.050	0.053	<0.012	<0.50	75
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	<0.0050	470	3.1	<0.050	<0.0025	<0.050	0.049	<0.012	<0.50	80
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	<0.0050	540	3.6	<0.050	<0.0025	<0.050	0.059	<0.012	<0.50	92
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	<0.0050	530	4.1	<0.050	<0.0025	<0.050	0.022	<0.012	<5.0	78
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	<0.025	610	4.8	<0.25	<0.013	<0.25	0.031 J	<0.060	<2.5	64
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	<0.0050	600	4.7	<0.050	<0.0025	<0.050	0.017	<0.012	<0.50	100
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	<0.0050	680	6.0	<0.050	<0.0025	<0.050	0.022	<0.012	0.75 J	130
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	<0.0050	840	7.1	<0.050	0.0028 J	<0.050	0.050	<0.012	<0.50	85
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	<0.0050	610	4.9	<0.050	<0.0025	<0.050	0.048	<0.012	<5.0	87
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	<0.0050	510	4.9	<0.050	<0.0025	<0.050	0.038	<0.012	<0.50	88
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	<0.0050	530	5.0	<0.050	<0.0025	<0.050	0.039	<0.012	<0.50	80
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	<0.0050	600	6.0	<0.050	<0.0025	<0.050	0.047	<0.012	<0.50	85
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	<0.0050	560	5.5	<0.050	<0.0025	<0.050	0.044	<0.012	<0.50	84
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	<0.0050	620	5.9	<0.050	<0.0025	<0.050	0.036	<0.012	<5.0	83
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	<0.0050	600	5.4	<0.050	<0.0025	<0.050	0.039	0.16	<2.5	76
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	<0.0050	450	3.8	<0.050	<0.0025	<0.050	0.048	<0.012	<0.50	86
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	<0.0050	510	5.4	<0.050	<0.0025	<0.050	0.026	<0.012	<0.50	71
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	<0.0050	1,000	10	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	62
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	<0.0050	1,100	11	<0.050	0.018	<0.050	0.035	<0.012	<0.50	66
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	<0.0050	890	9.7	<0.050	0.0092	<0.050	<0.0050	<0.012	<0.50	76
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	<0.0050	860	8.6	<0.050	<0.0025	<0.050	0.0077 J	<0.012	<2.5	52
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	<0.0050	850	8.8	<0.050	<0.0025	<0.050	0.029	<0.012	<1.0	55
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	<0.0050	790	7.5	<0.050	0.21	<0.050	0.029	<0.012	<0.50	50
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	<0.0050	940	8.1	<0.050	0.0031 J	<0.050	0.030	<0.012	<5.0	60
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	<0.0050	750	8.0	<0.050	<0.0025	<0.050	0.016	0.034	<5.0	44
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	<0.0050	810	8.5	<0.050	0.013	<0.050	0.021	<0.012	<0.50	49
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	<0.0050	740	8.0	<0.050	<0.0025	<0.050	0.019	<0.012	<5.0	54
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	<0.0050	850	8.4	<0.050	<0.0025	<0.050	0.020	<0.012	<2.5	45
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	<0.0050	720	7.2	<0.050	0.0041 J	<0.050	0.032	<0.012	<5.0	42
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	<0.0050	650	6.4	<0.050	<0.0025	<0.050	0.024	<0.012	<0.50	46
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	<0.0050	410	4.8	<0.050	0.0031 J	<0.050	0.048	<0.012	<0.50	86
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	<0.0050	410	5.2	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	85
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	<0.0050	460	5.9	<0.050	<0.0025	<0.050	0.037	<0.012	<0.50	84
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	<0.0050	370	3.8	<0.050	<0.0025	<0.050	0.040	<0.012	<5.0	84
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	<0.0050	380	4.1	<0.050	<0.0025	<0.050	0.040	<0.012	<2.5	85
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	<0.0050	390	4.4	<0.050	<0.0025	<0.050	0.045	<0.012	<5.0	85
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	<0.0050	360	3.7	<0.050	<0.0025	<0.050	0.040	<0.012	<0.50	91
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	<0.0050	1,100	10	<0.050	<0.0025	<0.050	0.038	<0.012	<0.50	66
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	<0.0050	890	9.0	<0.050	<0.0025	<0.050	0.0098 J	<0.012	<0.50	70
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	<0.0050	820	7.9	<0.050	<0.0025	<0.050	0.011	<0.012	<5.0	69
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	<0.025	970	8.1	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	53
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	<0.0050	810	6.9	<0.050	<0.0025	<0.050	0.016	<0.012	<0.50	43
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	<0.0050	760	5.6	<0.050	<0.0025	<0.050	0.010	<0.012	<0.50	82
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	<0.0050	1,300	12	<0.050	<0.0025	<0.050	0.043	<0.012	<0.50	51
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	<0.0050	1,000	11	<0.050	<0.0025	<0.050	0.021	<0.012	0.51 J	57

Table G.2
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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	<0.0050	900	8.7	<0.050	<0.0025	<0.050	0.025	<0.012	<5.0	60
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	<0.025	1,100	9.3	<0.25	0.015 J	<0.25	0.031 J	<0.060	<2.5	57
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	<0.0050	1,100	9.2	<0.050	<0.0025	<0.050	0.033	<0.012	<0.50	52
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	<0.0050	940	7.9	<0.050	<0.0025	<0.050	0.011	<0.012	<0.50	53
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	<0.0050	900	11	<0.050	<0.0025 UJ	<0.050	0.035	<0.012	<0.50	61
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	<0.0050	840	11	<0.050	0.015 J	<0.050	0.033	<0.012	<0.50	62
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	<0.0050	760	11	<0.050	<0.0025	<0.050	<0.0050	<0.012	0.70 J	82
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	<0.0050	730	9.9	<0.050	<0.0025	<0.050	0.021	<0.012	<2.5	56
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	<0.0050	780	9.7	<0.050	0.014 J+	<0.050	0.029	<0.012	<1.0	56
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	<0.0050	670	8.5	<0.050	<0.0025	<0.050	0.012	<0.012	0.58 J	50
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	<0.0050	880	11	<0.050	0.0046 J	<0.050	0.028	<0.012	<0.50	55
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	<0.0050	670	9.6	<0.050	<0.0025	<0.050	0.0089 J	<0.012	6.1 J	54
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	<0.0050	730	9.8	<0.050	0.0068	<0.050	0.0074 J	<0.012	<0.50	48
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	<0.0050	680	9.8	<0.050	<0.0025	<0.050	0.0056 J	<0.012	<5.0	50
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	<0.025	790	10	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	48
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	<0.0050	740	10	<0.050	<0.0025	<0.050	0.030	<0.012	<0.50	47
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	<0.0050	700	8.7	<0.050	<0.0025	<0.050	0.015	<0.012	<0.50	50
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	<0.0050	1,100	8.1	<0.050	<0.0025	<0.050	0.050	<0.012	<2.5	110
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	<0.0050	520	3.7	<0.050	<0.0025	<0.050	0.050	<0.012	<0.50	90
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	<0.0050	580	4.3	<0.050	<0.0025	<0.050	0.041	<0.012	<5.0	85
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	<0.0050	620	4.3	<0.050	<0.0025	<0.050	0.045	<0.012	<2.5	89
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	<0.0050	490	3.8	<0.050	<0.0025	<0.050	0.054	<0.012	<0.50	91
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	<0.0050	410	3.8	<0.050	<0.0025	<0.050	0.040	0.016 J	<0.50	87
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	<0.025	840	18	<0.25	<0.013	<0.25	0.030 J	<0.060	<0.50	24
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	<0.0050	730	15	<0.050	<0.0025	<0.050	<0.0050	0.017 J	<2.5	31
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	<0.0050	700	14	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	35
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	<0.025	790	15	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	33
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	0.0050 J	740	14	<0.050	<0.0025	<0.050	0.022	<0.012	<0.50	32
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	<0.0050	650	13	<0.050	<0.0025	<0.050	<0.0050	<0.012	2.4 J+	32

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	<0.0050	870	12	<0.050	0.0067	<0.050	0.037	<0.012	<0.50	56
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	<0.0050	700	11	<0.050	<0.0025	<0.050	<0.0050	0.043	<2.5	59
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	<0.0050	690	10	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	80
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	<0.025	700	11	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	25
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	<0.0050	680	9.9	<0.050	0.0063	<0.050	0.015	<0.012	<0.50	36
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	<0.0050	640	10	<0.050	0.0030 J	<0.050	<0.0050	<0.012	<0.50	61
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	<0.0050	410	3.4	<0.050	<0.0025	<0.050	0.044	<0.012	<0.50	86
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	<0.0050	430	5.3	<0.050	<0.0025	<0.050	0.045	<0.012	<0.50	86
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	<0.0050	350	3.5	<0.050	<0.0025	<0.050	0.045	<0.012	<5.0	90
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	<0.0050	390	3.9	<0.050	<0.0025	<0.050	0.050	<0.012	<5.0	88
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	<0.0050	390	4.4 J+	<0.050	<0.0025	<0.050	0.037	<0.012	<2.5	76
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	<0.0050	350	3.9 J+	<0.050	<0.0025	<0.050	0.030	<0.012	<2.5	72
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	<0.0050	380	4.0	<0.050	<0.0025	<0.050	0.042	<0.012	<0.50	92
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	<0.0050	360	3.6	<0.050	<0.0025	<0.050	0.045	<0.012	<0.50	92
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	<0.0050	400	4.7	<0.050	<0.0025	<0.050	0.045	<0.012	<0.50	93
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	<0.0050	410	4.7	<0.050	0.0067	<0.050	0.047	<0.012	<0.50	93
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	<0.0050	390	4.1	<0.050	<0.0025	<0.050	0.047	<0.012	<0.50	86
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	<0.0050	400	4.5	<0.050	<0.0025	<0.050	0.043	<0.012	<0.50	87
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	<0.0050	370	3.7	<0.050	<0.0025	<0.050	0.048	<0.012	<5.0	90
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	<0.0050	390	4.3	<0.050	<0.0025	<0.050	0.046	<0.012	<2.5	86
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	<0.0050	390	4.2	<0.050	<0.0025	<0.050	0.057	<0.012	<0.50	93
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	<0.0050	410	5.0	<0.050	<0.0025	<0.050	0.041	<0.012	<0.50	91
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	<0.0050	1,000	9.3	<0.050	<0.0025	<0.050	0.027	<0.012	<0.50	56
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	<0.0050	870	9.4	<0.050	<0.0025	<0.050	0.015	<0.012	<0.50	64
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	<0.0050	820	7.5	<0.050	<0.0025	<0.050	0.020	<0.012	<5.0	73

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	<0.025	840	7.0	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	73
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	<0.0050	670	5.6	<0.050	<0.0025	<0.050	0.044	<0.012	<5.0	88
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	<0.0050	680	5.1	<0.050	<0.0025	<0.050	0.027	<0.012	<0.50	79
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	<0.0050	1,000	9.0	<0.050	<0.0025	<0.050	0.041	<0.012	<0.50	73
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	<0.0050	810	7.4	<0.050	<0.0025	<0.050	0.030	<0.012	<0.50	79
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	<0.0050	750	6.7	<0.050	<0.0025	<0.050	0.031	<0.012	<5.0	83
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	<0.025	740	5.7	<0.25	<0.013	<0.25	0.040 J	<0.060	<2.5	83
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	<0.0050	760	5.7	<0.050	<0.0025	<0.050	0.034	<0.012	<5.0	73
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	<0.0050	580	4.7	<0.050	<0.0025	<0.050	0.035	0.013 J	<0.50	87
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	<0.0050	1,000	9.6	<0.050	<0.0025	<0.050	0.040	<0.012	<0.50	66
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	<0.0050	800	8.1	<0.050	<0.0025	<0.050	0.023	<0.012	<2.5	70
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	<0.0050	700	7.2	<0.050	<0.0025	<0.050	0.024	<0.012	<5.0	68
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	<0.025	730	6.8	<0.25	<0.013	<0.25	0.032 J	<0.060	<2.5	67
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	<0.0050	630	6.5	<0.050	<0.0025	<0.050	0.038	<0.012	<5.0	69
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	<0.0050	580	6.0	<0.050	<0.0025	<0.050	0.026	<0.012	<0.50	69
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	<0.0050	920	15	<0.050	<0.0025	<0.050	0.028	<0.012	0.56 J	37
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	<0.0050	890	8.7	<0.050	<0.0025	<0.050	0.036	<0.012	<0.50	66
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	<0.0050	870	9.2	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	50
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	<0.0050	720	7.6	<0.050	<0.0025	<0.050	0.014	<0.012	<5.0	39
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	<0.025	830	8.0	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	35
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	<0.0050	680	7.1	<0.050	<0.0025	<0.050	0.019	<0.012	<5.0	26
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	<0.0050	700	6.4	<0.050	<0.0025	<0.050	0.019	<0.012	1.1 J	45
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	<0.0050	1,100	9.6	<0.050	0.0034 J	<0.050	0.035	<0.012	<0.50	66
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	<0.0050	960	9.9	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	58
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	<0.0050	860	8.8	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	57
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	<0.0050	780	7.7	<0.050	<0.0025	<0.050	0.012	<0.012	<5.0	50

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	<0.025	910	8.0	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	50
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	<0.0050	760	6.8	<0.050	<0.0025	<0.050	0.030	<0.012	<5.0	63
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	<0.0050	740	5.8	<0.050	<0.0025	<0.050	0.021	<0.012	<0.50	57
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	<0.0050	950	8.4	<0.050	0.0077	<0.050	0.044	<0.012	<2.5	93
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	<0.0050	590	5.1	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	100
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	<0.0050	660	4.7	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	64
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	<0.0050	700	4.7	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	59
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	<0.0050	800	7.3	<0.050	<0.0025	<0.050	<0.0050	<0.012	1.0 J	20
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	<0.0050	790	7.2	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	18
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	<0.0050	850	8.3	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	15
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	<0.0050	820	7.7	<0.050	<0.0025	<0.050	<0.0050	<0.012	0.50 J	16
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	<0.0050	1,100	9.1	<0.050	<0.0025	<0.050	0.0050 J	<0.012	<5.0	20
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	<0.0050	820	7.9	<0.050	<0.0025	<0.050	<0.0050	<0.012	6.9 J	28
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	<0.0050	790	7.2	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	25
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	<0.0050	710	6.9	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	28
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	<0.025	860	7.6	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	26
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	0.0060 J	760	6.3	<0.050	<0.0025	<0.050	0.013	<0.012	0.61 J	43
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	<0.0050	740	6.7	<0.050	<0.0025	<0.050	<0.0050	<0.012	1.1 J	39
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	<0.0050	950	13	<0.050	<0.0025	<0.050	0.018	<0.012	<0.50	26
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	<0.0050	1,000 J	9.4 J	<0.050	<0.0025	<0.050	0.025	<0.012	<0.50	34
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	<0.0050	880	9.5	<0.050	<0.0025	<0.050	0.016	<0.012	<2.5	64
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	<0.0050	790	8.3	<0.050	<0.0025	<0.050	0.024	<0.012	<5.0	72
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	<0.0050	790	8.3	<0.050	<0.0025	<0.050	0.023	<0.012	<5.0	76
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	<0.0050	920	8.8	<0.050	<0.0025	<0.050	0.030	<0.012	<2.5	77
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	<0.0050	920	8.8	<0.050	<0.0025	<0.050	0.026	<0.012	<2.5	75
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	<0.0050	780	6.5	<0.050	<0.0025	<0.050	0.046	<0.012	<5.0	87
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	<0.0050	750	6.4	<0.050	<0.0025	<0.050	0.045	<0.012	<5.0	100
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	<0.0050	690	5.7	<0.050	<0.0025	<0.050	0.036	<0.012	<0.50	91
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	<0.0050	700	5.6	<0.050	<0.0025	<0.050	0.036	<0.012	<0.50	91
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	<0.0050	710	11	<0.050	<0.0025	<0.050	0.039	<0.012	<0.50	62
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	<0.0050	700	12	<0.050	<0.0025	<0.050	0.015	<0.012	<0.50	66
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	<0.0050	700	11	<0.050	<0.0025	<0.050	0.017	<0.012	<5.0	69
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	<0.0050	720	10	<0.050	<0.0025	<0.050	0.017	<0.012	<2.5	62
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	0.0060 J	750	12	<0.050	<0.0025	<0.050	0.039	<0.012	<5.0	70
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	<0.025	710	10	<0.25	<0.013	<0.25	<0.025	<0.060	<0.50	100
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	<0.0050 UJ	670 J-	10 J-	<0.050 UJ	<0.0025 UJ	<0.050 UJ	<0.0050 UJ	<0.012 UJ	<10 UJ	120 J-
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	<0.0050 UJ	610 J-	9.0 J-	<0.050 UJ	<0.0025 UJ	<0.050 UJ	<0.0050 UJ	0.019 J	<10 UJ	96 J-
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	<0.0050	850	12	<0.050	<0.0025	<0.050	0.016	<0.012	<0.50	24
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	<0.0050	790	14	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	49
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	<0.0050	710	13	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	45
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	<0.0050	830	15	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	44
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	0.0058 J	750	13	<0.050	<0.0025	<0.050	0.025	<0.012	<5.0	47
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	<0.025	770	13	<0.25	<0.013	<0.25	<0.025	<0.060	<0.50	53
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	<0.0050	1,100	11	<0.050	<0.0025	<0.050	0.033	<0.012	<0.50	56
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	<0.0050	1,100	12	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	54
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	<0.0050	890	8.9	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	160
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	<0.0050	900	7.7	<0.050	0.014	<0.050	<0.0050	<0.012	<2.5	88
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	<0.010	900	9.6	<0.10	<0.0050	<0.10	<0.010	<0.024	0.65 J	180
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	<0.025	980	8.2	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5 UJ	110
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	<0.025	1,000	7.4	<0.25	<0.013	<0.25	<0.025	<0.060	<5.0	71
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	<0.0050	840	7.5	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	18
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	<0.0050	850	7.5	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	13
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	<0.0050	830	8.0	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	17
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	<0.025	980	8.9	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	13
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	<0.0050	860	7.1	<0.050	0.0032 J	<0.050	0.0050 J	<0.012	<0.50	1.5
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	<0.0050	710	6.1	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	<0.50
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	<0.0050	1,200	9.9	<0.050	0.056	<0.050	0.035	<0.012	<0.50	62
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	<0.0050	860	7.9	<0.050	<0.0025	<0.050	0.021	<0.012	<0.50	67
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	<0.0050	990	9.3	<0.050	0.0072	<0.050	0.038	<0.012	<0.50	79
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	<0.0050	790	7.5	<0.050	<0.0025	<0.050	0.018	<0.012	<5.0	79
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	<0.025	940	7.7	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	23
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	<0.0050	810	6.9	<0.050	<0.0025	<0.050	0.020	<0.012	1.8 J	69
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	<0.0050	740	6.3	<0.050	0.0046 J	<0.050	0.026	<0.012	<0.50	75
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	<0.0050	910	11	<0.050	0.083	<0.050	0.043	<0.012	<0.50	61
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	<0.0050	700	8.8	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	76
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	<0.0050	810	6.7	<0.050	0.12	<0.050	0.0091 J	<0.012	<0.50	44
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	<0.0050	740	7.9	<0.050	0.021 J+	<0.050	<0.0050	<0.012	<1.0	15
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	<0.0050	710	7.8	<0.050	0.0099	<0.050	0.024	<0.012	<0.50	63
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	<0.010	850	9.2	<0.10	<0.0050	<0.10	<0.010	<0.024	0.80 J	13
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	<0.0050	690	7.3	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	39
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	<0.0050	690	7.6	<0.050	0.0060	<0.050	<0.0050	<0.012	<0.50	6.3
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	<0.0050	620	7.7	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	11
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	<0.0050	760	8.9	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	9.0
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	<0.0050	680	7.8	<0.050	0.012	<0.050	<0.0050	<0.012	<0.50	3.1
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	<0.0050	580	6.4	<0.050	0.0026 J	<0.050	<0.0050	<0.012	<0.50	2.6
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	<0.0050	500	11	<0.050	<0.0025	<0.050	0.023	<0.012	<0.50	51
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	<0.0050	460	11	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	56
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	<0.0050	410	9.5	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	53
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	<0.0050	390	9.8	<0.050	<0.0025	<0.050	<0.0050	<0.012	<2.5	55
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	<0.0050	390	9.3	<0.050	<0.0025	<0.050	0.022	<0.012	<5.0	55
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	<0.0050	390	9.9	<0.050	<0.0025	<0.050	<0.0050	0.013 J	<0.50	56
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	<0.0050	910	11	<0.050	0.0031 J	<0.050	0.037	<0.012	0.63 J	71
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	<0.0050	740	9.0	<0.050	<0.0025	<0.050	0.021	<0.012	<2.5	66
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	<0.0050	870	9.7	<0.050	<0.0025	<0.050	0.042	<0.012	<0.50	73
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	<0.0050	690	8.3	<0.050	<0.0025	<0.050	0.024	<0.012	<5.0	67
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	<0.0050	710	7.5	<0.050	<0.0025	<0.050	0.026	<0.012	<2.5	76
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	<0.0050	660	8.0	<0.050	0.0029 J	<0.050	0.035	<0.012	<0.50	66
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	<0.0050	690	7.8	<0.050	<0.0025	<0.050	0.015	<0.012	<0.50	63
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	<0.0050	430	3.7	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	68
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	<0.0050	420	4.1	<0.050	<0.0025	<0.050	0.030	<0.012	<0.50	71
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	<0.0050	420	4.2	<0.050	<0.0025	<0.050	0.022	<0.012	<5.0	68
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	<0.0050	420	4.2	<0.050	<0.0025	<0.050	0.022	<0.012	<5.0	67
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	<0.0050	450	4.3	<0.050	<0.0025	<0.050	0.030	<0.012	<2.5	73
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	<0.0050	480	4.5	<0.050	<0.0025	<0.050	0.031	<0.012	<2.5	71

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	<0.0050	430	4.1	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	74
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	<0.0050	420	4.1	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	74
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	<0.0050	430	4.1	<0.050	<0.0025	<0.050	0.032	<0.012 UJ	<0.50	77
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	<0.0050	410	3.9	<0.050	<0.0025	<0.050	0.031	0.19 J	<0.50	77
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	<0.0050	1,100	13	<0.050	<0.0025	<0.050	0.045	<0.012	<0.50	69
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	<0.0050	1,100	12	<0.050	<0.0025	<0.050	0.022	<0.012	<2.5	77
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	<0.0050	1,100	13	<0.050	<0.0025	<0.050	0.024	<0.012	<2.5	76
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	<0.0050	860	10	<0.050	<0.0025	<0.050	0.022	<0.012	<5.0	74
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	<0.025	1,000	10	<0.25	<0.013	<0.25	0.028 J	<0.060	<2.5	70
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	0.0066 J	900	9.1	<0.050	0.0060	<0.050	0.030	<0.012	<0.50	74
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	<0.0050	940	10	<0.050	<0.0025	<0.050	0.015	<0.012	<0.50	82
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	<0.010	890	14	<0.10	0.032	<0.10	0.032	<0.024	<0.50	42
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	<0.0050	740	13	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	52
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	<0.010	940	15	<0.10	<0.0050	<0.10	0.023	<0.024	0.50 J	38
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	<0.0050	750	12	<0.050	<0.0025	<0.050	<0.0050	<0.012	<5.0	51
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	<0.025	810	12	<0.25	<0.013	<0.25	<0.025	<0.060	<2.5	31
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	0.0055 J	770	12	<0.050	<0.0025	<0.050	0.026	<0.012	<5.0	33
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	<0.0050	760	11	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	81
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	<0.0050	630	4.8	<0.050	0.82	<0.050	0.066	0.037	<0.50 UJ	52
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	<0.0050	570	4.6	<0.050	<0.0025	<0.050	0.032	<0.012	<0.50	58
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	<0.0050	590	5.1	<0.050	<0.0025	<0.050	0.031	<0.012	<5.0	61
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	<0.025	620	4.9	<0.25	<0.013	<0.25	0.040 J	<0.060	<2.5	63
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	0.0052 J	540	4.4	<0.050	<0.0025	<0.050	0.048	<0.012	<0.50	68
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	<0.0050	570	3.9	<0.050	0.0069 J+	<0.050	0.044	<0.012	<0.50	71
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	<0.0050	410	4.1	<0.050	<0.0025	<0.050	0.046	<0.012	<0.50	91
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	<0.0050	400	4.8	<0.050	<0.0025	<0.050	0.041	<0.012	<0.50	88
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--

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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6010B								Dissolved Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	<0.0050	350	3.8	<0.050	<0.0025	<0.050	0.037	<0.012	<5.0	82
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	<0.0050	390	4.6	<0.050	<0.0025	<0.050	0.043	<0.012	<2.5	88
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	<0.0050	360	4.2	<0.050	0.0025 J	<0.050	0.045	<0.012	<5.0	81
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	<0.0050	380	4.8	<0.050	<0.0025	<0.050	0.037	<0.012	<0.50	89
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	<0.0050	920	11	<0.050	<0.0025	<0.050	0.034	<0.012	<0.50	60
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	<0.0050	810	10	<0.050	<0.0025	<0.050	0.019	<0.012	<0.50	67
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	<0.0050	710	8.3	<0.050	<0.0025	<0.050	0.017	<0.012	<5.0	59
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	<0.0050	910	9.6	<0.050	<0.0025	<0.050	0.019	<0.012	<2.5	57
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	0.0055 J	740	8.6	<0.050	0.0030 J	<0.050	0.036	<0.012	<5.0	63
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	<0.0050	720	7.9	<0.050	<0.0025	<0.050	0.024	<0.012	<0.50	66
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	<0.0050	1,000	10	<0.050	<0.0025	<0.050	0.036	<0.012	<0.50	67
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	<0.0050	860	9.1	<0.050	<0.0025	<0.050	<0.0050	<0.012	<0.50	43
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	<0.0050	830	8.2	<0.050	0.085	<0.050	<0.0050	<0.012	<2.5	41
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	<0.0050	1,000	9.3	<0.050	0.010	<0.050	0.021	<0.012	<0.50	37
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	<0.0050	830	7.6	<0.050	0.13	<0.050	0.042	0.050	<1.0	41
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	<0.0050	930	8.5	<0.050	0.0058	<0.050	0.023	<0.012	<0.50	<0.50
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	<0.0050	1,100	8.6	<0.050	0.0037 J	<0.050	0.024	<0.012	<5.0	39
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	<0.0050	780	7.5	<0.050	0.012	<0.050	0.012	<0.012	<5.0	38
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	<0.0050	830	7.8	<0.050	0.0090	<0.050	0.011	<0.012	<0.50	37
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	<0.0050	780 J	7.3 J	<0.050	<0.0025	<0.050	0.011	<0.012	<5.0	39
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	<0.0050	930	8.1	<0.050	<0.0025	<0.050	0.013	<0.012	<2.5	41
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	<0.0050	760	6.4	<0.050	0.0096	<0.050	0.029	<0.012	<5.0	41
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	<0.0050	760	6.1	<0.050	0.012	<0.050	0.023	<0.012	<0.50	50

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	7.0	<0.50	<50	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	7.0	<0.50	--	--	--	--	240	240	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	10 J	<5.0	--	--	0.25	--	210	210	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	6.9 J	<2.5	--	--	0.025 R	--	240	240	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	<5.0	<2.0	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	15	<0.20	--	--	--	--	--	--	--	--
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	51	<0.50	--	--	--	--	--	--	--	--
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	69	<1.0	<500	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	56	<2.5	--	--	--	--	310	310	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	280	280	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	290	290	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	73	<5.0	--	--	0.045 J	--	250	250	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	43	<2.5	--	--	<0.025	--	270	270	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	68	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	54	<0.20	--	--	--	--	--	--	--	--
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	7.5	<0.50	--	--	--	--	270	270	<4.0	<4.0
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	7.0	<0.50	--	--	--	--	240	240	<4.0	<4.0
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	250	250	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	11 J	<5.0	--	--	0.092	--	220	220	<4.0	<4.0
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	10 J	<5.0	--	--	0.11	--	220	220	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	7.0 J	<2.5	--	--	<0.025	--	240	240	<4.0	<4.0
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	6.0 J	<2.5	--	--	<0.025	--	260	260	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	5.7 J	<2.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	5.6 J	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	7.7	<0.20	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	8.4	<0.20	--	--	--	--	--	--	--	--
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	26	<0.50	--	--	0.025 J	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	21	<1.0	<500	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	19	<0.50	<500	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	9.4	<0.50	--	--	--	--	250	250	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	270	270	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	13	<0.50	--	0.10 J	<0.025	0.48	280	280	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	330	330	<4.0	<4.0

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	430	430	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	470	470	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	<5.0	<5.0	--	--	0.049 J	--	540	540	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	<2.5	<2.5	--	--	<0.025	--	530	530	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	1.1 J	<0.20	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	1.1 J	<0.20	--	--	--	--	--	--	--	--
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	8.4	0.66 J	--	--	0.052	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	7.0 J	<5.0	<500	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	7.2	<0.50	--	0.40	0.035 J	2.5	190	190	<4.0	<4.0
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	6.5	<0.50	--	0.38	0.038 J	2.4	190	190	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	5.6	<0.50	--	0.41	0.062	2.5	190	190	<4.0	<4.0
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	6.2	<0.50	--	0.35	0.064	2.2	190	190	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	7.9 J	<5.0	--	--	0.076	--	200	200	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	8.9 J	<2.5	--	--	<0.025	--	200	200	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	4.5	0.48 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	6.0	0.36 J	--	--	--	--	--	--	--	--
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	27	<0.50	--	--	0.053	--	--	--	--	--
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	30	<0.50	<500	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	3.3	<0.50	--	0.37	0.098	1.2	290	290	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	<2.5	<2.5	--	0.24	0.096	0.81	310	310	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	330	330	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	14	<1.0	--	<0.10	0.11	4.9	290	290	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	13	<0.50	--	0.14 J	0.23	4.9	310	310	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	22	<5.0	--	<0.10 UJ	0.070	6.3	280	280	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	19 J	<5.0	--	0.33	2.1	5.9	300	300	<4.0	<4.0
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	4.6	<0.50	--	<0.10	0.11	3.2	390	390	<4.0	<4.0
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	6.0 J	<5.0	--	0.14 J	0.10	5.8	340	340	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	11	<2.5	--	<0.10	0.045 J	8.2	260	260	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	9.2 J	<2.0	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	15	<0.20	--	--	--	--	--	--	--	--
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	1.0 J	<0.50	<20	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	3.0	<0.50	--	--	--	--	180	180	<4.0	<4.0
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	2.5	<0.50	--	--	--	--	180	180	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	210	210	<4.0	<4.0

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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	<5.0	<5.0	--	--	0.10	--	190	190	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	<2.5	<2.5	--	--	<0.025	--	200	200	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	<5.0	<2.0	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	<0.50	0.25 J	--	--	--	--	--	--	--	--
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	<100	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	<500	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	<1,000	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	<1,000	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	<500	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	<100	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	<500	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	<500	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	30	<0.50	--	--	<0.025	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	12	<0.50	--	0.28	0.035 J	3.6	250	250	<4.0	<4.0
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	310	310	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	330	330	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	520	520	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	380	380	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	270	270	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	<5.0	<5.0	--	--	0.046 J	--	500	500	<4.0	<4.0
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	<0.10 UJ	--	8.4	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	23	<2.5	--	--	0.028 J	--	400	400	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	4.8	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	1.4 J	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	41	<0.50	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	36	1.1	--	<0.10 UJ	<0.025 UJ	6.2	200	200	<4.0	<4.0

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	250	250	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	390	390	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	360	360	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	7.4 J	<5.0	--	--	<0.025	--	330	330	<4.0	<4.0
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	<0.10 UJ	--	<0.11	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	4.0 J	<2.5	--	--	<0.025	--	380	380	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	2.0	0.26 J	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	0.99 J	0.26 J	--	--	--	--	--	--	--	--
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	46	<0.50	--	--	--	--	--	--	--	--
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	46	<0.50	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	5.0	1.4	--	0.35	0.082	0.35	250	250	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	14	<2.5	--	0.18 J	0.075	3.4	280	280	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	270	270	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	15	1.6 J	--	0.47	0.061	4.7	280	280	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	24	1.4	--	<0.10	0.056	6.4	250	250	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	39	0.91 J	--	<0.10	0.031 J	7.9	220	220	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	9.1 J-	<5.0	--	0.13 J	0.038 J	1.4	310	310	<4.0	<4.0
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	8.5	1.0	--	<0.10	0.080	3.6	320	320	<4.0	<4.0
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	24	<5.0	--	<0.10	0.044 J	4.9	290	290	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	20	<2.5	--	--	<0.025	--	280	280	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	19	0.89 J	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	26	0.77 J	--	--	--	--	--	--	--	--
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	10	<2.5	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	3.0	0.53 J	--	0.29	<0.025	1.6	210	210	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	6.5 J	<5.0	--	--	0.078	--	230	230	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	4.6 J	<2.5	--	--	<0.025	--	220	220	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	3.4	0.62 J	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	2.8	0.63 J	--	--	--	--	--	--	--	--
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	50	<0.50	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	41	<2.5	--	--	--	--	97	97	<4.0	<4.0
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	110	110	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	46	<5.0	--	--	<0.025	--	120	120	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	25	<2.5	--	--	0.059	--	220	220	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	33	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	27	0.41 J	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	47	<0.50	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	<2.5 UJ	<2.5	--	--	--	--	410	410	<4.0	<4.0
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	410	410	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	300	300	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	310	310	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	260	260	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	<5.0	<5.0	--	--	0.14	--	470	470	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	14	<2.5	--	--	<0.025	--	390	390	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	6.8	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	7.6	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	0.50 J	<0.50	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	1.4 J	<0.50	--	--	--	--	180	180	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	<5.0	<5.0	--	--	0.064	--	200	200	<4.0	<4.0
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	<5.0	<5.0	--	--	0.047 J	--	190	190	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	6.7 J	<2.5	--	--	0.037 J	--	190	190	<4.0	<4.0
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	9.2 J	<2.5	--	--	<0.025	--	200	200	<4.0	<4.0
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	0.92 J	0.34 J	--	--	--	--	--	--	--	--
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	0.72 J	0.33 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	0.89 J	0.32 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	<0.50	0.33 J	--	--	--	--	--	--	--	--
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	1.1 J	<0.50	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	1.3 J	<0.50	--	--	--	--	190	190	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	<5.0	<5.0	--	--	0.084	--	200	200	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	<2.5	<2.5	--	--	0.027 J	--	200	200	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	1.2 J	0.39 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	0.81 J	0.36 J	--	--	--	--	--	--	--	--
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	43	<0.50	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	51	<0.50	--	--	--	--	240	240	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	46	<5.0	--	--	<0.025	--	220	220	<4.0	<4.0

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Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	47	<2.5	--	--	<0.025	--	260	260	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	36	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	40	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	59	<0.50	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	48	<0.50	--	--	--	--	230	230	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	250	250	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	52	<5.0	--	--	0.025 J	--	230	230	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	45	<2.5	--	--	0.10	--	250	250	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	44	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	36	0.24 J	--	--	--	--	--	--	--	--
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	27	<0.50	--	--	<0.025 UJ	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	31	<2.5	--	--	--	--	190	190	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	150	150	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	37	<5.0	--	--	<0.025	--	190	190	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	31	<2.5	--	--	<0.025	--	210	210	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	26	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	30	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	55	<0.50	--	--	0.093	--	--	--	--	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	29	<0.50	--	--	0.043 J	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	1.8 J	<0.50	--	--	--	--	290	290	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	340	340	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	320	320	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	310	310	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	300	300	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	280	280	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	8.2 J	<5.0	--	--	0.025 J	--	340	340	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	12	<2.5	--	--	0.33	--	300	300	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	8.6 J	<2.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	10	0.41 J	--	--	--	--	--	--	--	--
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	40	<0.50	--	--	0.068	--	--	--	--	--
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	37	<0.50	--	--	0.064	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	5.0 J	<2.5	--	--	--	--	340	340	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	380	380	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	310	310	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	430	430	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	250	250	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	15 J	<5.0	--	--	<0.025	--	290	290	<4.0	<4.0

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	21	<2.5	--	--	<0.025	--	250	250	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	21	<2.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	25	0.39 J	--	--	--	--	--	--	--	--
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	28	<2.5	--	--	0.059	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	2.0	<0.50	--	--	--	--	390	390	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	<2.5	<2.5	--	0.19 J	0.14	0.19	450	450	<4.0	<4.0
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	<2.5	<2.5	--	0.28	0.13 J	0.28	450	450	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	410	410	<4.0	<4.0
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	410	410	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	2.2	<0.50	--	0.15 J	<0.025	0.15 J	470	470	<4.0	<4.0
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	1.9 J	<0.50	--	0.20	<0.025	1.5 J	470	470	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	8.3	<0.50	--	<0.10	<0.025	0.37	370	370	<4.0	<4.0
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	10	<0.50	--	<0.10	<0.025	0.36	370	370	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	10 J	<5.0	--	<0.10	<0.025	0.96	330	330	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	18 J	<5.0	--	0.10 J	<0.025	0.99	360	360	<4.0	<4.0
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	8.0 J	<5.0	--	<0.10	<0.025	<0.11	360	360	<4.0	<4.0
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	7.6 J	<5.0	--	0.19 J	<0.025	0.19	350	350	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	4.5 J	<2.5	--	0.32	<0.025	0.32	380	380	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	8.9	<0.20	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	8.4	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	37	<0.50	--	--	0.059	--	--	--	--	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	65	<0.50	<1,000	<0.10 UJ	0.059 J-	12	200	200	<4.0	<4.0
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	68	<2.5	--	<0.10	<0.025	11	210	210	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	160	160	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	55	<5.0	--	<0.10	<0.025	16	190	190	<4.0	<4.0
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	56	<5.0	--	<0.10	<0.025	16	200	200	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	61	<2.5	--	<0.10	<0.025	17	210	210	<4.0	<4.0
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	61	<2.5	--	0.19 J	<0.025	17	210	210	<4.0	<4.0
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	53	<2.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	58	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	48	<0.20	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	46	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	51	<0.50	<500	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	61	<0.50	--	<0.10	<0.025	13	110	110	<4.0	<4.0
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	110	110	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	110	110	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	120	120	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	130	130	<4.0	<4.0
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	110	110	<4.0	<4.0

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	48	<5.0	--	--	<0.025	--	110	110	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	47	<2.5	--	--	<0.025	--	130	130	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	52	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	2.8	<0.20	--	--	--	--	--	--	--	--
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	330 J-	<4.0 UJ	--	--	--	--	--	--	--	--
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	390 J-	<4.0 UJ	--	--	--	--	--	--	--	--
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	40	<0.50	<500	<0.10	0.033 J	12	110	110	<4.0	<4.0
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	50	<2.5	--	--	--	--	120	120	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	110	110	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	100	100	<4.0	<4.0
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	96	96	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	41	<5.0	--	--	0.027 J	--	94	94	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	48	<2.5	--	--	<0.025	--	99	99	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	37	<2.0	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	55	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	61	<0.50	<500	<0.10	0.062	12	200	200	<4.0	<4.0
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	59	<0.50	<500	<0.10	0.045 J	12	200	200	<4.0	<4.0
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	2.4	<0.50	--	0.11 J	0.040 J	0.11	600	600	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	<2.5	<2.5	--	0.19 J	0.15 J-	0.19	560	560	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	430	430	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	7.3 J-	<0.50	200 R	1.1	2.6	1.1	1,000	1,000	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	190 J-	<2.5	--	0.87	0.39	0.87	1,100	1,100	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	220	<5.0	--	0.42	0.43	0.42	1,200	1,200	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	110	<5.0	--	0.45	0.52	0.45	1,300	1,300	<4.0	<4.0
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	180 J+	<5.0	--	0.41	0.35	0.41	1,300	1,300	<4.0	<4.0
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	510	<5.0	--	0.78	0.43	0.78	1,200	1,200	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	200	<2.5	--	0.70	0.14	0.70	1,300	1,300	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	89	<0.20	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	36	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	28	<0.50	<500	<0.10	0.15	10	220	220	<4.0	<4.0
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	29	<0.50	--	<0.10	0.072	11	200	200	<4.0	<4.0
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	33	<0.50	--	<0.10	<0.025	12	200	200	<4.0	<4.0
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	21	<5.0	--	--	0.065	--	290	290	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	50	<2.5	--	--	0.049 J	--	290	290	<4.0	<4.0
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	26	0.36 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	32	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	43	<0.50	<500	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	17	<0.50	--	0.43	0.081	2.5	640	640	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	35	<0.50	--	2.8	0.37	4.0	960	960	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	790	790	<4.0	<4.0

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	8.1	<1.0	--	0.23	0.096	0.23	780	780	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	31	<0.50	--	<0.10	0.12	12	200	200	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	22	<0.50 UJ	--	0.34	0.051	3.8	510	510	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	21	<5.0	--	0.75	0.11	0.75	1,100	1,100	<4.0	<4.0
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	<0.50 UJ	<0.50	--	0.61	0.14	0.61	810	810	<4.0	<4.0
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	<5.0	<5.0	--	0.58	0.076	1.0	680	680	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	<2.5	<2.5	--	0.59	<0.025	1.4	570	570	<4.0	<4.0
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	5.8	<0.20	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	5.5	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	32	<0.50	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	30	<2.5	--	<0.10	<0.025	16	94	94	<4.0	<4.0
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	93	93	<4.0	<4.0
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	93	93	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	93	93	<4.0	<4.0
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	92	92	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	92	92	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	93	93	<4.0	<4.0
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	93	93	<4.0	<4.0
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	22	<5.0	--	--	<0.025	--	93	93	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	23	<2.5	--	--	<0.025	--	98	98	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	22	<2.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	24	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	36	<0.50	<500	<0.10	0.25	12	190	190	<4.0	<4.0
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	38	<2.5	--	--	--	--	190	190	<4.0	<4.0
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	41	<0.50	--	<0.10	0.058	12	200	200	<4.0	<4.0
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	580	580	<4.0	<4.0
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	550	550	<4.0	<4.0
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	37	<5.0	--	--	0.045 J	--	200	200	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	43	<2.5	--	--	<0.025	--	240	240	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	38	0.25 J	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	12	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	2.2	<0.50	<20	0.18 J	<0.025	0.51	240	240	<4.0	<4.0
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	2.8	<0.50	--	--	--	--	230	230	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	220	220	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	6.0 J	<5.0	--	--	0.035 J	--	210	210	<4.0	<4.0
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	5.9 J	<5.0	--	--	0.028 J	--	200	200	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	4.9 J	<2.5	--	--	<0.025	--	220	220	<4.0	<4.0
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	6.6 J	<2.5	--	--	<0.025	--	230	230	<4.0	<4.0

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	4.0	<0.20	--	--	--	--	--	--	--	--
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	3.9	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	5.1	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	5.3	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	98	<0.50	<500	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	85	<2.5	--	<0.10	0.044 J	8.5	200	200	<4.0	<4.0
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	89	<2.5	--	<0.10	0.11 J	9.1	200	200	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	380	380	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	210	210	<4.0	<4.0
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	510	510	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	400	400	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	490	490	<4.0	<4.0
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	39	<5.0	--	--	0.10	--	510	510	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	24	<2.5	--	--	0.15	--	580	580	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	15	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	10	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	49	<0.50	<500	<0.10	0.58	15	120	120	<4.0	<4.0
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	6.8	<0.50	--	0.29	0.15	2.1	230	230	<4.0	<4.0
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	400	400	<4.0	<4.0
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	37 J+	<0.50	--	<0.10 UJ	0.10	6.4	350	350	<4.0	<4.0
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	180	180	<4.0	<4.0
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	170	170	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	170	170	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	11 J	<5.0	--	--	0.054	--	330	330	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	23	<2.5	--	--	0.38	--	390	390	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	20	<2.0	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	14	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	25	<0.50	<500	0.44	3.3	2.6	230	230	<4.0	<4.0
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	19	<0.50	--	--	--	--	240	240	<4.0	<4.0
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	11 J	<5.0	--	--	0.089	--	250	250	<4.0	<4.0
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	12	<2.5	--	--	0.050	--	260	260	<4.0	<4.0
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	15	<0.20	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	13	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	2.7	<0.50	<20	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	2.5	<0.50	--	0.30	0.036 J	1.2	200	200	<4.0	<4.0
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	200	200	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	210	210	<4.0	<4.0

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Dissolved Metals by SW6020A		EPA 300.1B	EPA 351.2	EPA 365.3	NTOTAL	SM2320B			
							Selenium	Thallium	Chlorite	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Nitrogen, Total	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3
							µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	<5.0	<5.0	--	--	0.10	--	210	210	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	<2.5	<2.5	--	--	<0.025	--	210	210	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	<5.0	<2.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	1.5 J	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	36	<0.50	<500	<0.10	0.11	13	170	170	<4.0	<4.0
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	20	<0.50	--	--	--	--	200	200	<4.0	<4.0
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	240	240	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	190	190	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	230	230	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	270	270	<4.0	<4.0
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	260	260	<4.0	<4.0
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	18 J	<5.0	--	--	0.043 J	--	250	250	<4.0	<4.0
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	11	<2.5	--	--	<0.025	--	300	300	<4.0	<4.0
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	12 J	<2.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	18	<0.20	--	--	--	--	--	--	--	--
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	53	<0.50	<500 UJ	<0.10	0.48	10	210	210	<4.0	<4.0
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	4.7	<0.50	--	--	--	--	300	300	<4.0	<4.0
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	2.5 J	<2.5	--	0.17 J	0.40	0.17	400	400	<4.0	<4.0
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	2.9	0.50 J	--	0.12 J	0.14	0.12	330	330	<4.0	<4.0
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	4.7	<1.0	--	0.11 J	1.1	0.11	350	350	<4.0	<4.0
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	2.6 J+	<0.50	--	0.20	0.097	3.0	320	320	<4.0	<4.0
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	12 J	<5.0	--	0.12 J	<0.25	4.3	290	290	<4.0	<4.0
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	6.6 J	<5.0	--	0.24	0.23	3.8	310	310	<4.0	<4.0
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	6.6	0.51 J	--	0.21	0.44	5.4	340	340	<4.0	<4.0
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	7.5 J	<5.0	--	0.24	0.49	7.1	310	310	<4.0	<4.0
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	12	<2.5	--	<0.10	<0.025	7.9	310	310	<4.0	<4.0
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	18 J	<2.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	19	0.39 J	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	2,800	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	--	--	<0.050	0.018	<0.0010	1.8	<0.0025	200	0.016	<0.0050
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	2,800	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	2,900	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	3,400	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	3,400	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	3,200	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	3,200	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	2,600	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	--	0.45 J	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	--	0.41 J	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	2,400	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	2,300	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	3,700	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	2,900	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	2,900	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	2,400	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	2,400	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	5,100	--	1.0	0.039	<0.0020	3.1	<0.0050	390	0.041	<0.010
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	--	34	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	5,100	<0.25	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	4,700	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	2,800	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	2,800	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	2,700	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	6,600	--	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	6,500	--	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	5,500	--	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	5,000	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	5,000	--	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	3,300	--	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	6,100	--	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	5,300	--	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	5,200	--	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	5,300	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	5,500	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	4,700	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	6,400	<0.25	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	6,000	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	5,500	<0.25	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	4,900	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	2,500	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	2,600	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	6,100	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	5,700	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	5,300	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	4,600	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	2,700	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	2,800	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	2,500	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	2,500	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	5,300	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	5,000	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	4,200	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	4,100	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	5,300	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	5,000	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	4,400	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	6,700	--	--	--	--	--	--	--	--	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	5,100	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	5,100	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	4,500	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	5,100	--	--	--	--	--	--	--	--	--
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	5,000	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	5,100	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	4,400	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	4,300	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	3,300	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	3,000	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	3,000	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	4,100	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	6,500	--	--	--	--	--	--	--	--	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	5,000	17	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	5,600	19	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	5,200	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	6,100	33	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	5,800	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	5,200	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	6,600	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	6,200	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	5,800	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	5,700	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	5,300	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	4,800	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	4,100	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	5,300	27	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	4,900	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	4,600	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	4,800	<0.25	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	3,300	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	--	19	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	4,800	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	4,300	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	4,300	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	5,300	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	5,200	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	4,800	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	1,900	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	2,200	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	2,200	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	6,500	0.87 J	--	--	--	--	--	--	--	--
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	6,600	1.1 J	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	5,800	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	6,000	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	6,200	1.9 J	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	5,800	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	2,900	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	3,100	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	2,800	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	2,300	<0.25	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	2,500	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	SM2540C	SW7199	Total Metals by SW6010B							
							Total Dissolved Solids	Chromium, Hexavalent	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt
							mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	4,900	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	5,100	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	4,900	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	5,400	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	5,100	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	4,600	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	--	--	--	--	0.11	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	--	--	--	--	0.19	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	--	--	--	--	0.24	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	--	--	--	--	0.17	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	--	--	--	--	0.16	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	--	--	--	--	1.2	--	--	--	--	--
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	<0.0050	<0.050	<0.0035	140	0.013 J	0.17	<0.0050	<0.10	44	34
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	--	--	--	--	<0.015	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	--	--	--	--	0.041	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	--	--	--	--	<0.015	--	--	--	--	--
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	--	--	--	--	0.88	--	--	--	--	--
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	--	--	--	--	0.95	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	--	--	--	--	0.80	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	--	--	--	--	0.74	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	--	--	--	--	1.2	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	--	--	--	--	1.1	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	--	--	--	--	0.91 J	--	--	--	--	--
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	--	--	--	--	0.89 J	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	--	--	--	--	0.60	--	--	--	--	--
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	--	--	--	--	0.63	--	--	--	--	--
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	--	--	--	--	0.11	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	--	--	--	--	0.19	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	--	--	--	--	0.14	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	--	--	--	--	0.15	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	--	--	--	--	0.062	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	--	--	--	--	0.57	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	--	--	--	--	0.44	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	--	--	--	--	1.4	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	--	--	--	--	1.3	--	--	--	--	--
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	--	--	--	--	0.86	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	--	--	--	--	0.80	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	--	--	--	--	0.55	--	--	--	--	--
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	--	--	--	--	0.56	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	--	--	--	--	1.2	--	--	--	--	--
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	--	--	--	--	1.3	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	--	--	--	--	0.78	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	--	--	--	--	0.54	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	--	--	--	--	0.86	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	--	--	--	--	0.78	--	--	--	--	--
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	<0.010	1.0	<0.0070	200	0.022 J	0.17	<0.010	<0.20	62	40
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	--	--	--	--	0.14	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	--	--	--	--	2.8	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	--	--	--	--	3.0	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	--	--	--	--	2.6	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	--	--	--	--	3.4	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	--	--	--	--	2.3	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	--	--	--	--	6.3	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	--	--	--	--	3.9	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	--	--	--	--	3.5 J	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	--	--	--	--	5.0	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	--	--	--	--	3.5	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	--	--	--	--	2.6	--	--	--	--	--
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	--	--	--	--	1.2	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	--	--	--	--	1.3	--	--	--	--	--
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	--	--	--	--	1.3	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	--	--	--	--	0.97	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	--	--	--	--	0.95	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	--	--	--	--	1.0	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	--	--	--	--	0.92	--	--	--	--	--
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	--	--	--	--	<0.010	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	--	--	--	--	3.7	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	--	--	--	--	4.7	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	--	--	--	--	3.3	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	--	--	--	--	4.9	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	--	--	--	--	4.3	--	--	--	--	--
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	--	--	--	--	1.6	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	--	--	--	--	1.6	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	--	--	--	--	1.8	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	--	--	--	--	2.2	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	--	--	--	--	2.7	--	--	--	--	--
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	--	--	--	--	6.9	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	--	--	--	--	4.4	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	--	--	--	--	2.9	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	--	--	--	--	2.6	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	--	--	--	--	2.6	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	--	--	--	--	2.6	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	--	--	--	--	2.3	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	--	--	--	--	2.4	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	--	--	--	--	2.4	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	--	--	--	--	2.4	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	--	--	--	--	2.0	--	--	--	--	--
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	--	--	--	--	0.65	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	--	--	--	--	0.86	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	--	--	--	--	0.77	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	--	--	--	--	0.86	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	--	--	--	--	0.82	--	--	--	--	--
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	--	--	--	--	<0.015	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	--	--	--	--	11	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	--	--	--	--	2.0	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	--	--	--	--	2.1	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	--	--	--	--	2.2	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	--	--	--	--	1.9	--	--	--	--	--
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	--	--	--	--	0.96	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	--	--	--	--	0.68	--	--	--	--	--
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	--	--	--	--	0.70	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	--	--	--	--	0.81	--	--	--	--	--
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	--	--	--	--	0.83	--	--	--	--	--
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	--	--	--	--	0.80	--	--	--	--	--
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	--	--	--	--	0.79	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	--	--	--	--	0.94	--	--	--	--	--
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	--	--	--	--	0.93	--	--	--	--	--
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	--	--	--	--	0.97	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	--	--	--	--	0.77	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	--	--	--	--	0.98	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	--	--	--	--	0.89	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	--	--	--	--	1.1	--	--	--	--	--
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	--	--	--	--	1.1	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	--	--	--	--	1.2	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	--	--	--	--	1.1	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	--	--	--	--	0.65	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	--	--	--	--	0.71	--	--	--	--	--
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	--	--	--	--	0.98	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	--	--	--	--	0.89	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	--	--	--	--	0.65	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	--	--	--	--	0.64	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	--	--	--	--	0.59	--	--	--	--	--
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	--	--	--	--	0.014 J	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	--	--	--	--	<0.015	--	--	--	--	--
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	--	--	--	--	<0.010	--	--	--	--	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	--	--	--	--	0.024	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	--	--	--	--	8.9	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	--	--	--	--	3.8	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	--	--	--	--	3.4	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	--	--	--	--	3.6	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	--	--	--	--	2.9	--	--	--	--	--
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	--	--	--	--	0.84	--	--	--	--	--
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	--	--	--	--	0.82	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	--	--	--	--	6.8	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	--	--	--	--	2.5	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	--	--	--	--	2.2	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	--	--	--	--	1.8	--	--	--	--	--
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	--	--	--	--	1.1	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	--	--	--	--	4.3	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	--	--	--	--	2.4	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	--	--	--	--	2.5	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	--	--	--	--	2.4	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	--	--	--	--	2.4	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	--	--	--	--	2.6	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	--	--	--	--	2.4	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	--	--	--	--	2.5	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	--	--	--	--	2.1	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	--	--	--	--	1.8	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	--	--	--	--	1.8	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	--	--	--	--	1.7	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	--	--	--	--	1.5	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	--	--	--	--	1.6	--	--	--	--	--
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	--	--	--	--	0.066	--	--	--	--	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	--	--	--	--	0.16	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	--	--	--	--	0.21	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	--	--	--	--	1.8 J	--	--	--	--	--
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	--	--	--	--	<0.015 UJ	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	--	--	--	--	<0.015	--	--	--	--	--
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	--	--	--	--	<0.015	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	--	--	--	--	0.065	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	--	--	--	--	46	--	--	--	--	--
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	--	--	37 J-	--	--	--	--	--
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	--	--	--	--	37 J-	--	--	--	--	--
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	--	--	--	--	0.18	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	--	--	--	--	<0.015	--	--	--	--	--
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	--	--	--	--	0.66	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	--	--	--	--	0.68	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	--	--	--	--	5.4	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	--	--	--	--	3.6 J-	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	--	--	--	--	7.1	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	--	--	--	--	1.4	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	--	--	--	--	0.65	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	--	--	--	--	0.80	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	--	--	--	--	0.49	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	--	--	--	--	0.45	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	--	--	--	--	0.42	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	--	--	--	--	0.33	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	--	--	--	--	0.44	--	--	--	--	--
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	--	--	--	--	0.29	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	--	--	--	--	0.13	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	--	--	--	--	0.022	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	--	--	--	--	0.65	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	--	--	--	--	5.0	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	--	--	--	--	0.66	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	--	--	--	--	0.13	--	--	--	--	--
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	--	--	--	--	1.5	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	--	--	--	--	8.2	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	--	--	--	--	2.4	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	--	--	--	--	7.7	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	--	--	--	--	0.34	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	--	--	--	--	3.2	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	--	--	--	--	4.3	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	--	--	--	--	2.4 J-	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	--	--	--	--	2.9	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	--	--	--	--	3.2	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	--	--	--	--	2.0	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	--	--	--	--	1.3	--	--	--	--	--
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	--	--	--	--	<0.030	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	--	--	--	--	<0.015	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	--	--	--	--	<0.015	--	--	--	--	--
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	--	--	--	--	0.10	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	--	--	--	--	0.86	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	--	--	--	--	0.49	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	--	--	--	--	0.18	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	--	--	--	--	0.12	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	--	--	--	--	0.95	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	--	--	--	--	2.8	--	--	--	--	--
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	--	--	--	--	0.043	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	--	--	--	--	<0.015	--	--	--	--	--
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	--	--	--	--	0.029	--	--	--	--	--
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	--	--	--	--	0.38	--	--	--	--	--
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	--	--	--	--	1.3 J	--	--	--	--	--
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	--	--	--	--	2.2 J	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	--	--	--	--	2.6	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	--	--	--	--	2.2	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	--	--	--	--	5.6	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	--	--	--	--	3.6	--	--	--	--	--
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	--	--	--	--	0.44	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	--	--	--	--	2.2	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	--	--	--	--	1.5	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	--	--	--	--	2.2	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	--	--	--	--	2.9	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	--	--	--	--	5.9	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	--	--	--	--	5.4	--	--	--	--	--
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	--	--	--	--	2.3	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	--	--	--	--	1.5	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	--	--	--	--	0.75	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	--	--	--	--	0.42	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	--	--	--	--	1.1	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	--	--	--	--	0.38	--	--	--	--	--
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	--	--	--	--	0.086	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	--	--	--	--	0.10	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B									
							Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Silicon
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	--	--	--	--	0.14	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	--	--	--	--	0.095	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	--	--	--	--	0.12	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	--	--	--	--	0.14	--	--	--	--	--
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	--	--	--	--	0.051	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	--	--	--	--	0.16	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	--	--	--	--	0.64	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	--	--	--	--	0.69	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	--	--	--	--	0.21	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	--	--	--	--	<0.015	--	--	--	--	--
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	--	--	--	--	1.1	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	--	--	--	--	4.9	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	--	--	--	--	6.3	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	--	--	--	--	7.2	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	--	--	--	--	6.7	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	--	--	--	--	5.6	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	--	--	--	--	5.3	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	--	--	--	--	4.4	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	--	--	--	--	4.3	--	--	--	--	--
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	--	--	--	--	3.8	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	--	--	--	--	3.5	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	--	--	--	--	3.9	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	--	--	--	--	2.6	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--	--	--
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	<0.0050	540	6.0	<0.050	<0.0025	<0.050	0.060	<0.012	<0.50	91
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--	--	--
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--	--	--
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--	--	--
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--	--	--
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	<0.010	1,100	11	<0.10	0.050	<0.10	0.044	<0.024	<0.50	66
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--	--	--
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--	--	--
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--	--	--
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--	--	--
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--	--	--
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--	--	--
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--	--	--
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--	--	--
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	--	--	--	--	--	--	--	--	--	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--	--	--
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--	--	--
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--	--	--
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6010B								Total Metals by SW6020A	
							Silver	Sodium	Strontium	Tin	Titanium	Tungsten	Vanadium	Zinc	Antimony	Arsenic
							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--	--	--
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	--	--	--	--	--	--	--	--
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	50	<0.50	--	--	--	--	--	--
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	--	--	--	--	--	--	--	--
PC-88	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194090-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196690-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM10	5/2/2018	FD	440-210430-9	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM11	7/12/2018	FD	440-215717-12	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM15	10/11/2018	FD	440-222092-16	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242201-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254148-3	Alluvium	40.0 - 50.0	--	--	--	--	--	--	--	--
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-4	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-91 (continued)	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	--	--	--	--	--	--	--	--
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM04	10/12/2017	FD	440-194204-5	Alluvium	26.5 - 36.5	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM06	11/16/2017	FD	440-196786-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM07	12/14/2017	FD	440-198571-8	Alluvium	26.5 - 36.5	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM09	3/26/2018	FD	440-207137-3	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	--	--	--	--	--	--	--	--
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	26	<0.50	--	--	--	--	--	--
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	--	--	--	--	--	--	--	--
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM04	10/11/2017	FD	440-194242-6	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-12	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
PC-97 (continued)	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	--	--	--	--	--	--	--	--
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	--	--	--	--	--	--	--	--
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	--	--	--	--	--	--	--	--
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--
	BL02	7/11/2017	FD	440-188133-12	Alluvium	19.8 - 34.6	--	--	--	--	--	--	--	--
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	--	--	--	--	--	--	--	--
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	--	--	--	--	--	--	--	--
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	--	--	--	--	--	--	--	--
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	--	--	--	--	--	--	--	--
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--
	BL02	7/12/2017	FD	440-188244-3	Alluvium	26.6 - 46.4	--	--	--	--	--	--	--	--
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	--	--	--	--	--	--	--	--
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	--	--	--	--	--	--	--	--
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	--	--	--	--	--	--	--	--
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	--	--	--	--	--	--	--	--
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	--	--	--	--	--	--	--	--
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	--	--	--	--	--	--	--	--
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	--	--	--	--	--	--	--	--
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	--	--	--	--	--	--	--	--
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	--	--	--	--	--	--	--	--
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	--	--	--	--	--	--	--	--
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	--	--	--	--	--	--	--	--
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	--	--	--	--	--	--	--	--
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	--	--	--	--	--	--	--	--
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	--	--	<1.5	<1.3	<1.3	<1.6 UJ	<1.8 UJ	<19

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW02 (continued)	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	--	--	--	--	--	--	--	--
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	BL01	3/30/2017	FD	440-181045-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<19
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	--	--	--	--	--	--	--	--
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	--	--	<0.29	<0.26	<0.26	<0.31	<0.35	<7.4
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	--	--	--	--	--	--	--	--
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	--	--	--	--	--	--	--	--
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210284-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM11	7/11/2018	FD	440-215585-3	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM15	10/10/2018	FD	440-221975-10	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM19	5/20/2019	FD	440-242015-2	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
	EM22	11/6/2019	FD	440-254027-5	Alluvium	11.8 - 21.4	--	--	--	--	--	--	--	--
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	--	--	--	--	--	--	--	--
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW07A (continued)	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	--	--	--	--	--	--	--	--
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	--	--	--	--	--	--	--	--
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	--	--	--	--	--	--	--	--
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	--	--	--	--	--	--	--	--
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	--	--	--	--	--	--	--	--
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	BL01	3/29/2017	FD	440-180937-5	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW09B (continued)	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	--	--	--	--	--	--	--	--
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM06	11/16/2017	FD	440-196786-6	Alluvium	20.4 - 35.0	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
	EM07	12/12/2017	FD	440-198371-11	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	--	--	<2.9	<2.6	<2.6	5.8 J	<3.5	<3.7
	EM08	2/20/2018	FD	440-203841-5	Alluvium	20.4 - 35.0	--	--	<2.9	<2.6	<2.6	5.3 J	<3.5	<3.7
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	--	--	<1.5	<1.3	<1.3 UJ	<1.6 UJ	<1.8	<1.9
	EM09	3/26/2018	FD	440-207137-8	Alluvium	20.4 - 35.0	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	--	--	<2.9 UJ	<2.6 UJ	<2.6 UJ	<3.1 UJ	<3.5 UJ	<3.7 UJ
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9 UJ
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	--	--	--	--	--	--	--	--
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	--	--	--	--	--	--	--	--
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	--	--	<5.8	<5.2	<5.2 UJ	<6.2	<7.0	<7.4 UJ
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	FD	440-203937-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	FD	440-207497-8	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM10	5/1/2018	FD	440-210367-1	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM11	7/12/2018	FD	440-215717-18	Alluvium	14.8 - 39.6	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<1.9
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM15	10/11/2018	FD	440-222092-11	Alluvium	14.8 - 39.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	FD	440-242200-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM22	11/7/2019	FD	440-254150-4	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--

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Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW12 (continued)	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM22	11/26/2019	FD	440-255698-2	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	--	--	<5.8	<5.2	<5.2	<6.2	<7.0	<7.4
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	--	--	--	--	--	--	--	--
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	--	--	<5.8	<5.2	<5.2	<6.2	<7.0	<7.4
	BL02	7/12/2017	FD	440-188244-9	Alluvium	16.8 - 36.6	--	--	<5.8	<5.2	<5.2	<6.2	<7.0	<7.4
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	--	--	<0.29	<0.26	<0.26	<0.31	<0.35	<7.4
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	--	--	1,400	<5.2	6.9 J	<6.2	100 J+	<7.4
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	--	--	460	<13	<13	<16	<18	<19
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	--	--	160	<13	<13	<16	<18	<19
	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	--	--	420	<13	<13	<16	<18	<19
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	--	--	330	<13	<13	<16	<18	<19
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	--	--	230	<2.6	<2.6	<3.1	<3.5	<3.7
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	--	--	190	<2.6	<2.6	<3.1	<3.5	<3.7
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	--	--	<5.8 UJ	<5.2 UJ	<5.2 UJ	<6.2 UJ	<7.0 UJ	<7.4 UJ
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	--	--	--	--	--	--	--	--
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	--	--	490	<5.2	<5.2	<6.2	<7.0	<7.4
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	--	--	270	<2.6	<2.6	<3.1	<3.5	<3.7
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	--	--	<2.9	<2.6	<2.6	7.0 J	<3.5	<3.7
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	--	--	<0.29	<0.26	<0.26	<0.31	<0.35	<3.7
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	--	--	8.2	<1.3	<1.3	<1.6	<1.8	<1.9
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	--	--	--	--	--	--	--	--
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM06	11/15/2017	FD	440-196659-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM07	12/13/2017	FD	440-198508-7	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	--	--	--	--	--	--	--	--
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	--	--	<5.8	<5.2	<5.2	<6.2	<7.0	<7.4
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM09	3/27/2018	FD	440-207268-12	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	--	--	--	--	--	--	--	--
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	--	--	<5.8	<5.2	<5.2	<6.2	<7.0	<7.4
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM10	4/30/2018	FD	440-210173-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM11	7/10/2018	FD	440-215437-11	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM15	10/9/2018	FD	440-221855-5	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW19 (continued)	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM19	5/21/2019	FD	440-242084-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
	EM22	11/5/2019	FD	440-253891-7	Alluvium	11.3 - 31.1	--	--	--	--	--	--	--	--
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	--	--	<1.5	<1.3	<1.3	<1.6	<1.8	<19
	EM04	10/12/2017	FD	440-194202-2	Alluvium	12.8 - 37.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	--	--	<5.8 UJ	<5.2 UJ	<5.2 UJ	<6.2 UJ	<7.0 UJ	<7.4 UJ
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	--	--	<2.9	<2.6	<2.6	10	36	<3.7
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7 UJ
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM08	2/20/2018	FD	440-203841-10	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	--	--	--	--	--	--	--	--
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	--	--	<5.8 UJ	<5.2 UJ	<5.2 UJ	<6.2 UJ	<7.0 UJ	<7.4 UJ
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	--	--	--	--	--	--	--	--
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	--	--	<2.9	<2.6	<2.6	<3.1	<3.5	<3.7
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	Total Metals by SW6020A		Volatile Fatty Acids (IC)					
							Selenium	Thallium	Acetic Acid	Butyric Acid	Formic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid
							µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SWFTS-MW23 (continued)	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	--	--	--	--	--	--	--	--
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	--	--	<5.8 UJ	<5.2 UJ	<5.2 UJ	<6.2 UJ	<7.0 UJ	<7.4 UJ
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	--	--	--	--	--	--	--	--
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	--	--	<5.8 UJ	<5.2 UJ	<5.2 UJ	<6.2 UJ	<7.0 UJ	<7.4 UJ
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	--	--	--	--	--	--	--	--

Table G.2
Groundwater Analytical Results Summary - Secondary Parameters
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval

Notes:

FD - Field duplicate

J - The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J- - The result is an estimated quantity, but the result may be biased low.

J+ - The result is an estimated quantity, but the result may be biased high.

mg/L - milligrams per liter

µg/L - micrograms per liter

N - Normal field sample

UJ - The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

UMCf- Upper Muddy Creek Formation

< - The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

---- Not tested.

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
COH-2B1	BL02	8/9/2017	N	440-189933-1	Unknown	36.0 - 66.0	3.590	1.14	0.00 U	358	6.21	0.00 U	--	0.00
	EM01	9/22/2017	N	440-192818-16	Unknown	36.0 - 66.0	3.555	1.19	--	30.4	7.01	--	--	294
	EM03	10/5/2017	N	440-193712-10	Unknown	36.0 - 66.0	4.054	0.14	--	-6.3	6.93	--	--	13.87
	EM04	10/12/2017	N	440-194204-2	Unknown	36.0 - 66.0	3.913	7.92	0.0 U	146.6	6.98	0.0 U	--	99.0
	EM05	10/26/2017	N	440-195136-4	Unknown	36.0 - 66.0	4.260	0.40	--	97.5	7.08	--	--	8.43
	EM07	12/14/2017	N	440-198571-5	Unknown	36.0 - 66.0	4.180	-0.06 E	0.00 U	-95.4	7.32	0.00 U	--	7.56
	EM08	2/22/2018	N	440-204033-6	Unknown	36.0 - 66.0	4.046	0.34	0.00 U	-5.1	7.26	0.00 U	--	7.16
	EM09	3/29/2018	N	440-207586-2	Unknown	36.0 - 66.0	3.974	0.41	--	96.9	7.21	--	--	20.9
	EM10	5/2/2018	N	440-210430-11	Unknown	36.0 - 66.0	3.81	0.00	--	114	7.26	--	22.25	31.2
	EM11	7/10/2018	N	440-215437-6	Unknown	36.0 - 66.0	4.627	0.47	0 U	-32.2	7.19	0 U	25.09	350
	EM13	8/16/2018	N	440-218296-11	Unknown	36.0 - 66.0	4.033	0.50	--	-136	7.10	--	28.08 E	20.4
	EM14	9/11/2018	N	440-219886-10	Unknown	36.0 - 66.0	4.710	2.18	--	57	7.29	--	19.41	182
	EM15	10/11/2018	N	440-222092-1	Unknown	36.0 - 66.0	4.07	2.79	0 U	39	7.27	0 U	20.28	138
	EM16	1/3/2019	N	440-229111-4	Unknown	36.0 - 66.0	4.624	0.97	--	93.7	7.24	--	21.51	179
	EM17	2/25/2019	N	440-234705-2	Unknown	36.0 - 66.0	4.84	0.00	0.0 U	-44	8.05	0.0 U	22.22	200
	EM18	4/9/2019	N	440-238618-6	Unknown	36.0 - 66.0	3.282	0.56	--	174.6	6.99	--	22.6	41.5
	EM19	5/22/2019	N	440-242201-5	Unknown	36.0 - 66.0	3.507	0.12	0.0 U	219.5	7.13	0.0 U	20.5	7.7
	EM20	7/1/2019	N	440-245068-4	Unknown	36.0 - 66.0	3.167	0.37	--	7.6	7.24	--	24.6	153.2
	EM21	8/15/2019	N	440-248187-7	Unknown	36.0 - 66.0	3.635	0.43	0 U	80.2	7.29	0 U	23.9	20.3
	EM22	11/4/2019	N	440-253773-1	Unknown	36.0 - 66.0	4.322	0.61	0 U	118.2	7.21	0 U	24.1	106.5
	EM23	12/18/2019	N	440-257733-1	Unknown	36.0 - 66.0	3.386	0.91	--	-6.3	7.21	--	21.4	56.27
LVWPS-MW101A	EM11	7/12/2018	N	440-215795-1	Alluvium	23.3 - 33.0	5.82	2.10	0 U	210	7.4	0 U	26.2	72
LVWPS-MW104	EM11	7/12/2018	N	440-215795-2	Alluvium	23.8 - 33.5	6.61	1.92	0 U	411	7.31	0 U	26.63	19.2
	EM13	8/15/2018	N	440-218208-8	Alluvium	23.8 - 33.5	20.4 E	3.79	--	226	7.20	--	20.43	17.4
	EM14	9/13/2018	N	440-220125-8	Alluvium	23.8 - 33.5	4.690	2.84	--	-21.9	7.56	--	23.93	20.9
	EM15	10/10/2018	N	440-221975-5	Alluvium	23.8 - 33.5	6.79	4.3	0 U	143	7.82	0 U	20.39	16.7
LVWPS-MW107A	EM11	7/12/2018	N	440-215795-7	Alluvium	24.8 - 34.5	6.6	4.00	0 U	144	7.51	0 U	19.77	0
LVWPS-MW108A	EM11	7/12/2018	N	440-215795-5	Alluvium	20.8 - 40.7	6.48	3.86	0 U	253	7.39	0 U	20.42	0
	EM13	8/15/2018	N	440-218208-6	Alluvium	20.8 - 40.7	20 E	2.73	--	105	6.94	--	20.32	8.8
	EM14	9/13/2018	N	440-220125-4	Alluvium	20.8 - 40.7	6.210	3.08	--	237	7.29	--	20.81	24.7
	EM15	10/10/2018	N	440-221975-1	Alluvium	20.8 - 40.7	6.37	2.96	0 U	167	7.18	0 U	23.63	24.8
LVWPS-MW109	EM11	7/12/2018	N	440-215795-3	Alluvium	36.8 - 51.5	6.738	0.40	0 U	-11.6	6.73	0 U	25.69	128
	EM13	8/15/2018	N	440-218208-7	Alluvium	36.8 - 51.5	19.6 E	2.30	--	236	7.05	--	20.79	0.9
	EM14	9/13/2018	N	440-220125-1	Alluvium	36.8 - 51.5	5.965	0.59	--	173.5	6.99	--	24.60	13.33
	EM15	10/10/2018	N	440-221975-6	Alluvium	36.8 - 51.5	6.4	2.71	0 U	163	7.38	0 U	21.18	4.1
LVWPS-MW111A	EM11	7/12/2018	N	440-215795-8	Alluvium	20.8 - 40.5	6.54	3.34	0 U	177	7.31	0 U	26.55	1000
	EM13	8/15/2018	N	440-218208-9	Alluvium	20.8 - 40.5	20.2 E	2.23	--	153	7.17	--	20.83	2.6
	EM14	9/13/2018	N	440-220125-2	Alluvium	20.8 - 40.5	6.253	0.35	--	131	7.10	--	24.85	52.7
	EM15	10/10/2018	N	440-221975-2	Alluvium	20.8 - 40.5	6.62	0.95	0 U	118	7.13	0 U	25.07	51.2
LVWPS-MW112A	EM11	7/12/2018	N	440-215795-4	Alluvium	28.8 - 48.0	6.534	0.89	0 U	8	6.81	0 U	25.78	441
	EM15	10/10/2018	N	440-221975-4	Alluvium	28.8 - 48.0	6.26	1.91	0 U	176	7.12	0 U	26.3	43.5

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
PC-58	BL01	3/28/2017	N	440-180820-1	Alluvium	7.8 - 32.8	4.525	0.15	--	-112.6	7.06	--	--	1.35
	BL02	7/13/2017	N	440-188324-3	Alluvium	7.8 - 32.8	4.560	0.00	0.0 U	92.0	7.40	0.00 U	--	2.20
	EM04	10/11/2017	N	440-194094-6	Alluvium	7.8 - 32.8	3.738	3.40	0.0 U	107.1	7.14	0.0 U	--	8.17
	EM06	11/16/2017	N	440-196786-11	Alluvium	7.8 - 32.8	4.250	0.65	0.0 U	7.4	7.25	0.00 U	--	46.10
	EM07	12/14/2017	N	440-198571-9	Alluvium	7.8 - 32.8	4.602	0.29	0.0 U	-70.5	6.45	0.00 U	--	13.30
	EM08	2/21/2018	N	440-203937-13	Alluvium	7.8 - 32.8	4.500	2.49	0.0 U	143.0	7.92	0.00 U	--	0.00
	EM09	3/28/2018	N	440-207497-6	Alluvium	7.8 - 32.8	4.100	4.31	--	229	7.35	--	--	33.0
	EM10	5/2/2018	N	440-210430-10	Alluvium	7.8 - 32.8	4.119	0.71	--	-168.4	7.59	--	22.83	4.25
	EM11	7/11/2018	N	440-215717-7	Alluvium	7.8 - 32.8	4.69	1.17	0.00 U	-30.00	7.24	0.00 U	27.38 E	4.01
	EM13	8/15/2018	N	440-218208-5	Alluvium	7.8 - 32.8	4.596	0.38	--	-145.3	7.11	--	26.24	6.22
	EM14	9/13/2018	N	440-220125-5	Alluvium	7.8 - 32.8	3.970	2.74	--	160	7.51	--	20.99	3.6
	EM15	10/11/2018	N	440-222092-19	Alluvium	7.8 - 32.8	3.51	0	0 U	131	7	0 U	24.61	17.6
	EM16	1/3/2019	N	440-229111-7	Alluvium	7.8 - 32.8	3.607	0.83	--	103.9	7.29	--	22.06	4.32
	EM17	3/1/2019	N	440-235133-2	Alluvium	7.8 - 32.8	4.129	0.41	0.0 U	29.5	7.22	0.0 U	21.92	1.27
	EM18	4/9/2019	N	440-238618-10	Alluvium	7.8 - 32.8	3.761	3.68	--	131.2	7.39	--	24.2	36.3
	EM19	5/22/2019	N	440-242200-7	Alluvium	7.8 - 32.8	4.270	1.68	0.0 U	87.7	7.27	0.0 U	21.4	38.9
	EM20	7/5/2019	N	440-245261-5	Alluvium	7.8 - 32.8	3.772	0.43	--	147.6	7.16	--	23.5	14.1
	EM21	8/15/2019	N	440-248187-8	Alluvium	7.8 - 32.8	3.714	0.47	0 U	97.8	7.36	0 U	24.5	9.3
	EM22	11/7/2019	N	440-254148-1	Alluvium	7.8 - 32.8	3.531	0.64	0 U	201.3	7.32	0 U	21.4	5.6
	EM23	12/20/2019	N	440-257938-9	Alluvium	7.8 - 32.8	3.688	1.00	--	52.5	7.24	--	21.8	1.15
PC-88	EM01	9/22/2017	N	440-192818-10	Alluvium	40.0 - 50.0	4.962	4.15	--	14.1	7.12	--	--	95.2
	EM02	9/28/2017	N	440-193167-7	Alluvium	40.0 - 50.0	8.435	1.13	--	87.5	6.96	--	--	10.03
	EM03	10/4/2017	N	440-193622-6	Alluvium	40.0 - 50.0	9.584	0.21	--	20.0	6.97	--	--	3.74
	EM04	10/11/2017	N	440-194090-2	Alluvium	40.0 - 50.0	5.160	0.37	0.0 U	233	4.64 E	0.0 U	--	0.40
	EM05	10/25/2017	N	440-195026-9	Alluvium	40.0 - 50.0	5.483	0.37	--	61.8	7.27	--	--	13.9
	EM06	11/15/2017	N	440-196690-9	Alluvium	40.0 - 50.0	5.020	0.46	0.00 U	165.1	6.83	0.00 U	--	5.71
	EM07	12/14/2017	N	440-198571-11	Alluvium	40.0 - 50.0	5.310	0.68	0.00 U	32.0	7.63	0.00 U	--	9.26
	EM08	2/22/2018	N	440-204033-10	Alluvium	40.0 - 50.0	3.963	0.29	0.00 U	-43.2	6.82	0.00 U	--	5.35
	EM09	3/29/2018	N	440-207586-3	Alluvium	40.0 - 50.0	3.784	0.45	--	-82.5	7.59	--	--	0.71
	EM10	5/2/2018	N	440-210430-8	Alluvium	40.0 - 50.0	3.701	0.50	--	-192.8	7.81	--	24.21	3.45
	EM11	7/12/2018	N	440-215717-11	Alluvium	40.0 - 50.0	4.99	0.89	0.00 U	-2.80	7.07	0.00 U	26.54	15.42
	EM13	8/16/2018	N	440-218296-9	Alluvium	40.0 - 50.0	4.446	3.31	--	-133	7.23	--	27.27 E	8.8
	EM14	9/12/2018	N	440-220031-15	Alluvium	40.0 - 50.0	4.930	2.28	--	146	7.35	--	21.15	3.9
	EM15	10/11/2018	N	440-222092-15	Alluvium	40.0 - 50.0	4.83	0	0 U	125	7.02	0 U	23.51	30.2
	EM16	1/3/2019	N	440-229111-5	Alluvium	40.0 - 50.0	4.026	0.93	--	105.2	7.35	--	21.63	4.03
	EM17	2/28/2019	N	440-235000-8	Alluvium	40.0 - 50.0	3.812	0.35	0.0 U	86.5	7.31	0.0 U	22.90	3.95
	EM18	4/9/2019	N	440-238618-7	Alluvium	40.0 - 50.0	3.706	0.54	--	147.9	7.23	--	24.1	8.7
	EM19	5/22/2019	N	440-242201-2	Alluvium	40.0 - 50.0	3.674	0.05	0.0 U	213.5	7.22	0.0 U	23.6	4.9
	EM20	7/5/2019	N	440-245261-3	Alluvium	40.0 - 50.0	3.475	0.39	--	138.9	7.24	--	24.7	4.9

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
PC-88 (continued)	EM21	8/15/2019	N	440-248187-9	Alluvium	40.0 - 50.0	3.505	0.39	0 U	100.1	7.43	0 U	25.7	12.8
	EM22	11/7/2019	N	440-254148-2	Alluvium	40.0 - 50.0	4.149	0.64	0 U	194.9	7.34	0 U	23.0	2.8
	EM23	12/20/2019	N	440-257938-7	Alluvium	40.0 - 50.0	3.724	0.83	--	45.3	7.31	--	22.1	9.17
PC-91	BL01	3/29/2017	N	440-180937-1	Alluvium	11.5 - 21.5	3.855	0.25	--	-160.1	7.77	--	--	3.84
	BL02	7/12/2017	N	440-188247-5	Alluvium	11.5 - 21.5	3.740	0.31	0.0 U	132.5	7.28	0.00 U	--	10.20
	EM01	9/21/2017	N	440-192728-6	Alluvium	11.5 - 21.5	3.512	0.47	--	72.8	7.00	--	--	9.77
	EM02	9/27/2017	N	440-193062-16	Alluvium	11.5 - 21.5	3.589	0.72	--	31.5	7.11	--	--	18.61
	EM03	10/4/2017	N	440-193625-2	Alluvium	11.5 - 21.5	6.863	0.19	--	-13.3	6.98	--	--	1.82
	EM04	10/12/2017	N	440-194204-3	Alluvium	11.5 - 21.5	3.810	0.38 E	0.0 U	214 E	4.58 E	0.0 U	--	0.0
	EM05	10/25/2017	N	440-195026-4	Alluvium	11.5 - 21.5	3.868	0.55	--	10.6	7.52	--	--	2.00
	EM06	11/16/2017	N	440-196786-8	Alluvium	11.5 - 21.5	3.700	0.82	0.0 U	-21.1	7.29	0.00 U	--	4.57
	EM07	12/13/2017	N	440-198508-9	Alluvium	11.5 - 21.5	3.860	0.37	0.0 U	-72.9	7.20	0.00 U	--	3.91
	EM08	2/20/2018	N	440-203841-1	Alluvium	11.5 - 21.5	3.989	0.82	0.0 U	74.9	7.15	0.00 U	--	4.49
	EM09	3/26/2018	N	440-207137-1	Alluvium	11.5 - 21.5	4.343	1.02	0.0 U	66.8	6.96	0.0 U	22.67	4.69
	EM10	5/1/2018	N	440-210284-3	Alluvium	11.5 - 21.5	4.077	0.64	--	-193.2	7.22	--	22.28	8.00
	EM11	7/11/2018	N	440-215585-6	Alluvium	11.5 - 21.5	4.39	3.08	0 U	-29.6	6.75	0 U	25.53	7.06
	EM12	7/27/2018	N	440-216872-16	Alluvium	11.5 - 21.5	4.02	0.77	--	31.8	6.95	--	24.55	5.01
	EM13	8/14/2018	N	440-218109-1	Alluvium	11.5 - 21.5	3.849	1.08	--	312.3	4.42 E	--	24.09	30.3
	EM14	9/12/2018	N	440-220031-12	Alluvium	11.5 - 21.5	4.070	3.12	--	64	6.83	--	20.05	4.4
	EM15	10/10/2018	N	440-221975-16	Alluvium	11.5 - 21.5	4.26	0	--	127	7.05	--	26.07	14.2
	EM16	12/20/2018	N	440-228491-4	Alluvium	11.5 - 21.5	4.702	0.68	--	-99.2	6.76	--	24.37	6.02
	EM17	2/26/2019	N	440-234812-3	Alluvium	11.5 - 21.5	4.134	0.47	0.0 U	26.4	6.63	0.0 U	24.23	2.40
	EM18	4/10/2019	N	440-238544-6	Alluvium	11.5 - 21.5	4.448	1.41	--	70.0	6.58	--	24.06	4.01
	EM19	5/21/2019	N	440-242084-9	Alluvium	11.5 - 21.5	4.170	0.05	0.0 U	169.0	6.54	0.0 U	25.1	18.6
	EM20	7/1/2019	N	440-245046-1	Alluvium	11.5 - 21.5	4.451	0.42	--	65.2	6.65	--	25.8	9.4
	EM21	8/12/2019	N	440-247878-1	Alluvium	11.5 - 21.5	4.222	0.44	0 U	159.2	6.64	0 U	24.4	6.7
	EM22	11/6/2019	N	440-254027-3	Alluvium	11.5 - 21.5	5.149	0.56	0 U	221.6	6.66	0 U	26.9	16.2
	EM23	12/17/2019	N	440-257635-9	Alluvium	11.5 - 21.5	4.563	8.61	--	-59.4	6.55	--	25.0	29.22
PC-92	BL01	3/29/2017	N	440-180937-2	Alluvium	26.5 - 36.5	5.528	0.35	--	92.4	7.23	--	--	13.40
	BL02	7/12/2017	N	440-188247-6	Alluvium	26.5 - 36.5	4.500	0.31	0.00 U	109.3	7.24	0.00 U	--	151.00
	EM01	9/21/2017	N	440-192728-7	Alluvium	26.5 - 36.5	3.809	0.41	--	49.4	7.04	--	--	65.7
	EM02	9/27/2017	N	440-193062-8	Alluvium	26.5 - 36.5	3.957	0.45	--	-10.3	7.12	--	--	32.70
	EM03	10/4/2017	N	440-193625-3	Alluvium	26.5 - 36.5	7.421	0.12	--	-17.2	6.98	--	--	43.20
	EM04	10/12/2017	N	440-194204-4	Alluvium	26.5 - 36.5	4.650	9.88 E	0.0 U	361 E	0 E	0.0 U	--	26.30
	EM05	10/25/2017	N	440-195026-3	Alluvium	26.5 - 36.5	4.699	0.30	--	-77.9	7.45	--	--	19.66
	EM06	11/16/2017	N	440-196786-9	Alluvium	26.5 - 36.5	3.750	0.42	0.00 U	-197.9	7.35	0.40	--	73.50
	EM07	12/14/2017	N	440-198571-7	Alluvium	26.5 - 36.5	4.062	3.78	0.00 U	-214.2	7.46	0.00 U	--	22.60
	EM08	2/20/2018	N	440-203841-2	Alluvium	26.5 - 36.5	4.013	4.60	0.00 U	52.5	7.52	0.00 U	--	16.89

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
PC-92 (continued)	EM09	3/26/2018	N	440-207137-2	Alluvium	26.5 - 36.5	4.900	0.51	--	63.4	7.12	--	22.19	14.32
	EM10	5/1/2018	N	440-210284-4	Alluvium	26.5 - 36.5	5.014	0.70	--	-180.5	7.49	--	23.09	8.30
	EM11	7/11/2018	N	440-215585-5	Alluvium	26.5 - 36.5	5.26	1.47	0 U	-31.3	7.1	0 U	27.1 E	50.2
	EM12	7/27/2018	N	440-216872-15	Alluvium	26.5 - 36.5	4.47	0.28	--	40.1	7.35	--	24.22	4.68
	EM13	8/15/2018	N	440-218208-1	Alluvium	26.5 - 36.5	4.109	0.98	--	-175.4	7.15	--	23.97	7.2
	EM14	9/12/2018	N	440-220031-13	Alluvium	26.5 - 36.5	4.270	2.95	--	93	7.35	--	19.28	28.2
	EM15	10/11/2018	N	440-222092-17	Alluvium	26.5 - 36.5	4.42	0	0 U	--	7.02	0 U	23.47	--
	EM16	12/20/2018	N	440-228491-5	Alluvium	26.5 - 36.5	4.381	0.72	--	-76	7.24	--	22.08	45.6
	EM17	2/26/2019	N	440-234812-2	Alluvium	26.5 - 36.5	3.560	0.56	0.0 U	-54.1	7.18	0.0 U	21.80	9.33
	EM18	4/10/2019	N	440-238544-7	Alluvium	26.5 - 36.5	3.728	0.84	--	70.4	7.17	--	24.13	7.11
	EM19	5/21/2019	N	440-242084-10	Alluvium	26.5 - 36.5	3.275	0.09	0.0 U	185.1	7.20	0.0 U	23.9	9.5
	EM20	7/1/2019	N	440-245046-2	Alluvium	26.5 - 36.5	3.685	0.42	--	74.1	7.25	--	23.8	25.8
	EM21	8/12/2019	N	440-247878-2	Alluvium	26.5 - 36.5	3.310	0.41	0 U	132.7	7.26	0 U	24.2	7.2
	EM22	11/6/2019	N	440-254027-2	Alluvium	26.5 - 36.5	4.301	0.56	0 U	202.7	7.24	0 U	22.9	8.2
	EM23	12/17/2019	N	440-257635-10	Alluvium	26.5 - 36.5	3.282	0.67	--	-60.0	7.18	--	21.9	9.03
PC-94	BL01	3/28/2017	N	440-180820-2	Alluvium	9.5 - 19.5	7.390	0.33	--	-30.5	6.93	--	--	11.40
	BL02	7/13/2017	N	440-188325-1	Alluvium	9.5 - 19.5	7.210	0.41	0.0 U	113.9	7.07	0.0 U	--	120.00
	EM01	9/20/2017	N	440-192728-5	Alluvium	9.5 - 19.5	7.409	0.15	--	38.2	7.11	--	--	47.2
	EM02	9/26/2017	N	440-193062-14	Alluvium	9.5 - 19.5	8.264	0.19	--	-67.8	7.14	--	--	61.0
	EM03	10/5/2017	N	440-193712-18	Alluvium	9.5 - 19.5	7.347	0.13	--	-162.2	6.61	--	--	27.5
	EM04	10/11/2017	N	440-194090-6	Alluvium	9.5 - 19.5	7.232	0.55	0.50	-112.4	6.64	0.00 U	--	125
	EM05	10/26/2017	N	440-195136-1	Alluvium	9.5 - 19.5	7.197	3.80	--	28.1	7.06	--	--	353
	EM06	11/16/2017	N	440-196786-17	Alluvium	9.5 - 19.5	6.900	0.50	0.00 U	-63.2	6.94	0.00 U	--	298
	EM07	12/12/2017	N	440-198371-14	Alluvium	9.5 - 19.5	7.086	0.19	0.00 U	-24.6	7.26	0.00 U	--	269
	EM08	2/21/2018	N	440-203937-12	Alluvium	9.5 - 19.5	6.330	3.75	0.00 U	177	7.92	0.00 U	--	90.5
	EM09	3/27/2018	N	440-207268-8	Alluvium	9.5 - 19.5	6.270	2.07	--	204	7.27	--	--	50.1
	EM10	5/1/2018	N	440-210284-14	Alluvium	9.5 - 19.5	6.29	0.00	--	170	7.14	--	25.10	69.2
	EM11	7/10/2018	N	440-215437-1	Alluvium	9.5 - 19.5	6.22	0.10	0 U	214	6.99	0 U	25.96	1000
	EM12	7/27/2018	N	440-216872-12	Alluvium	9.5 - 19.5	7.10	0.25	--	31.6	7.08	--	30.4 E	143
	EM13	8/15/2018	N	440-218208-2	Alluvium	9.5 - 19.5	6.458	1.53	--	-145.3	6.86	--	27.01 E	159
	EM14	9/11/2018	N	440-219886-9	Alluvium	9.5 - 19.5	5.770	1.67	--	135	7.04	--	23.59	83.7
	EM15	10/11/2018	N	440-222092-18	Alluvium	9.5 - 19.5	5.91	0	0 U	129	6.77	0 U	27.39 E	168
	EM16	12/28/2018	N	440-228887-2	Alluvium	9.5 - 19.5	5.259	4.54	--	152	7.01	--	21.73	669
	EM17	2/27/2019	N	440-234938-1	Alluvium	9.5 - 19.5	4.952	0.74	0.0 U	100.5	6.99	0.0 U	21.74	97
	EM18	4/11/2019	N	440-238688-6	Alluvium	9.5 - 19.5	4.884	1.43	--	122.6	6.84	--	24.3	72.2
	EM19	5/22/2019	N	440-242201-4	Alluvium	9.5 - 19.5	5.208	0.05	0.0 U	210.0	6.83	0.0 U	23.3	9.1
	EM20	7/5/2019	N	440-245259-1	Alluvium	9.5 - 19.5	4.668	4.35	--	201.7	7.25	--	25.1	115.5
	EM21	8/12/2019	N	440-247878-4	Alluvium	9.5 - 19.5	5.275	1.19	0 U	142.6	7.01	0 U	25.4	15
	EM22	11/6/2019	N	440-254027-1	Alluvium	9.5 - 19.5	5.175	3.82	0 U	330.2	7.28	0 U	21.7	6.2
	EM23	12/19/2019	N	440-257866-4	Alluvium	9.5 - 19.5	4.653	1.78	--	129.7	7.07	--	21.4	1000 >
PC-97	BL02	7/13/2017	N	440-188325-8	Alluvium	23.0 - 33.0	3.330	0.27	0.00 U	73.0	7.27	0.00 U	--	119.00
	EM01	9/22/2017	N	440-192818-13	Alluvium	23.0 - 33.0	3.574	0.39	--	-4.2	7.01	--	--	135
	EM02	9/28/2017	N	440-193167-9	Alluvium	23.0 - 33.0	6.338	4.28	--	92.6	7.05	--	--	98
	EM03	10/4/2017	N	440-193622-8	Alluvium	23.0 - 33.0	7.059	0.19	--	-10.2	6.94	--	--	36.7

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
PC-97 (continued)	EM04	10/11/2017	N	440-194242-5	Alluvium	23.0 - 33.0	3.910	0.48	0.0 U	5.0	5.04 E	0.0 U	--	32.5
	EM05	10/25/2017	N	440-195026-6	Alluvium	23.0 - 33.0	4.267	0.39	--	-130.5	7.21	--	--	85.6
	EM06	11/16/2017	N	440-196786-13	Alluvium	23.0 - 33.0	3.940	0.48	0.00 U	-161.4	7.33	0.80	--	13.8
	EM07	12/13/2017	N	440-198508-11	Alluvium	23.0 - 33.0	3.350	0.79	--	-20.0	7.75	--	--	43.0
	EM08	2/21/2018	N	440-203937-4	Alluvium	23.0 - 33.0	3.142	2.47	0.00 U	-6.3	7.36	0.00 U	--	5.33
	EM09	3/27/2018	N	440-207268-4	Alluvium	23.0 - 33.0	2.918	1.68	--	48.6	7.27	--	--	9.86
	EM10	5/1/2018	N	440-210284-7	Alluvium	23.0 - 33.0	2.867	2.10	--	-122.8	7.40	--	22.92	8.91
	EM11	7/10/2018	N	440-215437-3	Alluvium	23.0 - 33.0	3.03	3.45	0 U	144	7.27	0 U	27.14 E	128
	EM13	8/16/2018	N	440-218296-8	Alluvium	23.0 - 33.0	3.087	2.94	--	-140	7.18	--	24.51	25
	EM14	9/12/2018	N	440-220031-17	Alluvium	23.0 - 33.0	3.220	1.74	--	30	7.31	--	21.23	79.8
	EM15	10/11/2018	N	440-222092-13	Alluvium	23.0 - 33.0	2.675	0.71	0 U	-41.2	8.35 E	0 U	22.69	9.54
	EM16	1/3/2019	N	440-229111-3	Alluvium	23.0 - 33.0	2.934	1.07	--	115.2	7.29	--	20.05	60.9
	EM17	2/28/2019	N	440-235000-7	Alluvium	23.0 - 33.0	2.909	0.44	0.0 U	85.8	7.24	0.0 U	21.12	36.0
	EM18	4/9/2019	N	440-238618-9	Alluvium	23.0 - 33.0	2.701	0.53	--	125.6	7.22	--	22.7	45.3
	EM19	5/22/2019	N	440-242201-1	Alluvium	23.0 - 33.0	3.182	0.07	0.0 U	264.5	7.12	0.0 U	21.8	8.1
	EM20	7/5/2019	N	440-245261-2	Alluvium	23.0 - 33.0	3.185	0.41	--	135.2	7.12	--	22.3	9.0
	EM21	8/14/2019	N	440-248104-11	Alluvium	23.0 - 33.0	3.45	0.39	0 U	58.9	7.28	0 U	24.0	9
	EM22	11/6/2019	N	440-254027-7	Alluvium	23.0 - 33.0	3.211	0.56	0 U	192.0	7.28	0 U	22.2	5.8
	EM23	12/20/2019	N	440-257938-6	Alluvium	23.0 - 33.0	2.693	0.81	--	25.4	7.28	--	21.0	92.22
SWFTS-IW01A	BL02	7/11/2017	N	440-188133-3	Alluvium	15.8 - 25.6	7.960	0.55	--	116.8	7.18	--	--	16.1
	EM06	11/14/2017	N	440-196558-6	Alluvium	15.8 - 25.6	6.470	0.09	0.5	-306.6	6.74	0.60	--	739.00
SWFTS-IW01B	BL02	7/11/2017	N	440-188133-13	Alluvium	26.9 - 36.7	8.060	0.61	--	155	7.02	--	--	101
	EM06	11/15/2017	N	440-196690-5	Alluvium	26.9 - 36.7	6.470	0.17	0.5	-272.8	7.04	2.0 U	--	31.60
SWFTS-IW02A	BL02	7/11/2017	N	440-188133-14	Alluvium	16.8 - 26.6	8.570	0.57	--	166.3	7.05	--	--	1000 >
SWFTS-IW02B	BL02	7/11/2017	N	440-188133-2	Alluvium	26.3 - 36.1	8.110	0.46	--	179.8	7.15	--	--	752
SWFTS-IW03	BL02	7/11/2017	N	440-188133-4	Alluvium	16.8 - 36.6	7.780	0.48	--	112.5	7.20	--	--	137
SWFTS-IW04	BL02	7/11/2017	N	440-188133-11	Alluvium	19.8 - 34.6	7.350	0.42	--	159.9	7.02	--	--	1000 >
SWFTS-IW05	BL02	7/11/2017	N	440-188133-16	Alluvium	14.6 - 34.4	7.250	0.53	--	98.3	7.02	--	--	1000 >
SWFTS-IW06A	BL02	7/11/2017	N	440-188133-10	Alluvium	16.8 - 26.6	7.420	2.02	--	116.6	7.12	--	--	1000 >
	EM06	11/15/2017	N	440-196690-6	Alluvium	16.8 - 26.6	6.340	0.16	0.5	-292.7	6.80	2.0 U	--	0.00 E
SWFTS-IW06B	BL02	7/11/2017	N	440-188133-6	Alluvium	28.8 - 33.6	6.910	0.38	--	98.4	7.16	--	--	1000 >
	EM06	11/15/2017	N	440-196690-7	Alluvium	28.8 - 33.6	6.780	0.36	1.5	-330.0	6.30	2.0	--	-15 E
SWFTS-IW07	BL02	7/11/2017	N	440-188133-7	Alluvium	17.3 - 37.1	6.890	0.55	--	77	7.19	--	--	1000 >
SWFTS-IW08	BL02	7/12/2017	N	440-188247-7	Alluvium	17.5 - 37.3	7.420	0.79	--	124.2	7.03	--	--	1000 >
SWFTS-IW09	BL02	7/12/2017	N	440-188247-8	Alluvium	26.6 - 46.4	6.820	0.47	--	77.1	7.10	--	--	1000 >
SWFTS-IW10	BL02	7/12/2017	N	440-188247-9	Alluvium	26.8 - 46.6	6.520	0.30	--	82.1	7.11	--	--	74
SWFTS-IW11	BL02	7/12/2017	N	440-188247-3	Alluvium	17.3 - 37.1	4.880	0.38	--	124.6	7.18	--	--	150.0

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-IW12	BL02	7/12/2017	N	440-188247-4	Alluvium	14.3 - 39.1	5.220	0.51	--	146.8	7.26	--	--	1000 >
SWFTS-IW13A	BL02	7/11/2017	N	440-188133-1	Alluvium	15.8 - 25.6	8.070	0.54	--	203.1	7.13	--	--	85.7
SWFTS-IW13B	BL02	7/11/2017	N	440-188133-15	Alluvium	27.8 - 37.6	8.410	0.46	--	133.0	6.99	--	--	1000 >
SWFTS-IW14	BL02	7/12/2017	N	440-188247-1	Alluvium	16.2 - 36.1	8.500	0.49	--	156.8	6.92	--	--	1000 >
SWFTS-IW15	BL02	7/12/2017	N	440-188247-2	Alluvium	16.4 - 36.2	7.300	0.32	--	193.3	7.08	--	--	1000 >
SWFTS-IW16A	BL02	7/11/2017	N	440-188133-9	Alluvium	17.3 - 27.1	7.300	0.86	--	108.7	7.05	--	--	1000 >
SWFTS-IW16B	BL02	7/11/2017	N	440-188133-8	Alluvium	26.5 - 36.3	6.900	0.42	--	32.0	7.19	--	--	1000 >
SWFTS-IW17	BL02	7/13/2017	N	440-188325-6	Alluvium	17.3 - 37.1	7.330	0.41	--	129.1	7.14	--	--	1000 >
	EM06	11/15/2017	N	440-196690-8	Alluvium	17.3 - 37.1	9.930	0.36	7.0	-205.4	5.15 E	0.2	--	1502 E
SWFTS-IW18	BL02	7/13/2017	N	440-188325-4	Alluvium	18.1 - 38.1	7.100	0.30	--	112.7	7.02	--	--	29.8
SWFTS-IW19	BL02	7/13/2017	N	440-188325-5	Alluvium	24.3 - 44.1	7.820	3.30	--	168.2	7.16	--	--	35.1
SWFTS-IW20	BL02	7/12/2017	N	440-188247-10	Alluvium	30.8 - 50.6	6.280	4.23	--	80.6	7.27	--	--	148
SWFTS-MW01	BL01	3/29/2017	N	440-180937-6	Alluvium	24.2 - 38.9	7.604	1.07	--	-118.7	7.70	--	--	8.02
	EM01	9/19/2017	N	440-192627-1	Alluvium	24.2 - 38.9	6.548	1.38	--	-115.3	7.18	--	--	7.32
	EM02	9/26/2017	N	440-193062-2	Alluvium	24.2 - 38.9	7.216	0.23	--	17.6	5.09 E	--	--	3.71
	EM03	10/4/2017	N	440-193625-6	Alluvium	24.2 - 38.9	7.228	0.20	--	-194.3	6.98	--	--	1.01
	EM04	10/10/2017	N	440-194094-2	Alluvium	24.2 - 38.9	7.340	0.47	0.0 U	45.0	5.80 E	0.0 U	--	4.10
	EM05	10/25/2017	N	440-195026-8	Alluvium	24.2 - 38.9	8.078	0.89	--	-33.0	7.37	--	--	8.11
	EM06	11/15/2017	N	440-196665-4	Alluvium	24.2 - 38.9	7.079	0.81	--	-10.5	6.98	0.00 U	--	6.10
	EM07	12/14/2017	N	440-198571-10	Alluvium	24.2 - 38.9	7.321	0.20	0.00 U	-104.2	7.07	0.00 U	--	2.26
	EM08	2/20/2018	N	440-203841-12	Alluvium	24.2 - 38.9	6.540	2.85	0.00 U	-96.0	7.00	0.00 U	--	24.50
	EM09	3/27/2018	N	440-207268-10	Alluvium	24.2 - 38.9	6.560	2.42	--	223	7.12	--	--	19.0
	EM10	4/30/2018	N	440-210173-1	Alluvium	24.2 - 38.9	6.656	0.15	--	38.0	6.95	--	23.85	7.58
	EM11	7/10/2018	N	440-215437-2	Alluvium	24.2 - 38.9	6.49	0.04	0 U	-32	6.96	0 U	25.61	11.7
	EM12	7/27/2018	N	440-216872-13	Alluvium	24.2 - 38.9	7.01	0.29	--	30.5	7.13	--	26.33	7.78
	EM13	8/16/2018	N	440-218296-6	Alluvium	24.2 - 38.9	6.37	0.80	--	-135.4	7.05	--	24.80	7.55
	EM14	9/10/2018	N	440-219797-1	Alluvium	24.2 - 38.9	6.230	6.07	--	87	7.65	--	21.58	41.9
	EM15	10/9/2018	N	440-221855-12	Alluvium	24.2 - 38.9	6.09	0.09	0 U	85	7.49	0 U	24.98	0
	EM16	12/27/2018	N	440-228818-1	Alluvium	24.2 - 38.9	6.478	0.51	--	-11.3	6.89	--	23.84	5.19
	EM17	2/26/2019	N	440-234812-11	Alluvium	24.2 - 38.9	4.816	0.50	0.0 U	-182.5	7.09	0.0 U	23.44	1.64
	EM18	4/10/2019	N	440-238531-1	Alluvium	24.2 - 38.9	4.776	0.59	--	-26.3	7.06	--	23.5	45.8
	EM19	5/21/2019	N	440-242084-14	Alluvium	24.2 - 38.9	4.948	0.75	0.0 U	12.6	8.22	0.0 U	24.0	22.1
	EM20	7/1/2019	N	440-245068-5	Alluvium	24.2 - 38.9	4.802	0.29	--	2.1	7.01	--	25.7	120.3
	EM21	8/12/2019	N	440-247878-6	Alluvium	24.2 - 38.9	5.502	0.36	0 U	92.0	6.98	0 U	25.6	13.8
	EM22	11/5/2019	N	440-253918-3	Alluvium	24.2 - 38.9	5.219	0.49	0 U	66.6	6.95	0.0 U	24.7	73.8
	EM23	12/18/2019	N	440-257733-3	Alluvium	24.2 - 38.9	4.998	0.89	--	-111.1	7.02	--	23.9	87.33
SWFTS-MW02	BL01	3/29/2017	N	440-180937-7	Alluvium	18.4 - 33.1	8.814	0.33	--	65.1	7.22	--	--	45.20
	EM01	9/21/2017	N	440-192818-4	Alluvium	18.4 - 33.1	8.024	0.16	--	24.8	6.78	--	--	259
	EM02	9/27/2017	N	440-193062-11	Alluvium	18.4 - 33.1	8.520	0.14	--	59.1	6.78	--	--	30.9
	EM03	10/4/2017	N	440-193712-3	Alluvium	18.4 - 33.1	16.565 E	1.76	--	-1.3	6.87	--	--	86.3
	EM04	10/12/2017	N	440-194204-6	Alluvium	18.4 - 33.1	9.110	0.25	0.0 U	108.0	5.77 E	0.0 U	--	9.30
	EM05	10/26/2017	N	440-195218-2	Alluvium	18.4 - 33.1	9.338	2.11	--	98.5	6.90	--	--	80.1
	EM06	11/14/2017	N	440-196558-3	Alluvium	18.4 - 33.1	8.760	0.90	0.0 U	42.5	7.10	0.00 U	--	197

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW02 (continued)	EM07	12/13/2017	N	440-198508-8	Alluvium	18.4 - 33.1	8.990	0.01	0.0 U	-82.1	6.78	0.00 U	--	139
	EM08	2/19/2018	N	440-203775-1	Alluvium	18.4 - 33.1	8.259	2.59	0.0 U	44.8	7.08	0.00 U	--	54
	EM09	3/27/2018	N	440-207268-1	Alluvium	18.4 - 33.1	7.732	1.76	--	80.9	6.87	--	--	55.2
	EM10	4/30/2018	N	440-210173-3	Alluvium	18.4 - 33.1	8.154	1.59	--	-22.5	6.60	--	24.59	157
	EM11	7/11/2018	N	440-215717-13	Alluvium	18.4 - 33.1	7.89	1.86	0 U	56	7.05	0 U	21.56	0
	EM12	7/27/2018	N	440-216872-11	Alluvium	18.4 - 33.1	8.06	0.24	--	26.1	6.94	--	26.46	111
	EM13	8/15/2018	N	440-218208-3	Alluvium	18.4 - 33.1	7.814	2.35	--	-132	6.83	--	25.00	518
	EM14	9/10/2018	N	440-219797-2	Alluvium	18.4 - 33.1	7.210	5.31	--	75	7.71	--	22.01	112
	EM15	10/10/2018	N	440-221975-15	Alluvium	18.4 - 33.1	7.42	0	0 U	115	7.09	0 U	24.91	148
	EM16	12/20/2018	N	440-228491-3	Alluvium	18.4 - 33.1	8.462	2.95	--	-220.3	6.9	--	23.66	65.3
	EM17	2/25/2019	N	440-234705-3	Alluvium	18.4 - 33.1	7.479	0.33	0.0 U	36.9	6.74	0.0 U	24.87	26.5
	EM18	4/9/2019	N	440-238618-3	Alluvium	18.4 - 33.1	7.705	0.40	--	70.8	6.72	--	26.16	55.1
	EM19	5/21/2019	N	440-242084-8	Alluvium	18.4 - 33.1	6.788	6.97	0.0 U	206.8	6.90	0.0 U	25.9	27.7
	EM20	7/2/2019	N	440-245153-8	Alluvium	18.4 - 33.1	6.545	0.34	--	-139.9	6.79	--	26.1	16.3
	EM21	8/14/2019	N	440-248104-3	Alluvium	18.4 - 33.1	6.901	0.36	0 U	103.9	6.92	0 U	25.6	11.9
	EM22	11/7/2019	N	440-254148-7	Alluvium	18.4 - 33.1	7.031	0.49	0 U	119.9	6.76	0 U	26.1	9.8
	EM23	12/17/2019	N	440-257635-8	Alluvium	18.4 - 33.1	5.987	0.60	--	-197.9	6.79	--	25.0	319.18
SWFTS-MW03	BL01	3/30/2017	N	440-181045-5	Alluvium	27.2 - 42.1	7.087	1.64	--	90.2	6.92	--	--	1000 >
	EM01	9/21/2017	N	440-192728-12	Alluvium	27.2 - 42.1	6.645	0.19	--	-19.2	7.03	--	--	291
	EM02	9/27/2017	N	440-193167-1	Alluvium	27.2 - 42.1	6.915	0.11	--	-66.4	6.92	--	--	212
	EM03	10/4/2017	N	440-193712-7	Alluvium	27.2 - 42.1	6.686	1.02	--	17.4	6.94	--	--	16.21
	EM04	10/12/2017	N	440-194204-8	Alluvium	27.2 - 42.1	7.104	0.14	0.0 U	-55.6	6.68	0.0 U	--	55.2
	EM05	10/26/2017	N	440-195136-5	Alluvium	27.2 - 42.1	7.339	1.59	--	92.0	6.79	--	--	51.7
	EM06	11/16/2017	N	440-196786-16	Alluvium	27.2 - 42.1	6.618	0.64	0.00 U	-46.0	6.83	0.00 U	--	130.00
	EM07	12/12/2017	N	440-198371-13	Alluvium	27.2 - 42.1	7.060	2.21	0.00 U	23.5	7.50	0.00 U	--	47.0
	EM08	2/21/2018	N	440-203937-5	Alluvium	27.2 - 42.1	6.717	0.30	0.00 U	1.9	6.36	0.00 U	--	68.4
	EM09	3/27/2018	N	440-207268-15	Alluvium	27.2 - 42.1	6.020	0.62	--	-43.9	6.98	--	--	72.4
	EM10	5/2/2018	N	440-210430-6	Alluvium	27.2 - 42.1	6.03	0.45	--	88	6.93	--	23.19	123
	EM11	7/10/2018	N	440-215437-5	Alluvium	27.2 - 42.1	6.82	0.79	0 U	-176.6	6.89	0 U	26.13	76
	EM12	7/27/2018	N	440-216872-10	Alluvium	27.2 - 42.1	6.80	0.23	--	-34.6	6.9	--	26.94	110
	EM13	8/15/2018	N	440-218208-4	Alluvium	27.2 - 42.1	6.79	0.48	--	-193.4	7.18	--	26.86	79.5
	EM14	9/11/2018	N	440-219886-11	Alluvium	27.2 - 42.1	6.050	1.84	--	12	6.96	--	21.31	65.3
	EM15	10/9/2018	N	440-221855-13	Alluvium	27.2 - 42.1	6.01	0	0 U	-63	7.51	0 U	26.13	0
	EM16	1/2/2019	N	440-229018-3	Alluvium	27.2 - 42.1	5.871	0.8	--	76	6.89	--	21.17	211
	EM17	2/27/2019	N	440-234938-3	Alluvium	27.2 - 42.1	5.394	0.95	0.0 U	-26.6	6.97	0.0 U	23.04	42.5
	EM18	4/10/2019	N	440-238531-7	Alluvium	27.2 - 42.1	5.363	0.95	--	115.5	6.93	--	24.1	21.2
	EM19	5/21/2019	N	440-242084-12	Alluvium	27.2 - 42.1	5.495	0.57	0.0 U	199.3	7.87	0.0 U	23.4	9.1
	EM20	7/1/2019	N	440-245068-10	Alluvium	27.2 - 42.1	5.334	0.34	--	107.5	6.95	--	27.0	190.3
	EM21	8/14/2019	N	440-248104-2	Alluvium	27.2 - 42.1	6.081	0.40	0 U	142.8	7.02	0 U	24.5	17.4
	EM22	11/4/2019	N	440-253773-2	Alluvium	27.2 - 42.1	5.704	0.52	0 U	188.0	6.93	0 U	24.2	25.3
	EM23	12/19/2019	N	440-257866-5	Alluvium	27.2 - 42.1	5.322	0.95	--	108.9	6.95	--	22.5	140.39
SWFTS-MW04	BL01	3/31/2017	N	440-181122-1	Alluvium	25.8 - 40.4	6.64	7.02	--	147.9	6.75	--	--	82.6
	EM01	9/20/2017	N	440-192627-5	Alluvium	25.8 - 40.4	3.835	0.85	--	18.1	7.16	--	--	79.0
	EM02	9/27/2017	N	440-193062-3	Alluvium	25.8 - 40.4	3.656	2.73	--	121.1	7.23	--	--	296

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW04 (continued)	EM03	10/4/2017	N	440-193712-1	Alluvium	25.8 - 40.4	7.346	0.11	--	-12.1	7.05	--	--	25.9
	EM04	10/11/2017	N	440-194242-7	Alluvium	25.8 - 40.4	3.850	1.39	0.0 U	155	4.97 E	0.0 U	--	0.0
	EM05	10/24/2017	N	440-194947-6	Alluvium	25.8 - 40.4	4.270	0.28	--	-74.1	7.43	--	--	33.8
	EM06	11/15/2017	N	440-196659-2	Alluvium	25.8 - 40.4	3.900	0.89	0.0 U	12.9	7.22	0.00 U	--	84.00
	EM07	12/14/2017	N	440-198571-12	Alluvium	25.8 - 40.4	3.600	0.45	--	19.0	7.67	--	--	25.70
	EM08	2/21/2018	N	440-203937-2	Alluvium	25.8 - 40.4	4.085	0.37	0.0 U	21.8	7.35	0.00 U	--	18.40
	EM09	3/27/2018	N	440-207268-5	Alluvium	25.8 - 40.4	4.377	0.43	--	50.9	7.22	--	--	4.23
	EM10	5/1/2018	N	440-210284-5	Alluvium	25.8 - 40.4	3.915	2.80	--	-126.1	7.73	--	24.78	3.25
	EM11	7/10/2018	N	440-215437-4	Alluvium	25.8 - 40.4	4.4	0.00	0 U	160	7.23	0 U	25.52	116
	EM13	8/16/2018	N	440-218296-1	Alluvium	25.8 - 40.4	4.075	0.91	--	-12.2	7.42	--	25.00	118
	EM14	9/12/2018	N	440-220031-14	Alluvium	25.8 - 40.4	3.810	2.64	--	132	7.34	--	20.45	37.9
	EM15	10/11/2018	N	440-222092-9	Alluvium	25.8 - 40.4	3.22	0.84	0 U	-16.7	8.04 E	0 U	21.88	35.6
	EM16	1/3/2019	N	440-229111-2	Alluvium	25.8 - 40.4	3.414	1.11	--	116.1	7.3	--	20.72	90.8
	EM17	3/1/2019	N	440-235133-5	Alluvium	25.8 - 40.4	3.825	0.55	0.0 U	125.9	7.24	0.0 U	22.47	78.7
	EM18	4/9/2019	N	440-238618-2	Alluvium	25.8 - 40.4	3.764	0.70	--	65.6	7.14	--	24.37	33.1
	EM19	5/21/2019	N	440-242084-11	Alluvium	25.8 - 40.4	3.173	0.05	0.0 U	197.4	7.20	0.0 U	23.8	19.7
	EM20	7/5/2019	N	440-245261-1	Alluvium	25.8 - 40.4	3.008	0.40	--	161.1	7.16	--	22.3	9.3
	EM21	8/14/2019	N	440-248104-10	Alluvium	25.8 - 40.4	3.445	0.39	0 U	59.1	7.31	0 U	24.5	13.9
	EM22	11/7/2019	N	440-254150-6	Alluvium	25.8 - 40.4	3.455	0.36	0 U	-7.2	7.23	0 U	24.9	12.9
	EM23	12/19/2019	N	440-257866-12	Alluvium	25.8 - 40.4	3.486	0.89	--	84.0	7.23	--	22.5	120.34
SWFTS-MW05A	BL01	3/30/2017	N	440-181045-7	Alluvium	19.3 - 29.3	7.879	4.28	--	104.0	7.00	--	--	33
	EM01	9/20/2017	N	440-192728-3	Alluvium	19.3 - 29.3	7.062	4.18	--	48.5	7.01	--	--	74.5
	EM02	9/27/2017	N	440-193062-9	Alluvium	19.3 - 29.3	7.072	3.30	--	44.1	6.97	--	--	44.0
	EM03	10/3/2017	N	440-193472-4	Alluvium	19.3 - 29.3	7.282	5.46	--	133.5	7.16	--	--	9.42
	EM04	10/10/2017	N	440-193989-2	Alluvium	19.3 - 29.3	7.160	3.41	0.0 U	272.0	4.34 E	0.0 U	--	11.0
	EM05	10/23/2017	N	440-194846-4	Alluvium	19.3 - 29.3	8.087	2.96	--	24.6	7.29	--	--	288
	EM06	11/14/2017	N	440-196558-1	Alluvium	19.3 - 29.3	7.290	2.27	0.00 U	159.2	6.76	0.00 U	--	31.40
	EM07	12/13/2017	N	440-198508-3	Alluvium	19.3 - 29.3	7.315	2.10	0.00 U	-77.3	7.15	0.00 U	--	10.80
	EM08	2/20/2018	N	440-203841-7	Alluvium	19.3 - 29.3	7.820	2.78	0.00 U	52.9	6.12	0.00 U	--	49.70
	EM09	3/26/2018	N	440-207137-5	Alluvium	19.3 - 29.3	7.353	0.99	--	-44.5	7.01	--	23.70	23.8
	EM10	4/30/2018	N	440-210173-8	Alluvium	19.3 - 29.3	7.26	2.16	--	235	7.24	--	25.51	88.1
	EM11	7/11/2018	N	440-215585-14	Alluvium	19.3 - 29.3	6.86	2.65	0 U	35	7.28	0 U	22.48	33
	EM12	7/27/2018	N	440-216872-8	Alluvium	19.3 - 29.3	6.55	3.46	--	-35.9	6.4	--	26.31	30
	EM13	8/14/2018	N	440-218109-2	Alluvium	19.3 - 29.3	7.286	0.93	--	9.7	7.15	--	26.00	28.9
	EM14	9/11/2018	N	440-219886-7	Alluvium	19.3 - 29.3	6.460	2.59	--	210	7.07	--	19.81	23.2
	EM15	10/10/2018	N	440-221975-14	Alluvium	19.3 - 29.3	6.75	2.08	0 U	195	7.22	0 U	24.12	116
	EM16	12/20/2018	N	440-228491-11	Alluvium	19.3 - 29.3	8.279	0.68	--	-51	6.9	--	24.4	7.05
	EM17	2/27/2019	N	440-234938-5	Alluvium	19.3 - 29.3	6.150	0.51	0.0 U	-30.7	6.81	0.0 U	23.94	0.91
	EM18	4/10/2019	N	440-238531-9	Alluvium	19.3 - 29.3	6.093	0.70	--	119.3	6.79	--	24.7	7.3
	EM19	5/21/2019	N	440-242084-17	Alluvium	19.3 - 29.3	6.048	0.65	0.0 U	127.6	9.22	0.0 U	24.7	8.0
	EM20	7/1/2019	N	440-245068-6	Alluvium	19.3 - 29.3	5.743	0.44	--	58.2	6.87	--	26.1	16.8
	EM21	8/13/2019	N	440-247965-7	Alluvium	19.3 - 29.3	6.575	0.3	0 U	-207.5	6.92	0 U	26.1	3.3
	EM22	11/5/2019	N	440-253918-1	Alluvium	19.3 - 29.3	6.723	0.60	0 U	226.6	6.91	0 U	23.9	4.9
	EM23	12/18/2019	N	440-257733-8	Alluvium	19.3 - 29.3	6.733	0.83	--	74.5	6.88	--	23.9	17.55

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW05B	BL01	3/30/2017	N	440-181045-8	Alluvium	32.3 - 42.0	6.922	0.70	--	-0.8	7.00	--	--	112.00
	EM01	9/22/2017	N	440-192818-8	Alluvium	32.3 - 42.0	6.092	0.24	--	-179.1	6.64	--	--	5.00
	EM02	9/27/2017	N	440-193062-10	Alluvium	32.3 - 42.0	6.634	0.10	--	-182.3	6.61	--	--	29.7
	EM03	10/3/2017	N	440-193472-5	Alluvium	32.3 - 42.0	6.198	0.10	--	-236.3	6.59	--	--	27.2
	EM04	10/10/2017	N	440-193989-1	Alluvium	32.3 - 42.0	6.653	0.08	0.5	-235.9	6.67	0.04	--	12.10
	EM05	10/23/2017	N	440-194846-5	Alluvium	32.3 - 42.0	7.361	0.34	--	-346.9	6.86	--	--	352
	EM06	11/14/2017	N	440-196558-2	Alluvium	32.3 - 42.0	6.420	0.46	0.50	-186.2	6.83	0.50	--	46.00
	EM07	12/13/2017	N	440-198508-4	Alluvium	32.3 - 42.0	6.617	0.30	0.00 U	-268.9	7.02	0.00 U	--	3.42
	EM08	2/20/2018	N	440-203841-8	Alluvium	32.3 - 42.0	6.680	0.34	0.00 U	-202.4	6.17	0.04	--	5.47
	EM09	3/26/2018	N	440-207137-6	Alluvium	32.3 - 42.0	6.364	0.49	--	-199.4	6.69	--	23.60	2.01
	EM10	4/30/2018	N	440-210173-2	Alluvium	32.3 - 42.0	5.61	0.00	--	138	7.07	--	25.47	29.6
	EM11	7/10/2018	N	440-215585-10	Alluvium	32.3 - 42.0	5.81	1.45	2.5	-135	6.83	0 U	26.74	21.2
	EM12	7/27/2018	N	440-216872-7	Alluvium	32.3 - 42.0	5.86	4.21	--	70	3.38 E	--	27.46 E	3.38
	EM13	8/14/2018	N	440-218109-3	Alluvium	32.3 - 42.0	6.429	0.80	--	-31.8	6.88	--	26.79	7.67
	EM14	9/11/2018	N	440-219886-8	Alluvium	32.3 - 42.0	5.590	2.37	--	73	6.85	--	20.29	19.3
	EM15	10/9/2018	N	440-221855-14	Alluvium	32.3 - 42.0	5.65	0	0 U	36	7.36	0 U	27.26 E	12.3
	EM16	12/20/2018	N	440-228491-12	Alluvium	32.3 - 42.0	7.214	0.62	--	-109.2	6.86	--	24.1	4.23
	EM17	2/27/2019	N	440-234938-4	Alluvium	32.3 - 42.0	5.334	0.61	0.0 U	-64.3	6.71	0.0 U	23.33	9.31
	EM18	4/10/2019	N	440-238531-10	Alluvium	32.3 - 42.0	5.079	0.63	--	26.6	6.68	--	24.6	53.9
	EM19	5/21/2019	N	440-242084-18	Alluvium	32.3 - 42.0	5.089	0.81	0.0 U	93.5	9.24	0.0 U	24.6	60.0
	EM20	7/1/2019	N	440-245068-7	Alluvium	32.3 - 42.0	4.951	0.21	--	22.1	6.77	--	26.4	193.3
	EM21	8/13/2019	N	440-247965-8	Alluvium	32.3 - 42.0	5.699	0.38	0 U	-93.2	6.81	0 U	26.6	9.0
	EM22	11/5/2019	N	440-253918-2	Alluvium	32.3 - 42.0	5.626	0.48	0.0 U	162.8	6.76	0 U	24.3	160.1
	EM23	12/18/2019	N	440-257733-9	Alluvium	32.3 - 42.0	5.646	0.72	--	-7.2	6.78	--	23.3	54.34
SWFTS-MW06A	BL01	3/30/2017	N	440-181045-1	Alluvium	11.8 - 21.4	2.874	0.38	--	-85.9	7.19	--	--	14.20
	EM01	9/21/2017	N	440-192818-2	Alluvium	11.8 - 21.4	3.318	0.16	--	-46.1	6.98	--	--	82.0
	EM02	9/27/2017	N	440-193167-3	Alluvium	11.8 - 21.4	3.537	0.30	--	-10.2	7.04	--	--	147
	EM03	10/3/2017	N	440-193622-4	Alluvium	11.8 - 21.4	3.509	0.12	--	-62.1	7.02	--	--	30.9
	EM04	10/11/2017	N	440-194090-4	Alluvium	11.8 - 21.4	3.800	0.37	0.0 U	-23.0	4.94 E	0.0 U	--	15.7
	EM05	10/23/2017	N	440-194846-7	Alluvium	11.8 - 21.4	4.338	2.52	--	-211.5	7.26	--	--	268.00
	EM06	11/16/2017	N	440-196786-19	Alluvium	11.8 - 21.4	3.881	0.42	0.0 U	-57.7	7.07	0.0 U	--	45.4
	EM07	12/13/2017	N	440-198508-1	Alluvium	11.8 - 21.4	3.975	0.17	0.00 U	-135.6	7.17	0.00 U	--	25.40
	EM08	2/22/2018	N	440-204033-1	Alluvium	11.8 - 21.4	3.276	0.37	0.00 U	-19.7	7.30	0.00 U	--	8.26
	EM09	3/28/2018	N	440-207497-3	Alluvium	11.8 - 21.4	3.143	0.44	--	146.6	7.18	--	--	8.74
	EM10	5/1/2018	N	440-210284-9	Alluvium	11.8 - 21.4	3.063	0.27	--	58.3	7.32	--	24.23	24.4
	EM11	7/11/2018	N	440-215585-2	Alluvium	11.8 - 21.4	3.116	2.40	0 U	-83	7.19	0 U	23.71	34
	EM13	8/14/2018	N	440-218109-4	Alluvium	11.8 - 21.4	33.46 E	0.69	--	-150.2	7.30	--	25.60	4.41
	EM14	9/11/2018	N	440-219886-15	Alluvium	11.8 - 21.4	2.370	0.49	--	-273	8.90 E	--	25.04	188
	EM15	10/10/2018	N	440-221975-8	Alluvium	11.8 - 21.4	2.969	0.2	0 U	-196.5	9.09 E	0 U	24.58	3.95
	EM16	12/28/2018	N	440-228887-3	Alluvium	11.8 - 21.4	3.024	0.98	--	19.2	7.18	--	22.05	7.53
	EM17	2/27/2019	N	440-234933-6	Alluvium	11.8 - 21.4	2.804	0.05	0.0 U	-17.4	7.17	0.0 U	21.89	9.23
	EM18	4/10/2019	N	440-238544-2	Alluvium	11.8 - 21.4	2.967	0.61	--	40.8	7.17	--	21.30	56.9

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Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW06A (continued)	EM19	5/20/2019	N	440-242015-1	Alluvium	11.8 - 21.4	3.029	0.09	0.0 U	170.2	7.21	0.0 U	22.1	5.4
	EM20	7/1/2019	N	440-245046-5	Alluvium	11.8 - 21.4	3.553	0.40	--	-23.3	7.23	--	24.4	8.9
	EM21	8/14/2019	N	440-248104-7	Alluvium	11.8 - 21.4	3.545	0.37	0 U	-13.8	7.26	0 U	24.4	12.5
	EM22	11/6/2019	N	440-254027-4	Alluvium	11.8 - 21.4	3.522	0.62	0 U	88.4	7.23	0 U	23.8	7.4
	EM23	12/19/2019	N	440-257866-9	Alluvium	11.8 - 21.4	2.974	0.80	--	28.6	7.24	--	21.8	99.90
SWFTS-MW06B	BL01	3/30/2017	N	440-181045-2	Alluvium	25.9 - 35.5	2.814	0.06	--	8.7	7.04	--	--	68.00
	EM01	9/21/2017	N	440-192728-9	Alluvium	25.9 - 35.5	3.158	0.18	--	10.1	7.00	--	--	237
	EM02	9/27/2017	N	440-193167-4	Alluvium	25.9 - 35.5	3.240	0.78	--	-76.2	7.09	--	--	492
	EM03	10/3/2017	N	440-193622-5	Alluvium	25.9 - 35.5	3.191	0.11	--	-93.8	7.05	--	--	467
	EM04	10/11/2017	N	440-194090-5	Alluvium	25.9 - 35.5	3.520	0.45	0.0 U	-36.0	4.70 E	0.0 U	--	455
	EM05	10/23/2017	N	440-194846-6	Alluvium	25.9 - 35.5	3.811	1.14	--	-150.7	7.31	--	--	70.9
	EM06	11/16/2017	N	440-196786-20	Alluvium	25.9 - 35.5	3.548	0.44	0.00 U	-133.5	7.10	0.00 U	--	68.80
	EM07	12/13/2017	N	440-198508-2	Alluvium	25.9 - 35.5	3.795	0.91	0.00 U	-119.3	7.21	0.00 U	--	85.80
	EM08	2/22/2018	N	440-204033-5	Alluvium	25.9 - 35.5	3.660	0.47	0.00 U	-29.7	7.22	0.00 U	--	4.39
	EM09	3/28/2018	N	440-207497-2	Alluvium	25.9 - 35.5	3.455	0.59	--	166.8	7.15	--	--	8.38
	EM10	5/1/2018	N	440-210284-8	Alluvium	25.9 - 35.5	3.251	1.31	--	79.9	7.31	--	23.0	205
	EM11	7/11/2018	N	440-215585-4	Alluvium	25.9 - 35.5	3.271	2.05	0 U	-45.8	7.21	0 U	25.74	9.98
	EM13	8/14/2018	N	440-218109-6	Alluvium	25.9 - 35.5	3.311	0.57	--	-67.2	7.30	--	26.27	38.7
	EM14	9/11/2018	N	440-219886-14	Alluvium	25.9 - 35.5	2.240	0.71	--	-344	10.26 E	--	23.16	2.53
	EM15	10/10/2018	N	440-221975-9	Alluvium	25.9 - 35.5	2.927	0.17	0 U	-100.4	8.39 E	0 U	23.74	84.6
	EM16	12/28/2018	N	440-228887-5	Alluvium	25.9 - 35.5	3.083	0.7	--	20.9	7.18	--	21.18	294
	EM17	2/28/2019	N	440-235000-6	Alluvium	25.9 - 35.5	3.006	0.45	0.0 U	87.9	7.21	0.0 U	21.41	69.4
	EM18	4/10/2019	N	440-238544-4	Alluvium	25.9 - 35.5	2.984	0.54	--	61.1	7.17	--	21.74	255
	EM19	5/21/2019	N	440-242084-5	Alluvium	25.9 - 35.5	2.920	0.09	0.0 U	259.0	7.18	0.0 U	21.7	58.2
	EM20	7/1/2019	N	440-245046-4	Alluvium	25.9 - 35.5	3.348	0.43	--	70.3	7.25	--	25.0	9.2
	EM21	8/14/2019	N	440-248104-9	Alluvium	25.9 - 35.5	3.402	0.39	0 U	19.6	7.27	0 U	24.9	11.4
	EM22	11/6/2019	N	440-254027-6	Alluvium	25.9 - 35.5	3.634	0.59	0 U	171.6	7.22	0 U	23.4	51.9
	EM23	12/19/2019	N	440-257866-11	Alluvium	25.9 - 35.5	3.155	0.82	--	83.4	7.22	--	21.6	99.97
SWFTS-MW07A	BL01	3/30/2017	N	440-181045-3	Alluvium	15.0 - 29.5	6.980	0.16	--	291.7	6.60	--	--	2.28
	EM01	9/20/2017	N	440-192627-7	Alluvium	15.0 - 29.5	7.179	0.20	--	52.3	6.90	--	--	1.62
	EM02	9/26/2017	N	440-192973-1	Alluvium	15.0 - 29.5	6.884	0.49	--	95.8	6.80	--	--	1.78
	EM03	10/3/2017	N	440-193472-6	Alluvium	15.0 - 29.5	6.982	0.22	--	-23.9	6.81	--	--	0.10
	EM04	10/11/2017	N	440-194242-3	Alluvium	15.0 - 29.5	7.272	0.11	0.0 U	-16.3	6.55	0.0 U	--	1.43
	EM05	10/24/2017	N	440-194947-4	Alluvium	15.0 - 29.5	8.189	0.43	--	-71.5	6.99	--	--	0.12
	EM06	11/15/2017	N	440-196659-7	Alluvium	15.0 - 29.5	7.300	0.35	0.0 U	117.3	7.03	0.00 U	--	2.44
	EM07	12/14/2017	N	440-198571-3	Alluvium	15.0 - 29.5	7.345	-0.02 E	0.0 U	-83.4	6.99	0.00 U	--	6.98
	EM08	2/19/2018	N	440-203775-3	Alluvium	15.0 - 29.5	7.002	0.72	0.0 U	62.8	7.05	--	--	0.65
	EM09	3/28/2018	N	440-207497-4	Alluvium	15.0 - 29.5	6.465	3.29	--	142.5	7.05	--	--	1.83
	EM10	5/2/2018	N	440-210430-2	Alluvium	15.0 - 29.5	6.230	1.02	--	-186.7	7.44	--	23.72	1.98
	EM11	7/11/2018	N	440-215585-7	Alluvium	15.0 - 29.5	6.5	1.42	--	201	7.28	0 U	25.35	0
	EM13	8/16/2018	N	440-218296-2	Alluvium	15.0 - 29.5	6.604	0.58	--	-11.8	7.18	--	25.70	4.9
	EM14	9/12/2018	N	440-220031-6	Alluvium	15.0 - 29.5	5.670	1.30	--	-34.6	7.50	--	24.36	1.94
	EM15	10/10/2018	N	440-221975-11	Alluvium	15.0 - 29.5	5.48	0.08	0 U	-62.3	8.25 E	0 U	25.1	0.11

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW07A (continued)	EM16	1/2/2019	N	440-229018-10	Alluvium	15.0 - 29.5	5.204	0.99	--	108.2	7.07	--	23.33	0.49
	EM17	2/28/2019	N	440-235000-10	Alluvium	15.0 - 29.5	5.190	0.62	0.0 U	90.1	7.09	0.0 U	24.35	0.52
	EM18	4/12/2019	N	440-238733-5	Alluvium	15.0 - 29.5	5.220	0.72	--	168.2	7.02	--	23.6	1.8
	EM19	5/22/2019	N	440-242200-5	Alluvium	15.0 - 29.5	5.035	1.03	0.0 U	50.7	7.10	0.0 U	22.4	0.1
	EM20	7/3/2019	N	440-245218-6	Alluvium	15.0 - 29.5	4.685	0.41	--	159.1	6.99	--	25.0	3.4
	EM21	8/15/2019	N	440-248187-1	Alluvium	15.0 - 29.5	4.924	0.43	0 U	165.8	7.2	0 U	24.0	4.2
	EM22	11/7/2019	N	440-254148-4	Alluvium	15.0 - 29.5	4.969	0.62	0 U	200.9	7.14	0 U	24.2	1.4
	EM23	12/20/2019	N	440-257938-4	Alluvium	15.0 - 29.5	4.359	0.73	--	-11.8	7.16	--	23.5	1.74
SWFTS-MW07B	BL01	3/30/2017	N	440-181045-4	Alluvium	33.8 - 38.3	7.033	1.29	--	83.8	6.89	--	--	40.30
	EM01	9/20/2017	N	440-192627-8	Alluvium	33.8 - 38.3	6.425	0.35	--	49.1	6.95	--	--	17.01
	EM02	9/26/2017	N	440-192973-2	Alluvium	33.8 - 38.3	6.153	0.60	--	67.4	6.86	--	--	9.38
	EM03	10/3/2017	N	440-193472-7	Alluvium	33.8 - 38.3	6.134	1.38	--	-19.8	7.00	--	--	38.7
	EM04	10/11/2017	N	440-194242-4	Alluvium	33.8 - 38.3	6.394	0.13	0.0 U	-29.8	6.68	0.0 U	--	7.99
	EM05	10/24/2017	N	440-194947-3	Alluvium	33.8 - 38.3	7.044	0.33	--	-92.6	7.06	--	--	22.40
	EM06	11/15/2017	N	440-196659-8	Alluvium	33.8 - 38.3	6.210	0.42	0.0 U	116.2	7.09	0.00 U	--	35.10
	EM07	12/14/2017	N	440-198571-4	Alluvium	33.8 - 38.3	6.253	-0.09 E	0.0 U	-96.5	7.04	0.00 U	--	19.80
	EM08	2/19/2018	N	440-203775-2	Alluvium	33.8 - 38.3	5.667	1.23	0.0 U	40.4	7.16	0.00 U	--	5.62
	EM09	3/28/2018	N	440-207497-10	Alluvium	33.8 - 38.3	6.378	0.30	--	-162.9	6.93	--	--	8.31
	EM10	5/2/2018	N	440-210430-1	Alluvium	33.8 - 38.3	5.517	4.67	--	-131.6	7.65	--	21.95	4.98
	EM11	7/11/2018	N	440-215585-8	Alluvium	33.8 - 38.3	6.04	1.60	0 U	189	7.3	0 U	25.41	0
	EM13	8/16/2018	N	440-218296-3	Alluvium	33.8 - 38.3	5.82	0.49	--	-16.1	7.23	--	26.01	5.8
	EM14	9/12/2018	N	440-220031-7	Alluvium	33.8 - 38.3	5.130	1.69	--	-33	7.60	--	27.53 E	4.48
	EM15	10/10/2018	N	440-221975-12	Alluvium	33.8 - 38.3	4.603	0.09	0 U	-48.2	8.29 E	0 U	25.6	2.31
	EM16	1/3/2019	N	440-229111-1	Alluvium	33.8 - 38.3	4.399	1.35	--	128.8	7.22	--	21.73	4.73
	EM17	2/28/2019	N	440-235000-11	Alluvium	33.8 - 38.3	4.968	0.40	0.0 U	91.7	7.11	0.0 U	24.28	3.80
	EM18	4/12/2019	N	440-238733-4	Alluvium	33.8 - 38.3	5.031	0.52	--	201.0	7.06	--	22.8	2.2
	EM19	5/22/2019	N	440-242200-6	Alluvium	33.8 - 38.3	4.671	0.87	0.0 U	83.8	7.12	0.0 U	22.2	9.7
	EM20	7/3/2019	N	440-245218-5	Alluvium	33.8 - 38.3	4.176	0.47	--	169.2	7.02	--	24.6	3.4
	EM21	8/15/2019	N	440-248187-2	Alluvium	33.8 - 38.3	4.314	0.42	0 U	194.9	7.22	0 U	23.8	4.8
	EM22	11/7/2019	N	440-254148-5	Alluvium	33.8 - 38.3	4.347	0.59	--	192.2	7.18	--	24.1	3.2
	EM23	12/20/2019	N	440-257938-5	Alluvium	33.8 - 38.3	4.260	0.81	--	-5.0	7.16	--	22.7	8.97
SWFTS-MW08A	BL01	3/30/2017	N	440-181045-9	Alluvium	20.2 - 34.8	7.384	0.25	--	54.3	6.93	--	--	9.21
	EM01	9/20/2017	N	440-192627-9	Alluvium	20.2 - 34.8	6.764	0.41	--	43.4	7.01	--	--	1.40
	EM02	9/26/2017	N	440-192973-4	Alluvium	20.2 - 34.8	6.454	0.27	--	-243.7	6.88	--	--	0.31
	EM03	10/5/2017	N	440-193712-16	Alluvium	20.2 - 34.8	6.493	4.16	--	110.1	6.90	--	--	0.68
	EM04	10/10/2017	N	440-194094-4	Alluvium	20.2 - 34.8	6.660	44.01 E	0.0 U	403	1.17 E	0.0 U	--	0.3
	EM05	10/23/2017	N	440-194846-1	Alluvium	20.2 - 34.8	7.298	1.49	--	63.3	7.28	--	--	0.0
	EM06	11/15/2017	N	440-196659-4	Alluvium	20.2 - 34.8	6.490	0.60	0.0 U	92.8	7.16	0.00 U	--	10.98
	EM07	12/14/2017	N	440-198571-1	Alluvium	20.2 - 34.8	6.694	0.11	0.0 U	-92.1	7.87	0.00 U	--	1.91
	EM08	2/22/2018	N	440-204033-8	Alluvium	20.2 - 34.8	6.260	5.05	0.0 U	184.0	8.15 E	0.0 U	--	0.0
	EM09	3/29/2018	N	440-207586-1	Alluvium	20.2 - 34.8	6.350	2.61	--	308.0	7.24	--	--	0.10
	EM10	5/3/2018	N	440-210534-5	Alluvium	20.2 - 34.8	6.752	0.37	--	112.1	7.04	--	23.31	4.65
	EM11	7/11/2018	N	440-215717-14	Alluvium	20.2 - 34.8	5.84	1.54	0 U	71	7.23	0 U	24.12	0
	EM13	8/16/2018	N	440-218296-4	Alluvium	20.2 - 34.8	6.039	0.63	--	-15.2	7.23	--	26.15	5.01
	EM14	9/12/2018	N	440-220031-10	Alluvium	20.2 - 34.8	5.210	0.77	--	-51.1	7.63	--	25.91	0.43

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Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW08A (continued)	EM15	10/10/2018	N	440-221975-13	Alluvium	20.2 - 34.8	4.892	0.09	0 U	-36.4	8.33 E	0 U	25.44	0
	EM16	1/2/2019	N	440-229018-4	Alluvium	20.2 - 34.8	5.114	1.23	--	101.4	7.08	--	20.01	3.03
	EM17	2/28/2019	N	440-235000-5	Alluvium	20.2 - 34.8	5.300	0.40	0.0 U	-17.7	7.10	0.0 U	23.27	0.05
	EM18	4/12/2019	N	440-238733-1	Alluvium	20.2 - 34.8	4.549	0.74	--	119.1	7.03	--	21.94	0.41
	EM19	5/22/2019	N	440-242198-4	Alluvium	20.2 - 34.8	4.812	1.30	0.0 U	146.9	7.04	0.0 U	23.5	9.2
	EM20	7/1/2019	N	440-245068-11	Alluvium	20.2 - 34.8	4.319	0.55	--	121.3	7.15	--	27.3	9.5
	EM21	8/15/2019	N	440-248187-11	Alluvium	20.2 - 34.8	4.783	0.45	0 U	102.5	7.22	0 U	25.6	7.5
	EM22	11/7/2019	N	440-254148-6	Alluvium	20.2 - 34.8	5.026	0.76	0 U	203.8	7.17	0 U	23.9	1.6
	EM23	12/19/2019	N	440-257866-13	Alluvium	20.2 - 34.8	4.849	1.09	--	91.0	7.15	--	22.7	0.83
SWFTS-MW08C	BL01	3/28/2017	N	440-180820-3	UMCf	49.9 - 69.5	8.322	0.08	--	-119.4	7.05	--	--	72.60
	EM07	12/14/2017	N	440-198571-2	UMCf	49.9 - 69.5	8.915	-0.06 E	0.0 U	-120.8	7.31	0.00 U	--	45.30
SWFTS-MW09A	BL01	3/29/2017	N	440-180937-3	Alluvium	19.3 - 28.9	7.233	0.33	--	-161.2	7.65	--	--	12.00
	EM01	9/21/2017	N	440-192818-1	Alluvium	19.3 - 28.9	7.206	0.57	--	-202.7	7.03	--	--	10.51
	EM02	9/28/2017	N	440-193167-14	Alluvium	19.3 - 28.9	7.384	0.26	--	-150.4	7.19	--	--	1.16
	EM03	10/4/2017	N	440-193712-5	Alluvium	19.3 - 28.9	6.996	4.54	--	-125.1	7.42	--	--	26.30
	EM04	10/11/2017	N	440-194094-7	Alluvium	19.3 - 28.9	7.039	0.12	0.0 U	-187.5	6.81	0.0 U	--	1.72
	EM05	10/25/2017	N	440-195026-2	Alluvium	19.3 - 28.9	7.496	0.31	--	-99.3	7.38	--	--	1.49
	EM06	11/16/2017	N	440-196786-14	Alluvium	19.3 - 28.9	6.104	1.88	0.00 U	11.8	7.03	0.00 U	--	1.50
	EM07	12/12/2017	N	440-198371-6	Alluvium	19.3 - 28.9	7.030	0.29	0.00 U	-10.1	6.94	0.00 U	--	5.00
	EM08	2/20/2018	N	440-203841-14	Alluvium	19.3 - 28.9	6.260	4.16	0.00 U	85.0	7.50	0.00 U	--	0.90
	EM09	3/27/2018	N	440-207268-7	Alluvium	19.3 - 28.9	6.270	2.12	--	209	7.14	--	--	4.2
	EM10	5/1/2018	N	440-210284-13	Alluvium	19.3 - 28.9	6.34	0.00	--	221	6.95	--	25.04	3.0
	EM11	7/12/2018	N	440-215717-10	Alluvium	19.3 - 28.9	6.442	1.86	0 U	21.6	6.73	0 U	25.79	1.59
	EM12	7/27/2018	N	440-216872-9	Alluvium	19.3 - 28.9	5.93	5.97	--	-80.10	6.96	--	26.77	4.27
	EM13	8/14/2018	N	440-218109-9	Alluvium	19.3 - 28.9	18.2 E	2.83	--	131	6.99	--	21.51	3.7
	EM14	9/11/2018	N	440-219886-12	Alluvium	19.3 - 28.9	4.520	1.72	--	2.6	7.54	--	24.53	2.62
	EM15	10/9/2018	N	440-221855-7	Alluvium	19.3 - 28.9	5.558	1.3	0 U	-125.2	7.64	0 U	20.97	0.01
	EM16	12/27/2018	N	440-228818-5	Alluvium	19.3 - 28.9	6.213	0.83	--	-18.4	6.99	--	22.58	0.83
	EM17	2/26/2019	N	440-234812-12	Alluvium	19.3 - 28.9	4.885	0.43	0.0 U	-69.8	7.00	0.0 U	23.20	0.02
	EM18	4/10/2019	N	440-238531-3	Alluvium	19.3 - 28.9	4.529	0.72	--	101.3	6.92	--	23.1	7.3
	EM19	5/22/2019	N	440-242200-1	Alluvium	19.3 - 28.9	5.431	0.47	0.0 U	132.7	6.89	0.0 U	23.6	13.1
	EM20	7/2/2019	N	440-245153-10	Alluvium	19.3 - 28.9	5.027	0.45	--	-13.8	6.87	--	25.4	9.5
	EM21	8/12/2019	N	440-247878-7	Alluvium	19.3 - 28.9	5.195	0.44	0 U	88.3	6.98	0 U	25.4	7.8
	EM22	11/5/2019	N	440-253891-1	Alluvium	19.3 - 28.9	4.888	0.70	0 U	203.5	6.99	0.0 U	23.6	4.1
	EM23	12/18/2019	N	440-257733-5	Alluvium	19.3 - 28.9	4.716	0.76	--	51.9	7.03	--	22.9	9.50
SWFTS-MW09B	BL01	3/29/2017	N	440-180937-4	Alluvium	34.4 - 39.0	7.167	0.31	--	77.4	7.18	--	--	23.00
	EM01	9/21/2017	N	440-192728-13	Alluvium	34.4 - 39.0	7.053	1.81	--	-79.0	7.20	--	--	15.73
	EM02	9/28/2017	N	440-193167-15	Alluvium	34.4 - 39.0	12.265 E	0.38	--	-229.0	6.85	--	--	26.40
	EM03	10/4/2017	N	440-193712-6	Alluvium	34.4 - 39.0	6.907	3.71	--	-149.6	7.06	--	--	5.53
	EM04	10/11/2017	N	440-194094-5	Alluvium	34.4 - 39.0	6.878	0.12	0.5	-193.0	6.64	0.0 U	--	2.79
	EM05	10/25/2017	N	440-195026-1	Alluvium	34.4 - 39.0	7.369	0.38	--	-144.1	7.07	--	--	1.60
	EM06	11/16/2017	N	440-196786-15	Alluvium	34.4 - 39.0	6.381	0.77	0.00 U	-75.4	6.74	0.00 U	--	4.98
	EM07	12/12/2017	N	440-198371-7	Alluvium	34.4 - 39.0	6.989	0.07	0.00 U	-63.1	6.75	0.00 U	--	4.70
	EM08	2/20/2018	N	440-203841-13	Alluvium	34.4 - 39.0	6.230	5.47	0.00 U	7.0	6.96	0.00 U	--	4.40

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW09B (continued)	EM09	3/27/2018	N	440-207268-6	Alluvium	34.4 - 39.0	6.380	2.09	--	204	7.17	--	--	0.80
	EM10	4/30/2018	N	440-210173-11	Alluvium	34.4 - 39.0	6.18	0.00	--	103	7.20	--	26.18	83.2
	EM11	7/12/2018	N	440-215717-9	Alluvium	34.4 - 39.0	6.648	1.58	0 U	14.4	6.78	0 U	25.11	3.18
	EM12	7/26/2018	N	440-216784-1	Alluvium	34.4 - 39.0	5.87	1.16	--	152.00	4.30	--	26.21	1.72
	EM13	8/14/2018	N	440-218109-8	Alluvium	34.4 - 39.0	18.7 E	2.99	--	117	6.84	--	21.48	9.8
	EM14	9/11/2018	N	440-219886-13	Alluvium	34.4 - 39.0	4.720	1.12	--	-23.9	7.64	--	26.62	2.21
	EM15	10/9/2018	N	440-221855-8	Alluvium	34.4 - 39.0	5.963	0.58	0 U	-130.6	7.72	0 U	24.08	0
	EM16	12/28/2018	N	440-228887-1	Alluvium	34.4 - 39.0	5.242	1.3	--	178.9	6.99	--	21.62	7.02
	EM17	2/28/2019	N	440-235000-1	Alluvium	34.4 - 39.0	5.307	0.50	0.0 U	56.6	6.99	0.0 U	22.80	0.53
	EM18	4/10/2019	N	440-238531-5	Alluvium	34.4 - 39.0	4.667	2.69	--	118.1	7.11	--	23.6	8.6
	EM19	5/22/2019	N	440-242200-2	Alluvium	34.4 - 39.0	5.461	0.70	0.0 U	143.2	7.04	0.0 U	23.7	7.3
	EM20	7/2/2019	N	440-245153-11	Alluvium	34.4 - 39.0	5.039	0.70	--	7.8	7.00	--	26.2	7.0
	EM21	8/12/2019	N	440-247878-8	Alluvium	34.4 - 39.0	5.237	0.53	0 U	188.4	7.07	0 U	25.8	7.7
	EM22	11/5/2019	N	440-253891-3	Alluvium	34.4 - 39.0	4.938	1.48	0.0 U	221.5	7.07	0 U	23.9	2.7
	EM23	12/18/2019	N	440-257733-6	Alluvium	34.4 - 39.0	4.789	0.87	--	58.9	7.12	--	22.9	3.20
SWFTS-MW10A	BL01	3/31/2017	N	440-181122-2	Alluvium	20.4 - 35.0	6.348	2.70	--	174.4	6.64	--	--	10.05
	EM01	9/21/2017	N	440-192818-5	Alluvium	20.4 - 35.0	4.561	0.42	--	-264.1	6.98	--	--	11.31
	EM02	9/27/2017	N	440-193062-5	Alluvium	20.4 - 35.0	4.504	5.10	--	-182.8	7.14	--	--	162
	EM03	10/4/2017	N	440-193625-5	Alluvium	20.4 - 35.0	4.599	4.56	--	-208.2	7.03	--	--	28.1
	EM04	10/12/2017	N	440-194242-10	Alluvium	20.4 - 35.0	4.869	0.15	0.00 U	-263.0	6.72	0.12	--	8.40
	EM05	10/24/2017	N	440-194947-8	Alluvium	20.4 - 35.0	5.301	1.38	--	-268.8	7.20	--	--	4.00
	EM06	11/16/2017	N	440-196786-5	Alluvium	20.4 - 35.0	4.790	0.60	0.00 U	-236.1	7.12	1.60	--	3.54
	EM07	12/12/2017	N	440-198371-10	Alluvium	20.4 - 35.0	4.720	0.53	0.00 U	-258.0	8.35 E	0.16	--	1.45
	EM08	2/20/2018	N	440-203841-4	Alluvium	20.4 - 35.0	6.569	0.44	0.50	-262.0	6.96	0.00 U	--	2.30
	EM09	3/26/2018	N	440-207137-7	Alluvium	20.4 - 35.0	7.166	1.15	--	59.3	6.86	--	23.48	2.99
	EM10	5/1/2018	N	440-210284-1	Alluvium	20.4 - 35.0	6.617	0.83	--	-154.9	7.10	--	21.39	1.73
	EM11	7/11/2018	N	440-215585-9	Alluvium	20.4 - 35.0	6.94	2.42	0 U	75	7.09	0 U	25.95	0
	EM12	7/26/2018	N	440-216784-2	Alluvium	20.4 - 35.0	5.97	0.55	--	7.20	6.81	--	25.22	0.60
	EM13	8/14/2018	N	440-218109-10	Alluvium	20.4 - 35.0	19.1 E	2.59	--	-5	7.01	--	21.41	37.8
	EM14	9/10/2018	N	440-219797-4	Alluvium	20.4 - 35.0	6.710	0.37	--	-177.5	7.08	--	28.43 E	1.33
	EM15	10/9/2018	N	440-221855-9	Alluvium	20.4 - 35.0	6.333	0.86	0 U	-126.1	7.64	0 U	25.24	0
	EM16	12/20/2018	N	440-228491-6	Alluvium	20.4 - 35.0	7.198	0.7	--	-86.4	6.95	--	23.16	2.53
	EM17	2/26/2019	N	440-234812-4	Alluvium	20.4 - 35.0	5.705	0.37	0.0 U	31.1	6.89	0.0 U	23.58	1.62
	EM18	4/10/2019	N	440-238544-1	Alluvium	20.4 - 35.0	5.825	0.61	--	68.5	6.85	--	23.09	3.97
	EM19	5/21/2019	N	440-242084-2	Alluvium	20.4 - 35.0	5.558	0.46	0.0 U	-107.7	6.86	0.0 U	24.4	8.3
	EM20	7/1/2019	N	440-245046-3	Alluvium	20.4 - 35.0	5.602	5.15	--	59.8	7.13	--	25.5	20.0
	EM21	8/12/2019	N	440-247878-3	Alluvium	20.4 - 35.0	5.110	0.38	0 U	30.0	6.92	0 U	25.3	8.8
	EM22	11/6/2019	N	440-254051-1	Alluvium	20.4 - 35.0	5.802	0.49	0 U	67.2	6.81	0 U	23.5	33.5
	EM23	12/17/2019	N	440-257635-11	Alluvium	20.4 - 35.0	5.436	0.69	--	-38.8	6.84	--	23.6	174.62
SWFTS-MW10C	BL01	3/28/2017	N	440-180820-4	UMCf	43.5 - 63.1	8.249	0.09	--	-140.6	7.08	--	--	56.60
	EM07	12/12/2017	N	440-198371-9	UMCf	43.5 - 63.1	7.62	0.51	0.0 U	-61	7.82	0.0 U	--	163

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW11	BL02	7/12/2017	N	440-188244-7	Alluvium	14.8 - 39.6	6.340	4.30	0.0 U	168	7.27	0.00 U	--	0.70
	EM01	9/20/2017	N	440-192627-11	Alluvium	14.8 - 39.6	7.346	1.86	--	39.6	6.92	--	--	4.05
	EM02	9/26/2017	N	440-192973-3	Alluvium	14.8 - 39.6	7.207	1.47	--	14.0	6.87	--	--	2.51
	EM03	10/3/2017	N	440-193472-1	Alluvium	14.8 - 39.6	7.063	0.93	--	-59.7	6.89	--	--	4.91
	EM04	10/11/2017	N	440-194094-8	Alluvium	14.8 - 39.6	7.494	1.15	0.0 U	67.4	6.86	0.0 U	--	1.71
	EM05	10/24/2017	N	440-194947-9	Alluvium	14.8 - 39.6	8.177	2.32	--	-170.6	7.34	--	--	2.95
	EM06	11/16/2017	N	440-196786-3	Alluvium	14.8 - 39.6	7.480	0.95	0.0 U	129.2	7.17	0.00 U	--	33.10
	EM07	12/14/2017	N	440-198571-13	Alluvium	14.8 - 39.6	6.770	1.78	0.0 U	31.0	7.62	0.00 U	--	5.60
	EM08	2/21/2018	N	440-203937-10	Alluvium	14.8 - 39.6	8.080	7.35	0.0 U	163.0	7.93	0.00 U	--	19.60
	EM09	3/28/2018	N	440-207497-7	Alluvium	14.8 - 39.6	6.950	4.05	--	282	7.34	--	--	5.5
	EM10	5/1/2018	N	440-210284-11	Alluvium	14.8 - 39.6	7.307	5.35	--	-75.5	7.56	--	24.41	4.05
	EM11	7/12/2018	N	440-215717-17	Alluvium	14.8 - 39.6	6.79	5.48	0 U	125	7.58	0 U	22.94	0
	EM13	8/16/2018	N	440-218296-12	Alluvium	14.8 - 39.6	6.85	2.83	--	168	7.65	--	20.79	4.9
	EM14	9/12/2018	N	440-220031-8	Alluvium	14.8 - 39.6	6.800	4.18	--	-24.3	7.69	--	27.70 E	18.33
	EM15	10/11/2018	N	440-222092-10	Alluvium	14.8 - 39.6	5.71	3.59	0 U	-40.4	8.3 E	0 U	25.14	2.27
	EM16	1/2/2019	N	440-229018-8	Alluvium	14.8 - 39.6	5.954	7.08	--	112.5	7.19	--	21.19	3.22
	EM17	3/1/2019	N	440-235133-3	Alluvium	14.8 - 39.6	5.998	5.23	0.0 U	143.3	7.24	0.0 U	23.87	1.17
	EM18	4/12/2019	N	440-238733-6	Alluvium	14.8 - 39.6	5.809	5.50	--	202.5	7.18	--	23.5	2.7
	EM19	5/22/2019	N	440-242200-3	Alluvium	14.8 - 39.6	5.598	5.09	0.0 U	79.0	7.22	0.0 U	24.5	2.3
	EM20	7/3/2019	N	440-245218-3	Alluvium	14.8 - 39.6	5.19	5.03	--	175.2	7.15	--	25.1	3.8
	EM21	8/15/2019	N	440-248187-3	Alluvium	14.8 - 39.6	5.471	4.95	0 U	157.4	7.35	0 U	25.3	4.7
	EM22	11/7/2019	N	440-254150-3	Alluvium	14.8 - 39.6	5.266	5.79	0 U	-23.4	7.29	0 U	24.7	5.1
	EM23	12/17/2019	N	440-257635-3	Alluvium	14.8 - 39.6	5.242	5.91	--	199.2	7.27	--	23.1	1.34
SWFTS-MW12	BL02	7/13/2017	N	440-188324-6	Alluvium	15.8 - 40.6	6.850	7.81	0.0 U	181	7.24	0.0 U	--	0.90
	EM01	9/19/2017	N	440-192627-2	Alluvium	15.8 - 40.6	6.890	4.36	--	81.0	7.22	--	--	21.00
	EM02	9/26/2017	N	440-192973-10	Alluvium	15.8 - 40.6	8.544	2.98	--	43.9	7.29	--	--	1.35
	EM03	10/3/2017	N	440-193622-2	Alluvium	15.8 - 40.6	7.361	2.77	--	45.8	7.04	--	--	0.00
	EM04	10/11/2017	N	440-194090-1	Alluvium	15.8 - 40.6	7.349	1.59	0.0 U	-32.1	6.80	0.0 U	--	1.58
	EM05	10/24/2017	N	440-194947-10	Alluvium	15.8 - 40.6	7.887	5.09	--	24.0	7.50	--	--	0.69
	EM06	11/14/2017	N	440-196558-5	Alluvium	15.8 - 40.6	7.330	2.52	0.0 U	93.9	7.19	0.00 U	--	5.22
	EM07	12/14/2017	N	440-198571-15	Alluvium	15.8 - 40.6	6.400	4.37	0.0 U	42.0	7.70	0.00 U	--	0.27
	EM08	2/22/2018	N	440-204033-2	Alluvium	15.8 - 40.6	6.450	5.95	0.0 U	233.0	8.14 E	0.00 U	--	6.10
	EM09	3/28/2018	N	440-207497-5	Alluvium	15.8 - 40.6	5.880	4.30	--	275	7.43	--	--	15.4
	EM10	5/3/2018	N	440-210534-4	Alluvium	15.8 - 40.6	7.274	2.24	--	83.7	7.21	--	23.84	1.07
	EM11	7/12/2018	N	440-215717-16	Alluvium	15.8 - 40.6	6.57	5.35	0 U	135	7.61	0 U	21.64	0
	EM13	8/16/2018	N	440-218296-14	Alluvium	15.8 - 40.6	6.8	2.75	--	156	7.90	--	20.38	0.2
	EM14	9/12/2018	N	440-220031-11	Alluvium	15.8 - 40.6	6.350	3.46	--	-29.5	7.73	--	26.06	3.46
	EM15	10/11/2018	N	440-222092-12	Alluvium	15.8 - 40.6	5.484	5.11	0 U	-42.6	8.49 E	0 U	24.44	91.2

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW12 (continued)	EM16	1/2/2019	N	440-229018-7	Alluvium	15.8 - 40.6	6.394	4.35	--	110	7.16	--	22.92	6.98
	EM17	2/28/2019	N	440-235000-4	Alluvium	15.8 - 40.6	6.127	3.64	0.0 U	23.3	7.18	0.0 U	23.71	20.3
	EM18	4/12/2019	N	440-238733-2	Alluvium	15.8 - 40.6	5.895	3.50	--	117.1	7.10	--	23.64	18.15
	EM19	5/22/2019	N	440-242198-7	Alluvium	15.8 - 40.6	6.361	3.81	0.0 U	153.0	7.08	0.0 U	23.3	10.6
	EM20	7/5/2019	N	440-245259-4	Alluvium	15.8 - 40.6	5.875	3.56	--	203.5	7.23	--	25.8	9.5
	EM21	8/16/2019	N	440-248259-2	Alluvium	15.8 - 40.6	6.712	3.35	0 U	207.2	7.31	0 U	24.3	7.9
	EM22	11/7/2019	N	440-254150-2	Alluvium	15.8 - 40.6	6.425	0.29	2.0	-293.6	6.29	1.4	23.6	20.5
	EM22	11/26/2019	N	440-255698-1	Alluvium	15.8 - 40.6	--	--	--	--	--	--	--	--
	EM23	12/20/2019	N	440-257938-1	Alluvium	15.8 - 40.6	5.150	0.84	--	-227.1	6.83	--	22.9	61.23
SWFTS-MW13	BL02	7/12/2017	N	440-188244-6	Alluvium	17.8 - 47.6	6.280	4.72	0.0 U	140	7.39	0.00 U	--	5.80
	EM01	9/20/2017	N	440-192627-12	Alluvium	17.8 - 47.6	7.337	5.20	--	65.5	7.11	--	--	18.62
	EM02	9/26/2017	N	440-192973-9	Alluvium	17.8 - 47.6	9.197	3.17	--	72.5	7.25	--	--	4.90
	EM03	10/3/2017	N	440-193622-1	Alluvium	17.8 - 47.6	7.749	5.57	--	93.9	7.11	--	--	4.55
	EM04	10/10/2017	N	440-193989-4	Alluvium	17.8 - 47.6	7.938	2.40	0.0 U	-42.6	7.12	0.0 U	--	0.86
	EM05	10/24/2017	N	440-194947-11	Alluvium	17.8 - 47.6	8.340	6.62	--	54.4	7.51	--	--	34.1
	EM06	11/15/2017	N	440-196659-1	Alluvium	17.8 - 47.6	7.790	3.22	0.0 U	100.4	7.32	0.0 U	--	31.5
	EM07	12/14/2017	N	440-198571-14	Alluvium	17.8 - 47.6	6.980	3.79	0.0 U	45.0	7.56	0.00 U	--	1.81
	EM08	2/22/2018	N	440-204033-7	Alluvium	17.8 - 47.6	7.280	4.95	0.0 U	192.0	8.18 E	0.00 U	--	24.80
	EM09	3/26/2018	N	440-207137-4	Alluvium	17.8 - 47.6	7.300	2.98	0 U	-20.1	7.08	0 U	22.89	9.51
	EM10	5/3/2018	N	440-210534-1	Alluvium	17.8 - 47.6	6.556	8.17 E	--	10.5	7.50	--	23.57	26.4
	EM11	7/12/2018	N	440-215717-15	Alluvium	17.8 - 47.6	7.03	6.45	0 U	153	7.55	0 U	20.92	0
	EM13	8/16/2018	N	440-218296-15	Alluvium	17.8 - 47.6	7.1	2.95	--	156	7.96	--	21.22	0.2
	EM14	9/13/2018	N	440-220125-6	Alluvium	17.8 - 47.6	5.390	3.44	--	-20	7.63	--	25.55	7.72
	EM15	10/11/2018	N	440-222092-14	Alluvium	17.8 - 47.6	5.998	3.49	0 U	-36.2	8.29 E	0 U	24.33	5.42
	EM16	1/2/2019	N	440-229018-6	Alluvium	17.8 - 47.6	6.945	6.89	--	111.2	7.19	--	20.92	4.87
	EM17	2/28/2019	N	440-235000-3	Alluvium	17.8 - 47.6	6.729	4.02	0.0 U	38.1	7.15	0.0 U	23.32	2.29
	EM18	4/12/2019	N	440-238733-3	Alluvium	17.8 - 47.6	5.703	5.30	--	117.1	7.18	--	21.70	4.61
	EM19	5/22/2019	N	440-242198-5	Alluvium	17.8 - 47.6	6.520	5.32	0.0 U	158.1	7.14	0.0 U	23.0	18.6
	EM20	7/5/2019	N	440-245259-5	Alluvium	17.8 - 47.6	6.104	5.15	--	199.3	7.25	--	26.6	9.3
	EM21	8/16/2019	N	440-248259-3	Alluvium	17.8 - 47.6	7.248	4.55	0 U	189.9	7.31	0 U	24.8	7.0
	EM22	11/6/2019	N	440-254051-6	Alluvium	17.8 - 47.6	7.562	3.81	0 U	36.3	7.13	0.0 U	25.1	5.4
	EM23	12/20/2019	N	440-257938-3	Alluvium	17.8 - 47.6	6.760	4.20	--	31.8	7.25	--	22.1	4.49
SWFTS-MW14	BL02	7/12/2017	N	440-188244-8	Alluvium	16.8 - 36.6	8.300	0.65	0.0 U	166	7.08	0.00 U	--	0.00
	EM01	9/20/2017	N	440-192728-1	Alluvium	16.8 - 36.6	8.357	0.39	--	-249.3	6.72	--	--	132
	EM02	9/26/2017	N	440-193062-15	Alluvium	16.8 - 36.6	9.387	0.17	--	-220.7	6.82	--	--	58.2
	EM03	10/3/2017	N	440-193622-3	Alluvium	16.8 - 36.6	7.104	0.19	--	-249.0	6.66	--	--	12.10
	EM04	10/11/2017	N	440-194242-8	Alluvium	16.8 - 36.6	7.500	0.39	0.0 U	-77.0	4.24 E	0.0 U	--	70.3
	EM05	10/27/2017	N	440-195218-4	Alluvium	16.8 - 36.6	7.623	0.60	--	-64.5	6.58	--	--	18.8
	EM06	11/15/2017	N	440-196659-3	Alluvium	16.8 - 36.6	7.510	0.83	1.0	-81.8	6.79	0.00 U	--	82.40
	EM07	12/12/2017	N	440-198371-12	Alluvium	16.8 - 36.6	6.800	6.49	0.5	-65.0	7.86	0.08	--	17.20
	EM08	2/20/2018	N	440-203841-11	Alluvium	16.8 - 36.6	7.980	3.12	1.0	-85.0	4.40 E	0.40	--	23.20
	EM09	3/26/2018	N	440-207137-9	Alluvium	16.8 - 36.6	6.61	4.03	--	-194	7.24	--	19.66	32.3
	EM10	4/30/2018	N	440-210173-9	Alluvium	16.8 - 36.6	7.256	0.45	--	-461.3	6.38	--	27.63 E	4.14

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW14 (continued)	EM11	7/10/2018	N	440-215437-8	Alluvium	16.8 - 36.6	7.72	0.90	0 U	-364.6	6.62	0.1	31.22 E	25
	EM12	7/26/2018	N	440-216784-3	Alluvium	16.8 - 36.6	6.78	2.26	--	-399.1	7.9	--	28.1 E	17.25
	EM13	8/14/2018	N	440-218109-11	Alluvium	16.8 - 36.6	20.6 E	0.47	--	-366	6.81	--	22.30	27.5
	EM14	9/11/2018	N	440-219886-17	Alluvium	16.8 - 36.6	5.300	0.25	--	-341	7.94	--	27.67 E	33.4
	EM15	10/9/2018	N	440-221855-10	Alluvium	16.8 - 36.6	6.767	0.81	0 U	-396.4	8.5 E	0.2	25.77	5.32
	EM16	12/20/2018	N	440-228491-2	Alluvium	16.8 - 36.6	7.142	0.46	--	-422.5	6.78	--	22.84	2.51
	EM17	2/26/2019	N	440-234812-1	Alluvium	16.8 - 36.6	5.728	0.67	0.08	-309.9	6.76	0.0 U	22.96	5.19
	EM18	4/9/2019	N	440-238618-4	Alluvium	16.8 - 36.6	6.016	0.65	--	-333.2	6.67	--	26.04	7.77
	EM19	5/21/2019	N	440-242084-1	Alluvium	16.8 - 36.6	5.735	0.35	0.0 U	-327.1	6.70	0.44	24.8	89.0
	EM20	7/2/2019	N	440-245153-7	Alluvium	16.8 - 36.6	5.448	0.35	--	-338.9	6.60	--	26.0	9.6
	EM21	8/13/2019	N	440-247965-6	Alluvium	16.8 - 36.6	5.919	0.22	0 U	-331.5	6.64	0.08	26.9	2.9
	EM22	11/6/2019	N	440-254051-2	Alluvium	16.8 - 36.6	5.932	0.21	0 U	-341.6	6.63	0.24	25.4	5.5
	EM23	12/17/2019	N	440-257635-7	Alluvium	16.8 - 36.6	5.220	0.47	--	-291.7	6.74	--	23.9	69.23
SWFTS-MW15	BL02	7/13/2017	N	440-188325-3	Alluvium	14.8 - 34.6	7.310	0.47	0.0 U	113.2	7.09	0.00 U	--	1000 >
	EM01	9/20/2017	N	440-192728-2	Alluvium	14.8 - 34.6	7.231	0.27	--	46.0	7.01	--	--	39.1
	EM02	9/26/2017	N	440-193062-13	Alluvium	14.8 - 34.6	8.523	0.30	--	14.8	7.14	--	--	119
	EM03	10/4/2017	N	440-193625-4	Alluvium	14.8 - 34.6	6.648	0.38	--	-181.6	6.91	--	--	145
	EM04	10/10/2017	N	440-194094-1	Alluvium	14.8 - 34.6	6.918	0.21	0.0 U	-33.1	7.06	0.0 U	--	103
	EM05	10/27/2017	N	440-195218-3	Alluvium	14.8 - 34.6	6.980	0.78	--	155.3	6.96	--	--	377
	EM06	11/14/2017	N	440-196558-4	Alluvium	14.8 - 34.6	6.870	1.08	0.0 U	61.6	7.06	0.20	--	1000 >
	EM07	12/13/2017	N	440-198508-13	Alluvium	14.8 - 34.6	6.460	3.83	0.0 U	35.0	7.72	0.0 U	--	30.2
	EM08	2/19/2018	N	440-203775-4	Alluvium	14.8 - 34.6	6.580	3.24	0.0 U	215	7.54	0.00 U	--	12.6
	EM09	3/26/2018	N	440-207137-10	Alluvium	14.8 - 34.6	6.68	5.95	--	428	7.32	--	17.97	3.1
	EM10	5/2/2018	N	440-210430-3	Alluvium	14.8 - 34.6	5.758	1.09	--	89.4	7.17	--	22.20	313
	EM11	7/11/2018	N	440-215717-1	Alluvium	14.8 - 34.6	6.81	6.10	0 U	-65	7.27	0 U	26.9	67
	EM12	7/26/2018	N	440-216784-4	Alluvium	14.8 - 34.6	6.59	2.73	--	-228.5	6.89	--	27.22 E	136
	EM13	8/15/2018	N	440-218208-12	Alluvium	14.8 - 34.6	6.897	0.97	--	-135.9	7.18	--	27.38 E	331
	EM14	9/11/2018	N	440-219886-2	Alluvium	14.8 - 34.6	5.539	0.73	--	62.8	7.11	--	26.03	41.5
	EM15	10/9/2018	N	440-221855-11	Alluvium	14.8 - 34.6	6.494	1.09	0 U	-230.3	7.54	0 U	26.98	67.8
	EM16	12/20/2018	N	440-228491-1	Alluvium	14.8 - 34.6	6.311	0.91	--	-50.4	6.99	--	24.07	57.3
	EM17	2/25/2019	N	440-234705-1	Alluvium	14.8 - 34.6	5.41	0.00	0.0 U	-208	7.93	0.5	23.01	53.9
	EM18	4/9/2019	N	440-238618-11	Alluvium	14.8 - 34.6	4.972	1.14	--	59.2	7.13	--	24.9	7.1
	EM19	5/20/2019	N	440-242014-1	Alluvium	14.8 - 34.6	5.346	0.65	0.0 U	131.5	6.80	0.0 U	24.1	186.2
	EM20	7/2/2019	N	440-245153-9	Alluvium	14.8 - 34.6	5.137	0.59	--	-47.5	7.06	--	25.6	17.9
	EM21	8/13/2019	N	440-247965-5	Alluvium	14.8 - 34.6	5.34	0.56	0 U	55.7	7.17	0 U	25.3	11.5
	EM22	11/6/2019	N	440-254051-3	Alluvium	14.8 - 34.6	5.356	1.99	0 U	-145.4	7.17	0 U	23.9	9.3
	EM23	12/17/2019	N	440-257635-6	Alluvium	14.8 - 34.6	4.982	0.80	--	186.2	6.78	--	23.6	47.53
SWFTS-MW16	BL02	7/13/2017	N	440-188325-2	Alluvium	21.8 - 41.6	6.600	0.93	0.0 U	109.1	7.07	0.00 U	--	1000 >
	EM01	9/22/2017	N	440-192818-7	Alluvium	21.8 - 41.6	6.718	0.71	--	-224.6	6.28	--	--	96.0
	EM02	9/26/2017	N	440-192973-6	Alluvium	21.8 - 41.6	6.362	1.54	--	-138.6	6.63	--	--	188
	EM03	10/3/2017	N	440-193472-3	Alluvium	21.8 - 41.6	6.905	1.30	--	-198.9	6.49	--	--	49.1
	EM04	10/12/2017	N	440-194204-7	Alluvium	21.8 - 41.6	6.534	1.32	0.0 U	-198.2	6.31	2.00	--	10.04
	EM05	10/24/2017	N	440-194947-2	Alluvium	21.8 - 41.6	6.614	1.03	--	-407.8	6.81	--	--	77.9
	EM06	11/16/2017	N	440-196786-4	Alluvium	21.8 - 41.6	5.450	0.49	0.0 U	-248.1	6.99	2.00	--	1000 >
	EM07	12/12/2017	N	440-198371-4	Alluvium	21.8 - 41.6	5.759	0.56	0.00 U	-339.7	7.06	0.26	--	78.70

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW16 (continued)	EM08	2/21/2018	N	440-203937-6	Alluvium	21.8 - 41.6	6.213	0.49	1.8	-315.0	6.20	0.20	--	25.50
	EM09	3/27/2018	N	440-207268-13	Alluvium	21.8 - 41.6	6.290	0.49	--	-27.9	7.11	--	--	45.8
	EM10	5/2/2018	N	440-210430-13	Alluvium	21.8 - 41.6	5.281	0.15	--	-86.2	6.91	--	23.53	11.8
	EM11	7/11/2018	N	440-215585-12	Alluvium	21.8 - 41.6	5.62	5.38	0.8	-228	6.95	2	22.35	0
	EM12	7/26/2018	N	440-216784-5	Alluvium	21.8 - 41.6	5.60	1.99	--	-296.8	7.27	--	28.14 E	5.8
	EM13	8/15/2018	N	440-218208-13	Alluvium	21.8 - 41.6	5.865	0.98	--	-202.1	6.94	--	26.48	59.3
	EM14	9/10/2018	N	440-219797-6	Alluvium	21.8 - 41.6	6.110	0.78	--	-99.0	6.89	--	27.15 E	38.1
	EM15	10/11/2018	N	440-222092-3	Alluvium	21.8 - 41.6	5.78	3.73	2	-113	6.97	0 U	22.9	50.6
	EM16	12/19/2018	N	440-228394-1	Alluvium	21.8 - 41.6	6.375	0.4	--	-175.8	6.85	--	23.51	43.2
	EM17	2/26/2019	N	440-234812-7	Alluvium	21.8 - 41.6	5.58	0.00	4.5	-122	6.77	0.0 U	23.70	112
	EM18	4/9/2019	N	440-238618-12	Alluvium	21.8 - 41.6	4.495	0.47	--	-175.6	6.75	--	26.2	130.2
	EM19	5/20/2019	N	440-242014-3	Alluvium	21.8 - 41.6	4.959	0.53	2.5	-53.5	6.75	0.0 U	24.9	233.7
	EM20	7/1/2019	N	440-245068-1	Alluvium	21.8 - 41.6	4.442	0.20	--	-179.8	6.91	--	25.8	179.3
	EM21	8/13/2019	N	440-247965-4	Alluvium	21.8 - 41.6	5.278	0.35	1.5	-94.5	6.89	0.04	25.6	9.9
	EM22	11/6/2019	N	440-254051-5	Alluvium	21.8 - 41.6	4.731	0.21	3.0	-228.3	6.77	0.04	25.7	19.8
	EM23	12/17/2019	N	440-257635-1	Alluvium	21.8 - 41.6	4.566	2.00	--	-72.9	6.89	--	22.1	43.60
SWFTS-MW17	BL02	7/12/2017	N	440-188244-1	Alluvium	22.8 - 52.6	6.000	4.30	0.00 U	166	7.35	0.00 U	--	3.60
	EM01	9/19/2017	N	440-192627-3	Alluvium	22.8 - 52.6	4.915	5.07	--	47.0	7.21	--	--	1.65
	EM02	9/26/2017	N	440-192973-7	Alluvium	22.8 - 52.6	6.502	4.04	--	100.2	7.25	--	--	3.56
	EM03	10/3/2017	N	440-193472-8	Alluvium	22.8 - 52.6	6.029	6.87	--	52.7	7.30	--	--	48.30
	EM04	10/10/2017	N	440-193989-3	Alluvium	22.8 - 52.6	5.590	3.90	0.0 U	228	5.02 E	0.0 U	--	0.40
	EM05	10/24/2017	N	440-194947-1	Alluvium	22.8 - 52.6	6.262	5.28	--	58.3	7.24	--	--	3.84
	EM06	11/15/2017	N	440-196659-5	Alluvium	22.8 - 52.6	5.490	4.91	0.0 U	116.7	7.34	0.00 U	--	9.21
	EM07	12/13/2017	N	440-198508-6	Alluvium	22.8 - 52.6	5.540	5.54	0.0 U	3.1	7.09	0.00 U	--	23.80
	EM08	2/22/2018	N	440-204033-11	Alluvium	22.8 - 52.6	5.374	3.65	0.0 U	5.1	6.75	0.06	--	17.85
	EM09	3/28/2018	N	440-207497-11	Alluvium	22.8 - 52.6	4.938	3.49	--	-73.2	7.25	--	--	7.00
	EM10	5/3/2018	N	440-210534-3	Alluvium	22.8 - 52.6	4.424	4.08	--	-37.6	7.33	--	24.10	8.50
	EM11	7/11/2018	N	440-215585-13	Alluvium	22.8 - 52.6	4.74	4.35	0 U	20	7.41	0 U	24.11	0
	EM13	8/16/2018	N	440-218296-19	Alluvium	22.8 - 52.6	5.379	4.56	--	-4.6	7.37	--	27.20 E	5.04
	EM14	9/12/2018	N	440-220031-5	Alluvium	22.8 - 52.6	4.799	3.49	--	112.8	7.32	--	26.21	5.51
	EM15	10/11/2018	N	440-222092-4	Alluvium	22.8 - 52.6	5.15	3.33	0 U	76	7.39	0 U	23.88	1.7

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW17 (continued)	EM16	1/2/2019	N	440-229018-5	Alluvium	22.8 - 52.6	4.548	6.18	--	108.7	7.23	--	20.05	3.29
	EM17	2/28/2019	N	440-235000-2	Alluvium	22.8 - 52.6	4.578	4.83	0.0 U	40.7	7.24	0.0 U	22.97	5.96
	EM18	4/11/2019	N	440-238688-5	Alluvium	22.8 - 52.6	4.295	4.74	--	168.2	7.19	--	24.0	2.2
	EM19	5/22/2019	N	440-242198-6	Alluvium	22.8 - 52.6	4.499	4.85	0.0 U	156.0	7.16	0.0 U	23.5	10.7
	EM20	7/5/2019	N	440-245259-3	Alluvium	22.8 - 52.6	4.155	4.91	--	210.5	7.31	--	26.2	7.7
	EM21	8/16/2019	N	440-248259-1	Alluvium	22.8 - 52.6	4.889	5.02	0 U	255.1	7.34	0 U	24.9	6.8
	EM22	11/7/2019	N	440-254150-1	Alluvium	22.8 - 52.6	5.046	5.25	0 U	115.1	7.23	0 U	23.3	11.1
	EM23	12/20/2019	N	440-257938-2	Alluvium	22.8 - 52.6	4.701	5.71	--	10.3	7.29	--	22.4	19.26
SWFTS-MW18	BL02	7/11/2017	N	440-188133-17	Alluvium	16.8 - 36.6	6.150	2.68	0.00 U	157	7.30	0.00 U	--	278
	EM01	9/21/2017	N	440-192728-8	Alluvium	16.8 - 36.6	6.469	0.59	--	69.1	6.92	--	--	46.9
	EM02	9/27/2017	N	440-193167-5	Alluvium	16.8 - 36.6	6.864	0.40	--	-80.9	6.87	--	--	122
	EM03	10/3/2017	N	440-193472-2	Alluvium	16.8 - 36.6	7.125	2.22	--	114.5	7.02	--	--	5.44
	EM04	10/10/2017	N	440-194094-3	Alluvium	16.8 - 36.6	6.873	0.31	0.0 U	-25.1	7.14	0.0 U	--	19.5
	EM05	10/23/2017	N	440-194846-3	Alluvium	16.8 - 36.6	7.761	0.98	--	58.6	7.14	--	--	28.10
	EM06	11/15/2017	N	440-196690-11	Alluvium	16.8 - 36.6	6.030	1.37	0.00 U	-202.9	7.13	0.00 U	--	98.40
	EM07	12/13/2017	N	440-198508-5	Alluvium	16.8 - 36.6	6.930	0.40	0.00 U	-73.0	7.49	0.00 U	--	139.00
	EM08	2/22/2018	N	440-204033-4	Alluvium	16.8 - 36.6	6.401	0.51	0.00 U	14.3	6.60	0.00 U	--	20.24
	EM09	3/27/2018	N	440-207268-11	Alluvium	16.8 - 36.6	5.873	0.25	--	-240.3	6.81	--	--	27.8
	EM10	5/1/2018	N	440-210284-6	Alluvium	16.8 - 36.6	6.321	0.43	--	144.2	7.10	--	23.91	14.47
	EM11	7/11/2018	N	440-215717-2	Alluvium	16.8 - 36.6	6.32	0.01	0 U	68	7.39	0 U	26.65	29.5
	EM12	7/26/2018	N	440-216784-6	Alluvium	16.8 - 36.6	5.98	2.81	--	-131.7	7	--	25.64	8
	EM13	8/15/2018	N	440-218208-14	Alluvium	16.8 - 36.6	6.553	0.58	--	-33.3	7.26	--	26.51	20.2
	EM14	9/11/2018	N	440-219886-1	Alluvium	16.8 - 36.6	5.207	0.79	--	114.5	7.17	--	24.44	7.77
	EM15	10/11/2018	N	440-222092-5	Alluvium	16.8 - 36.6	5.74	1.88	0 U	127	7.33	0 U	23.73	10
	EM16	12/20/2018	N	440-228491-8	Alluvium	16.8 - 36.6	6.341	0.67	--	-57.9	7.08	--	24.38	153
	EM17	2/26/2019	N	440-234812-9	Alluvium	16.8 - 36.6	6.08	0.00	0.0 U	45	6.78	0.0 U	24.06	19.6
	EM18	4/9/2019	N	440-238618-13	Alluvium	16.8 - 36.6	4.972	0.48	--	37.0	6.99	--	25.0	117.6
	EM19	5/21/2019	N	440-242084-15	Alluvium	16.8 - 36.6	4.871	0.65	0.0 U	149.3	8.25	0.0 U	24.4	73.4
	EM20	7/1/2019	N	440-245068-3	Alluvium	16.8 - 36.6	4.613	0.41	--	18.1	7.10	--	25.4	145.6
	EM21	8/13/2019	N	440-247965-3	Alluvium	16.8 - 36.6	5.194	0.39	0 U	129.8	7.09	0 U	24.5	12.4
	EM22	11/6/2019	N	440-254051-4	Alluvium	16.8 - 36.6	5.751	0.30	0 U	-2.2	6.72	0 U	25.8	13.5
	EM23	12/17/2019	N	440-257635-13	Alluvium	16.8 - 36.6	4.861	0.64	--	13.1	6.87	--	23.6	142.21
SWFTS-MW19	BL02	7/12/2017	N	440-188244-2	Alluvium	11.3 - 31.1	3.130	0.77	0.00 U	88.0	7.27	0.00 U	--	12.80
	EM01	9/21/2017	N	440-192728-10	Alluvium	11.3 - 31.1	3.200	0.43	--	29.3	6.93	--	--	8.59
	EM02	9/28/2017	N	440-193167-6	Alluvium	11.3 - 31.1	5.293	6.39	--	11.9	7.19	--	--	818
	EM03	10/5/2017	N	440-193712-13	Alluvium	11.3 - 31.1	3.117	5.16	--	118.0	7.10	--	--	83.0
	EM04	10/12/2017	N	440-194204-1	Alluvium	11.3 - 31.1	3.297	0.28	0.0 U	-86.1	6.89	0.0 U	--	36.1
	EM05	10/27/2017	N	440-195218-5	Alluvium	11.3 - 31.1	3.491	0.38	--	40.8	7.05	--	--	26.8
	EM06	11/16/2017	N	440-196786-12	Alluvium	11.3 - 31.1	3.410	0.73	0.0 U	37.2	7.16	0.0 U	--	65.6
	EM07	12/12/2017	N	440-198371-8	Alluvium	11.3 - 31.1	3.140	0.92	0.00 U	5.0	7.61	0.80	--	9.20
	EM08	2/20/2018	N	440-203841-6	Alluvium	11.3 - 31.1	3.369	1.25	0.00 U	-13.5	7.23	0.00 U	--	124
	EM09	3/27/2018	N	440-207268-3	Alluvium	11.3 - 31.1	3.454	1.09	--	55.4	7.15	--	--	90.20
	EM10	4/30/2018	N	440-210173-4	Alluvium	11.3 - 31.1	3.478	0.56	--	39.6	7.10	--	22.36	54.6

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW19 (continued)	EM11	7/10/2018	N	440-215437-10	Alluvium	11.3 - 31.1	3.39	2.80	0 U	259	7.42	0 U	21.99	17.0
	EM12	7/26/2018	N	440-216784-7	Alluvium	11.3 - 31.1	3.40	1.11	--	-107.2	7.15	--	24.61	79.8
	EM13	8/15/2018	N	440-218208-15	Alluvium	11.3 - 31.1	3.76	0.95	--	-23.6	7.27	--	26.49	90.2
	EM14	9/11/2018	N	440-219886-6	Alluvium	11.3 - 31.1	3.179	1.06	--	98.3	7.15	--	26.76	6.95
	EM15	10/9/2018	N	440-221855-4	Alluvium	11.3 - 31.1	3.56	1.43	0 U	35	6.85	0 U	27.1 E	5.1
	EM16	12/27/2018	N	440-228818-3	Alluvium	11.3 - 31.1	4.116	1.43	--	-18.3	7.15	--	23.54	39.8
	EM17	2/27/2019	N	440-234933-1	Alluvium	11.3 - 31.1	3.223	0.14	0.0 U	97.9	7.11	0.0 U	21.91	6.49
	EM18	4/10/2019	N	440-238544-5	Alluvium	11.3 - 31.1	3.298	1.27	--	63.6	7.13	--	21.50	20.8
	EM19	5/21/2019	N	440-242084-6	Alluvium	11.3 - 31.1	3.115	1.22	0.0 U	225.0	7.15	0.0 U	22.0	6.5
	EM20	7/2/2019	N	440-245153-1	Alluvium	11.3 - 31.1	2.930	1.54	--	183.5	7.13	--	22.7	6.8
	EM21	8/15/2019	N	440-248187-5	Alluvium	11.3 - 31.1	3.144	1.6	0 U	139.2	7.3	0 U	24.4	6.3
	EM22	11/5/2019	N	440-253891-6	Alluvium	11.3 - 31.1	3.256	1.28	0.0 U	193.2	7.12	0 U	26.2	7.2
	EM23	12/19/2019	N	440-257866-1	Alluvium	11.3 - 31.1	3.117	2.03	--	127.1	7.18	--	23.1	24.23
SWFTS-MW20	BL02	7/12/2017	N	440-188244-5	Alluvium	12.8 - 37.6	9.110	6.05	0.00 U	147	7.16	0.00 U	--	176.00
	EM01	9/21/2017	N	440-192818-3	Alluvium	12.8 - 37.6	8.349	3.72	--	44.2	6.87	--	--	303
	EM02	9/26/2017	N	440-193062-1	Alluvium	12.8 - 37.6	8.334	0.49	--	15.9	6.85	--	--	9.76
	EM03	10/4/2017	N	440-193712-4	Alluvium	12.8 - 37.6	16.493 E	0.22	--	-3.2	6.87	--	--	59.2
	EM04	10/12/2017	N	440-194202-1	Alluvium	12.8 - 37.6	8.791	0.23	0.0 U	-41.3	6.76	0.0 U	--	70.2
	EM05	10/25/2017	N	440-195026-5	Alluvium	12.8 - 37.6	9.675	0.45	--	13.3	7.10	--	--	17.2
	EM06	11/16/2017	N	440-196786-7	Alluvium	12.8 - 37.6	8.400	0.74	0.50	-46.4	7.00	0.00 U	--	1000 >
	EM07	12/12/2017	N	440-198371-3	Alluvium	12.8 - 37.6	9.171	0.20	0.00 U	-84.9	6.88	0.00 U	--	54.2
	EM08	2/19/2018	N	440-203775-5	Alluvium	12.8 - 37.6	7.870	2.54	0.00 U	244	7.34	0.00 U	--	19.8
	EM09	3/27/2018	N	440-207268-9	Alluvium	12.8 - 37.6	8.230	3.64	--	247	6.97	--	--	41.4
	EM10	4/30/2018	N	440-210173-10	Alluvium	12.8 - 37.6	7.881	0.19	--	28.9	6.64	--	24.39	61.8
	EM11	7/11/2018	N	440-215717-8	Alluvium	12.8 - 37.6	9.01	1.72	0 U	-22.6	6.75	0 U	29.5 E	97
	EM12	7/26/2018	N	440-216784-9	Alluvium	12.8 - 37.6	8.50	1.88	--	-74.5	6.76	--	28.05 E	19.3
	EM13	8/15/2018	N	440-218208-16	Alluvium	12.8 - 37.6	8.111	0.81	--	-12.6	6.84	--	27.40 E	61.9
	EM14	9/11/2018	N	440-219886-3	Alluvium	12.8 - 37.6	7.126	0.51	--	97.1	6.71	--	26.60	32.1
	EM15	10/9/2018	N	440-221855-1	Alluvium	12.8 - 37.6	7.5	1.96	0 U	94	7.27	0 U	23.87	17.7
	EM16	12/20/2018	N	440-228491-7	Alluvium	12.8 - 37.6	8.673	0.97	--	-59.5	6.7	--	24.3	109
	EM17	2/26/2019	N	440-234812-5	Alluvium	12.8 - 37.6	6.669	0.36	0.0 U	52.0	6.71	0.0 U	24.31	36.9
	EM18	4/9/2019	N	440-238618-5	Alluvium	12.8 - 37.6	7.569	0.64	--	235.2	1.71	--	25.95	54.9
	EM19	5/21/2019	N	440-242084-3	Alluvium	12.8 - 37.6	7.230	0.41	0.5	-4.2	6.61	0.0 U	24.3	90.2
	EM20	7/2/2019	N	440-245153-3	Alluvium	12.8 - 37.6	6.615	0.43	--	141.9	6.57	--	24.7	31.5
	EM21	8/13/2019	N	440-247965-1	Alluvium	12.8 - 37.6	6.879	0.42	0 U	131.1	6.66	0 U	24.9	13.4
	EM22	11/5/2019	N	440-253918-6	Alluvium	12.8 - 37.6	7.247	0.49	0 U	103.6	6.58	0 U	25.9	10.1
	EM23	12/17/2019	N	440-257635-12	Alluvium	12.8 - 37.6	6.564	0.65	--	12.3	6.59	--	24.0	134.15
SWFTS-MW21	BL02	7/13/2017	N	440-188324-5	Alluvium	14.8 - 39.6	7.090	6.15	--	179	7.30	--	--	99.00
	EM01	9/21/2017	N	440-192728-11	Alluvium	14.8 - 39.6	7.315	4.90	--	35.4	7.13	--	--	147
	EM02	9/27/2017	N	440-193062-12	Alluvium	14.8 - 39.6	7.626	0.28	--	-12.8	6.95	--	--	57.8

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW21 (continued)	EM03	10/5/2017	N	440-193712-17	Alluvium	14.8 - 39.6	7.355	4.40	--	47.2	6.96	--	--	107
	EM04	10/11/2017	N	440-194090-8	Alluvium	14.8 - 39.6	7.629	0.28	0.0 U	-30.2	6.66	0.0 U	--	120
	EM05	10/27/2017	N	440-195218-6	Alluvium	14.8 - 39.6	8.021	0.45	--	53.0	6.81	--	--	72.2
	EM06	11/15/2017	N	440-196665-5	Alluvium	14.8 - 39.6	7.220	3.07	0.00 U	-0.1	7.07	0.00 U	--	860.00
	EM07	12/13/2017	N	440-198508-10	Alluvium	14.8 - 39.6	6.840	0.68	0.00 U	32.0	7.52	0.80	--	21.60
	EM08	2/20/2018	N	440-203841-9	Alluvium	14.8 - 39.6	7.347	0.24	0.00 U	18.7	6.14	0.04	--	59.70
	EM09	3/27/2018	N	440-207268-14	Alluvium	14.8 - 39.6	6.878	0.37	--	-72.8	7.07	--	--	8.71
	EM10	4/30/2018	N	440-210173-7	Alluvium	14.8 - 39.6	6.85	0.00	--	186	7.12	--	24.42	54.7
	EM11	7/12/2018	N	440-215717-3	Alluvium	14.8 - 39.6	7.41	0.06	0 U	141	7.28	0 U	24.97	38.6
	EM12	7/27/2018	N	440-216872-3	Alluvium	14.8 - 39.6	6.54	8.98 E	--	-76.2	6.99	--	24.57	763
	EM13	8/15/2018	N	440-218208-18	Alluvium	14.8 - 39.6	7.72	0.68	--	16.1	7.02	--	26.88	208
	EM14	9/12/2018	N	440-220031-4	Alluvium	14.8 - 39.6	6.923	0.35	--	112	6.92	--	26.65	8.36
	EM15	10/9/2018	N	440-221855-3	Alluvium	14.8 - 39.6	7.15	0.59	0 U	52	6.63	0 U	26.1	4.8
	EM16	12/20/2018	N	440-228491-13	Alluvium	14.8 - 39.6	7.975	1.11	--	-53.7	6.97	--	24.45	370
	EM17	2/26/2019	N	440-234812-10	Alluvium	14.8 - 39.6	7.48	0.00	0.0 U	-33	6.60	0.0 U	24.48	47.9
	EM18	4/10/2019	N	440-238531-8	Alluvium	14.8 - 39.6	6.119	3.78	--	127.6	7.07	--	24.4	49.2
	EM19	5/22/2019	N	440-242198-3	Alluvium	14.8 - 39.6	6.536	0.57	0.0 U	170.9	7.04	0.0 U	24.2	58.9
	EM20	7/1/2019	N	440-245068-8	Alluvium	14.8 - 39.6	6.019	0.25	--	68.9	7.00	--	25.9	109.3
	EM21	8/13/2019	N	440-247965-2	Alluvium	14.8 - 39.6	6.973	0.38	0 U	126.0	7.01	0 U	24.3	13.9
	EM22	11/4/2019	N	440-253773-3	Alluvium	14.8 - 39.6	6.670	0.30	0 U	96.5	6.78	0 U	25.5	28.8
	EM23	12/18/2019	N	440-257733-7	Alluvium	14.8 - 39.6	6.114	0.82	--	41.9	6.87	--	24.0	49.33
SWFTS-MW22	BL02	7/13/2017	N	440-188324-1	Alluvium	11.8 - 31.6	4.370	2.09	0.00 U	126.0	7.55	0.00 U	--	1000 >
	EM01	9/20/2017	N	440-192728-4	Alluvium	11.8 - 31.6	4.272	0.32	--	-61.4	7.09	--	--	648
	EM02	9/27/2017	N	440-193167-2	Alluvium	11.8 - 31.6	4.273	0.12	--	-54.7	6.99	--	--	110
	EM03	10/5/2017	N	440-193712-14	Alluvium	11.8 - 31.6	4.085	0.41	--	119.7	6.96	--	--	43.8
	EM04	10/12/2017	N	440-194242-9	Alluvium	11.8 - 31.6	4.333	2.72	0 U	138.4	6.99	0 U	--	438
	EM05	10/26/2017	N	440-195136-10	Alluvium	11.8 - 31.6	4.508	0.29	--	93.6	7.13	--	--	196
	EM06	11/16/2017	N	440-196786-18	Alluvium	11.8 - 31.6	4.333	0.45	0.00 U	-53.1	7.14	0.00 U	--	320
	EM07	12/14/2017	N	440-198571-17	Alluvium	11.8 - 31.6	4.630	1.31	0.00 U	-101.4	7.28	0.00 U	--	27.2
	EM08	2/21/2018	N	440-203937-1	Alluvium	11.8 - 31.6	4.012	0.43	0.00 U	20.0	7.31	0.00 U	--	268
	EM09	3/28/2018	N	440-207497-1	Alluvium	11.8 - 31.6	3.895	0.65	--	194.4	7.19	--	--	183.00
	EM10	4/30/2018	N	440-210173-6	Alluvium	11.8 - 31.6	4.052	0.26	--	22.2	7.14	--	23.42	3.92
	EM11	7/10/2018	N	440-215437-9	Alluvium	11.8 - 31.6	4.45	2.80	0 U	220	7.42	0 U	20.8	100
	EM12	7/27/2018	N	440-216872-4	Alluvium	11.8 - 31.6	3.88	4.13	--	-76	7.21	--	23.95	345
	EM13	8/16/2018	N	440-218296-16	Alluvium	11.8 - 31.6	4.3	2.29	--	139	7.81	--	19.93	33.7
	EM14	9/11/2018	N	440-219886-5	Alluvium	11.8 - 31.6	3.804	0.47	--	94	7.22	--	25.14	47.3
	EM15	10/9/2018	N	440-221855-2	Alluvium	11.8 - 31.6	4.25	0.28	0 U	67	7.75	0 U	23.92	285
	EM16	12/27/2018	N	440-228818-2	Alluvium	11.8 - 31.6	4.809	0.6	--	-14.1	7.15	--	22.81	340
	EM17	2/27/2019	N	440-234933-3	Alluvium	11.8 - 31.6	3.919	0.07	0.0 U	96.6	7.11	0.0 U	23.00	180
	EM18	4/11/2019	N	440-238688-2	Alluvium	11.8 - 31.6	5.379	0.57	--	122.5	7.06	--	22.90	77.5
	EM19	5/21/2019	N	440-242084-4	Alluvium	11.8 - 31.6	4.150	0.49	0.0 U	-6.7	7.12	0.0 U	23.2	184.2
	EM20	7/2/2019	N	440-245153-5	Alluvium	11.8 - 31.6	3.819	0.43	--	146.4	7.10	--	24.3	24.4
	EM21	8/12/2019	N	440-247878-5	Alluvium	11.8 - 31.6	4.03	0.4	0 U	120.2	7.19	0 U	24.9	13.5
	EM22	11/5/2019	N	440-253891-4	Alluvium	11.8 - 31.6	3.807	0.39	0 U	192.9	7.10	0 U	24.7	66.8
	EM23	12/19/2019	N	440-257866-3	Alluvium	11.8 - 31.6	3.547	0.80	--	93.5	7.18	--	22.2	141.35

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW23	BL02	7/13/2017	N	440-188325-7	Alluvium	13.8 - 33.6	3.060	0.36	0.00 U	91.3	7.24	0.00 U	--	19.40
	EM01	9/22/2017	N	440-192818-15	Alluvium	13.8 - 33.6	3.229	0.55	--	-19.6	6.96	--	--	10.00
	EM02	9/28/2017	N	440-193167-13	Alluvium	13.8 - 33.6	3.277	0.16	--	-14.1	6.99	--	--	10.9
	EM03	10/5/2017	N	440-193712-11	Alluvium	13.8 - 33.6	3.347	0.79	--	-2.6	6.93	--	--	1.95
	EM04	10/11/2017	N	440-194090-7	Alluvium	13.8 - 33.6	3.410	1.87	0.0 U	52.3	6.96	0.0 U	--	5.25
	EM05	10/26/2017	N	440-195136-11	Alluvium	13.8 - 33.6	3.809	0.38	--	92.0	7.11	--	--	2.1
	EM06	11/15/2017	N	440-196665-3	Alluvium	13.8 - 33.6	3.500	0.49	0.00 U	-28.9	7.09	0.00 U	--	6.80
	EM07	12/12/2017	N	440-198371-2	Alluvium	13.8 - 33.6	3.818	0.23	0.00 U	-98.2	7.15	0.00 U	--	3.74
	EM08	2/21/2018	N	440-203937-14	Alluvium	13.8 - 33.6	3.650	5.42	0.00 U	142.0	8.13 E	0.00 U	--	0.80
	EM09	3/28/2018	N	440-207497-9	Alluvium	13.8 - 33.6	3.460	2.59	--	285	7.25	--	--	3.1
	EM10	5/2/2018	N	440-210430-5	Alluvium	13.8 - 33.6	2.655	0.30	--	101.0	7.31	--	19.77	6.55
	EM11	7/10/2018	N	440-215437-7	Alluvium	13.8 - 33.6	3.299	0.44	0 U	-27.1	7.2	0.04	24.97	59.6
	EM13	8/16/2018	N	440-218296-17	Alluvium	13.8 - 33.6	3.1	2.48	--	137	7.80	--	20.07	3.9
	EM14	9/12/2018	N	440-220031-1	Alluvium	13.8 - 33.6	2.969	0.64	--	130.6	7.24	--	24.60	4.99
	EM15	10/11/2018	N	440-222092-7	Alluvium	13.8 - 33.6	3.26	1.68	0 U	100	7.25	0 U	23.45	5.5
	EM16	12/28/2018	N	440-228887-6	Alluvium	13.8 - 33.6	3.062	0.97	--	84.4	7.18	--	21.42	5.33
	EM17	2/27/2019	N	440-234933-4	Alluvium	13.8 - 33.6	2.834	0.05	0.0 U	95.8	7.15	0.0 U	22.04	3.30
	EM18	4/11/2019	N	440-238688-3	Alluvium	13.8 - 33.6	2.733	0.57	--	130.3	7.14	--	21.4	2.2
	EM19	5/22/2019	N	440-242201-7	Alluvium	13.8 - 33.6	2.913	0.08	0.0 U	211.2	7.13	0.0 U	21.0	24.8
	EM20	7/3/2019	N	440-245218-2	Alluvium	13.8 - 33.6	2.934	0.50	--	160.5	7.09	--	22.2	9.3
	EM21	8/14/2019	N	440-248104-6	Alluvium	13.8 - 33.6	3.311	0.42	0 U	108.2	7.26	0 U	24.0	7.5
	EM22	11/5/2019	N	440-253891-5	Alluvium	13.8 - 33.6	3.398	0.64	0.0 U	195.8	7.09	0 U	25.0	6.0
	EM23	12/19/2019	N	440-257866-7	Alluvium	13.8 - 33.6	3.126	1.41	--	92.6	7.20	--	21.9	7.61
SWFTS-MW24	BL02	7/13/2017	N	440-188324-2	Alluvium	12.8 - 37.6	7.450	3.04	0.00 U	160	7.31	0.00 U	--	70.9
	EM01	9/22/2017	N	440-192818-9	Alluvium	12.8 - 37.6	6.989	1.31	--	-19.2	6.85	--	--	1.01
	EM02	9/28/2017	N	440-193167-12	Alluvium	12.8 - 37.6	7.207	0.48	--	-8.2	6.92	--	--	0.45
	EM03	10/5/2017	N	440-193712-12	Alluvium	12.8 - 37.6	7.129	0.76	--	5.4	6.80	--	--	0.30
	EM04	10/11/2017	N	440-194242-2	Alluvium	12.8 - 37.6	7.050	3.88	0.0 U	112.3	6.97	0.0 U	--	120
	EM05	10/26/2017	N	440-195136-3	Alluvium	12.8 - 37.6	7.389	3.06	--	116.0	7.03	--	--	71.0
	EM06	11/15/2017	N	440-196665-1	Alluvium	12.8 - 37.6	6.230	1.39	0.00 U	36.6	7.09	0.00 U	--	5.02
	EM07	12/12/2017	N	440-198371-5	Alluvium	12.8 - 37.6	7.384	1.11	0.00 U	-10.1	7.06	0.00 U	--	7.20
	EM08	2/21/2018	N	440-203937-8	Alluvium	12.8 - 37.6	7.099	0.95	0.00 U	-47.3	6.38	0.00 U	--	5.49
	EM09	3/28/2018	N	440-207497-12	Alluvium	12.8 - 37.6	6.458	0.55	--	-37.1	6.95	--	--	3.85
	EM10	5/2/2018	N	440-210430-7	Alluvium	12.8 - 37.6	6.28	0.00	--	235	6.98	--	22.95	0.0
	EM11	7/12/2018	N	440-215717-5	Alluvium	12.8 - 37.6	6.42	0.10	0 U	194	7.19	0 U	26.68	1.5
	EM12	7/27/2018	N	440-216872-5	Alluvium	12.8 - 37.6	5.95	5.09	--	-71.1	6.96	--	24.82	7.54
	EM13	8/15/2018	N	440-218208-11	Alluvium	12.8 - 37.6	19.1 E	1.83	--	134	7.15	--	23.22	34.6
	EM14	9/12/2018	N	440-220031-3	Alluvium	12.8 - 37.6	6.241	0.75	--	114.3	7.08	--	26.70	1.49
	EM15	10/10/2018	N	440-221975-7	Alluvium	12.8 - 37.6	6.25	2.95	0 U	148	7.37	0 U	21.77	24.0
	EM16	1/2/2019	N	440-229018-2	Alluvium	12.8 - 37.6	5.709	1.55	--	127.2	6.97	--	21.45	20.9
	EM17	2/27/2019	N	440-234938-2	Alluvium	12.8 - 37.6	5.168	1.29	0.0 U	36.8	7.08	0.0 U	21.54	0.19
	EM18	4/10/2019	N	440-238531-6	Alluvium	12.8 - 37.6	4.976	1.24	--	115.2	6.99	--	22.8	8.5
	EM19	5/22/2019	N	440-242198-1	Alluvium	12.8 - 37.6	5.342	1.18	0.0 U	196.5	6.84	0.0 U	22.9	29.9
	EM20	7/1/2019	N	440-245068-9	Alluvium	12.8 - 37.6	4.992	0.65	--	105.4	6.99	--	26.4	43.7

Table G.3
Groundwater Field Reading Results Summary
Seep Well Field Area Bioremediation Treatability Study

Location	Event	Sample Date	QCType	Lab SampleID	Screened Lithology	Screened Interval	FIELD READINGS							
							Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Sulfide	Temperature	Turbidity
							mS/cm	mg/L	mg/L	mV	SU	mg/L	C	NTU
SWFTS-MW24 (continued)	EM21	8/14/2019	N	440-248104-1	Alluvium	12.8 - 37.6	5.639	0.63	0 U	160.6	7.03	0 U	24.0	9.6
	EM22	11/5/2019	N	440-253891-2	Alluvium	12.8 - 37.6	5.485	1.34	0 U	249.1	6.98	0 U	24.2	3.2
	EM23	12/19/2019	N	440-257866-6	Alluvium	12.8 - 37.6	5.123	1.47	--	104.0	7.04	--	23.7	6.39
SWFTS-MW25	BL02	7/13/2017	N	440-188324-4	Alluvium	12.8 - 42.6	6.260	3.03	0.00 U	162	6.99	0.00 U	--	30.0
	EM01	9/22/2017	N	440-192818-14	Alluvium	12.8 - 42.6	7.168	0.50	--	31.1	6.99	--	--	6.11
	EM02	9/28/2017	N	440-193167-11	Alluvium	12.8 - 42.6	7.323	0.14	--	-28.6	7.03	--	--	364
	EM03	10/5/2017	N	440-193712-9	Alluvium	12.8 - 42.6	7.160	0.96	--	0.9	6.92	--	--	171
	EM04	10/11/2017	N	440-194242-1	Alluvium	12.8 - 42.6	7.247	0.26	0.0 U	-1.6	6.86	0.0 U	--	294
	EM05	10/26/2017	N	440-195136-2	Alluvium	12.8 - 42.6	7.443	0.98	--	76.1	6.94	--	--	92
	EM06	11/15/2017	N	440-196665-2	Alluvium	12.8 - 42.6	6.642	1.11	0.0 U	22.8	6.80	0.0 U	--	459.00
	EM07	12/12/2017	N	440-198371-1	Alluvium	12.8 - 42.6	7.206	0.63	0.0 U	-77.2	6.92	0.0 U	--	69.4
	EM08	2/21/2018	N	440-203937-7	Alluvium	12.8 - 42.6	7.389	0.32	0.00 U	-84.9	6.17	0.00 U	--	109
	EM09	3/28/2018	N	440-207497-13	Alluvium	12.8 - 42.6	6.926	0.20	--	-156.2	6.90	--	--	81.20
	EM10	5/3/2018	N	440-210534-2	Alluvium	12.8 - 42.6	6.68	0.00	--	132	6.94	--	24.11	23.6
	EM11	7/10/2018	N	440-215437-12	Alluvium	12.8 - 42.6	6.45	3.00	0 U	230	7.34	0 U	22.3	40.1
	EM12	7/27/2018	N	440-216872-6	Alluvium	12.8 - 42.6	6.19	2.49	--	-73.6	6.89	--	24.3	139
	EM13	8/15/2018	N	440-218208-10	Alluvium	12.8 - 42.6	19.8 E	1.91	--	135	7.04	--	21.27	272
	EM14	9/12/2018	N	440-220031-2	Alluvium	12.8 - 42.6	6.214	0.47	--	113.6	7.00	--	25.38	340
	EM15	10/11/2018	N	440-222092-6	Alluvium	12.8 - 42.6	6.34	1.25	0 U	92	7.12	0 U	24.77	55.8
	EM16	1/2/2019	N	440-229018-1	Alluvium	12.8 - 42.6	5.69	0.97	--	132	6.92	--	21.31	402
	EM17	2/27/2019	N	440-234933-5	Alluvium	12.8 - 42.6	5.467	0.05	0.0 U	104.8	6.41	0.0 U	23.66	418
	EM18	4/11/2019	N	440-238688-4	Alluvium	12.8 - 42.6	7.274	0.81	--	113.4	6.87	--	23.57	432
	EM19	5/22/2019	N	440-242201-6	Alluvium	12.8 - 42.6	5.395	0.12	0.0 U	226.6	6.88	0.0 U	22.7	86.7
	EM20	7/3/2019	N	440-245218-1	Alluvium	12.8 - 42.6	5.162	0.47	--	140.2	6.80	--	23.1	54.2
	EM21	8/14/2019	N	440-248104-4	Alluvium	12.8 - 42.6	5.470	0.39	0 U	115.3	7.08	0 U	24.3	46
	EM22	11/5/2019	N	440-253918-4	Alluvium	12.8 - 42.6	5.369	0.54	0 U	193.3	6.99	0.1	24.5	121.6
	EM23	12/19/2019	N	440-257866-8	Alluvium	12.8 - 42.6	5.015	0.74	--	91.8	7.01	--	22.5	180.03

Notes:
E - Instrument error during field test.
mg/L - milligrams per liter
mS/cm - milliSiemens per centimeter
mV - milliVolts
N - Normal field sample
NTU - Nephelometric Turbidity Unit
SU - Standard Units
UMCf- Upper Muddy Creek Formation
> - The analyte concentration was greater than the value shown and above the range of the instrument.
E - Instrument error during field test.
---- Not tested.

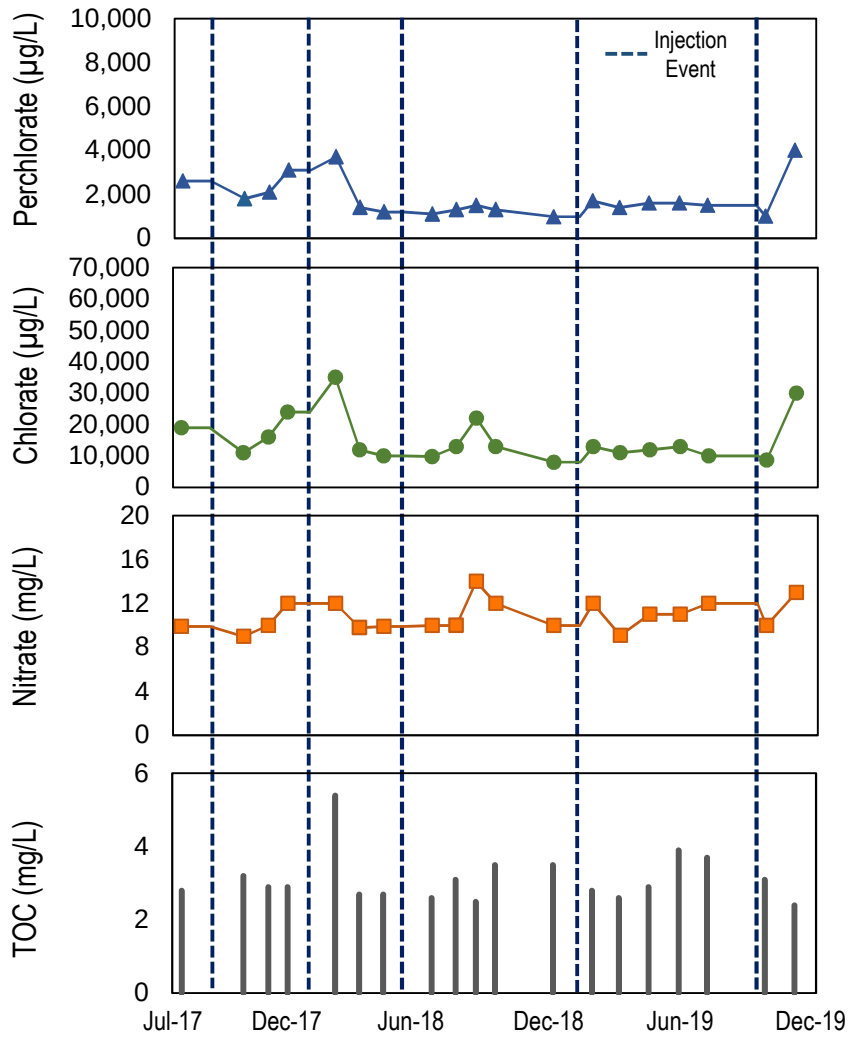
Table G.4
Groundwater Biotrap Microbial Results Summary
Seep Well Field Area Bioremediation Treatability Study

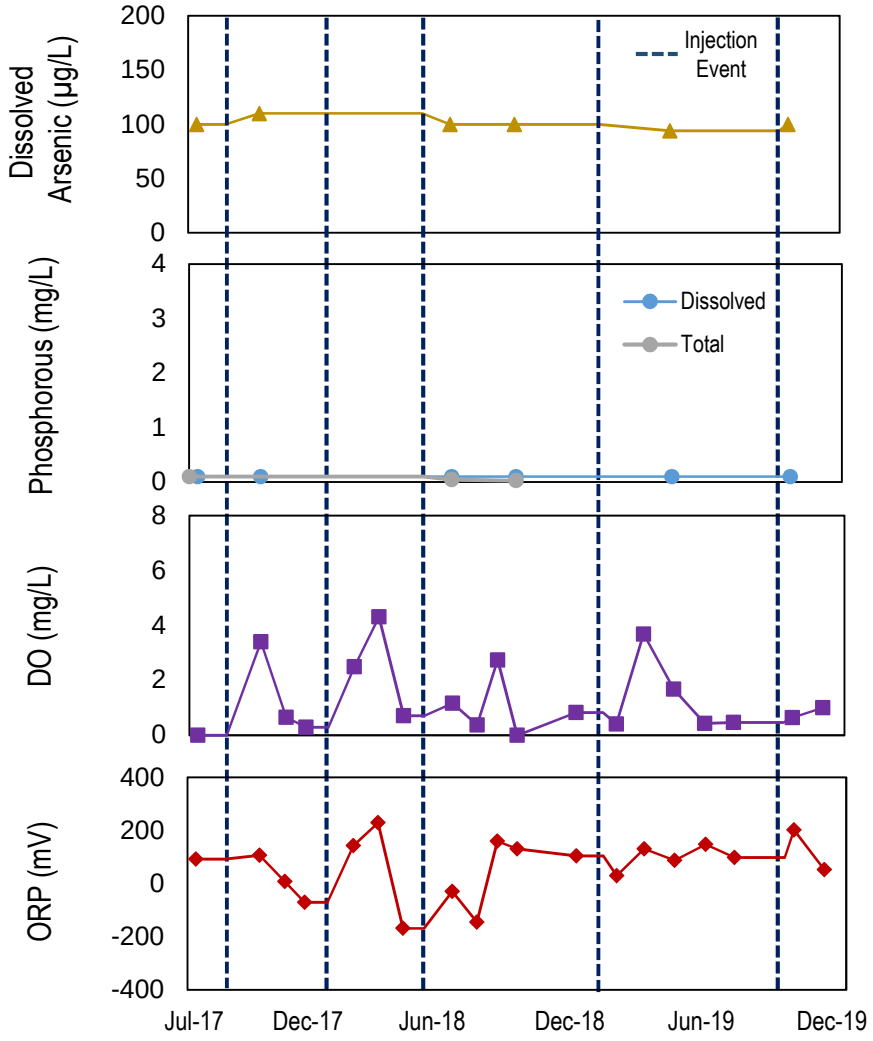
Location	Sample Date	Sample Matrix	Microbial Census	Microbial Phospholipid Fatty Acid Analysis (PLFA)								
			Perchlorate reductase gene (pcrA)	Total Biomass	Proteobacteria (Monos)	Firmicutes (TerBrSats)	Anaerobic metal reducers (BrMonos)	SRB/Actinomycetes (MidBrSats)	General (Nsats)	Eukaryotes (polyenoics)	Slowed Growth	Decreased Permeability
			cells/bead	cells/bead	%	%	%	%	%	%	ratio cy/cis	ratio trans/cis
SWFTS-IW11	11/28/2018	Biotrap	<250	2.48E+06	50.80	20.30	1.50	1.67	24.16	1.60	0.16	0.08
SWFTS-IW20	11/28/2018	Biotrap	<250	3.00E+06	46.11	20.54	1.02	1.30	28.21	2.80	0.43	0.15
SWFTS-IW6A	11/28/2018	Biotrap	<250	2.48E+06	46.92	19.40	2.03	3.09	27.08	1.48	0.31	0.10
SWFTS-IW02A	1/8/2020	Biotrap	<250	7.30E+05	65.37	4.47	0.94	0.73	19.53	8.98	0.49	1.84
SWFTS-MW07A	1/8/2020	Biotrap	<250	7.36E+04	60.47	0.00	0.00	0.00	39.53	0.00	0.49	1.84
SWFTS-MW09B	1/8/2020	Biotrap	<250	7.47E+04	37.79	0.00	0.00	0.00	62.22	0.00	0.47	0.00
SWFTS-MW14	1/8/2020	Biotrap	<250	1.29E+05	39.49	0.09	5.79	6.79	33.03	14.83	1.03	1.07

Notes

Monos	Monoenoic
TerBrSats	Terminally Branched Saturated
BrMonos	Branched Monoenoic
MidBrSats	Mid-Chain Branched Saturated
Nsats	Normal Saturated
<	Not detected
J	Estimated gene copies below PQL but above LQL

Appendix H
Concentration Trends for Effectiveness Monitoring Wells





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. PC-58 is located approximately 1,000 feet upgradient of the injection well transects.
3. Monitoring well PC-58 is screened in the alluvium from 7.8 to 32.8 feet bgs.
4. No hydraulic conductivity estimates at monitoring well PC-58 were measured.
5. No mobile porosity estimates at monitoring well PC-58 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR PC-58

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.1

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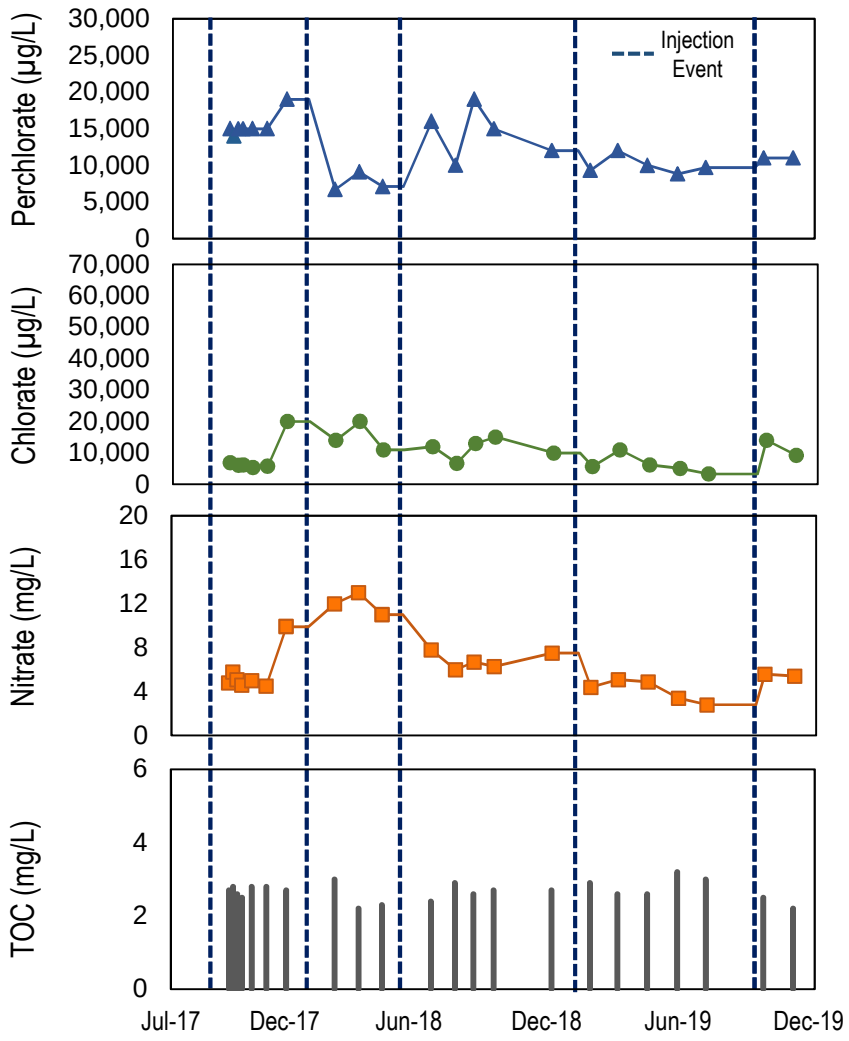
CONCENTRATIONS VS TIME



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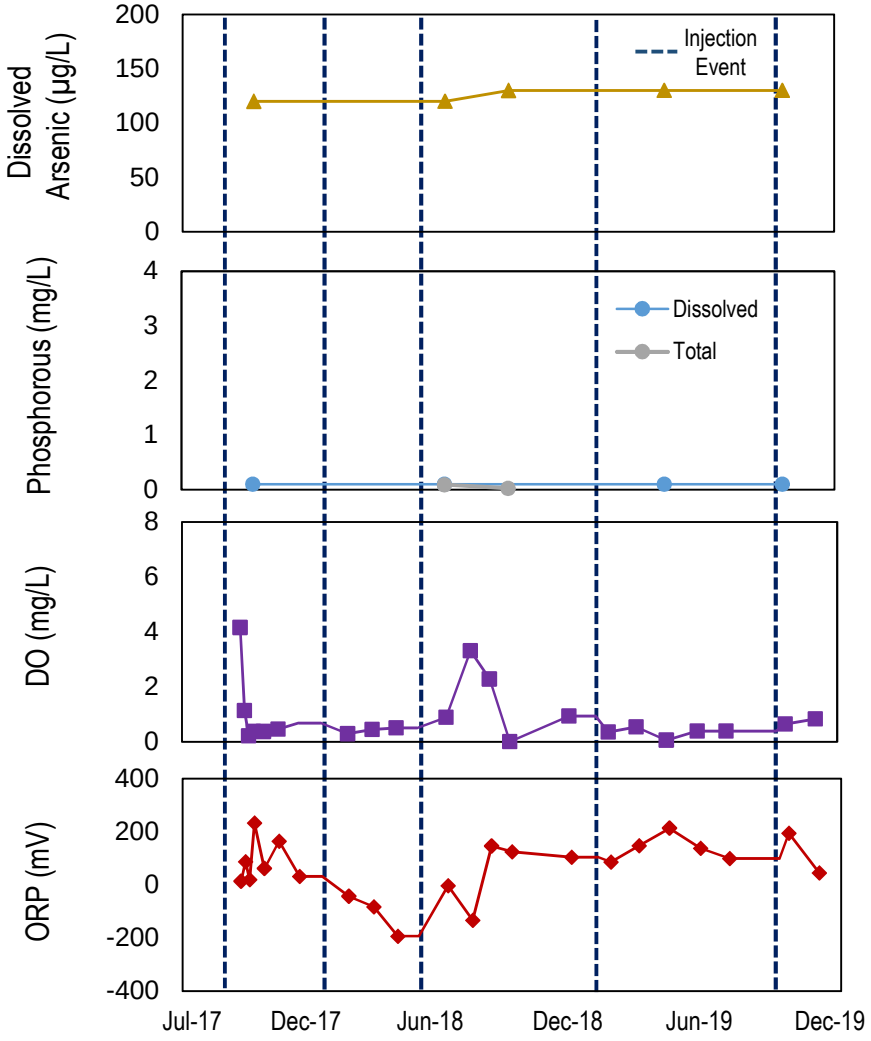

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event
2. PC-88 was added to the effectiveness monitoring network after the first injection event.
3. PC-88 is located approximately 350 feet west of injection well transects. PC-88 is considered an upgradient well.
4. Monitoring well PC-88 is screened in the alluvium from 40 to 50 feet bgs.
5. No hydraulic conductivity estimates at monitoring well PC-88 were measured.
6. No mobile porosity estimates at monitoring well PC-88 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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Figure No.
H.2

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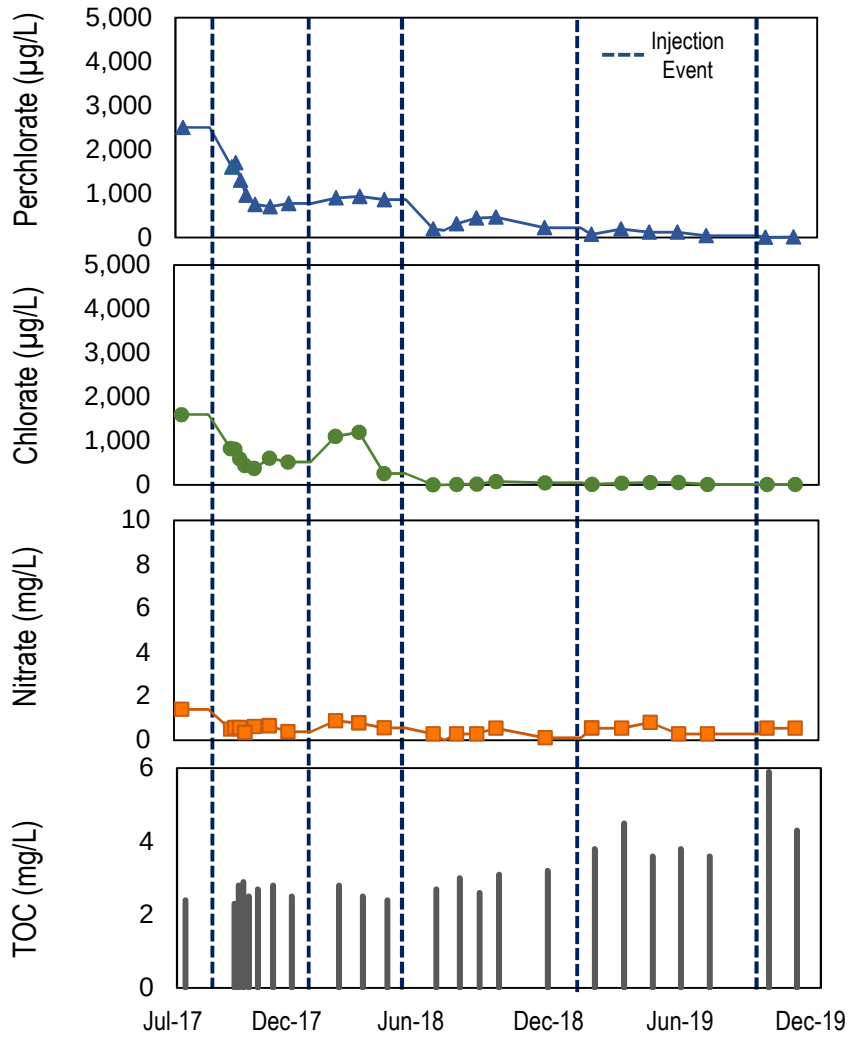

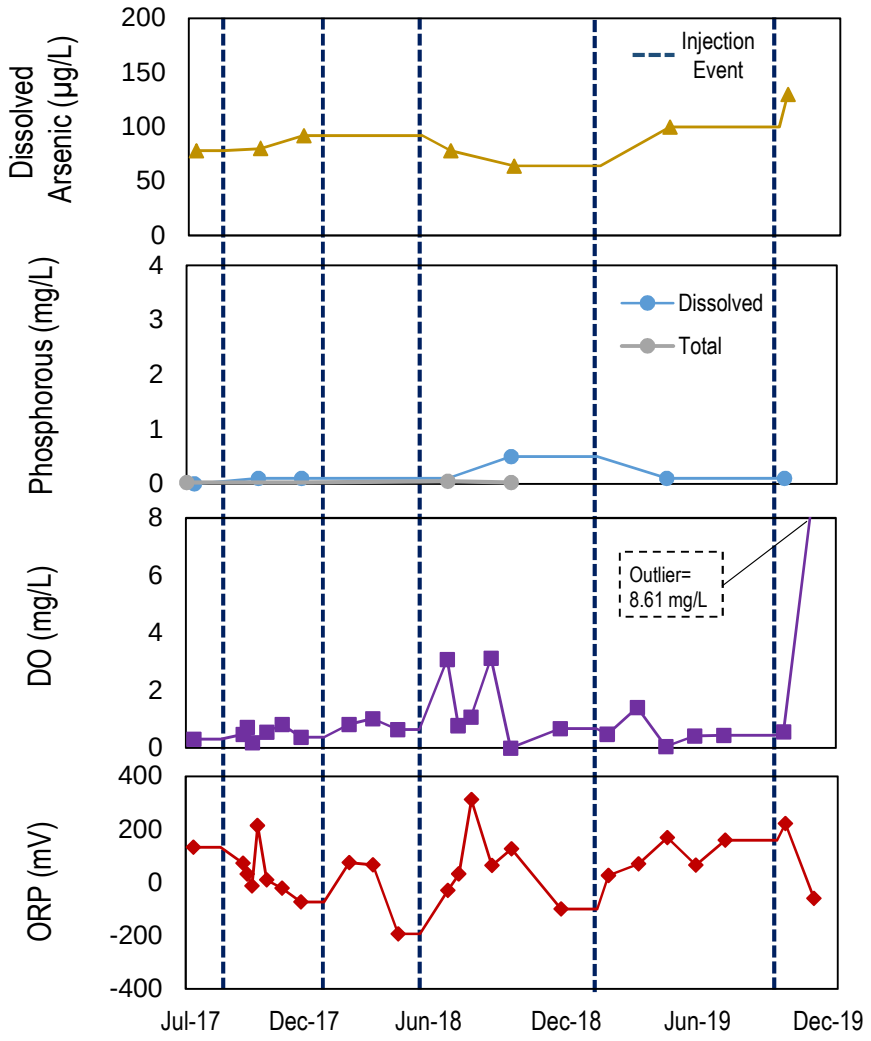

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. PC-91 is located approximately 25 feet downgradient of the injection well transects.
3. Monitoring well PC-91 is screened in the alluvium from 11.5 to 21.5 feet bgs.
4. No hydraulic conductivity estimates at monitoring well PC-91 were measured.
5. No mobile porosity estimates at monitoring well PC-91 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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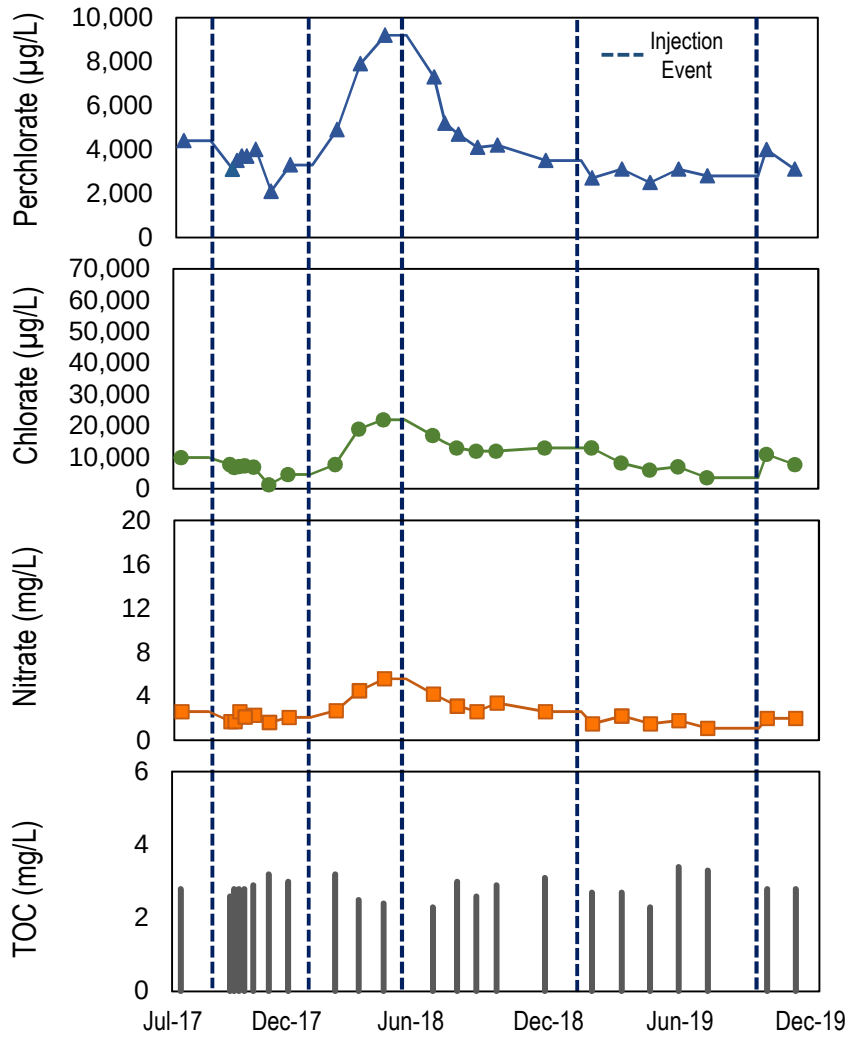
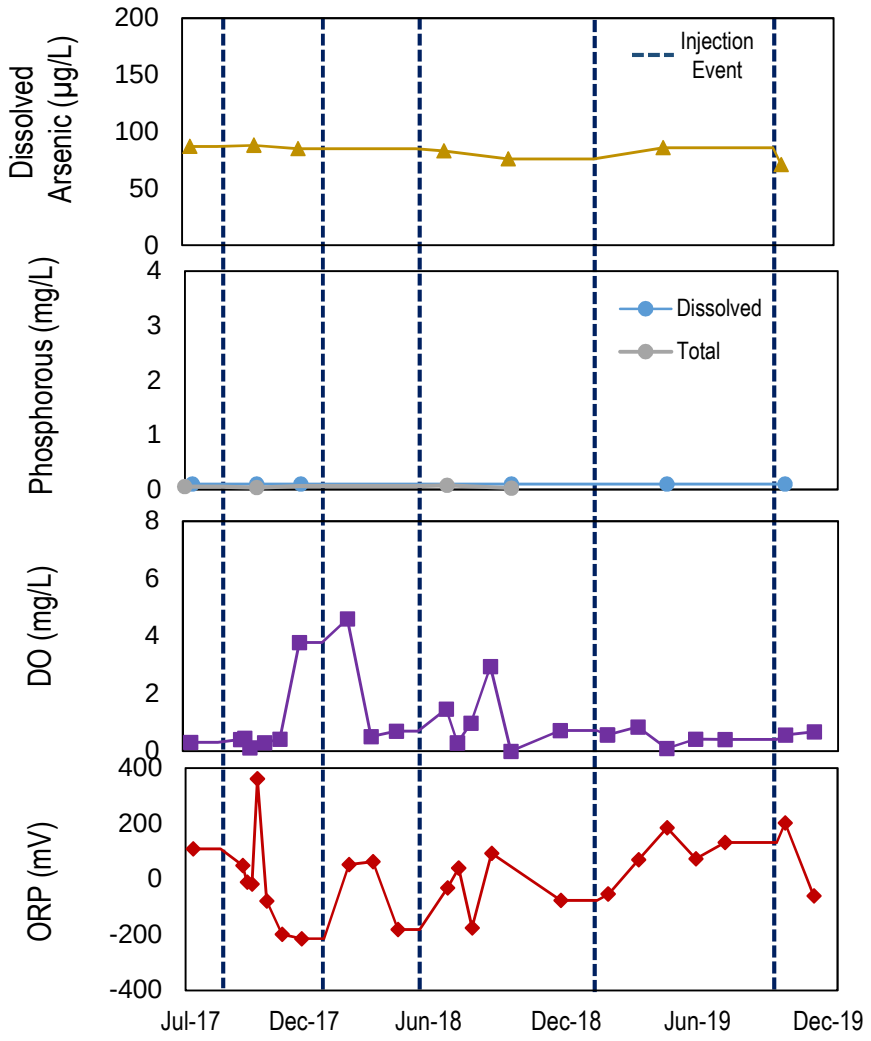
Figure No.
H.3

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. PC-92 is located approximately 30 feet downgradient of the injection well transects.
3. Monitoring well PC-92 is screened in the alluvium from 26.5 to 36.5 feet bgs.
4. No hydraulic conductivity estimates at monitoring well PC-92 were measured.
5. No mobile porosity estimates at monitoring well PC-92 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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Figure No.
H.4

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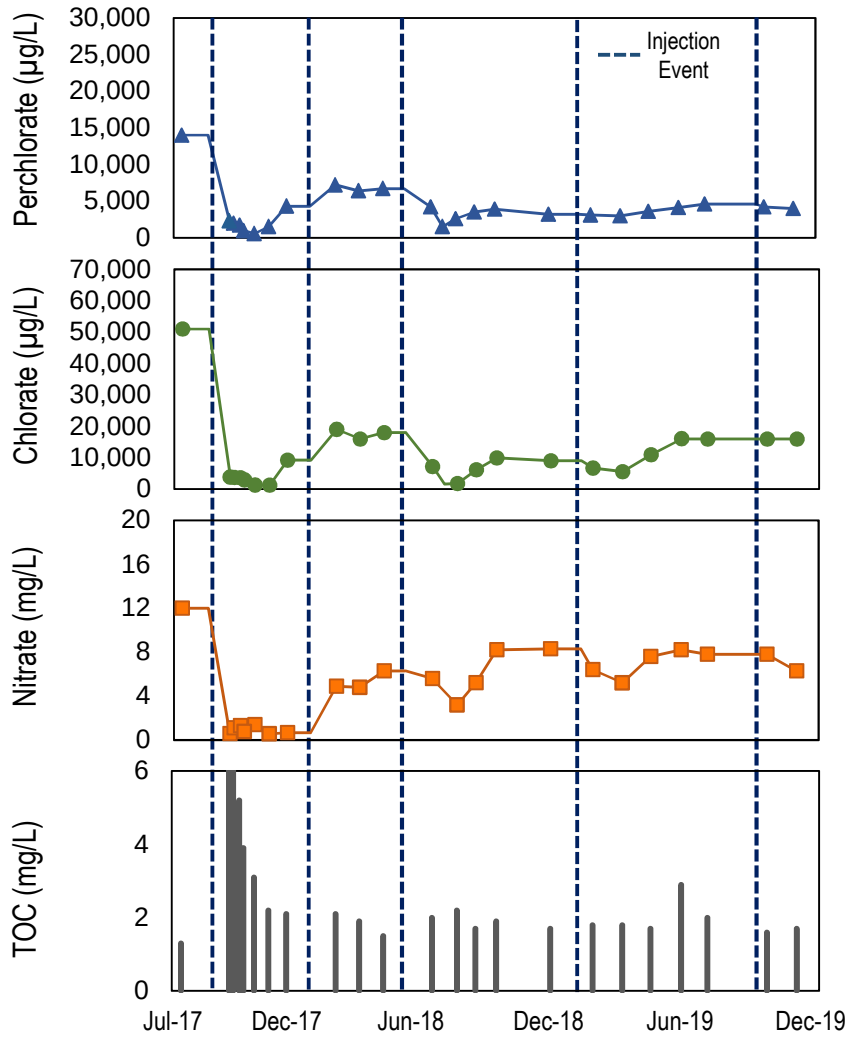

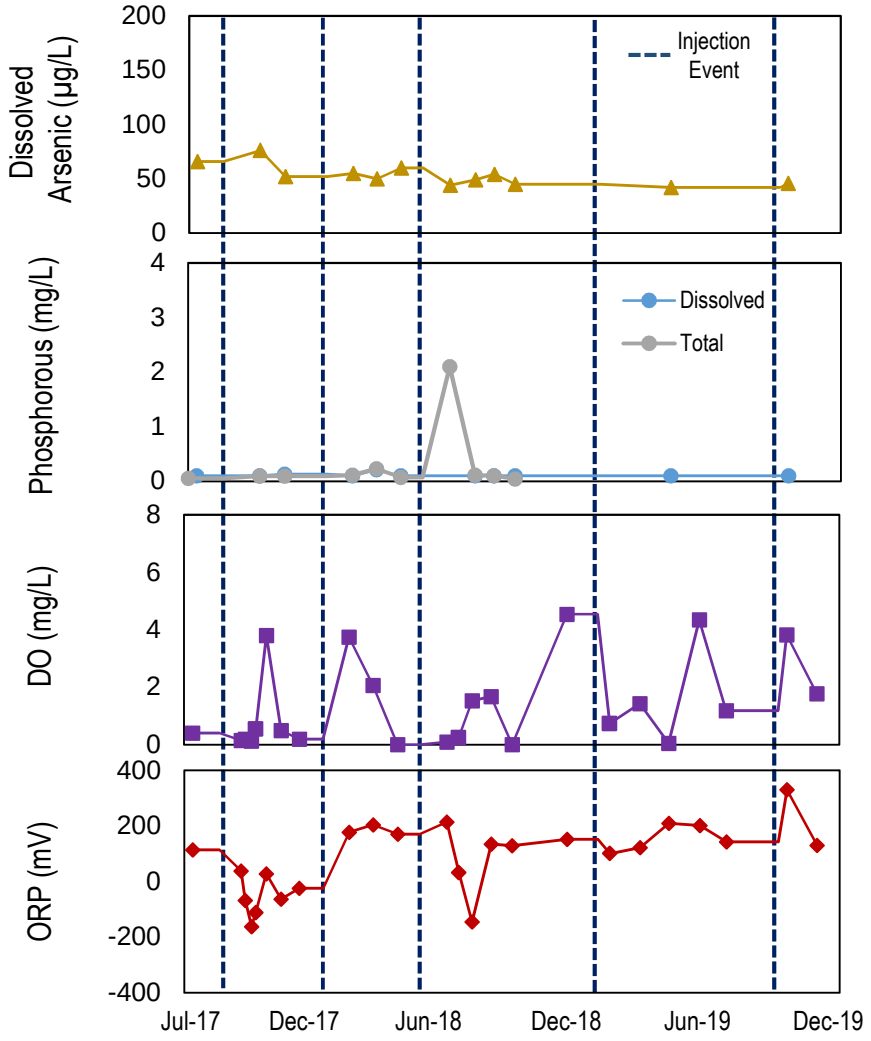

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. PC-94 is located approximately 400 feet downgradient of the injection well transects.
3. Monitoring well PC-94 is screened in the alluvium from 9.5 to 19.5 feet bgs.
4. Slug testing suggests hydraulic conductivity at PC-94 is approximately 2.5 to 3.0 feet/day.
5. Nuclear magnetic resonance logging at PC-94 indicates a mobile porosity estimate of 5%.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR PC-94

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Figure No.
H.5

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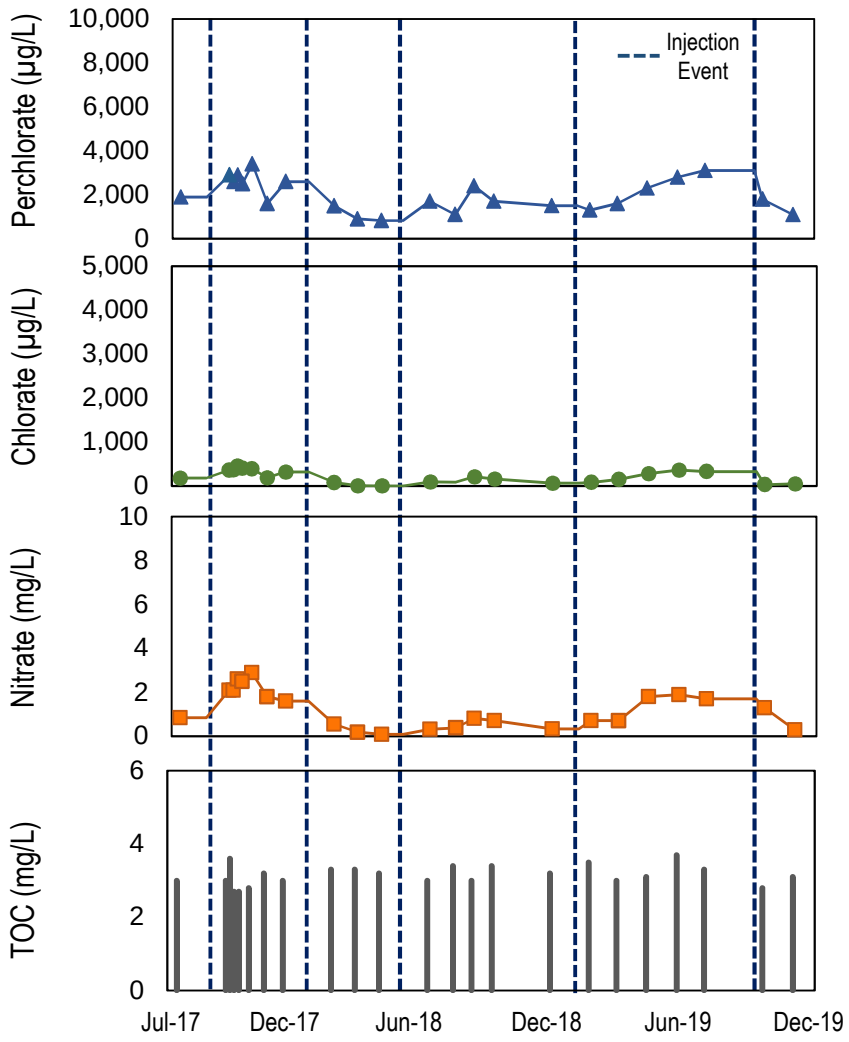
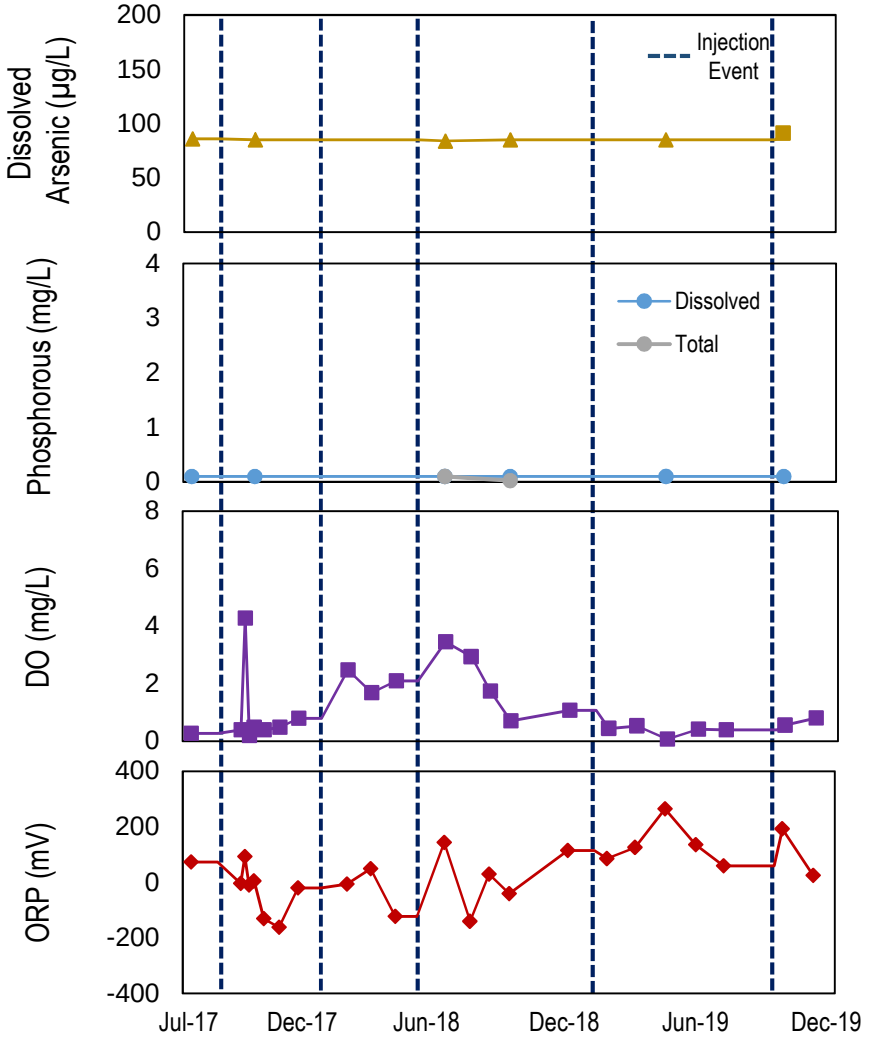
CONCENTRATIONS VS TIME



CONCENTRATIONS VS TIME



Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. PC-97 is located approximately 350 feet north of the injection well transects. PC-97 is considered an upgradient/side-gradient monitoring well.
3. Monitoring well PC-97 is screened in the alluvium from 23 to 33 feet bgs.
4. No hydraulic conductivity estimates at monitoring well PC-97 were measured.
5. No mobile porosity estimates at monitoring well PC-97 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR PC-97

Project No.:	117-7502018
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Figure No.
H.6

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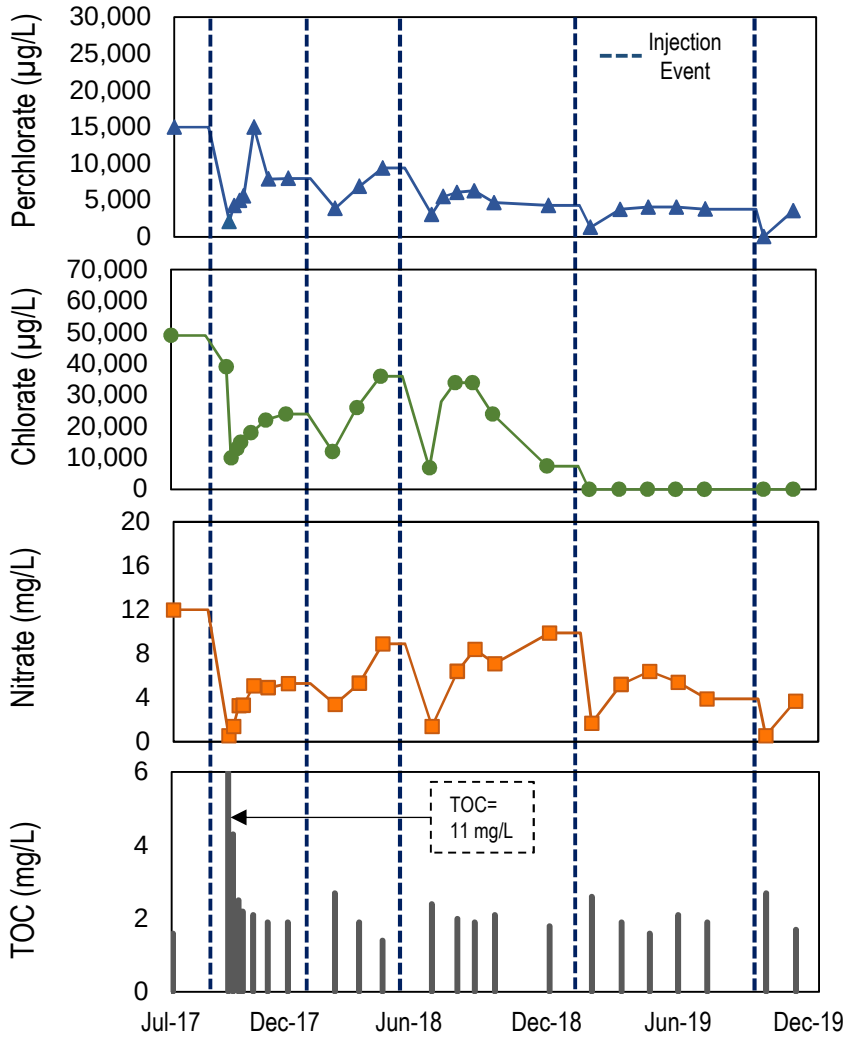

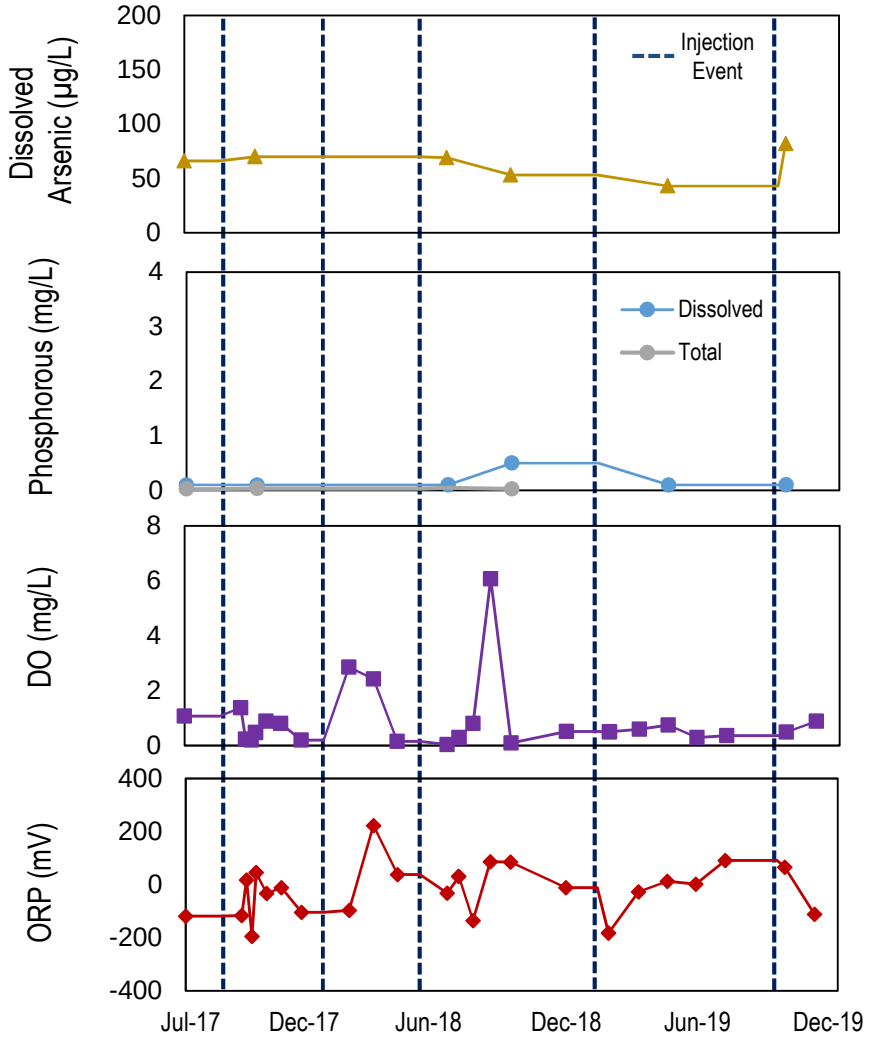

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW01 is located approximately 150 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW01 is screened in the alluvium from 24.2 to 38.9 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW01 is approximately 48.4 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW01 indicates a mobile porosity estimate of 7%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW01

Project No.:	117-7502018
Date:	APRIL 2, 2020
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Figure No.
H.7

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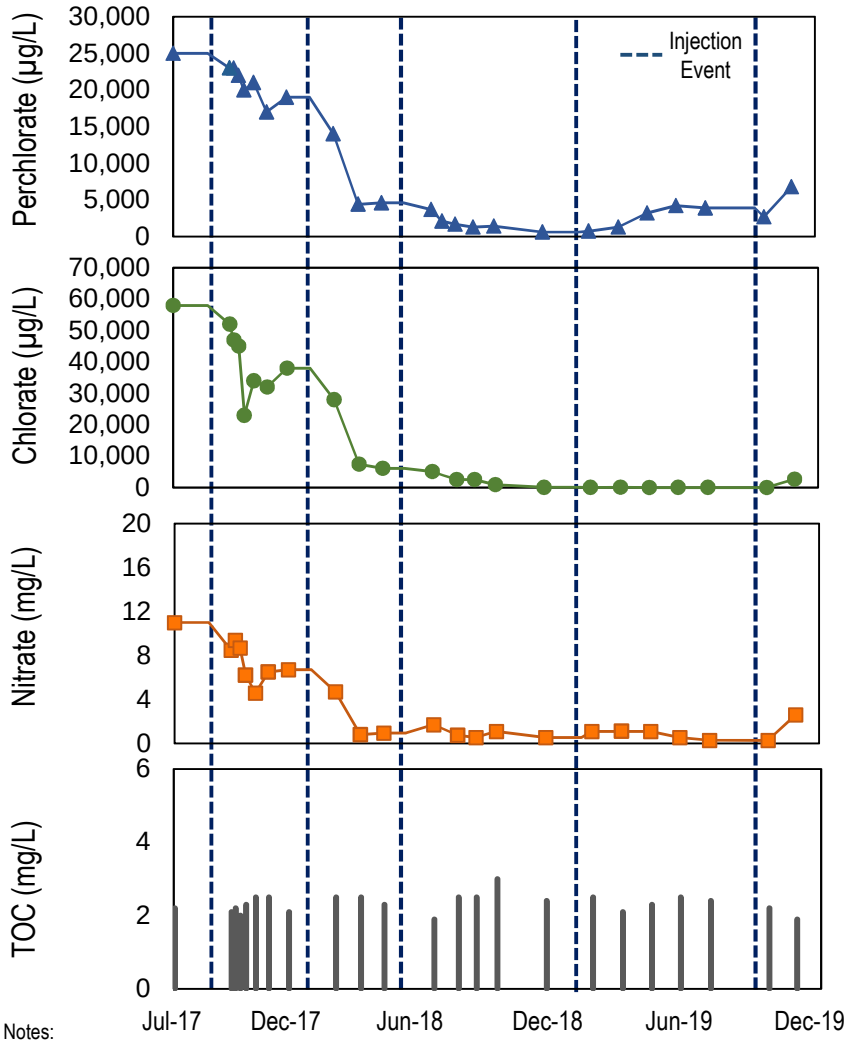
CONCENTRATIONS VS TIME



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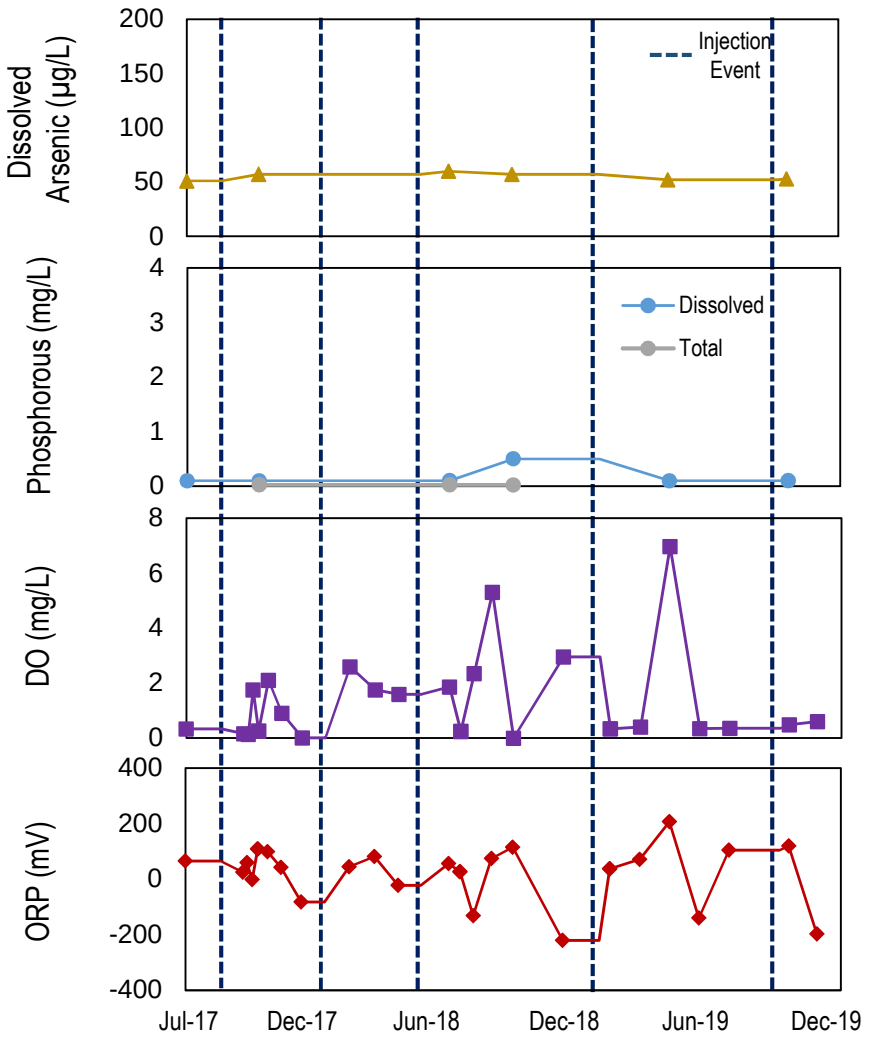

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW02 is located between the injection well transects, approximately 50 feet downgradient of the southern injection well transect.
3. Monitoring well SWFTS-MW02 is screened in the alluvium from 18.4 to 33.1 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW02 is approximately 8.4 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW02 indicates a mobile porosity estimate of 9%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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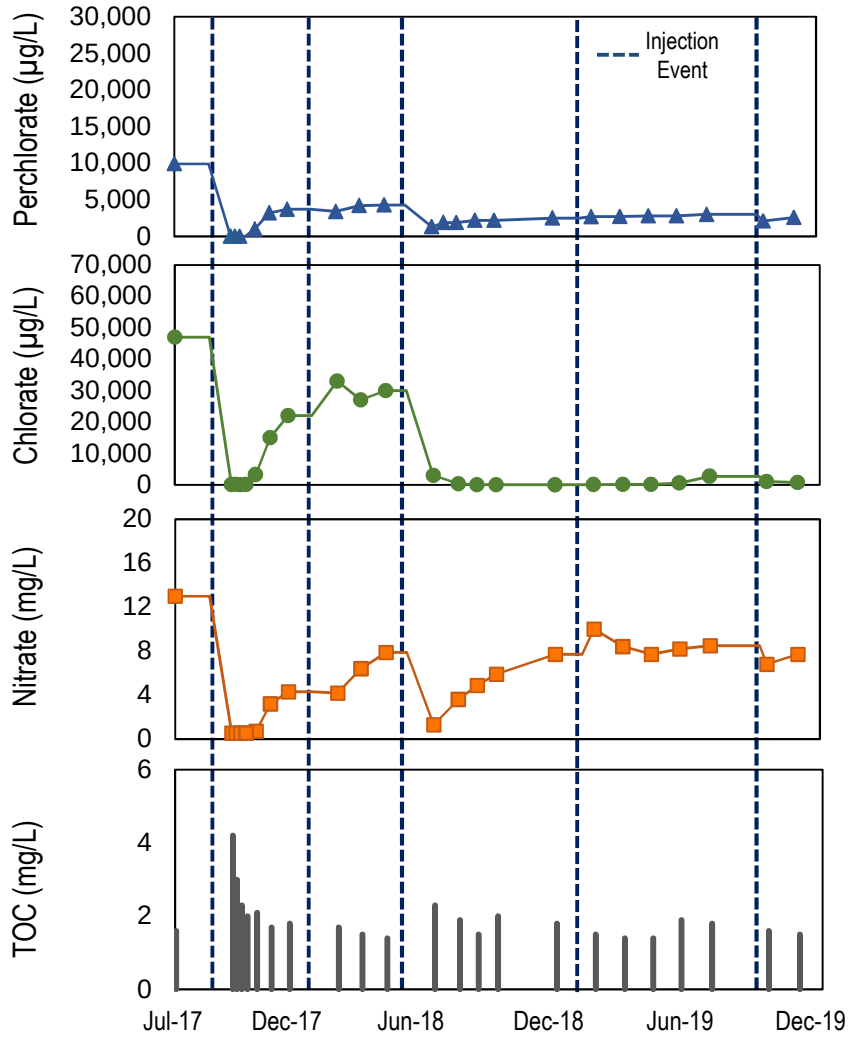
SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

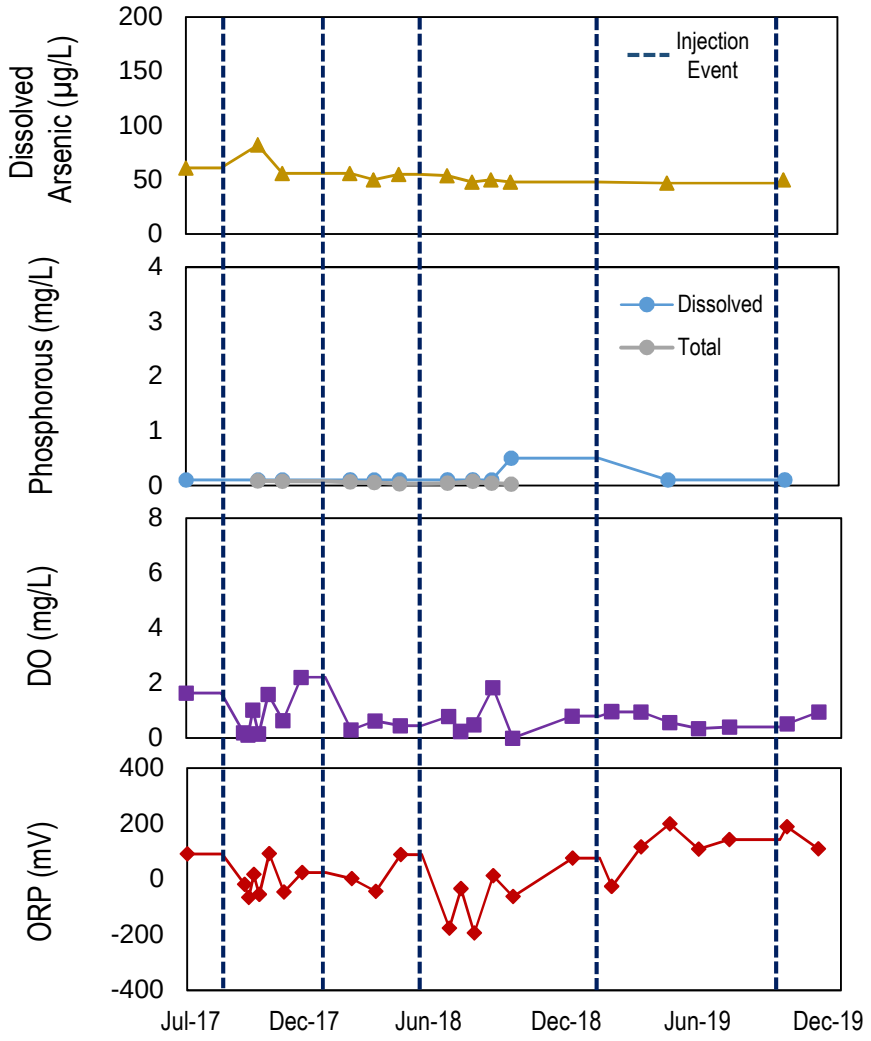
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW02

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.8

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW03 is located approximately 400 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW03 is screened in the alluvium from 27.2 to 42.1 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW03 is approximately 153.4 to 237.8 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW03 indicates a mobile porosity estimate of 11%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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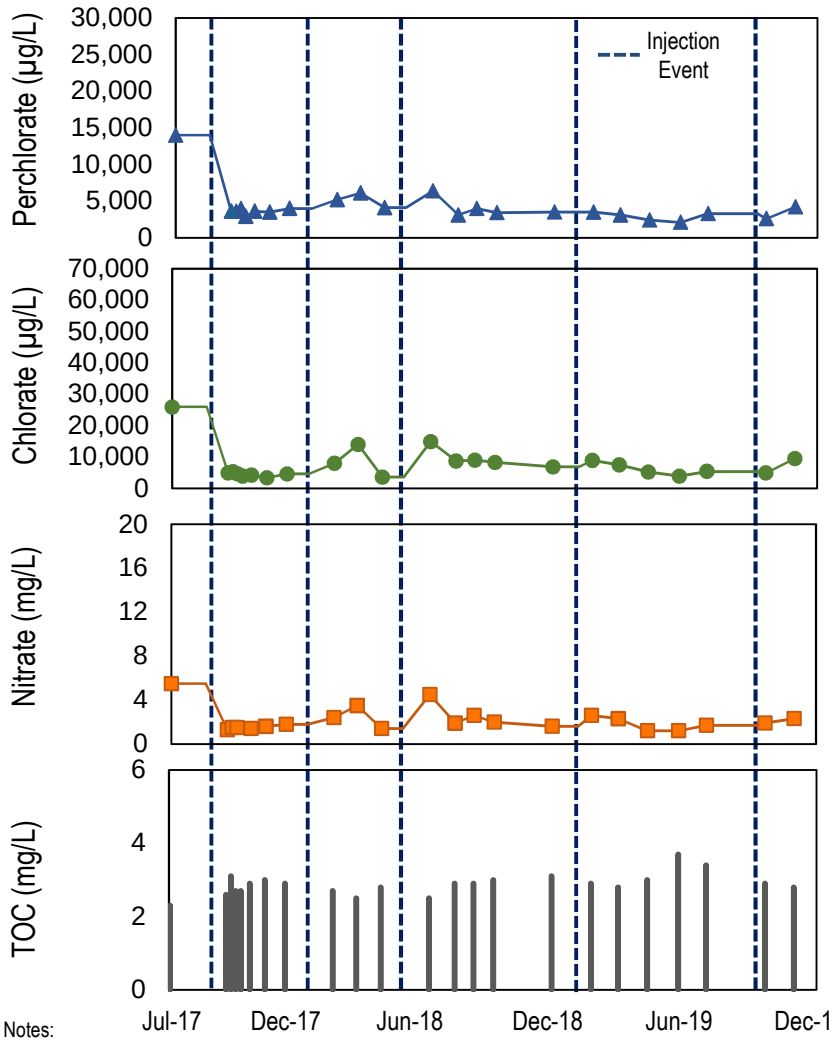
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW03

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

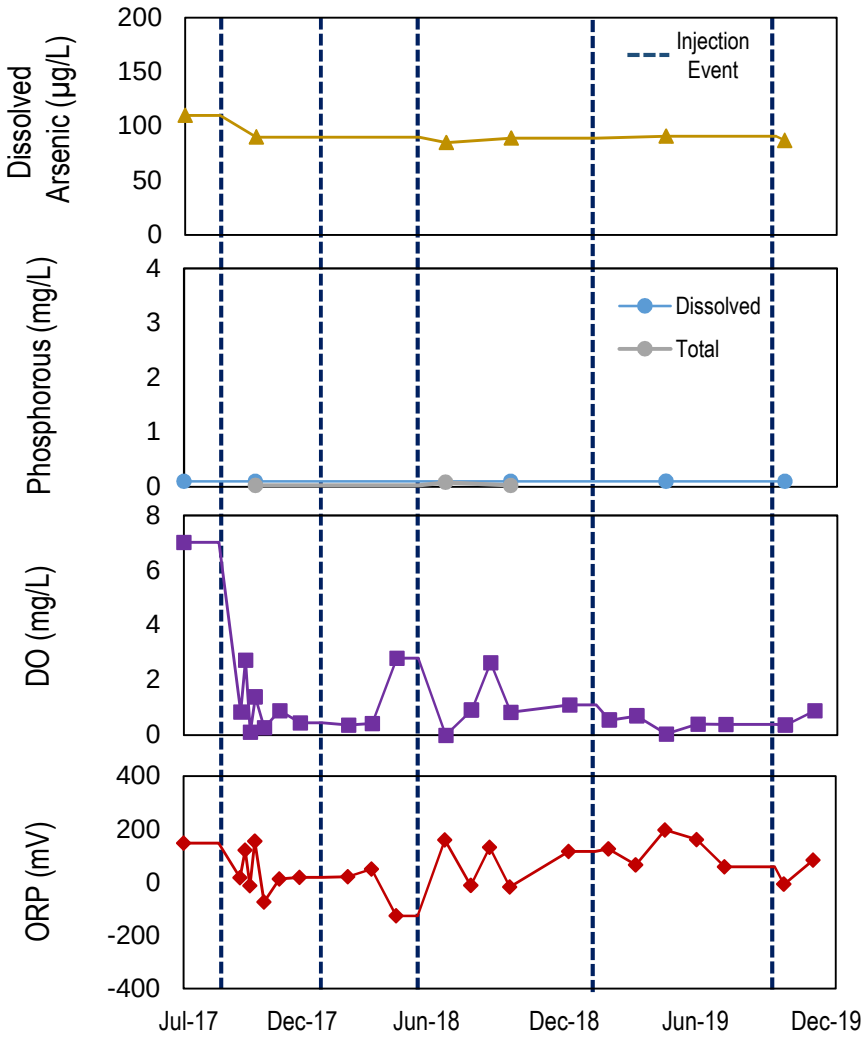
Figure No.
H.9

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs

CONCENTRATIONS VS TIME



CONCENTRATIONS VS TIME



Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW04 is located approximately 75 feet to the north of the injection well transects. SWFTS-MW04 is considered an upgradient/side-gradient monitoring well.
3. Monitoring well SWFTS-MW04 is screened in the alluvium from 25.8 to 40.4 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW04 is approximately 18.1 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW04 indicates a mobile porosity estimate of 12%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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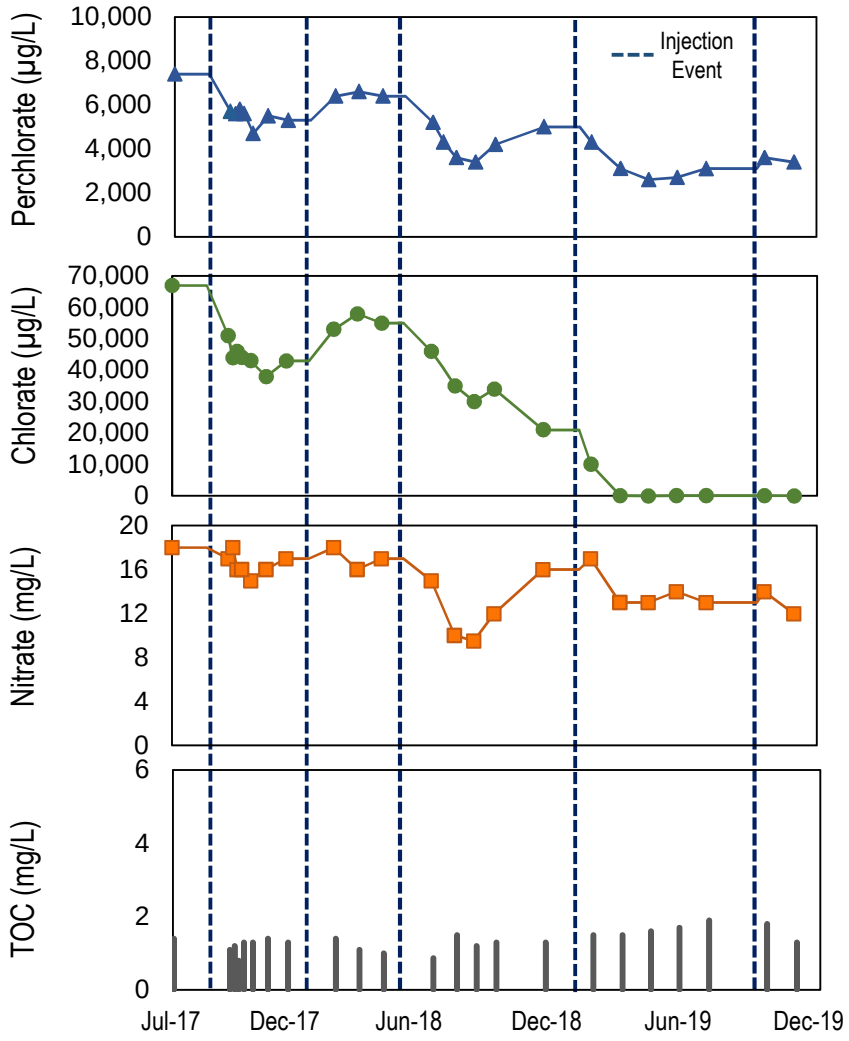
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW04

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

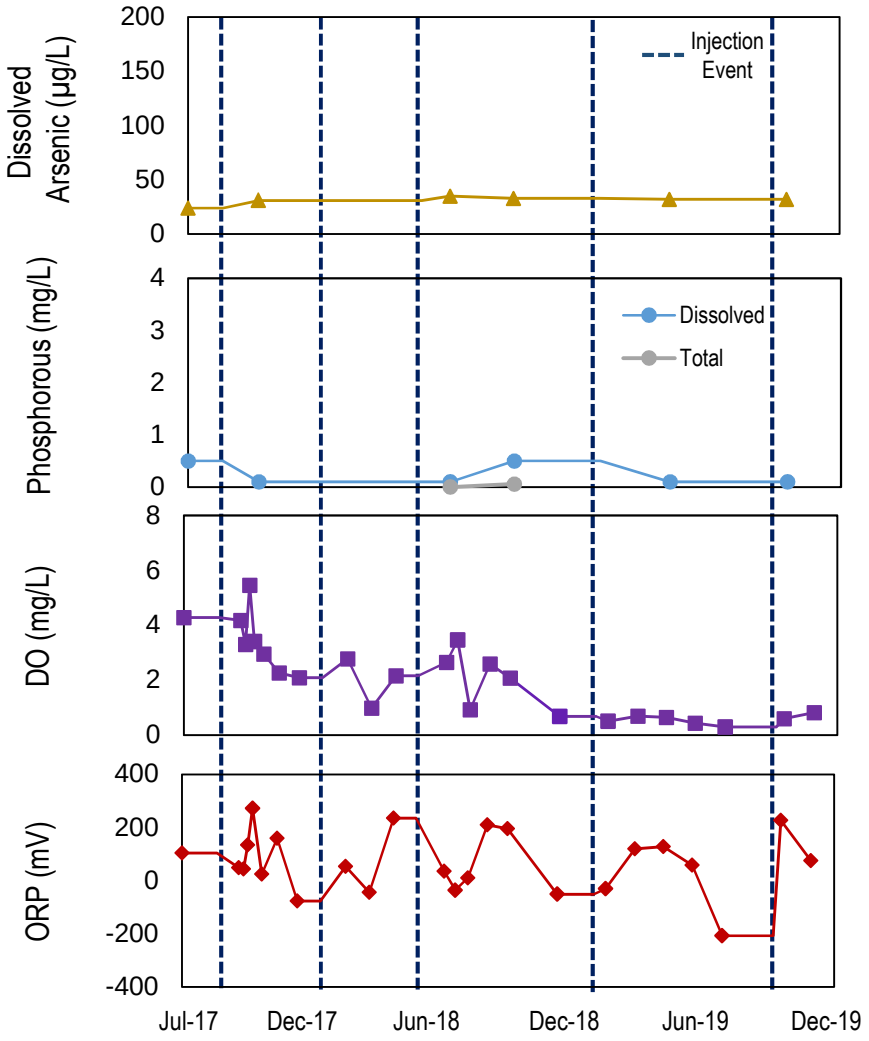
Figure No.
H.10

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs

CONCENTRATIONS VS TIME



CONCENTRATIONS VS TIME



Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW05A is located approximately 90 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW05A is screened in the alluvium from 19.3 to 29.3 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW05A is approximately 6.8 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW05A indicates a mobile porosity estimate of 7%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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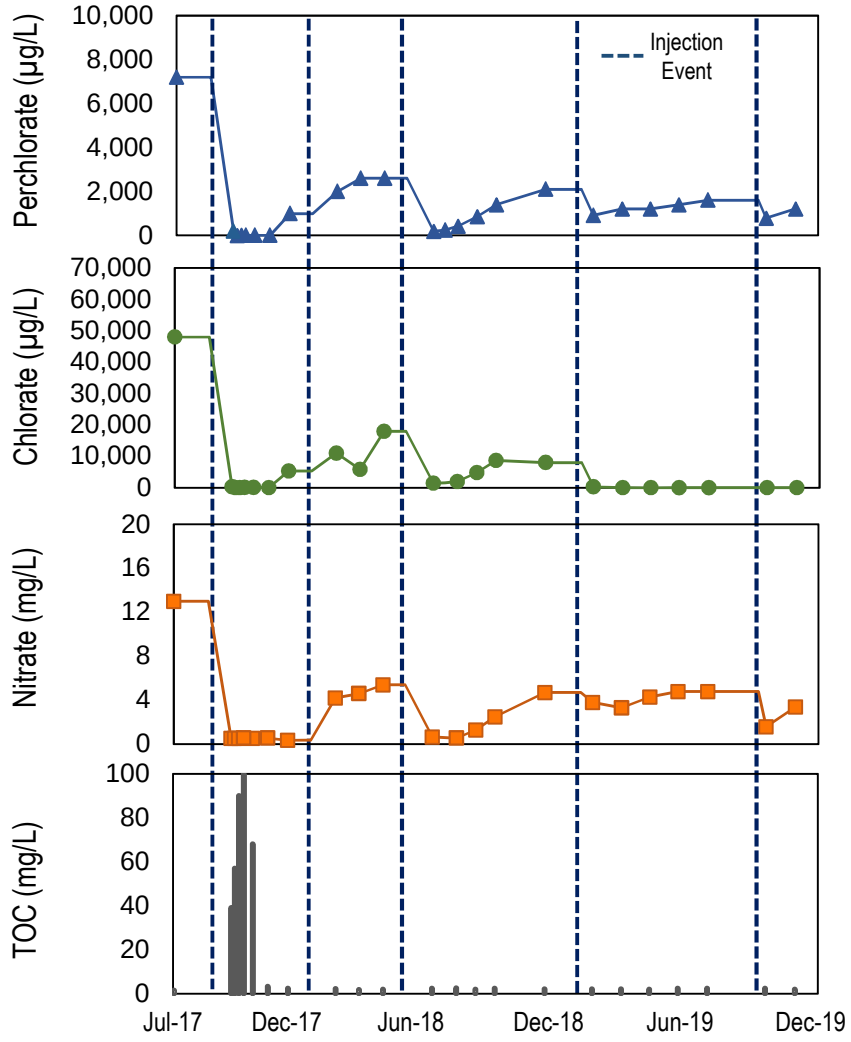
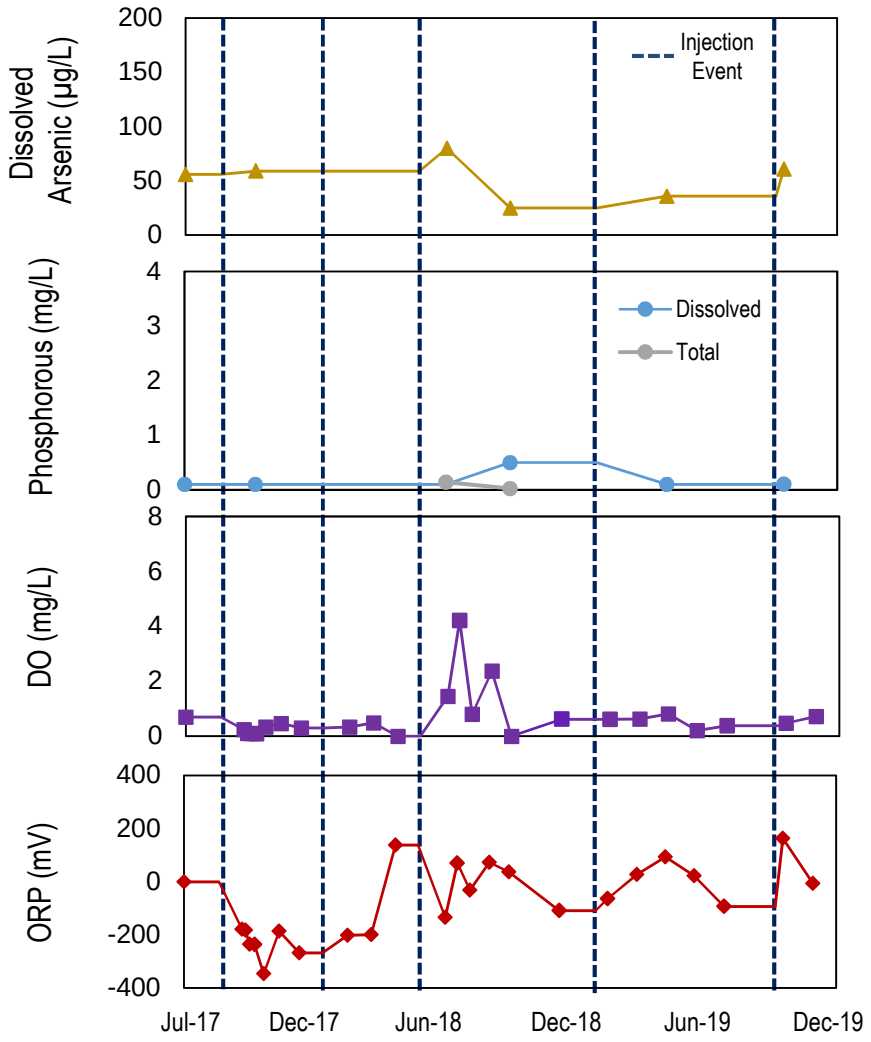
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW05A

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.11

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW05B is located approximately 100 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW05B is screened in the alluvium from 32.3 to 42 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW05B is approximately 49.4 to 65.6 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW05B indicates a mobile porosity estimate of 8%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW05B

Project No.:	117-7502018
Date:	APRIL 2, 2020
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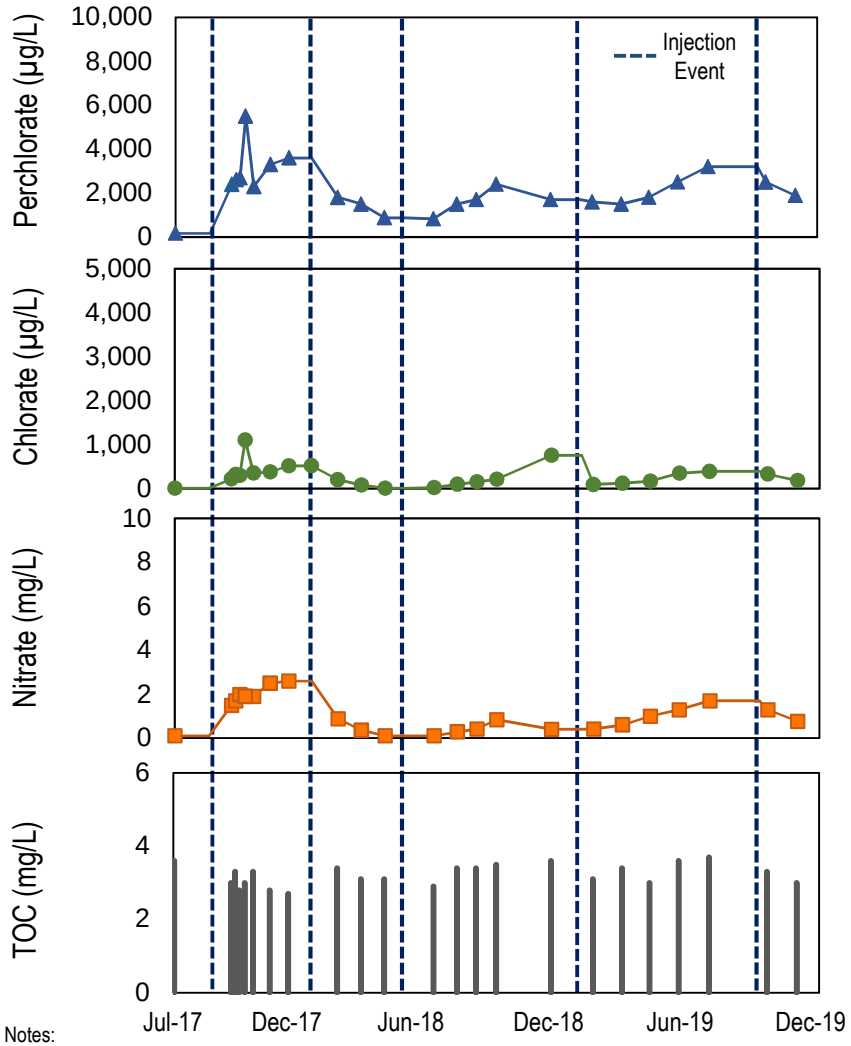
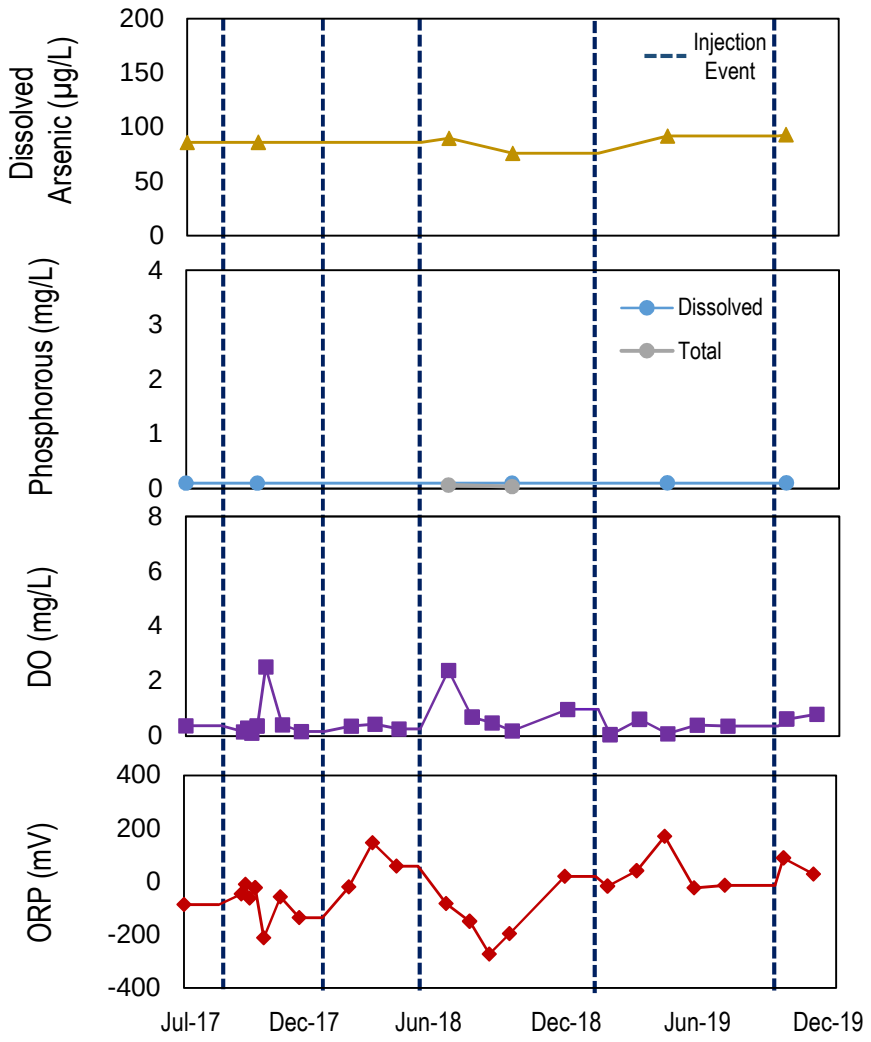
Figure No.
H.12

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW06A is located approximately 250 feet north of the injection well transects. SWFTS-MW06A is considered a side-gradient monitoring well.
3. Monitoring well SWFTS-MW06A is screened in the alluvium from 11.8 to 21.4 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW06A is approximately 5.8 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW06A indicates a mobile porosity estimate of 9%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW06A

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.13

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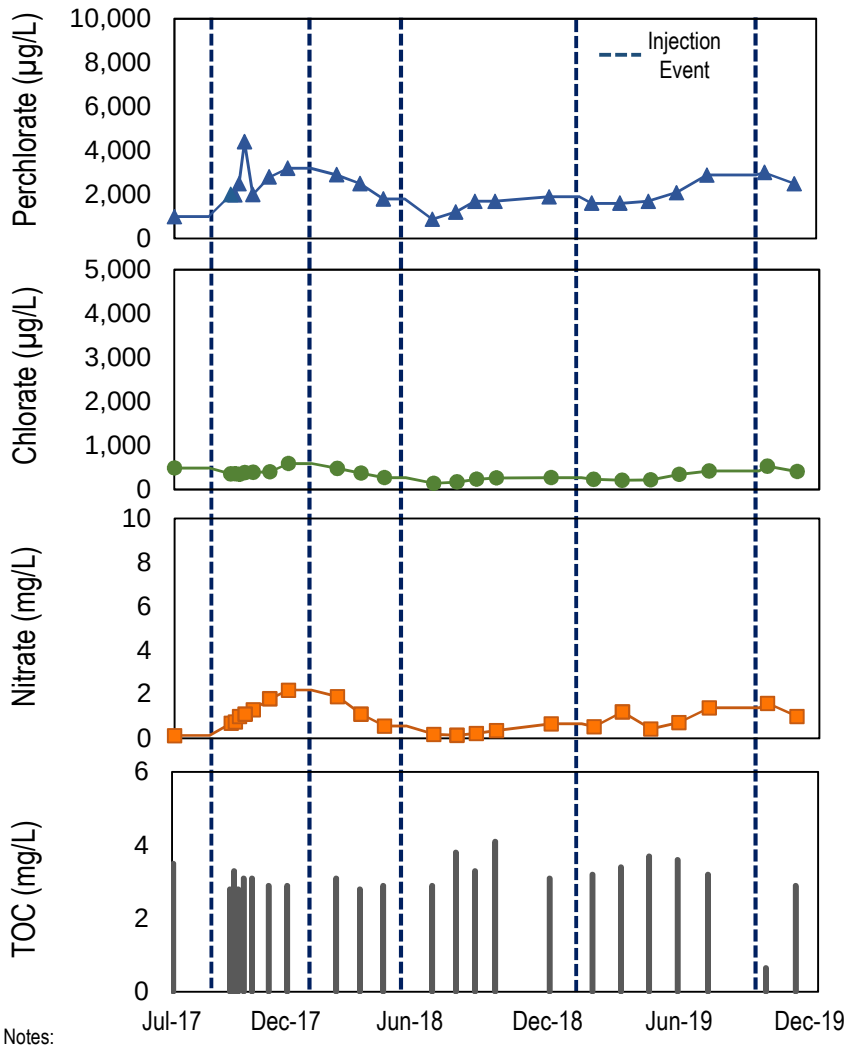
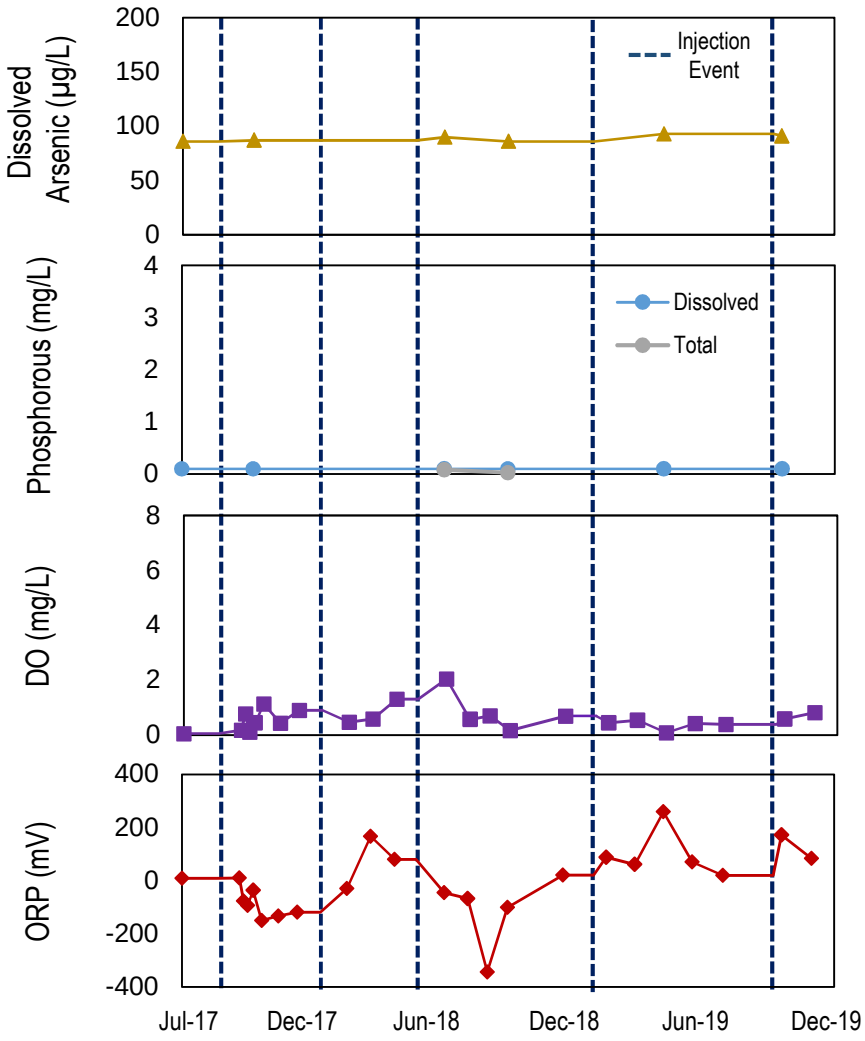
CONCENTRATIONS VS TIME



CONCENTRATIONS VS TIME



Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW06B is located approximately 250 feet north of the injection well transects. SWFTS-MW06B is considered a side-gradient monitoring well.
3. Monitoring well SWFTS-MW06B is screened in the alluvium from 25.9 to 35.5 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW06B is approximately 24.5 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW06B indicates a mobile porosity estimate of 6%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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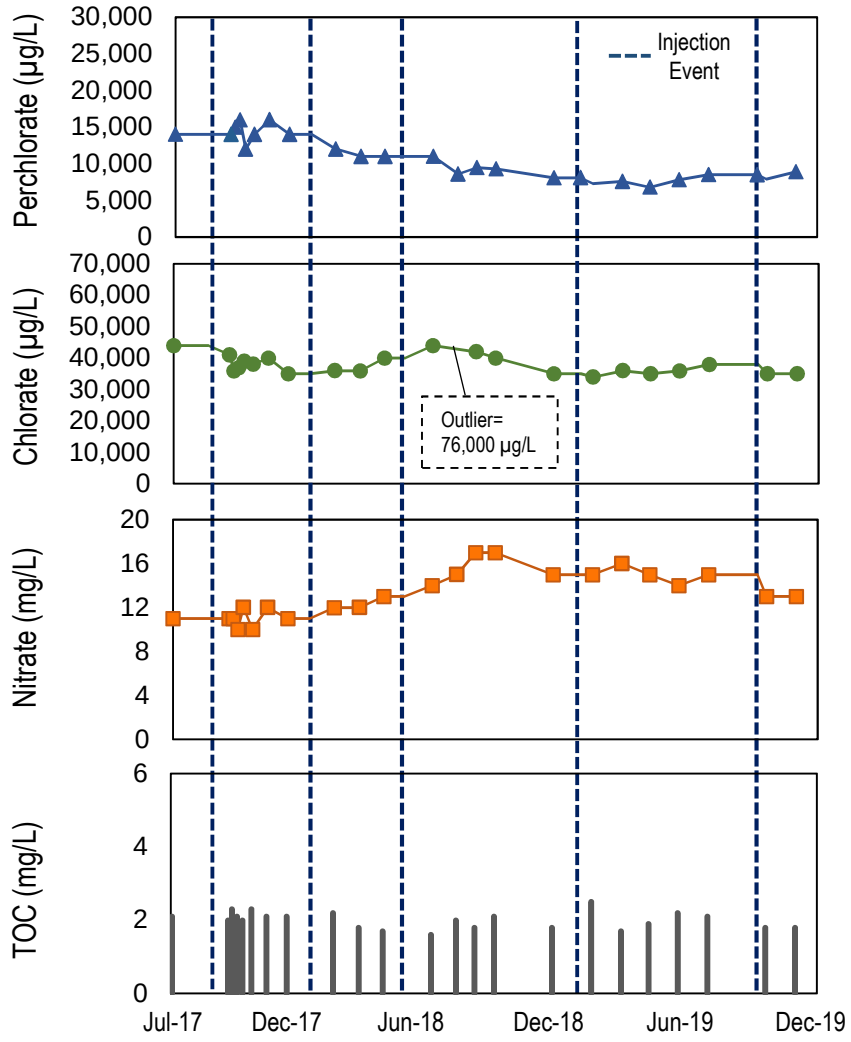
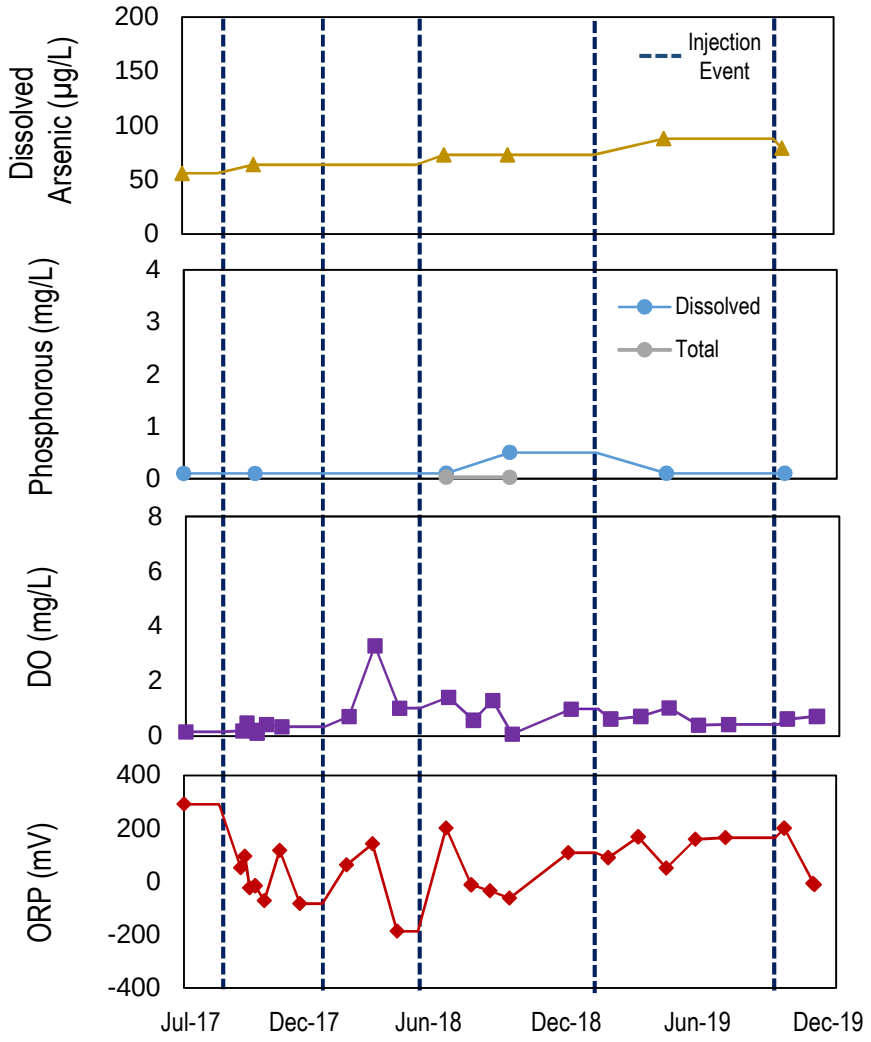
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW06B

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.14

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW07A is located approximately 175 feet upgradient of the injection well transects.
3. Monitoring well SWFTS-MW07A is screened in the alluvium from 15 to 29.5 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW07A is approximately 2.8 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW07A indicates a mobile porosity estimate of 3%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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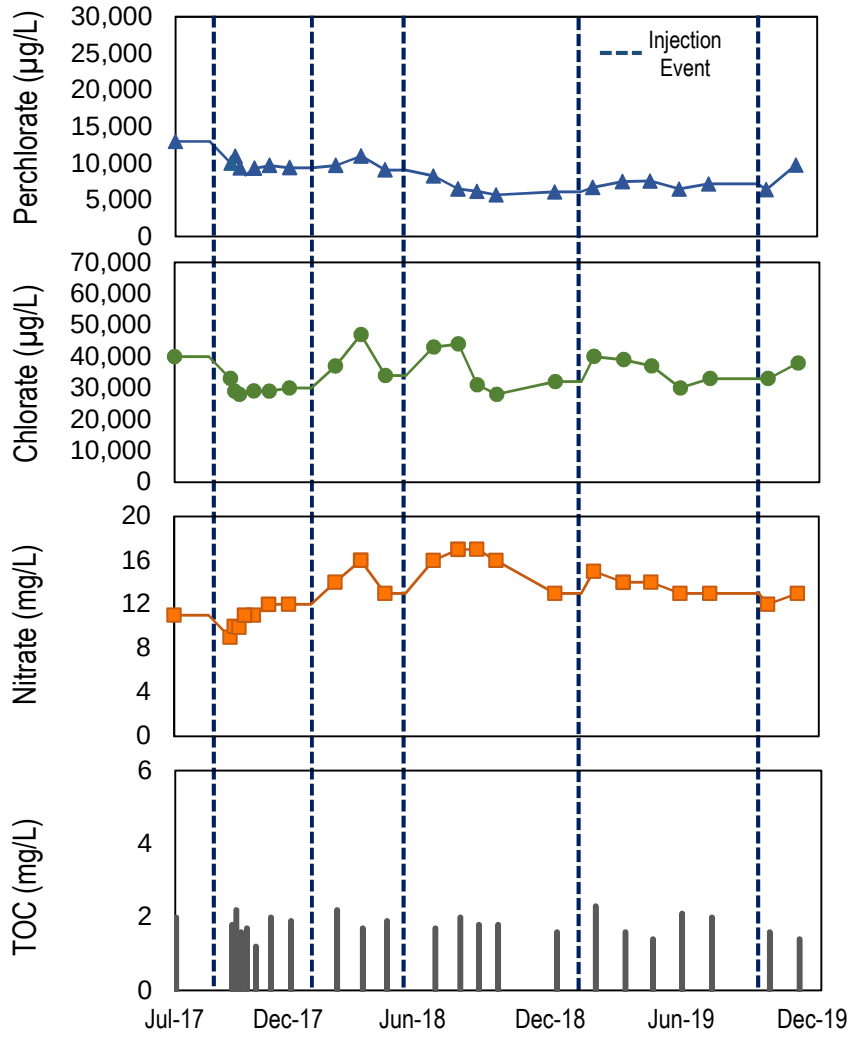
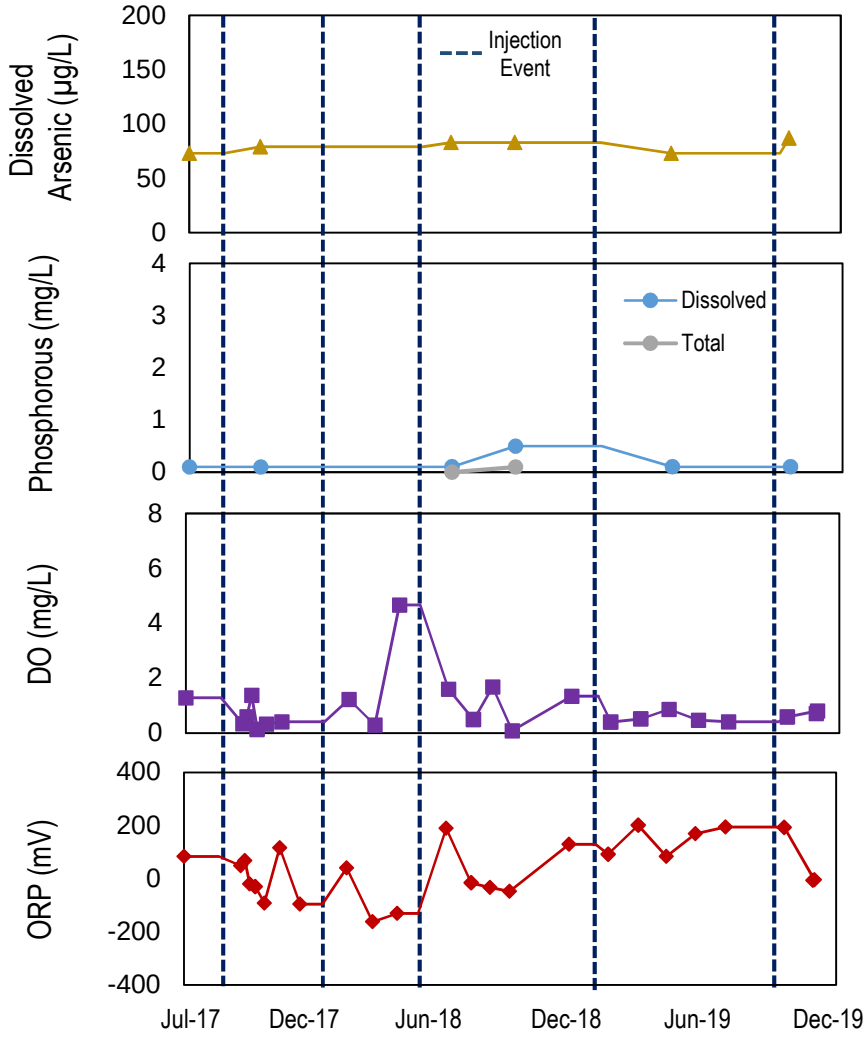
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW07A

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.15

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW07B is located approximately 175 feet upgradient of the injection well transects.
3. Monitoring well SWFTS-MW07B is screened in the alluvium from 33.8 to 38.3 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW07B is approximately 28.1 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW07B indicates a mobile porosity estimate of 25%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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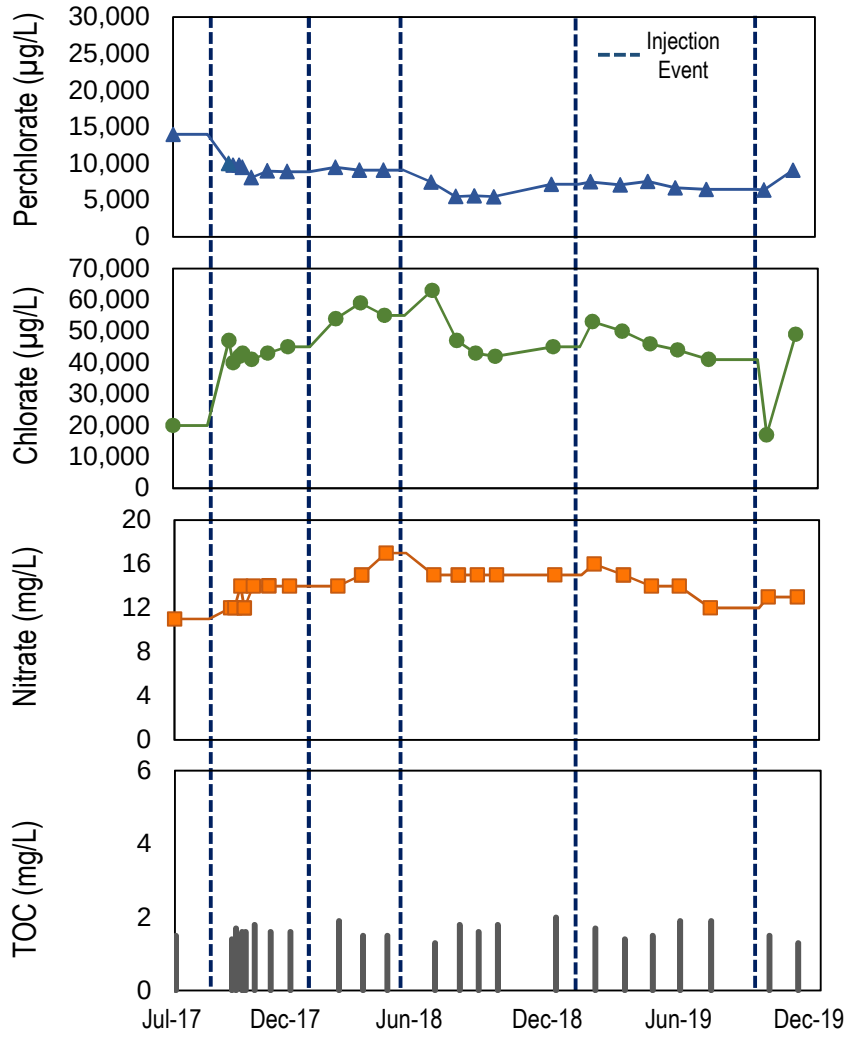
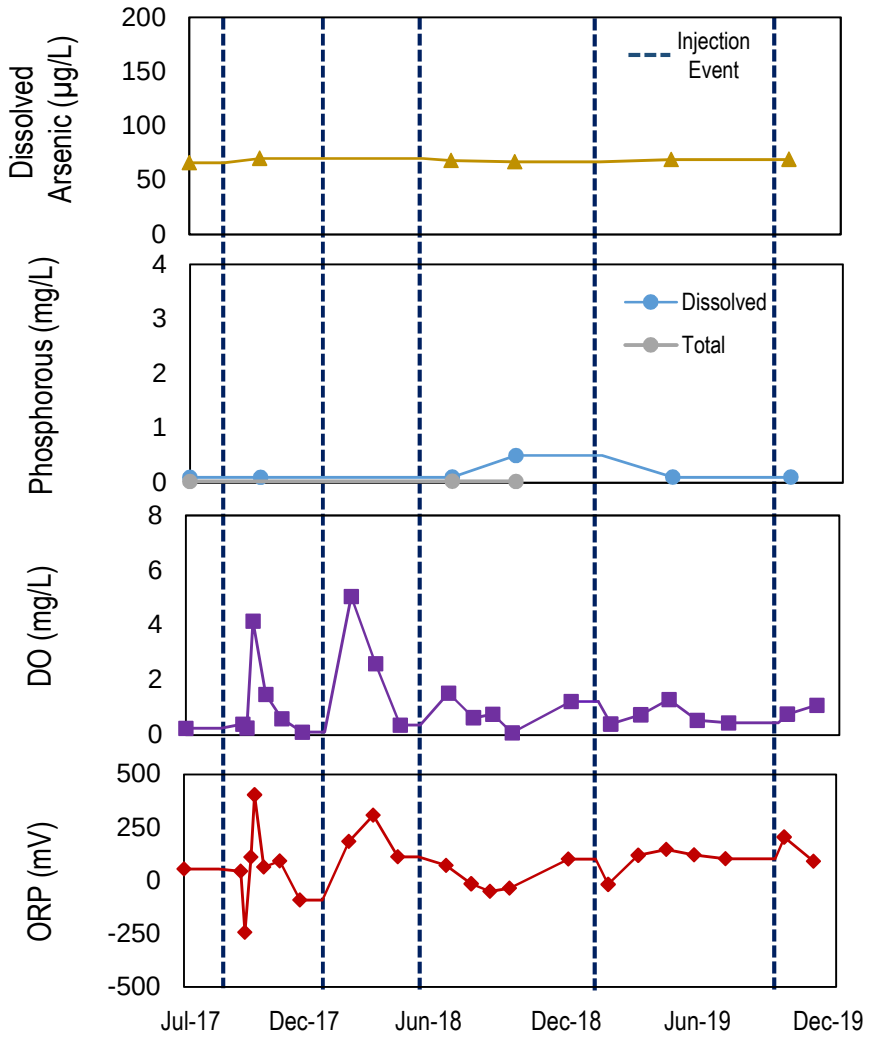
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW07B

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.16

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW08A is located approximately 50 feet upgradient of the injection well transects.
3. Monitoring well SWFTS-MW08A is screened in the alluvium from 20.2 to 34.8 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW08A is approximately 1.3 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW08A indicates a mobile porosity estimate of 6%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW08A

Project No.:	117-7502018
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Figure No.
H.17

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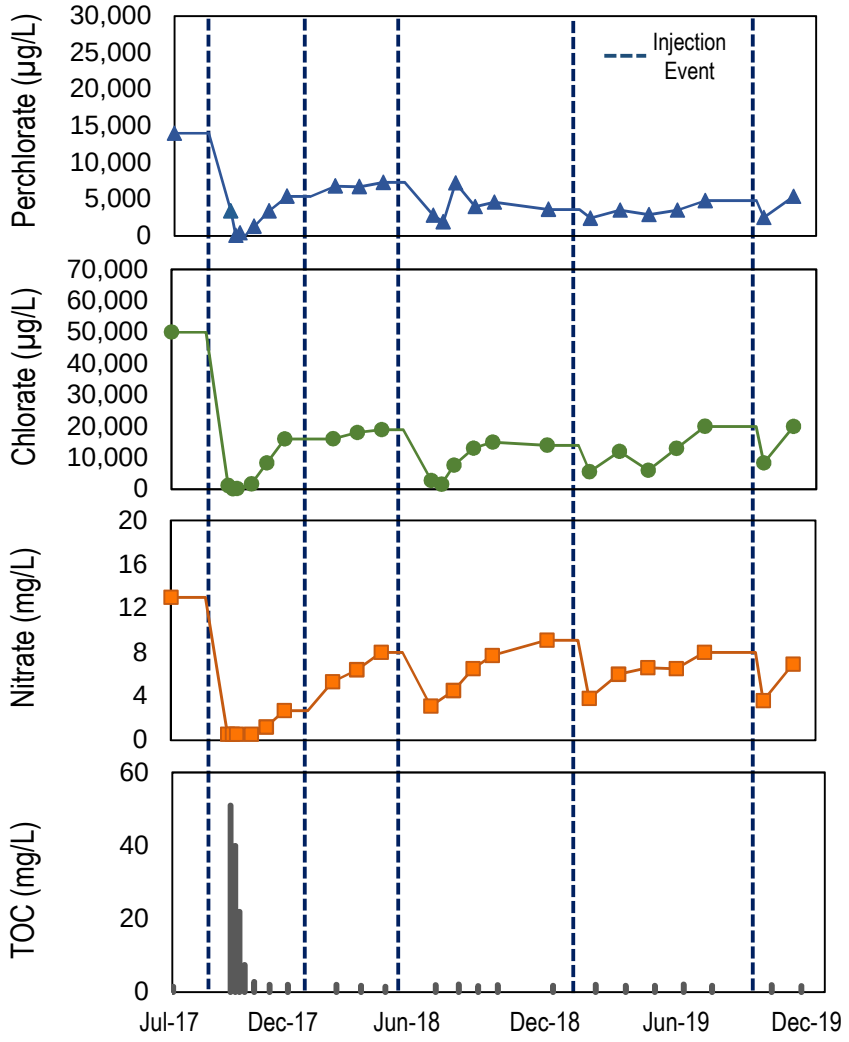
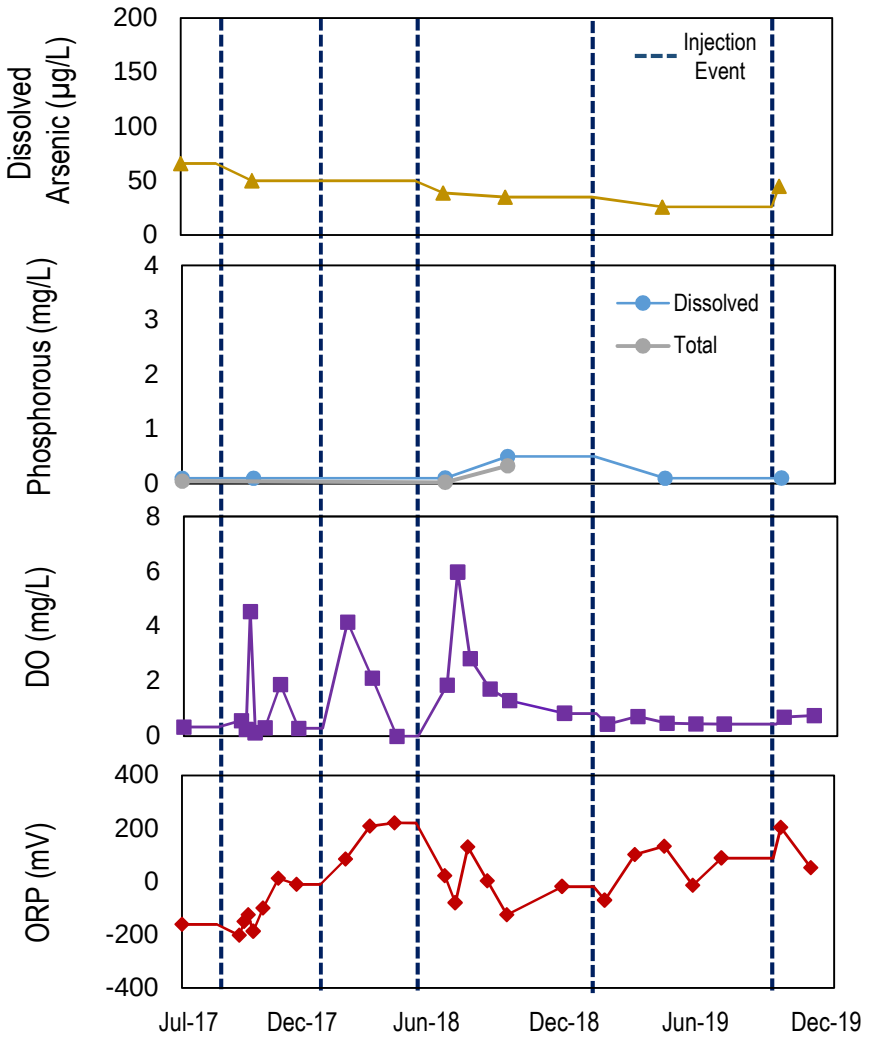
CONCENTRATIONS VS TIME



CONCENTRATIONS VS TIME



Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW09A is located approximately 240 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW09A is screened in the alluvium from 19.3 to 28.9 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW09A is approximately 36.5 to 42.1 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW09A indicates a mobile porosity estimate of 8%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter; amsl – above mean sea level; mg/L – milligram per liter; TOC – Total Organic Carbon; DO – Dissolved Oxygen; ORP – Oxidation-Reduction Potential

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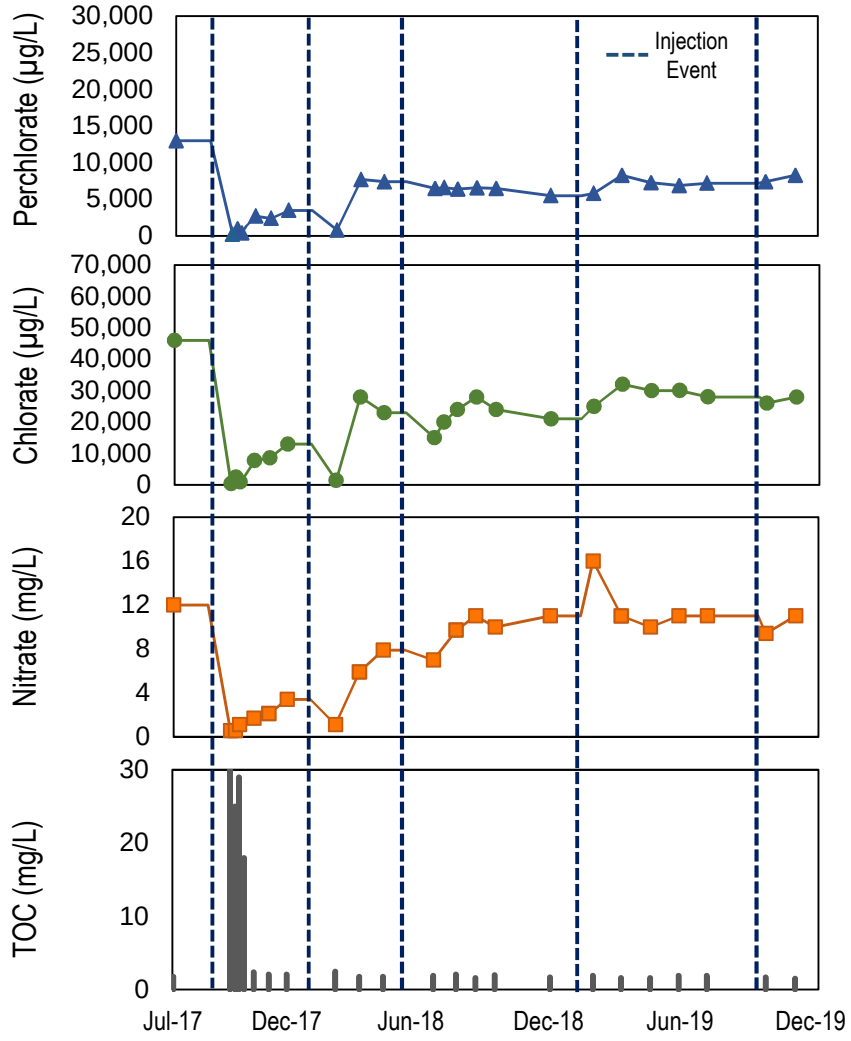
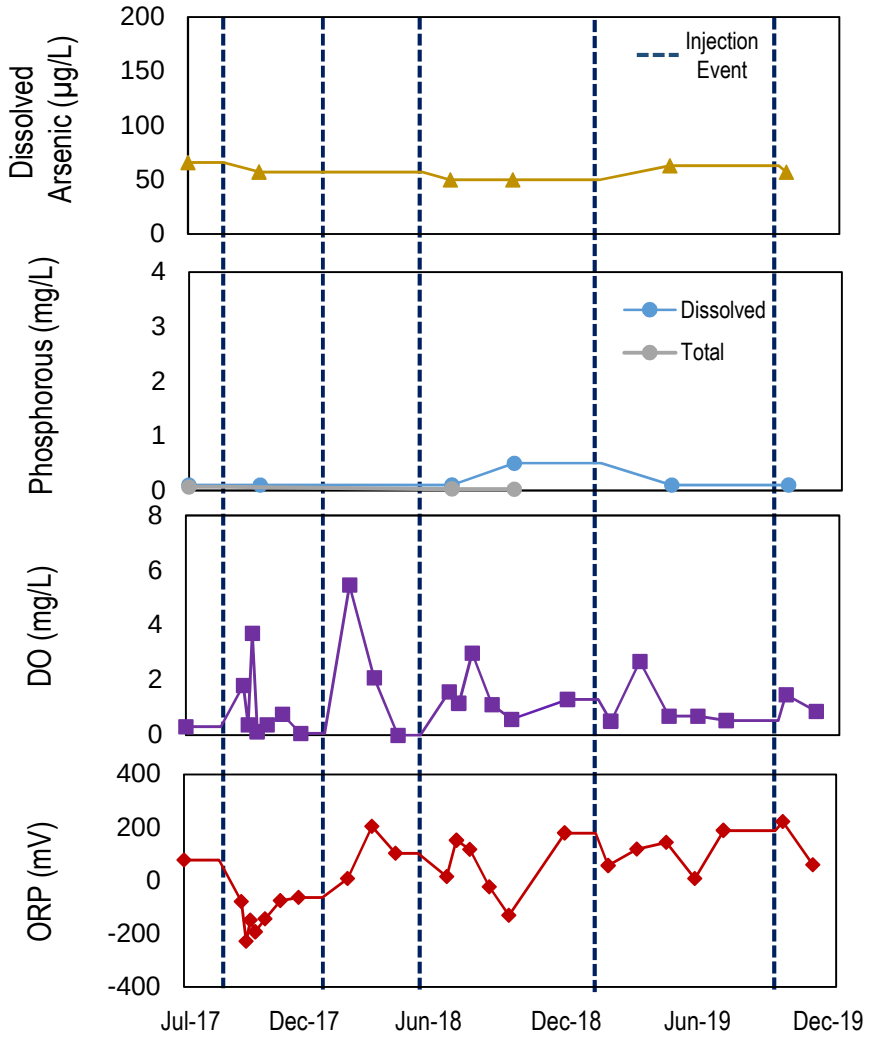
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW09A

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.18

\\tts1346\1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW09B is located approximately 240 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW09B is screened in the alluvium from 34.4 to 39 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW09B is approximately 293.2 to 329.9 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW09B indicates a mobile porosity estimate of 7%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW09B

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.19

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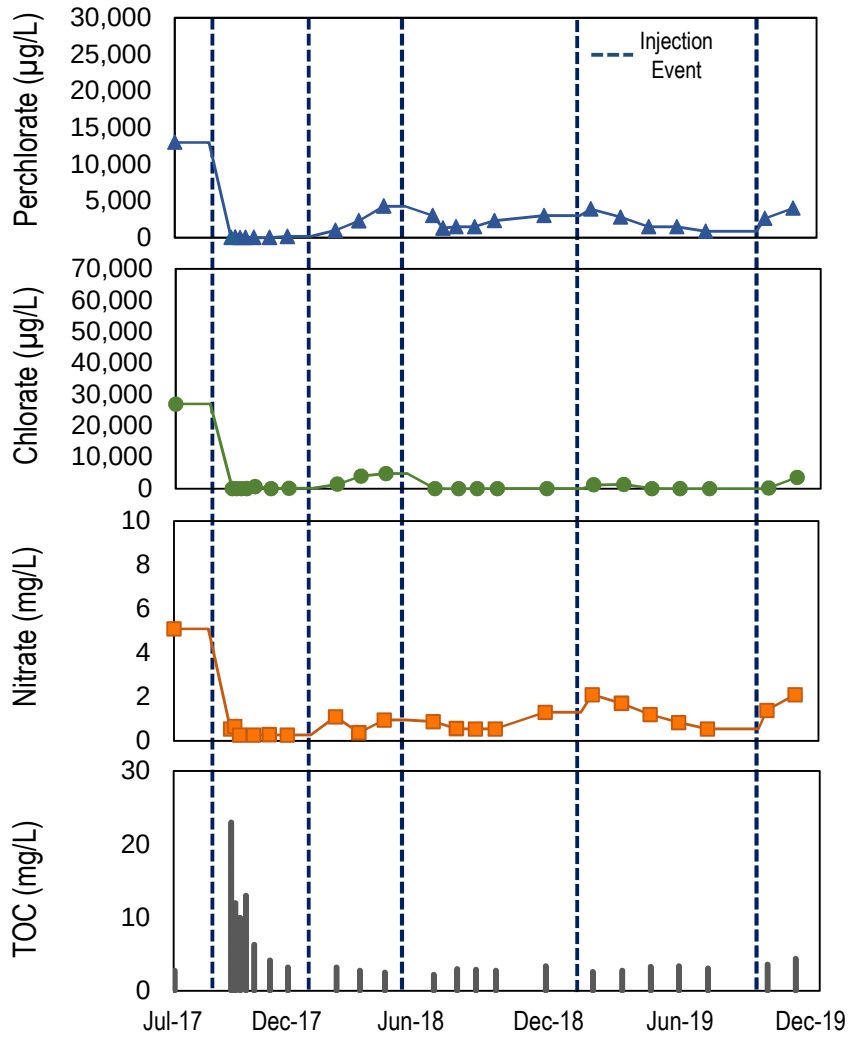

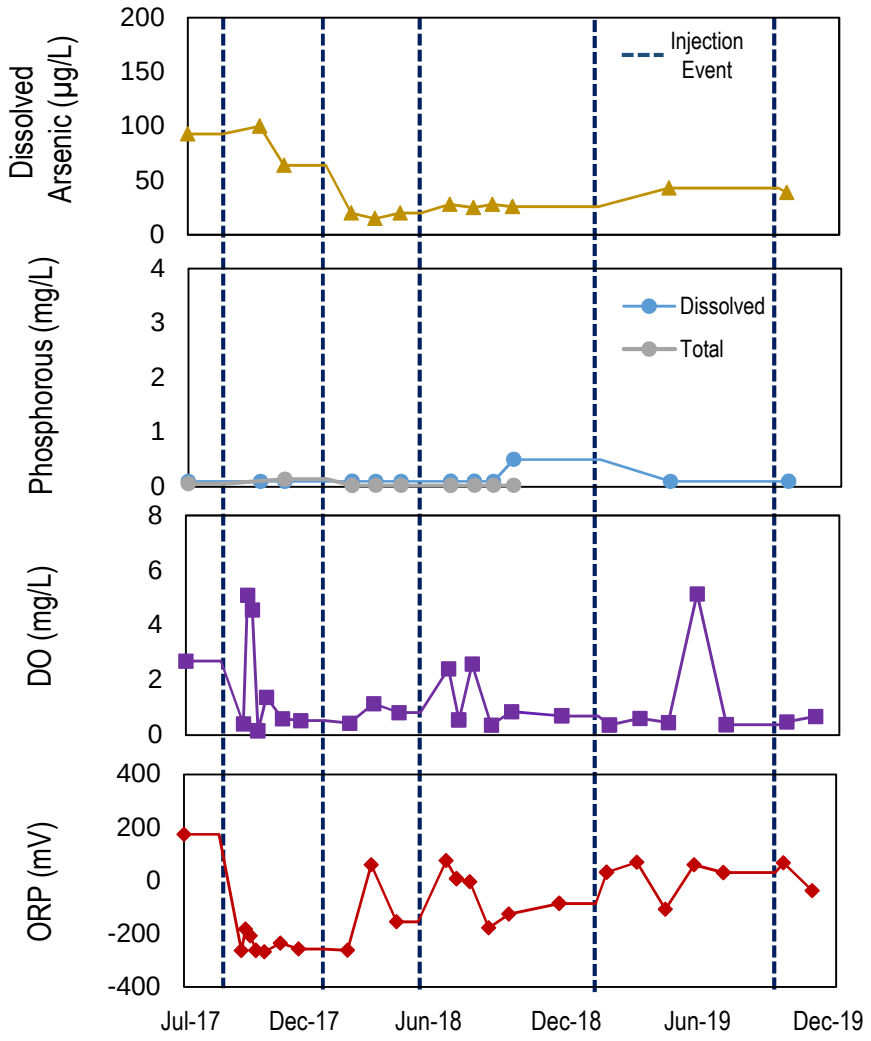

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW10A is located approximately 50 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW10A is screened in the alluvium from 20.4 to 35 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW10A is approximately 17.0 to 21.0 feet/day.
5. Nuclear magnetic resonance logging at SWFTS-MW10A indicates a mobile porosity estimate of 5%.
6. Baseline analytical results shown prior to the first injection event are from samples collected in March 2017.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW10A

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.20

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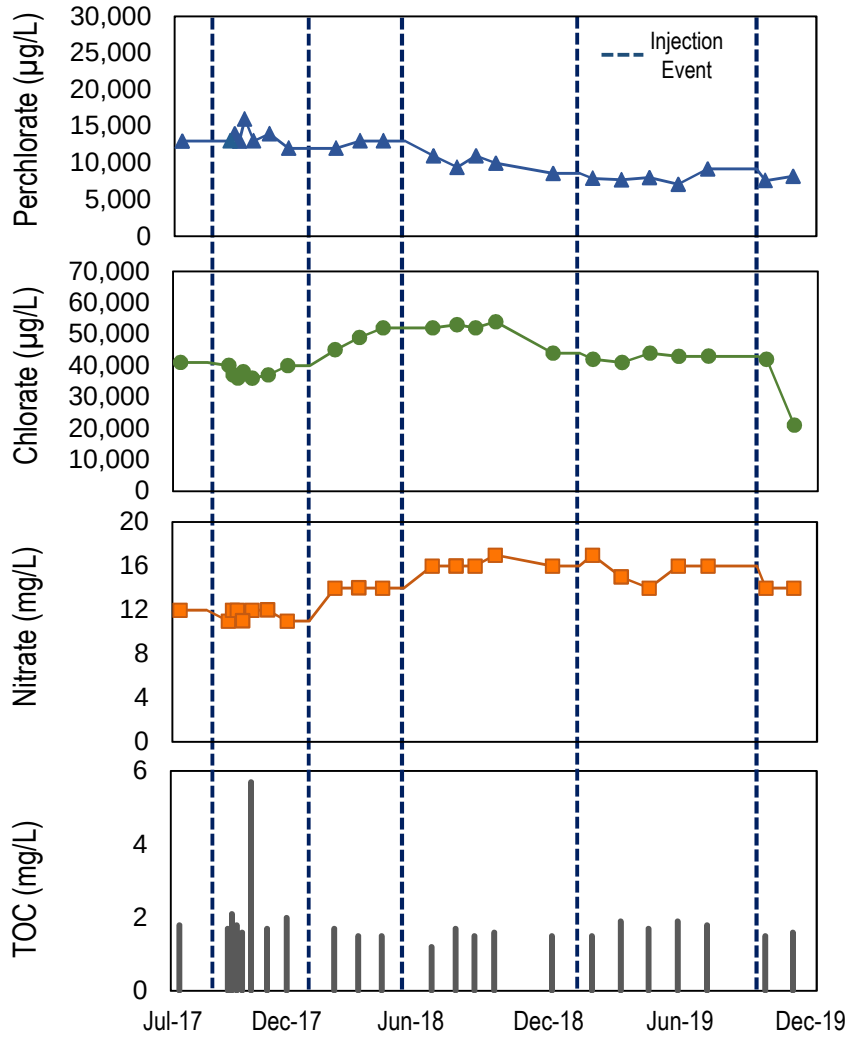

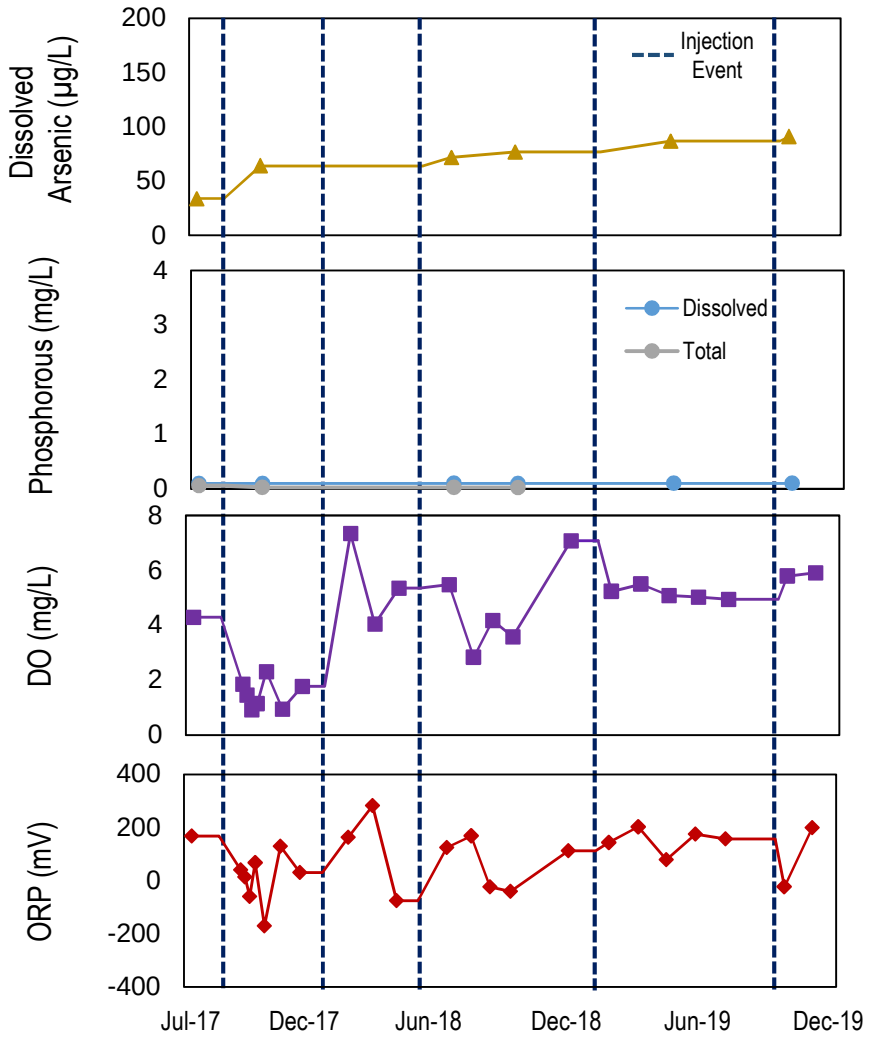

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW11 is located approximately 100 feet upgradient of the injection well transects.
3. Monitoring well SWFTS-MW11 is screened in the alluvium from 14.8 to 39.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW11 is approximately 0.7 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW11 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW11

Project No.:	117-7502018
Date:	APRIL 2, 2020
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Figure No.
H.21

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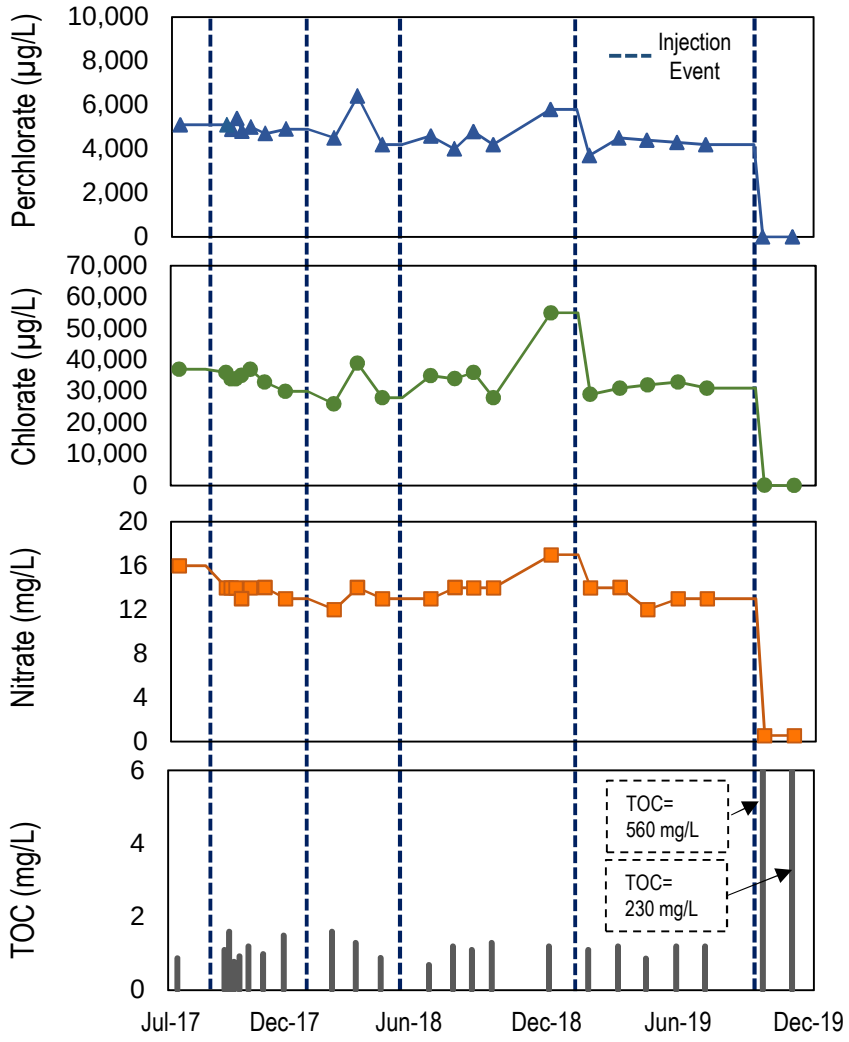

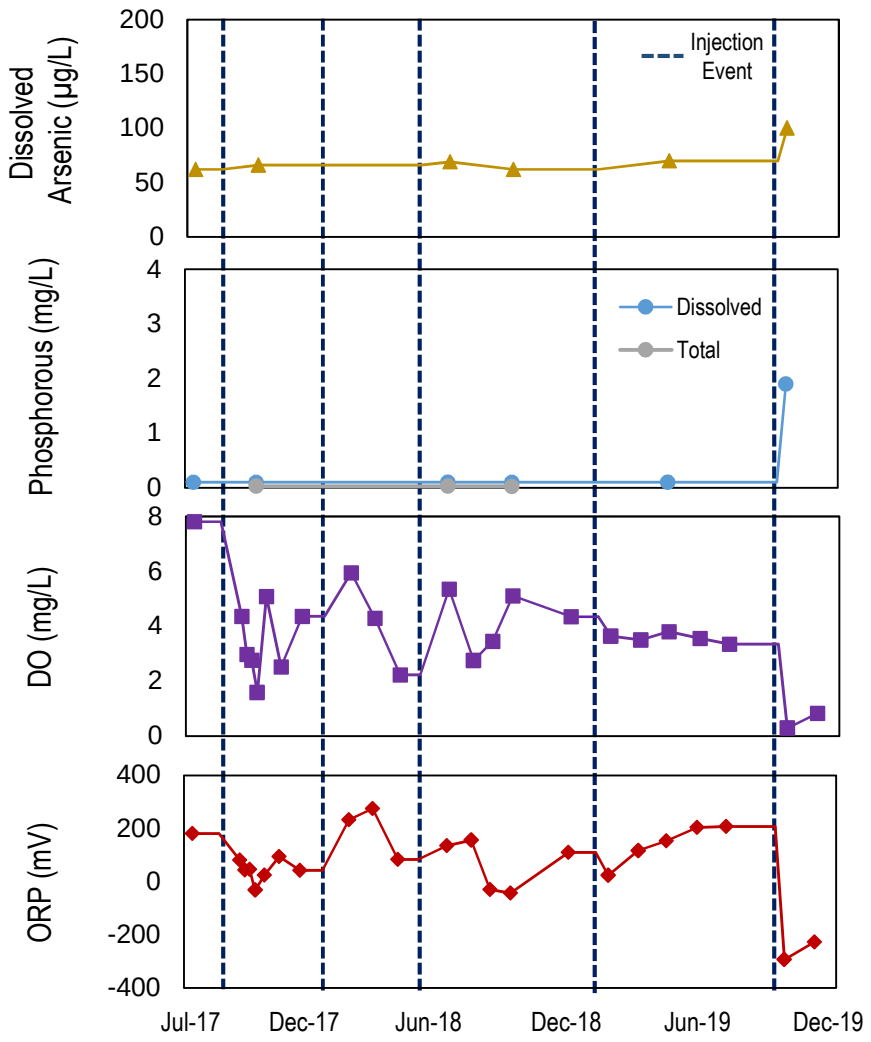

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW12 is located approximately 125 feet upgradient of the injection well transects.
3. Monitoring well SWFTS-MW12 is screened in the alluvium from 15.8 to 40.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW12 is approximately 7.3 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW12 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW12

Project No.:	117-7502018
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Figure No.
H.22

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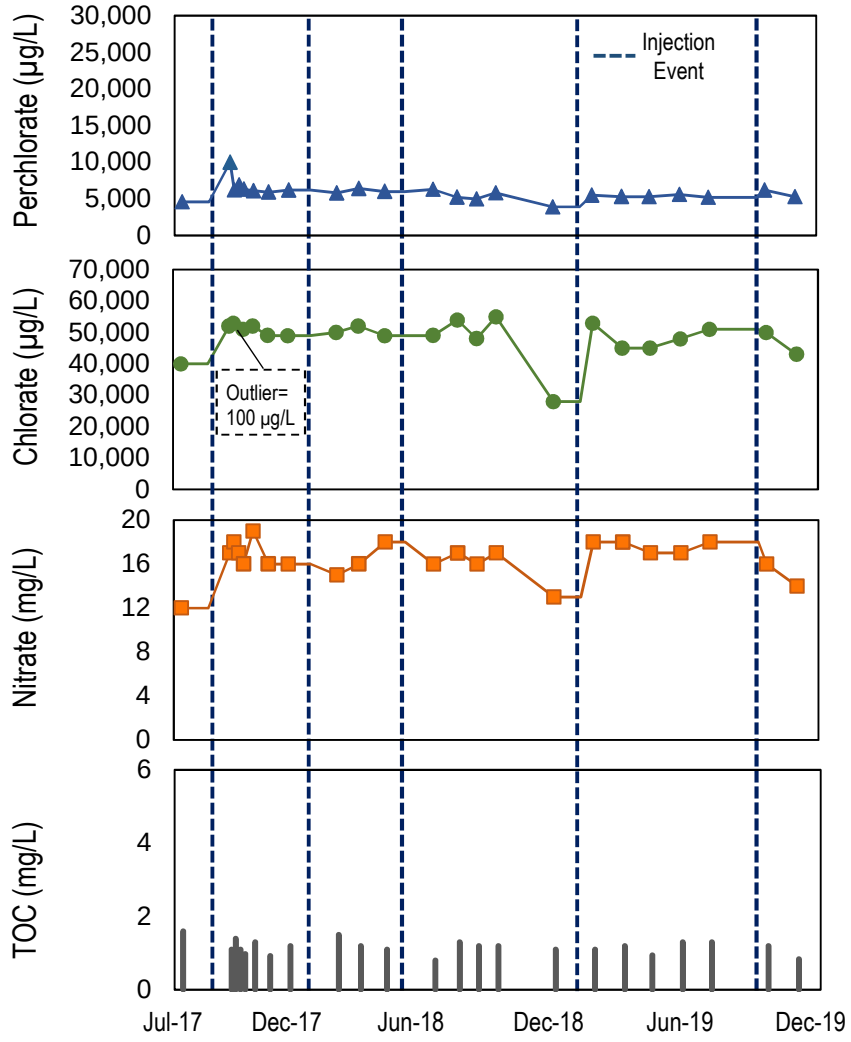

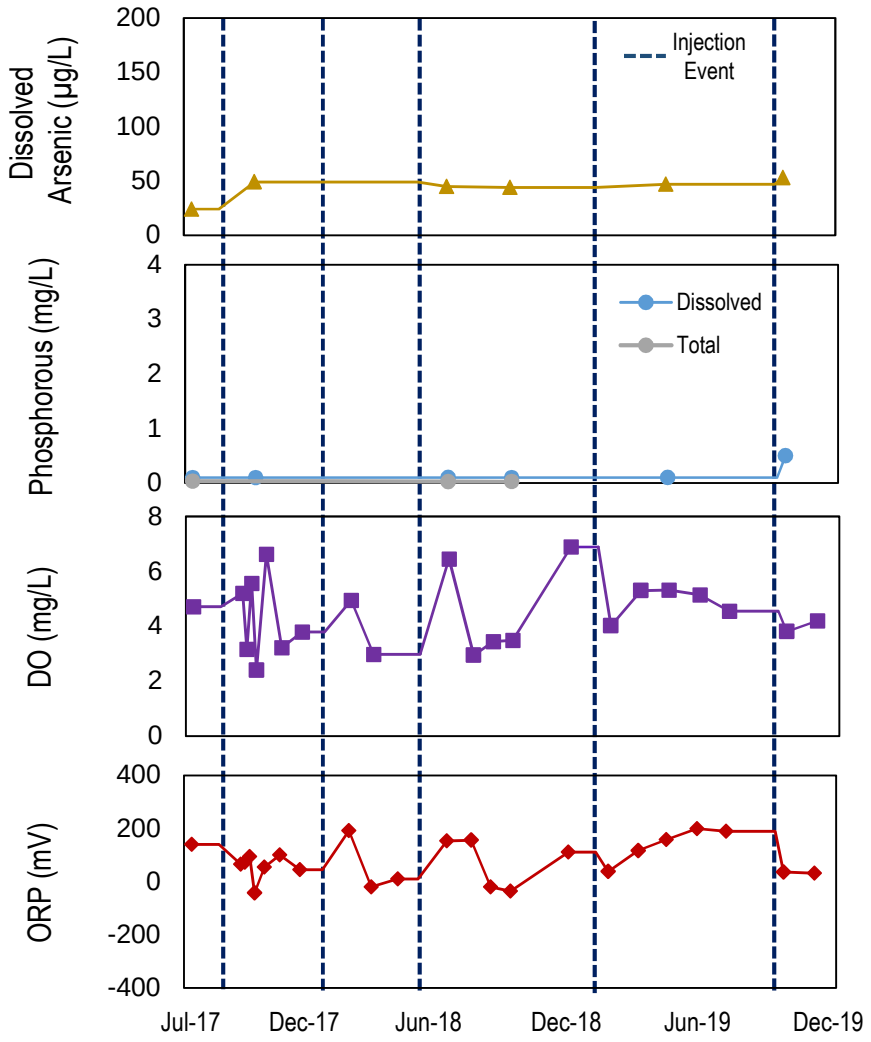

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW13 is located approximately 100 feet south of the injection well transects. SWFTS-MW13 is considered an upgradient monitoring well.
3. Monitoring well SWFTS-MW13 is screened in the alluvium from 17.8 to 47.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW13 is approximately 0.8 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW13 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW13

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Figure No.
H.23

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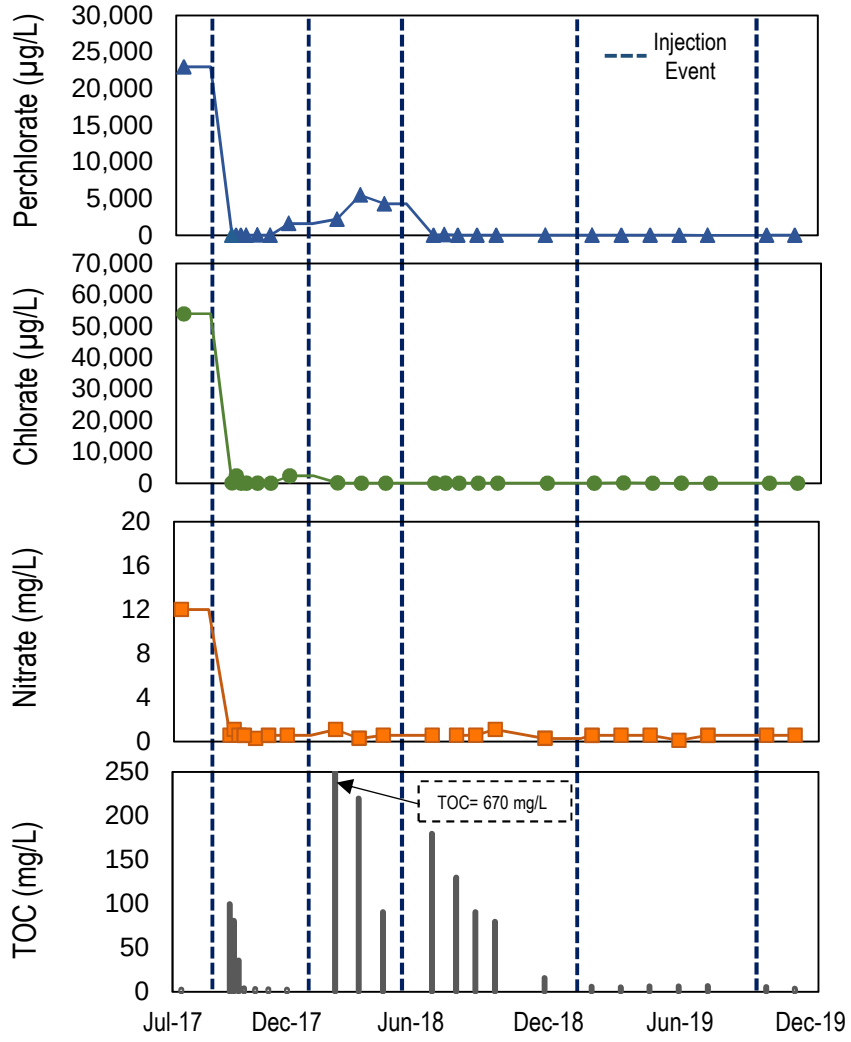

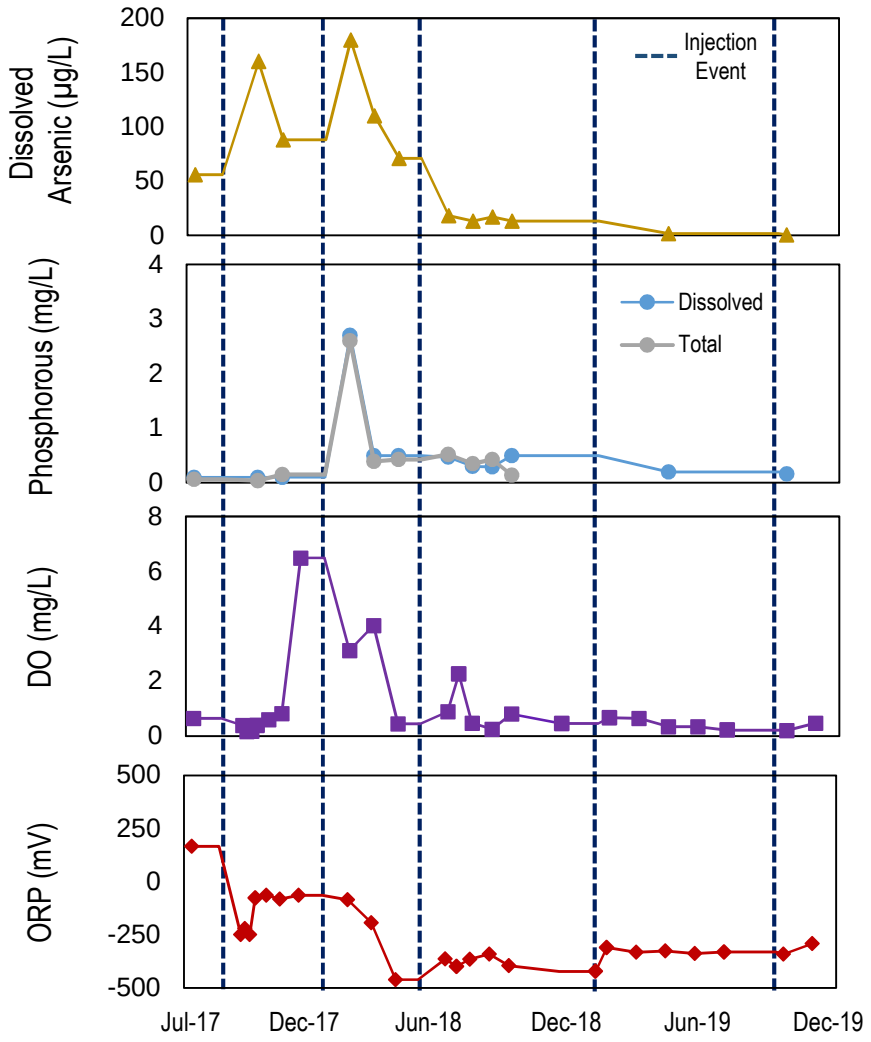

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW14 is located between the injection well transects, approximately 100 feet downgradient of the southern injection well transect.
3. Monitoring well SWFTS-MW14 is screened in the alluvium from 16.8 to 36.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW14 is approximately 13.1 to 96.6 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW14 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW14

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Figure No.
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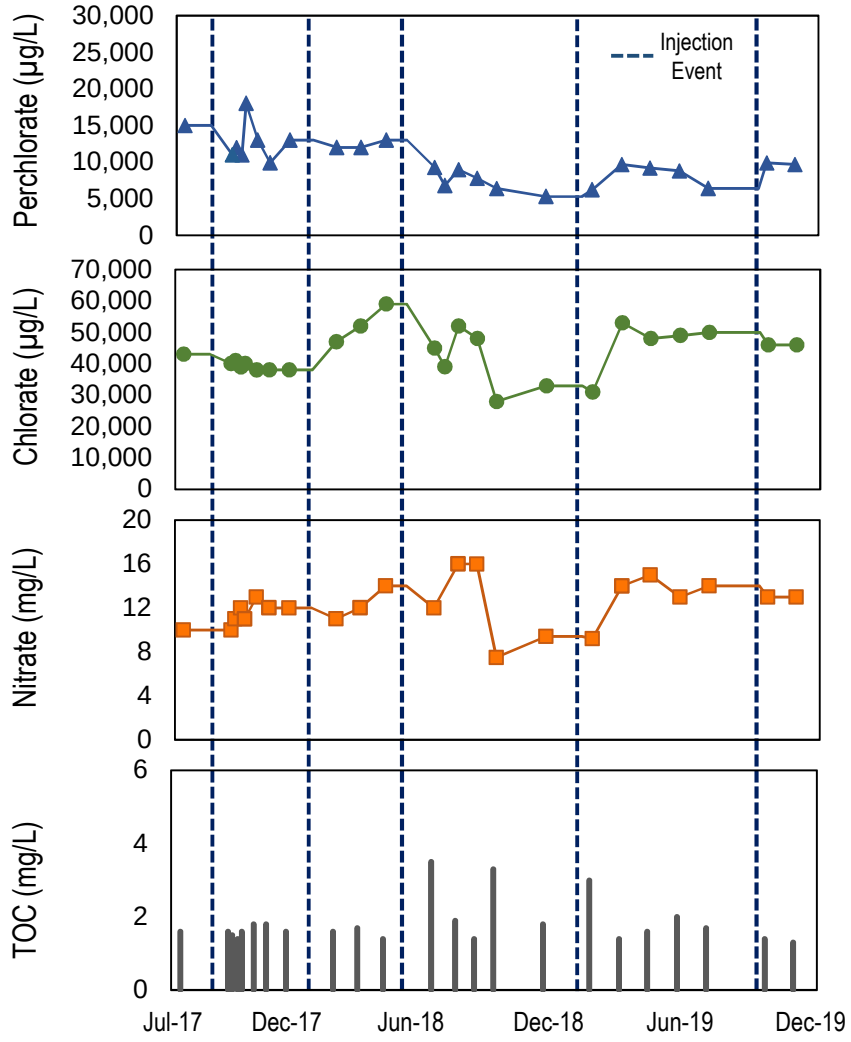

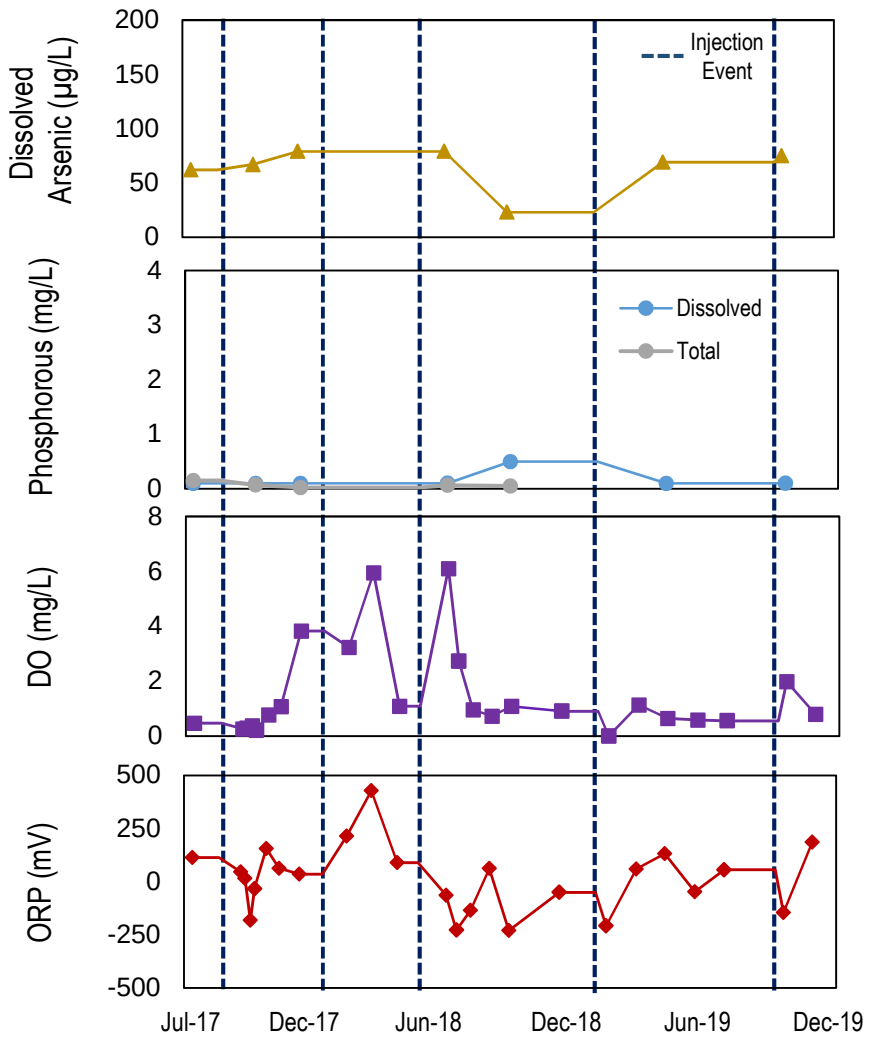

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW15 is located between the injection well transects, approximately 50 feet downgradient of the southern injection well transect.
3. Monitoring well SWFTS-MW15 is screened in the alluvium from 14.8 to 34.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW15 is approximately 42.9 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW15 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW15

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Figure No.
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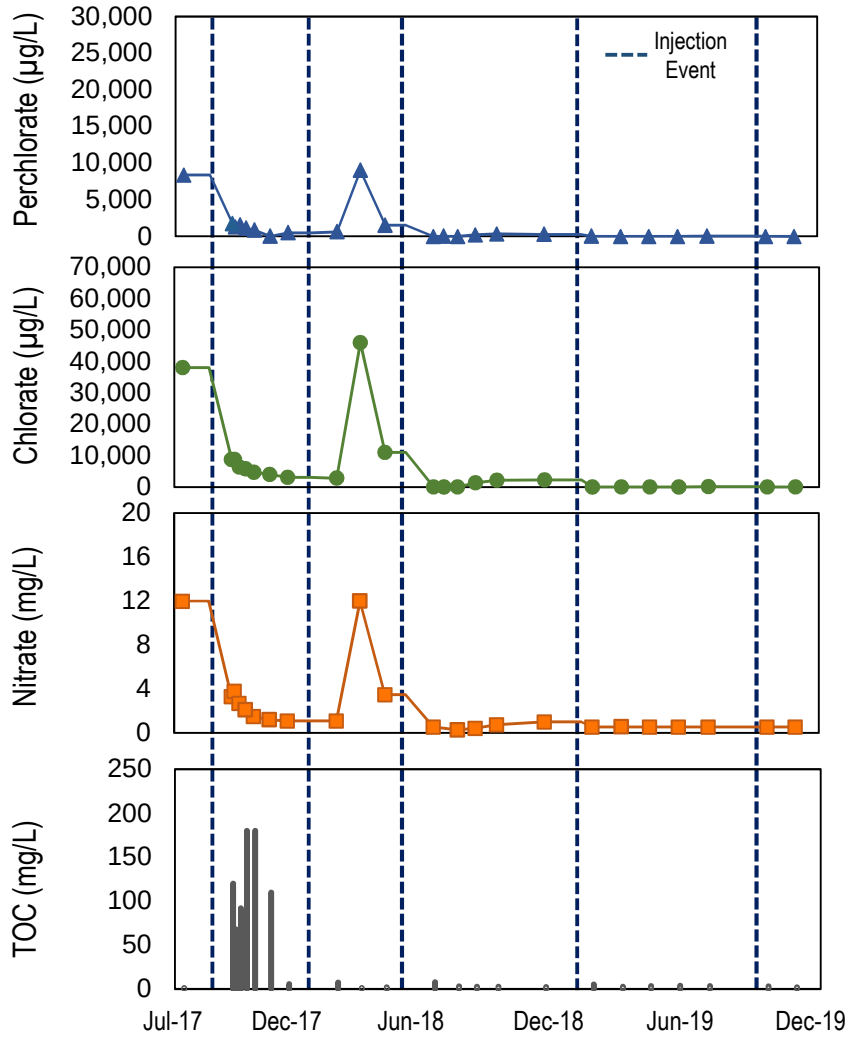

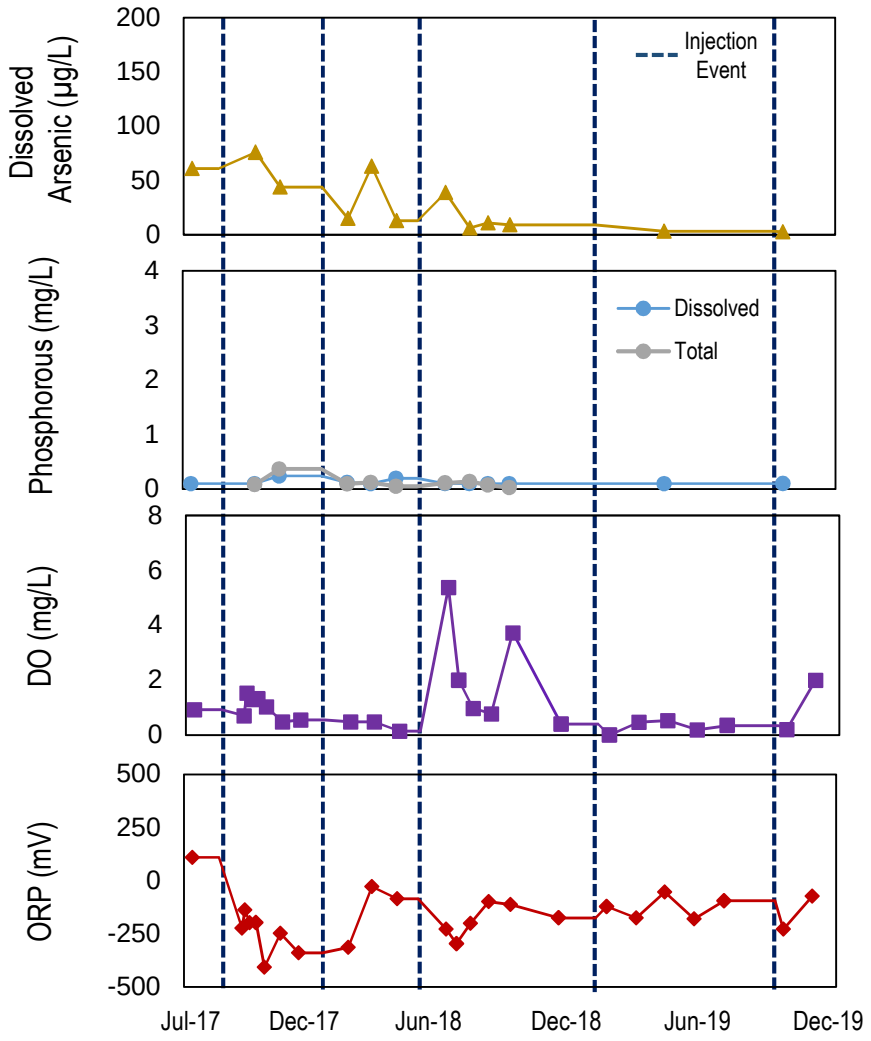

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW16 is located between the injection well transects, approximately 50 feet downgradient of the southern injection well transect.
3. Monitoring well SWFTS-MW16 is screened in the alluvium from 21.8 to 41.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW16 is approximately 12.5 to 51.1 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW16 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW16

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Figure No.
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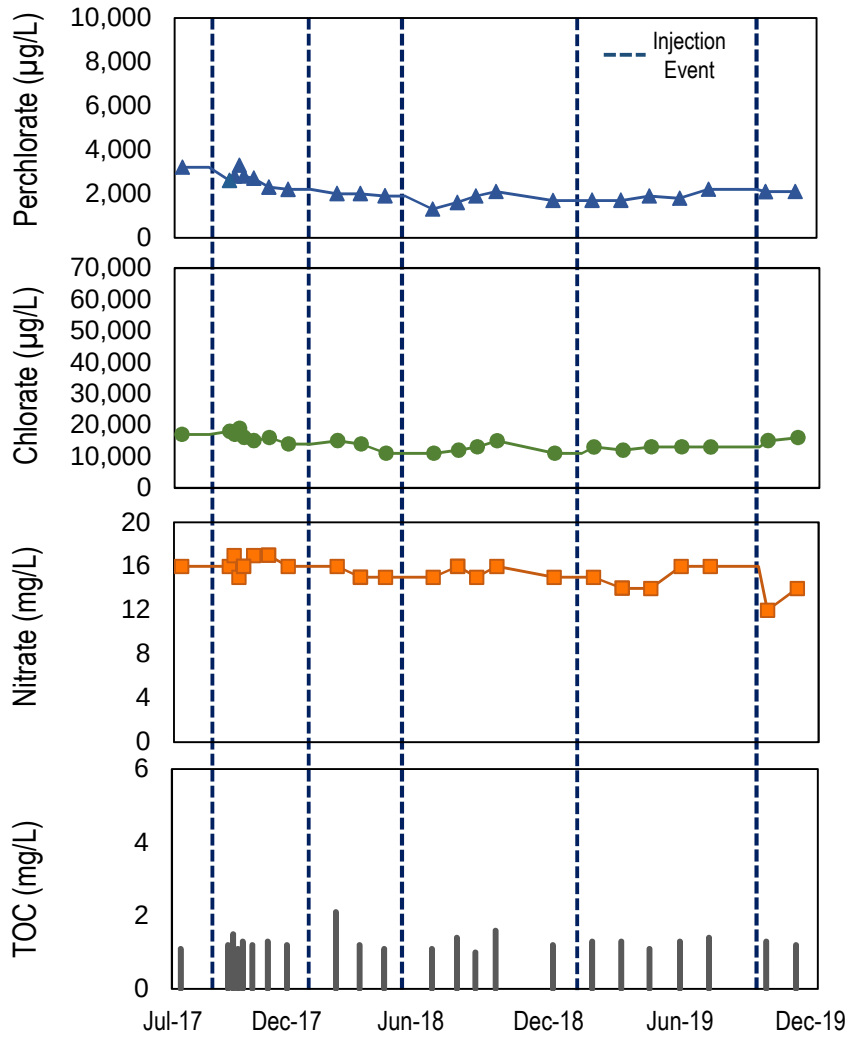

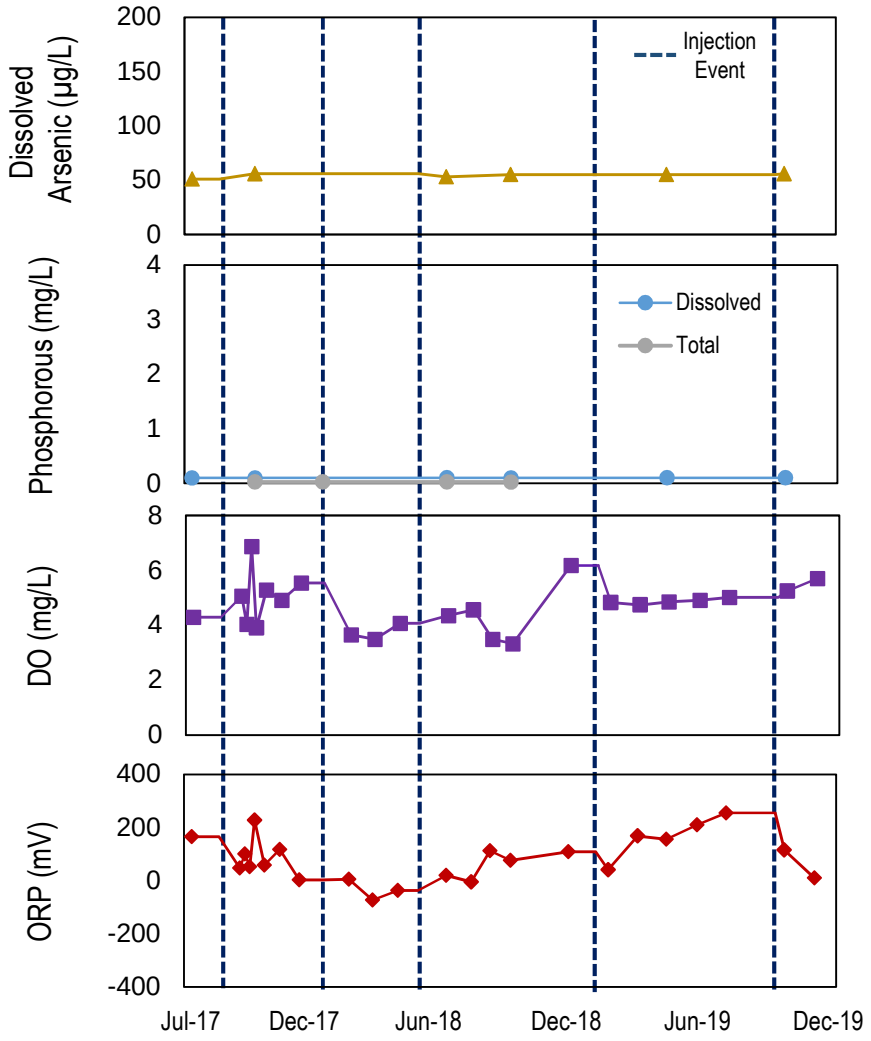

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW17 is located approximately 100 feet southeast of the injection well transects. SWFTS-MW17 is considered an upgradient monitoring well.
3. Monitoring well SWFTS-MW17 is screened in the alluvium from 22.8 to 52.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW17 is approximately 4.2 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW17 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW17

Project No.:	117-7502018
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Figure No.
H.27

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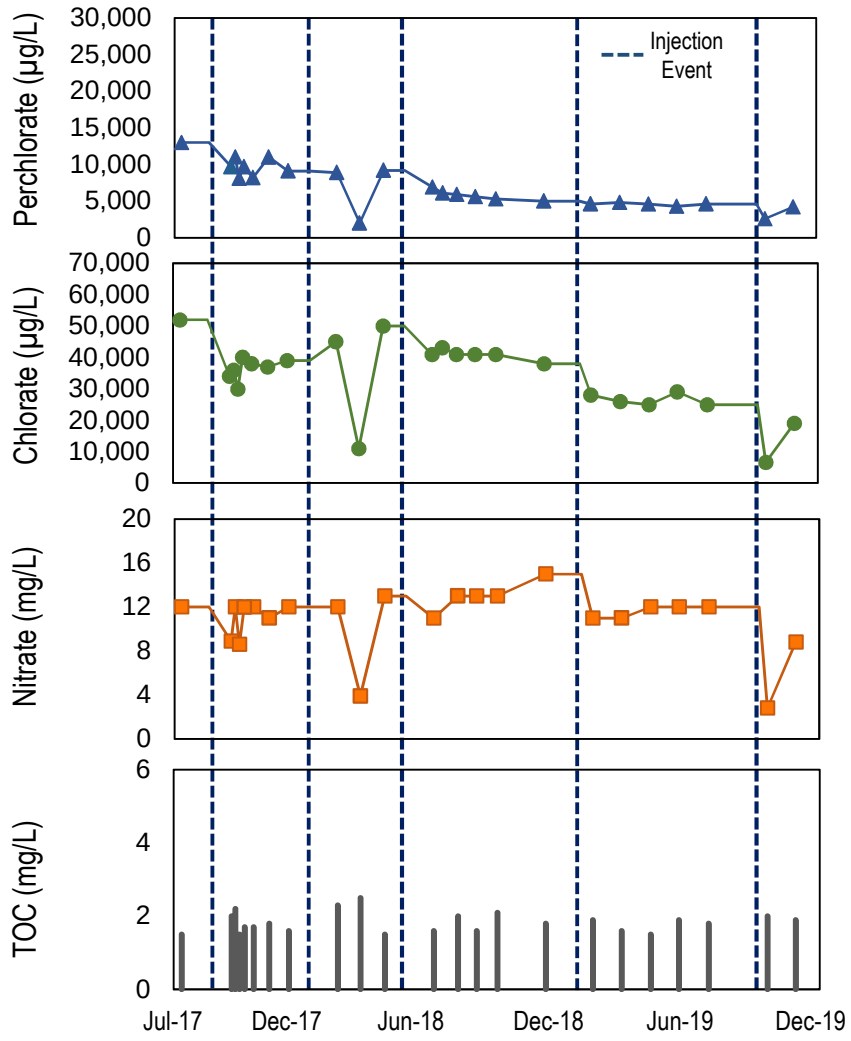

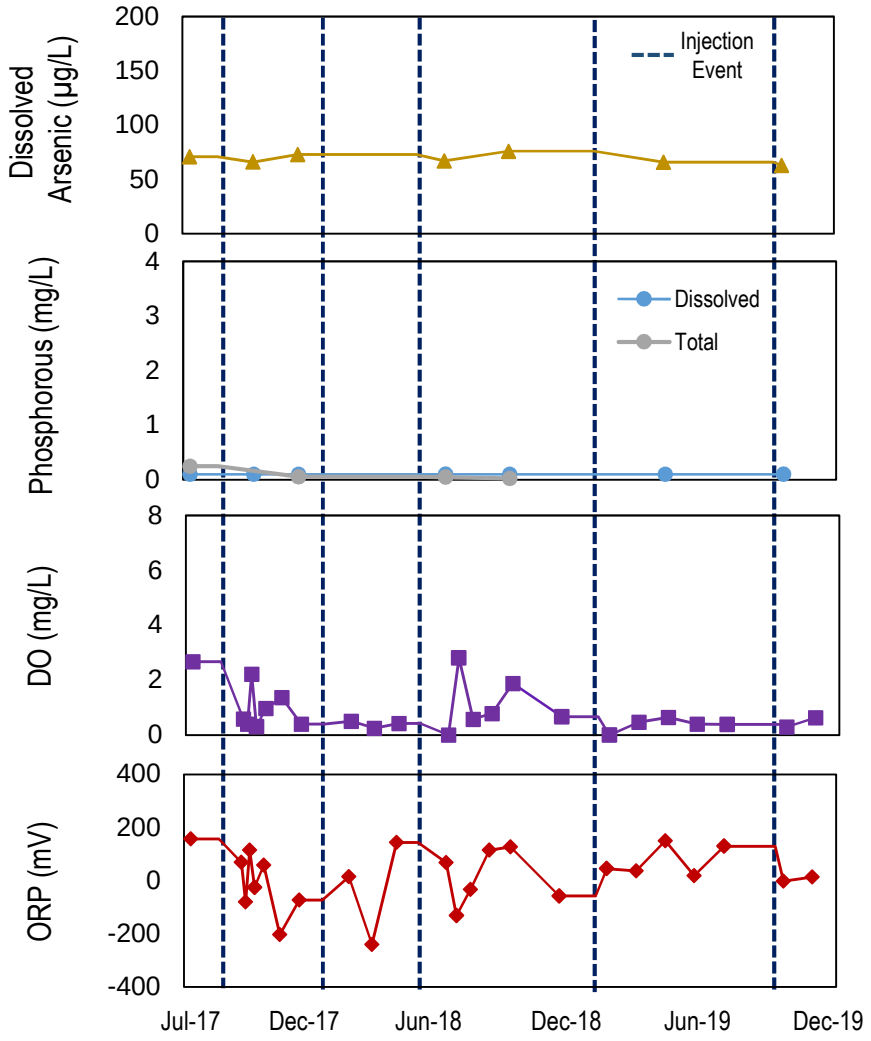

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW18 is located approximately 25 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW18 is screened in the alluvium from 16.8 to 36.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW18 is approximately 25.0 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW18 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW18

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Figure No.
H.28

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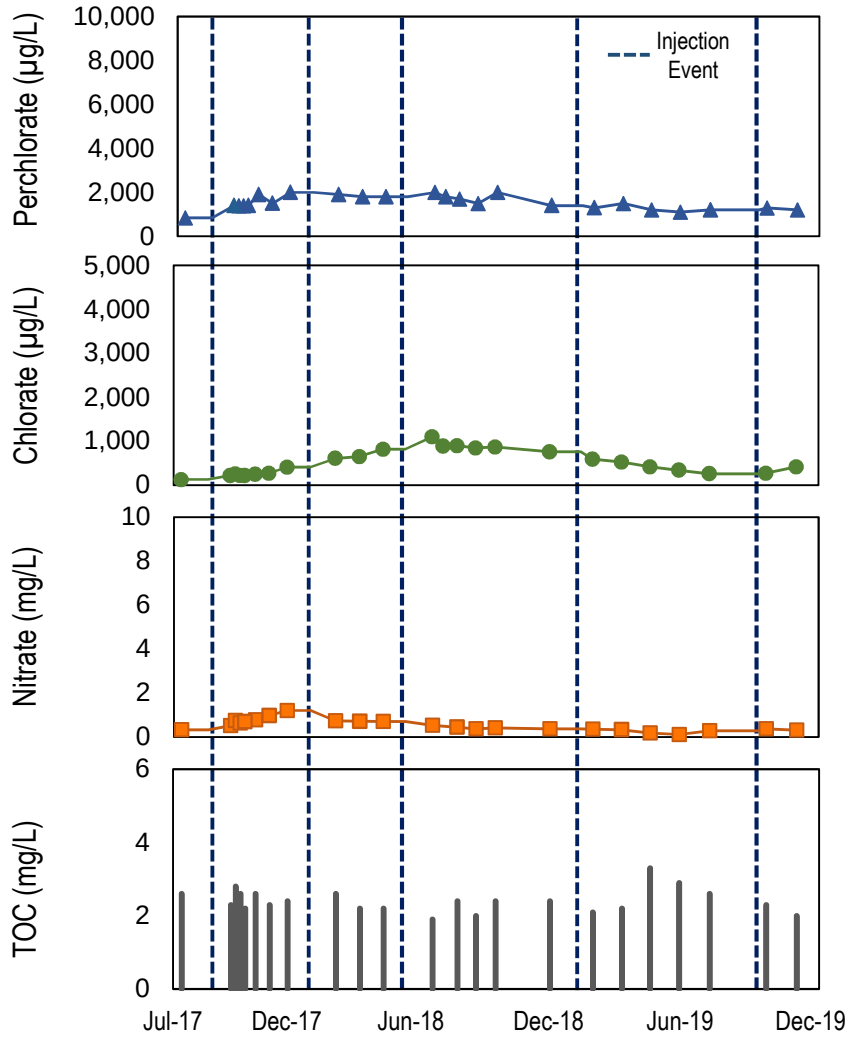

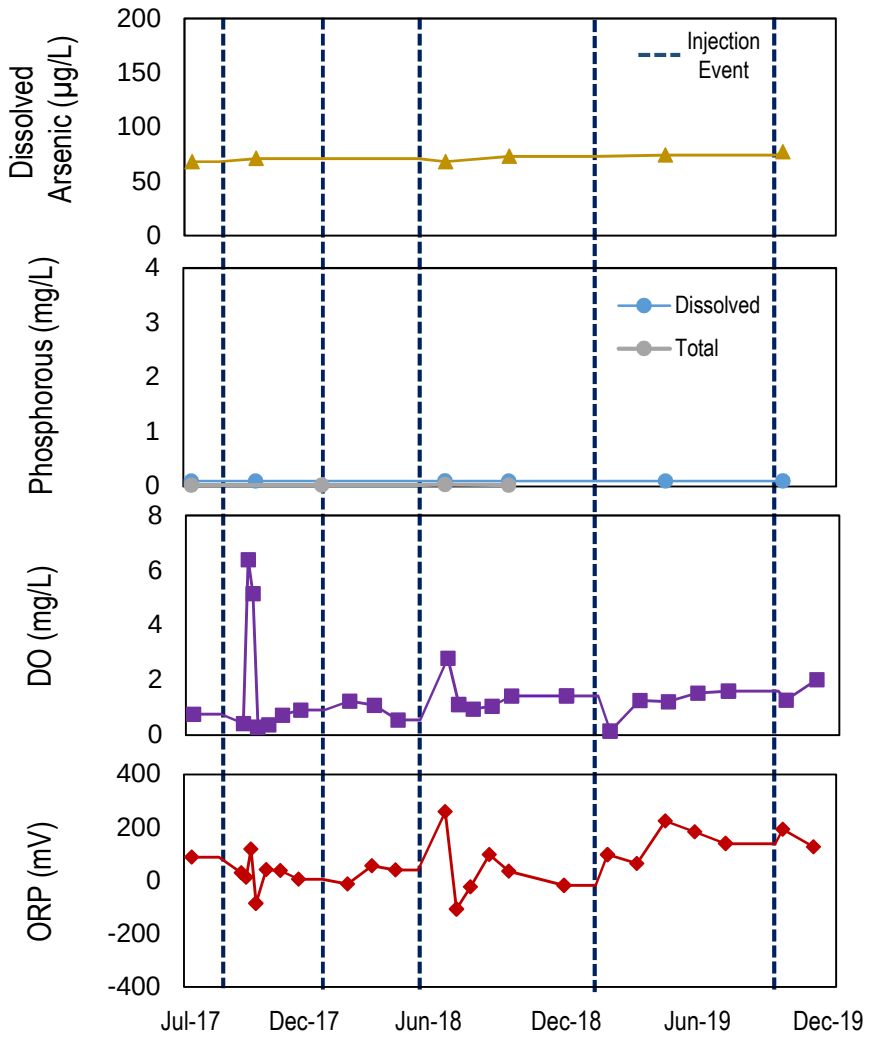

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW19 is located approximately 150 feet north of the injection well transects. SWFTS-MW19 is considered a side-gradient monitoring well.
3. Monitoring well SWFTS-MW19 is screened in the alluvium from 11.3 to 31.1 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW19 is approximately 1.4 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW19 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW19

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Figure No.
H.29

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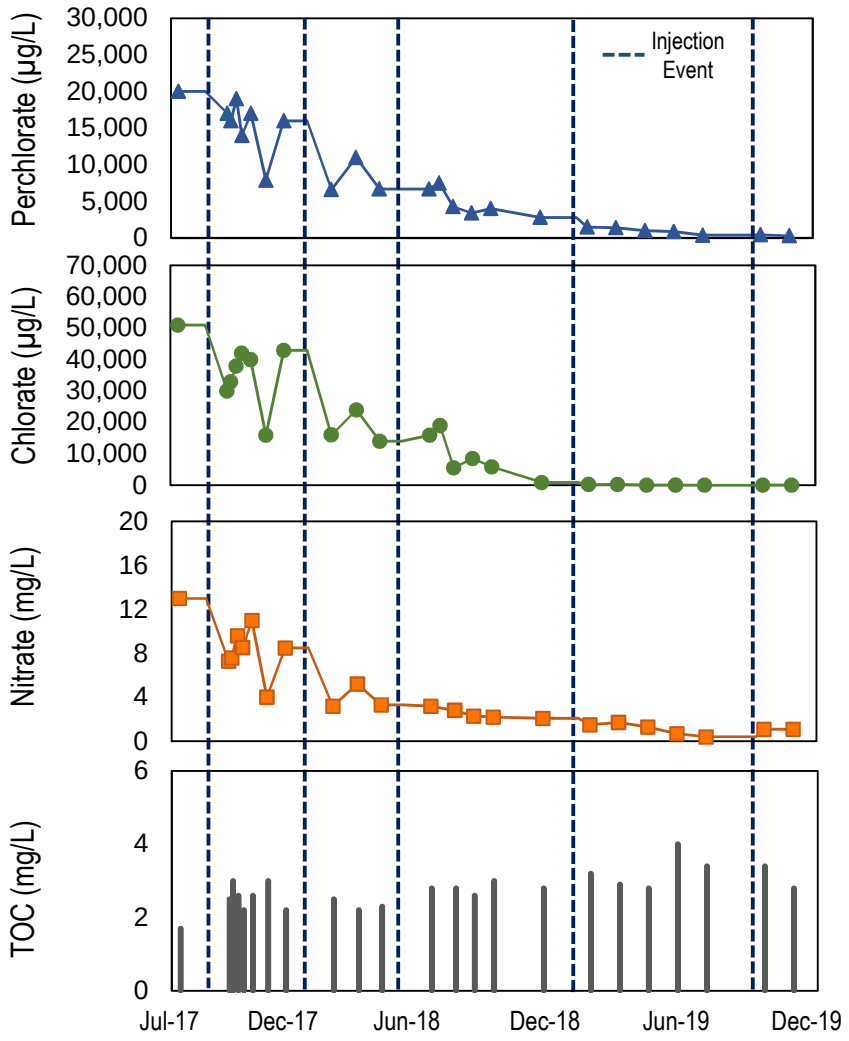

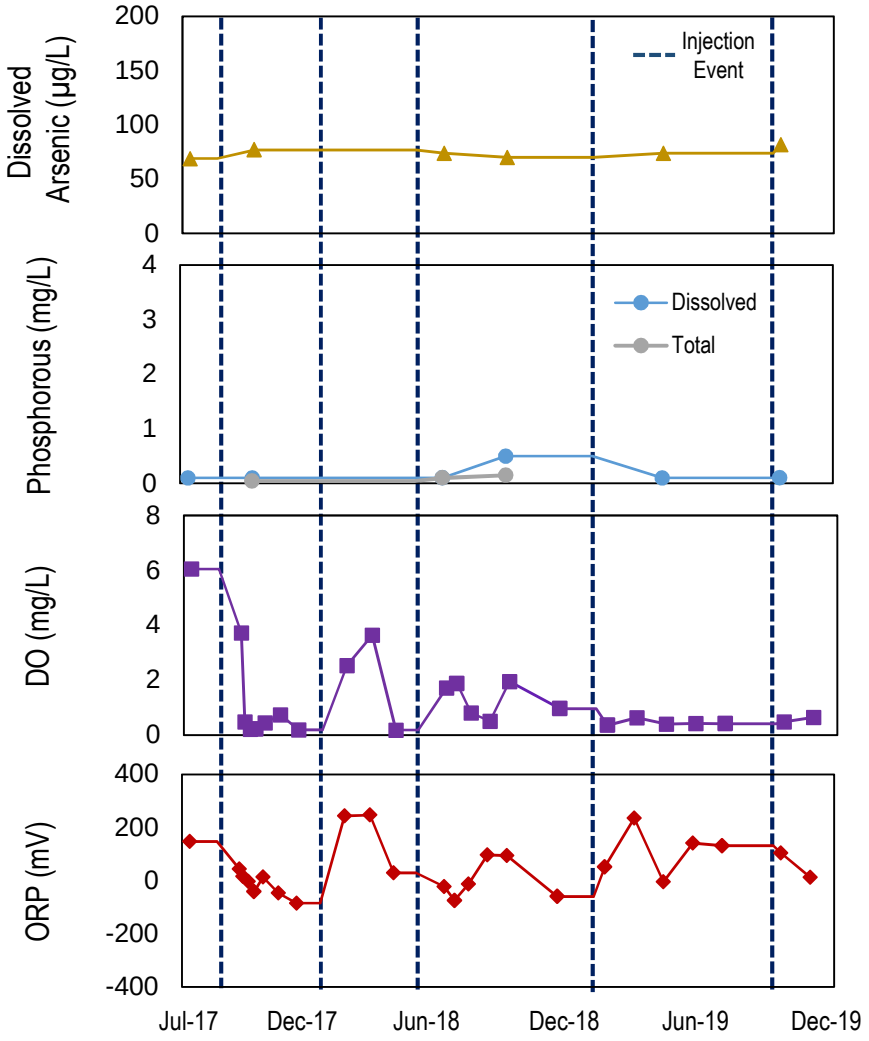

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW20 is located approximately 100 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW20 is screened in the alluvium from 12.8 to 37.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW20 is approximately 58.1 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW20 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW20

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Figure No.
H.30

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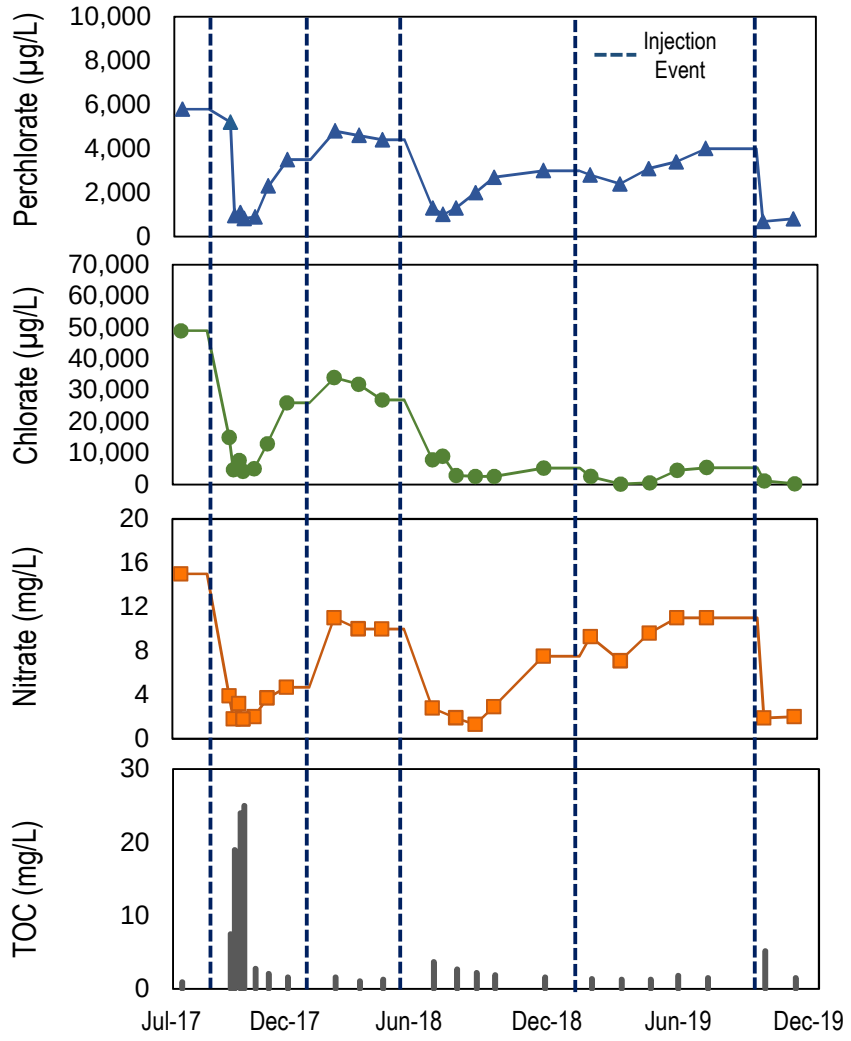

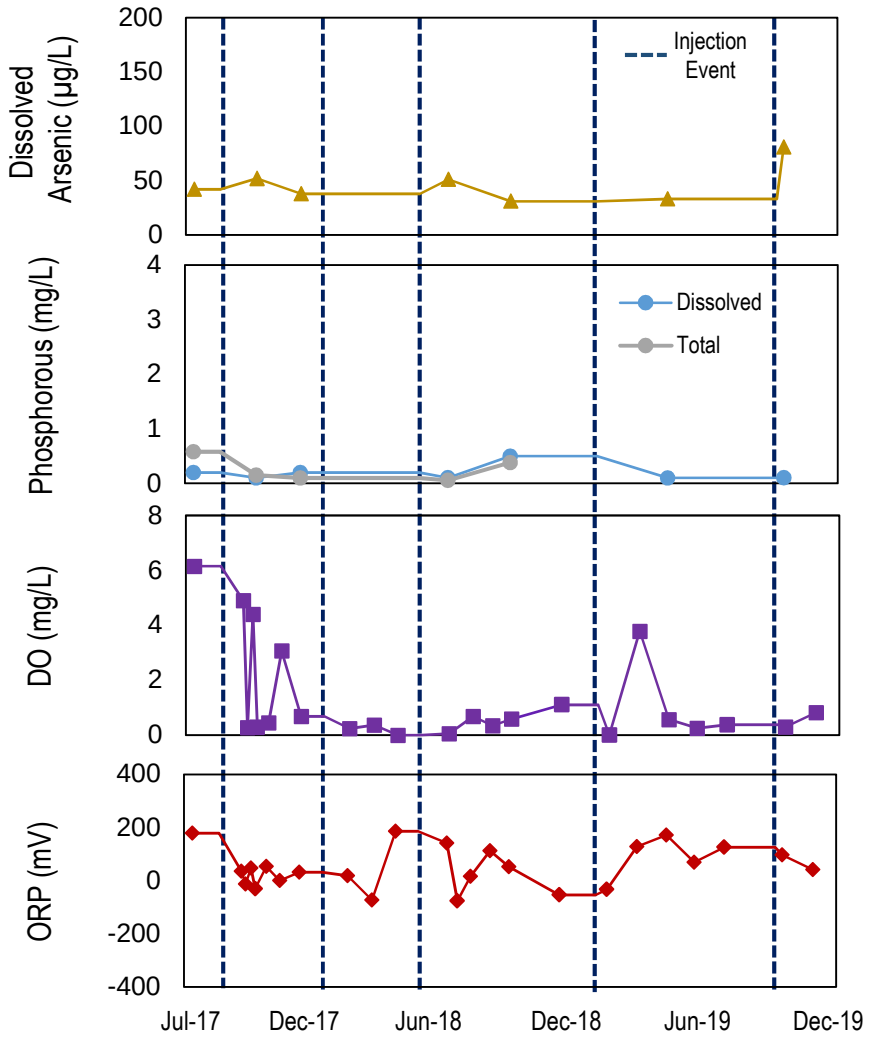

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW21 is located approximately 150 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW21 is screened in the alluvium from 14.8 to 39.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW21 is approximately 3.8 to 29.5 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW21 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW21

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Figure No.
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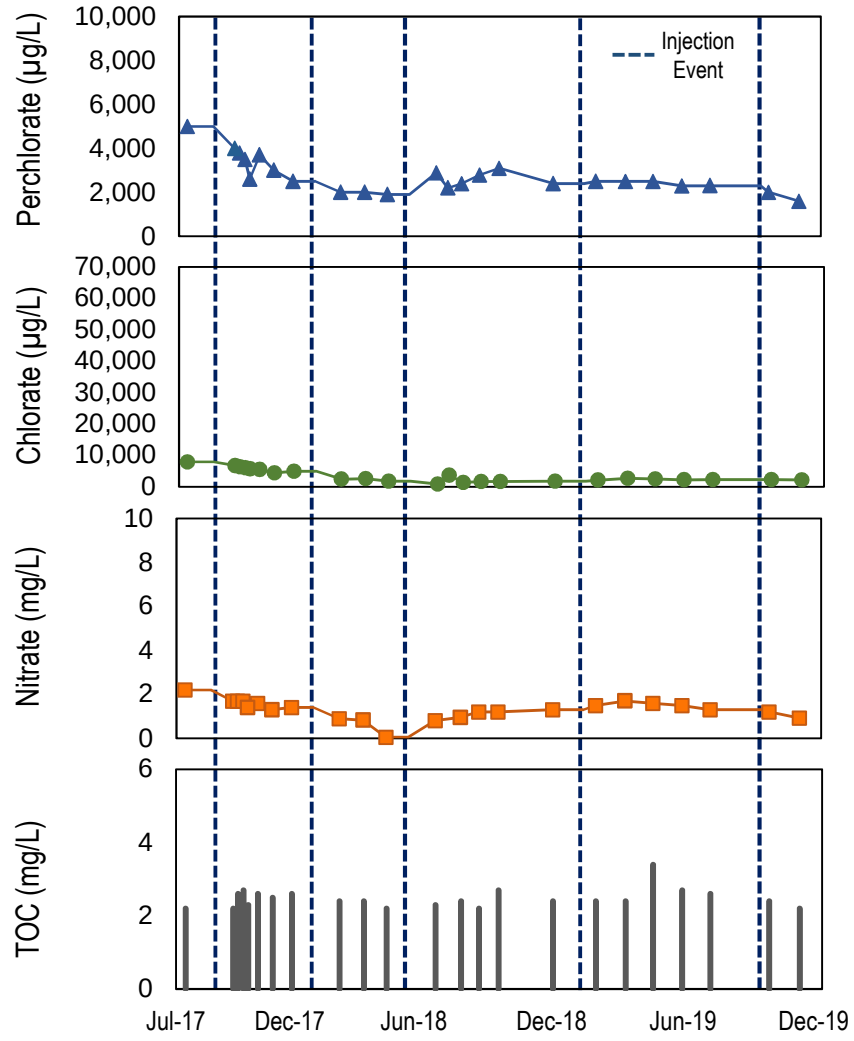

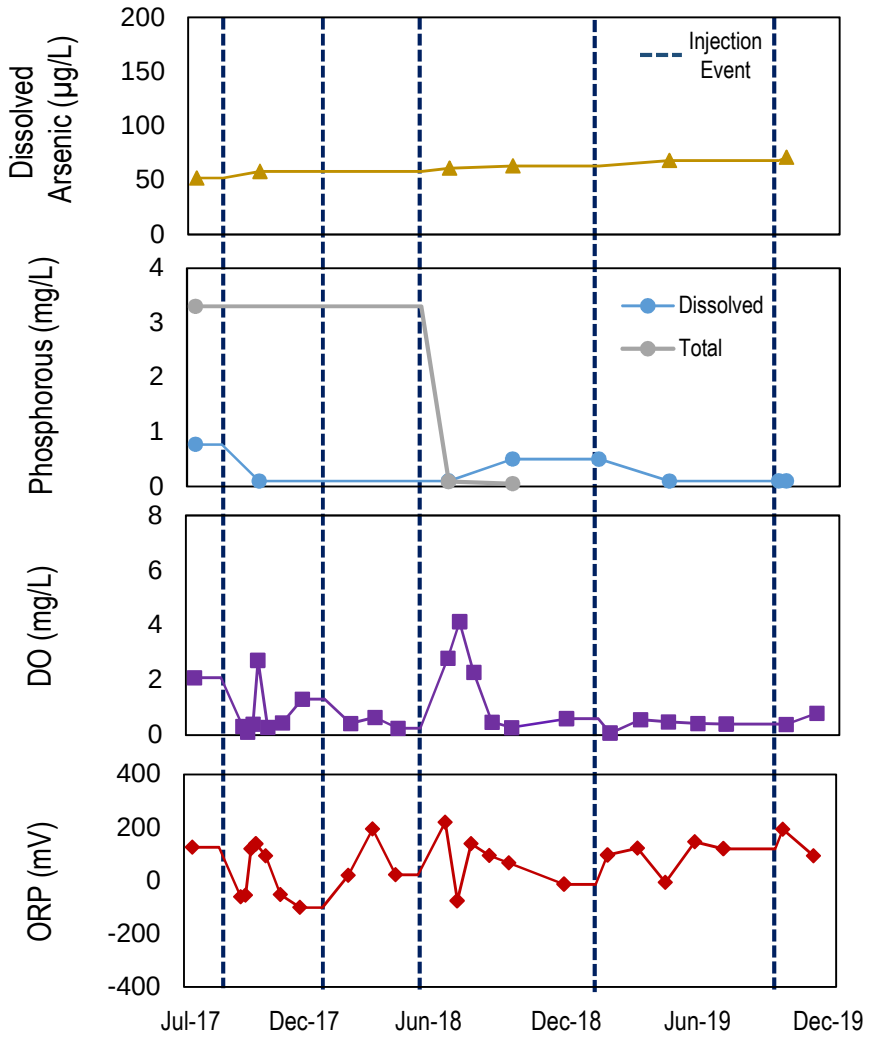

Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW22 is located approximately 275 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW22 is screened in the alluvium from 11.8 to 31.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW22 is approximately 85.1 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW22 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW22

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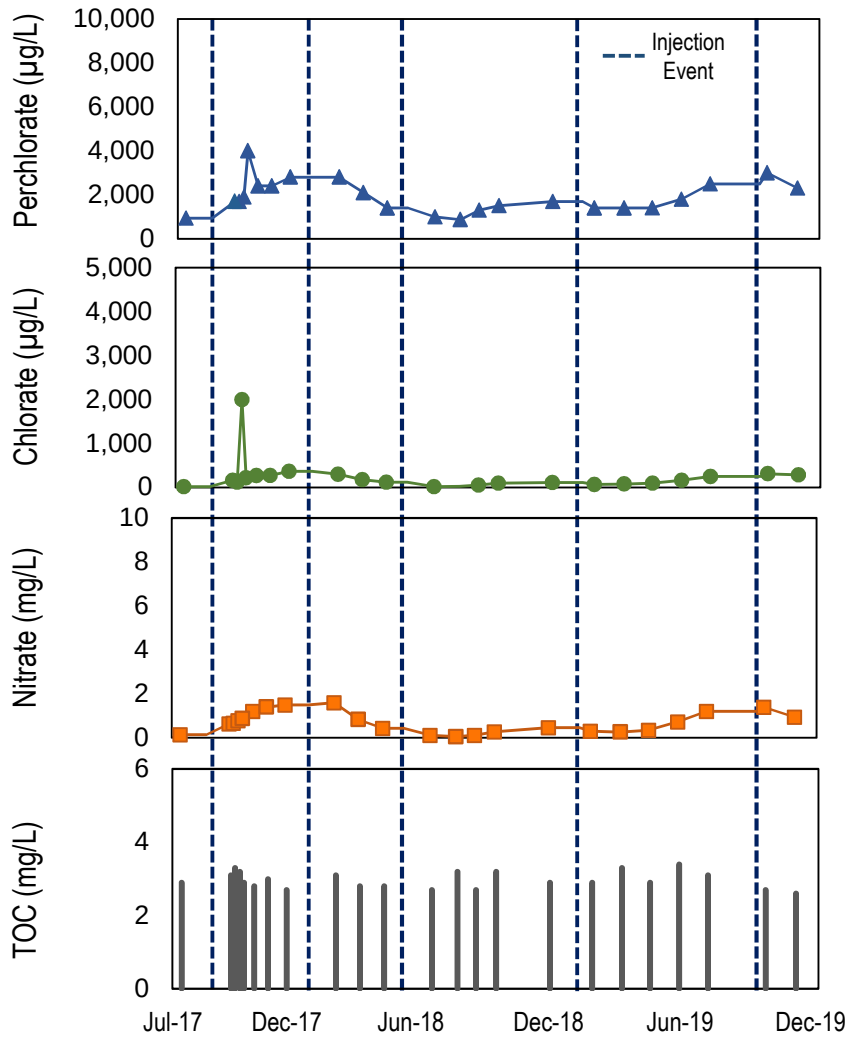
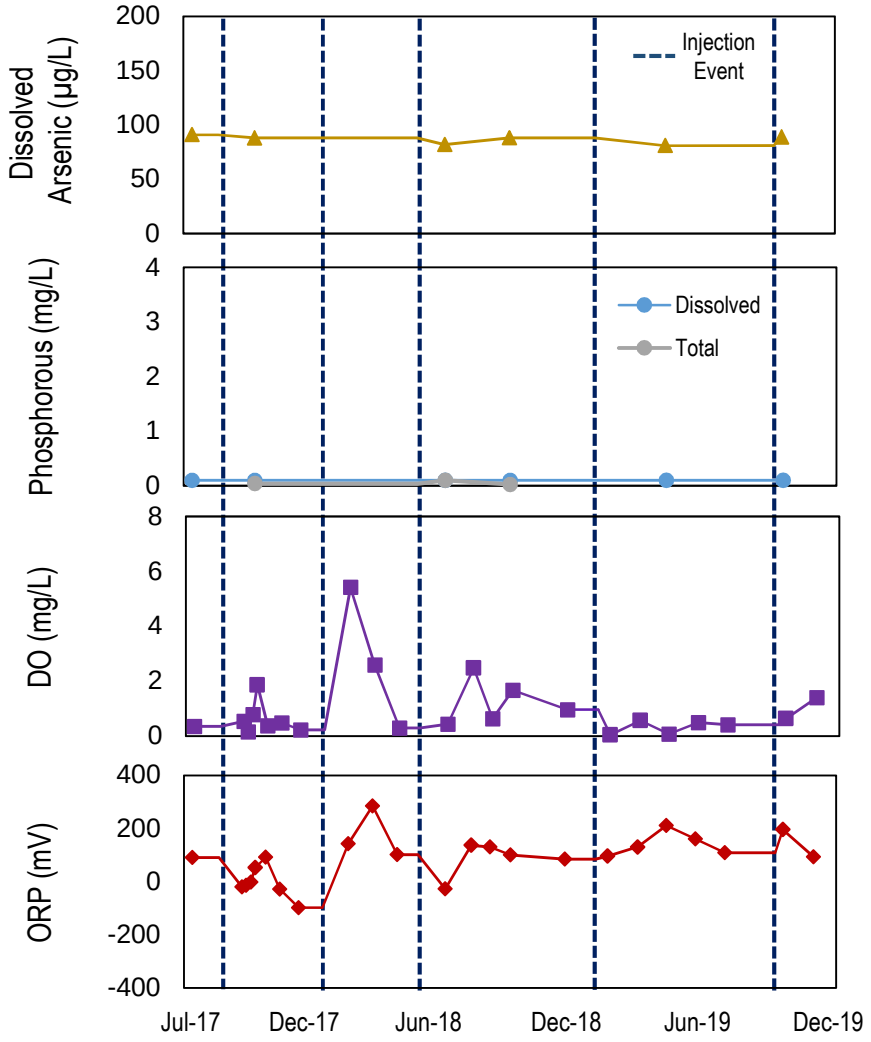
Figure No.
H.32

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW23 is located approximately 500 feet north of the injection well transects. SWFTS-MW23 is considered a side-gradient monitoring well.
3. Monitoring well SWFTS-MW23 is screened in the alluvium from 13.8 to 33.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW23 is approximately 34.2 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW23 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

TETRA TECH
www.tetratech.com
150 S. 4th Street, Unit A
Henderson, Nevada 89015
Phone: (702) 854-2293

NEVADA ENVIRONMENTAL RESPONSE TRUST SITE

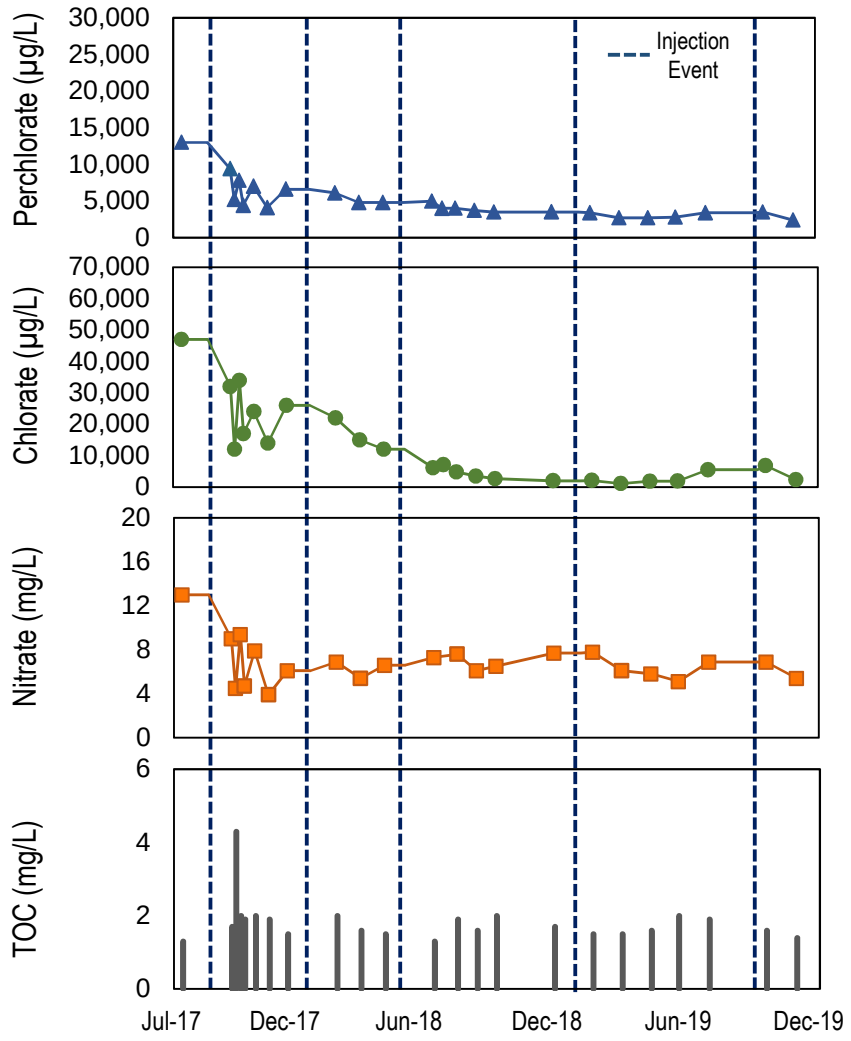
SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

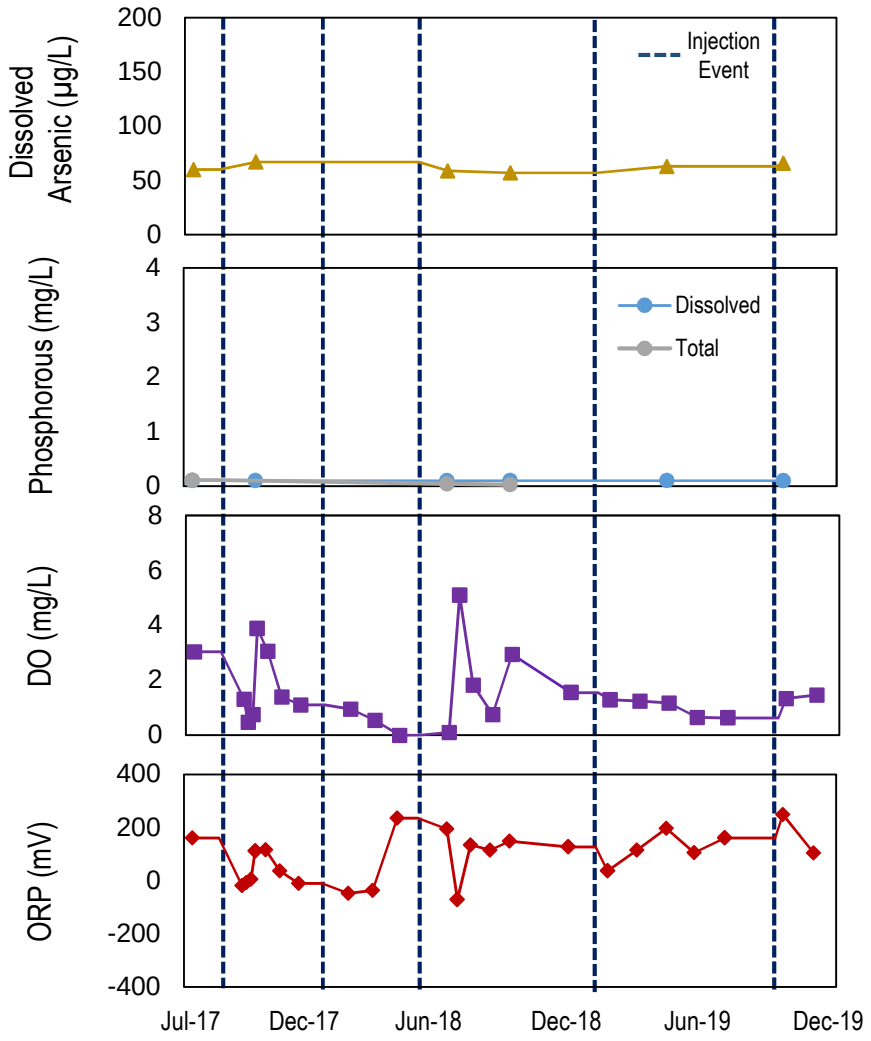
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW23

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.33

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW24 is located approximately 450 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW24 is screened in the alluvium from 12.8 to 37.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW24 is approximately 121.0 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW24 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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NEVADA ENVIRONMENTAL RESPONSE TRUST SITE

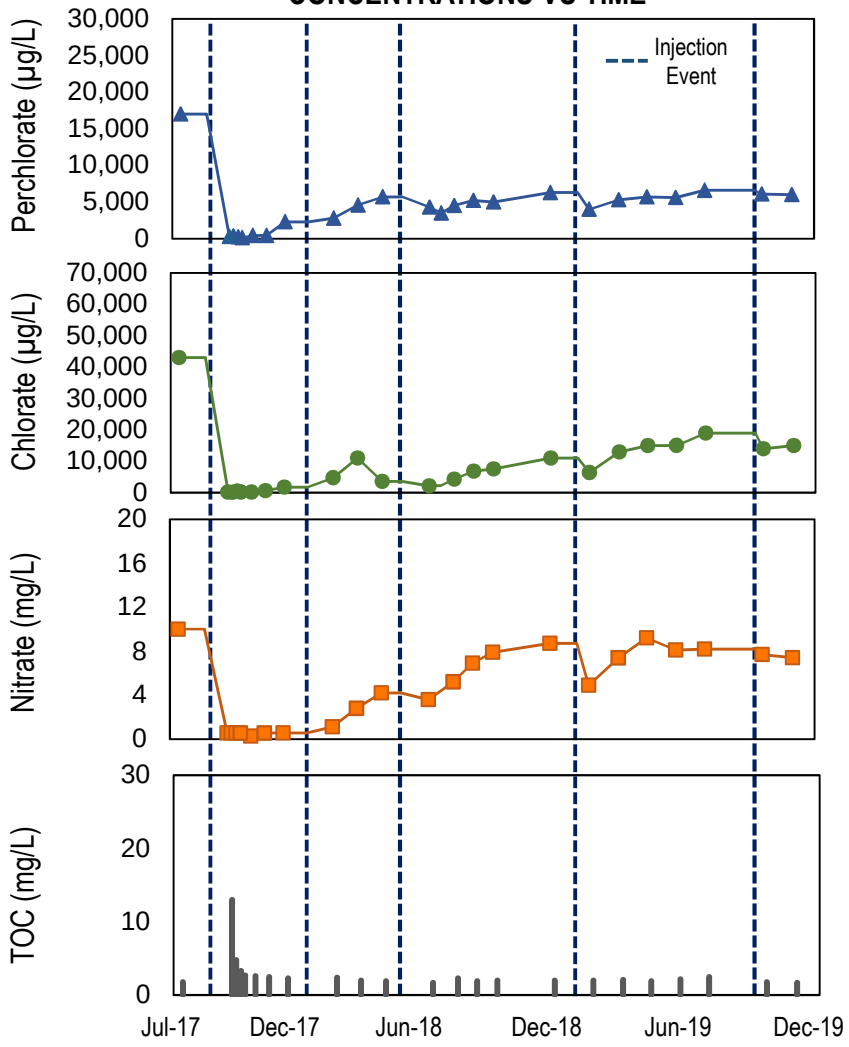
SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

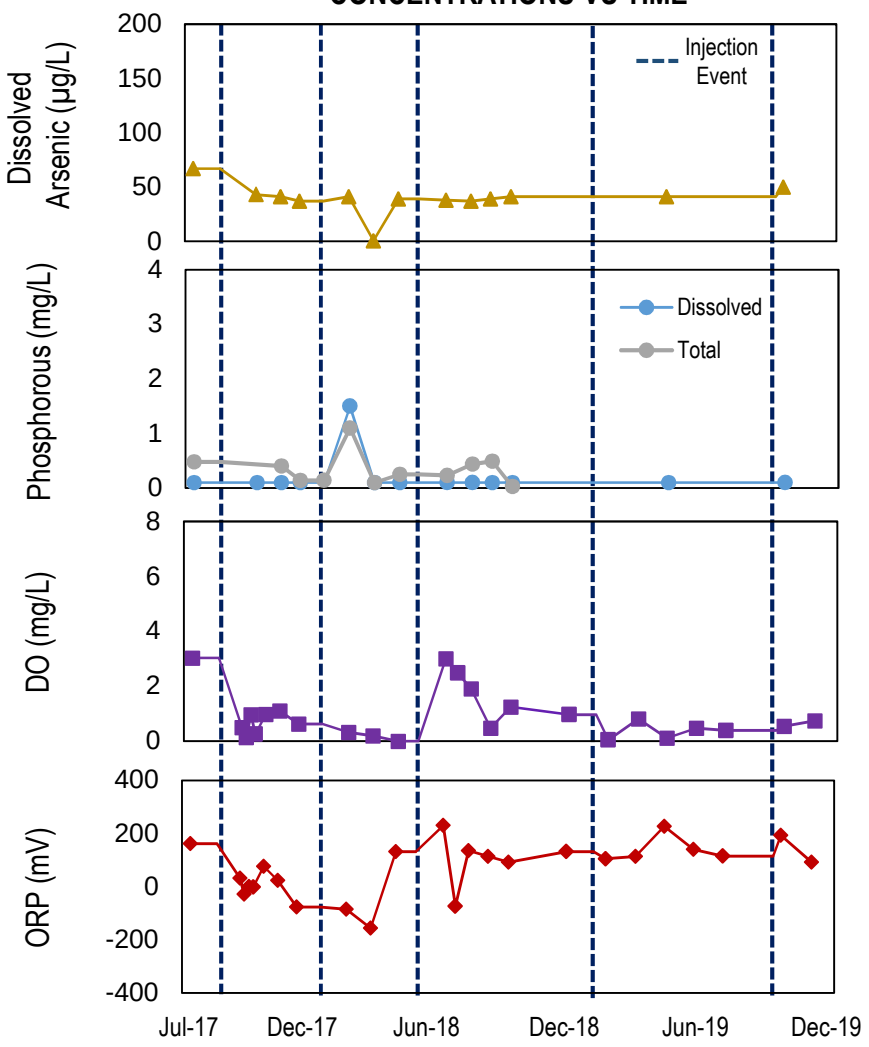
SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW24

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.34

\\tts1346\1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs





Notes:

1. Concentrations projected at time of each injection event are based on data from the previous sampling event.
2. SWFTS-MW25 is located approximately 600 feet downgradient of the injection well transects.
3. Monitoring well SWFTS-MW25 is screened in the alluvium from 12.8 to 42.6 feet bgs.
4. Slug testing suggests hydraulic conductivity at SWFTS-MW25 is approximately 59.1 to 86.2 feet/day.
5. No mobile porosity estimates at monitoring well SWFTS-MW25 were measured.

Abbreviations: µg/L – microgram per liter amsl – above mean sea level mg/L – milligram per liter TOC – Total Organic Carbon DO – Dissolved Oxygen ORP – Oxidation-Reduction Potential

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Phone: (702) 854-2293

NEVADA ENVIRONMENTAL RESPONSE TRUST SITE

SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

SUMMARY OF EFFECTIVENESS MONITORING RESULTS FOR SWFTS-MW25

Project No.:	117-7502018
Date:	APRIL 2, 2020
Designed By:	SS

Figure No.
H.35

\\tts134fs1\SUP-Projects\520225_NERT\Seep Area Bio\Results Report\Graphs

Appendix I
Microbial Analysis Report

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client:	Valerie Bogle Tetra Tech , Inc. 1093 Commerce Park Drive Suite 100 Oak Ridge, TN 37830	**Phone:** **Fax:**	865-535-2030 865-482-6052

Identifier: 095PK **Date Rec:** 11/29/2018 **Report Date:** 12/06/2018

Client Project #: M11-CWP-03 WA5 **Client Project Name:** SWFTS

Purchase Order #: 117-7502018-M11-CWP-03

Analysis Requested: CENSUS, PLFA, Standard Bio-Trap

Reviewed By:

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Tetra Tech , Inc.**
Project: SWFTS

MI Project Number: **095PK**
Date Received: 11/29/2018

Sample Information

Client Sample ID:		**SWFTS-IW6A-2 0181128**	**SWFTS-IW11-2 0181128**	**SWFTS-IW20-2 0181128**
Sample Date:		11/28/2018	11/28/2018	11/28/2018
Units:		cells/bead	cells/bead	cells/bead
Analyst/Reviewer:		JS	JS	JS
Functional Genes				
Perchlorate Reductase	pcrA	<2.50E+02	<2.50E+02	<2.50E+02

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **11/29/2018**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
pcrA	11/29/2018	12/06/2018	2 °C	101%	non-detect	non-detect

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Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Valerie Bogle
Tetra Tech , Inc.
1093 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

Phone: 865-535-2030

Fax: 865-482-6052

Identifier: 095PK **Date Rec:** 11/29/2018 **Report Date:** 12/07/2018

Client Project #: M11-CWP-03 WA5 **Client Project Name:** SWFTS

Purchase Order #: 117-7502018-M11-CWP-03

Analysis Requested: CENSUS, PLFA, Standard Bio-Trap

Reviewed By:

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **Tetra Tech , Inc.**
Project: SWFTS

MI Project Number: **095PK**
Date Received: 11/29/2018

Sample Information

Sample Name:	**SWFTS-IW6A-20181128**	**SWFTS-IW11-20181128**	**SWFTS-IW20-20181128**
Sample Date:	11/28/2018	11/28/2018	11/28/2018
Sample Matrix:	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap
Analyst/Reviewer:	KH	KH	KH

Biomass Concentrations

Total Biomass (cells/bead)	**2.48E+06**	**2.48E+06**	**3.00E+06**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**19.40**	**20.30**	**20.54**
Proteobacteria (Monos)	**46.92**	**50.80**	**46.11**
Anaerobic metal reducers (BrMonos)	**2.03**	**1.50**	**1.02**
SRB/Actinomycetes (MidBrSats)	**3.09**	**1.67**	**1.30**
General (Nsats)	**27.08**	**24.16**	**28.21**
Eukaryotes (polyenoics)	**1.48**	**1.60**	**2.80**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.31**	**0.16**	**0.43**
Decreased Permeability	**0.10**	**0.08**	**0.15**

Legend:
NA = Not Analyzed NS = Not Sampled

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **Tetra Tech , Inc.**
Project: SWFTS

MI Project Number: **095PK**
Date Received: 11/29/2018

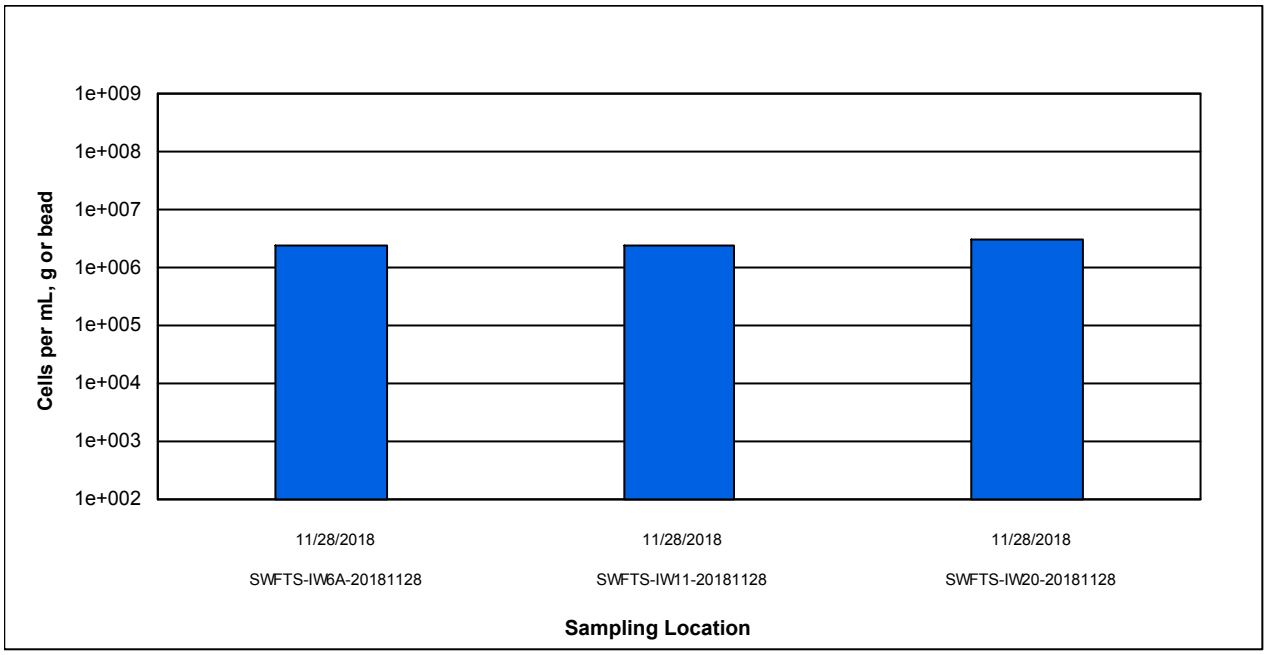

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

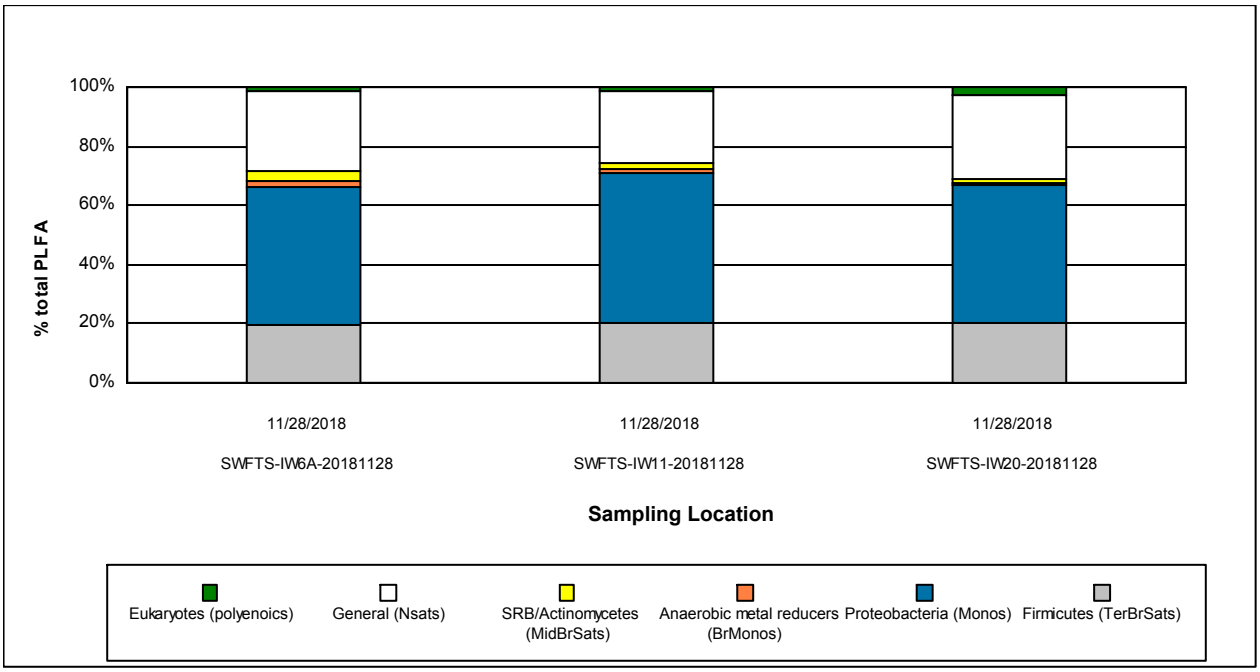

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

Quality Assurance/Quality Control Data

Samples Received **11/29/2018**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
PLFA	11/29/2018	12/07/2018	2 °C	112%	non-detect	non-detect

REPORT TO:

Name: Valerie Vogle
Company: TetraTech
Address: 1093 Commerce Park Dr.
Suite 100
Oak Ridge, TN 37830
email:
Phone: 865-483-900
Fax:

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name:
Company:
Address:
email:
Phone:
Fax:

microbialinsights
10515 Research Dr
Knoxville, TN 37932
865-573-8188
www.microbe.com

Project Manager: Dana Grady
Project Name: SWFTS
Project No.: MII

Purchase Order No.
Subcontract No.
MI Quote No.

Please Check One:
☒ More samples to follow
☐ No Additional Samples

Report Type: ☒ Standard (default) ☐ Microbial Insights Level III raw data (15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive (15%) ☐ Historical Interpretive (35%)

EDD type: ☒ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																							
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (bvc, tca, vcr)	DHBt (Dehalobacter)	DHG (Dehalogenimonas)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Dentrifiers-nirS and nirK)	AMO (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Napthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	RNA (Expression Option)*	Other: Perchlorate reductase	Other:	Other:
095PK1	SWFTS-IW6A	11/28/18	0926	W	1	X																									X		
2	SWFTS-IW11	11/28/18	0923	W	1	X																									X		
3	SWFTS-IW20	11/28/18	0934	W	1	X																									X		

Relinquished by: Date 11/28/2018
Received by: Fed. Exp. Date 11/28/2018 11/29/18

It is vital that chain of custody is filled out correctly & that all relative information is provided.
Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

* additional cost and sample preservation are associated with RNA samples.

**Saturday delivery: See sampling protocol for alternate shipping address.

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Valerie Bogle
Tetra Tech, Inc.
1093 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

Phone: 865-535-2030

Fax: 865-482-6052

Identifier: 016RA **Date Rec:** 01/09/2020 **Report Date:** 01/15/2020

Client Project #: NERT M11 **Client Project Name:** SWFTS

Purchase Order #: M11-CWP-03-WA6

Analysis Requested: CENSUS, PLFA, Standard Bio-Trap

Reviewed By:

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Tetra Tech, Inc.**
Project: SWFTS

MI Project Number: **016RA**
Date Received: 01/09/2020

Sample Information

Client Sample ID:		**SWFTS-MW09B -20200108**	**SWFTS-IW02A- 20200108**	**SWFTS-MW07A -20200108**	**SWFTS-MW14- 20200108**
Sample Date:		01/08/2020	01/08/2020	01/08/2020	01/08/2020
Units:		cells/bead	cells/bead	cells/bead	cells/bead
Analyst/Reviewer:		HT	HT	HT	HT
Functional Genes					
Perchlorate Reductase	pcrA	<2.50E+02	<2.50E+02	<2.50E+02	<2.50E+02

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **1/9/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
pcrA	01/09/2020	01/15/2020	0 °C	95%	non-detect	non-detect

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Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Valerie Bogle
Tetra Tech, Inc.
1093 Commerce Park Drive
Suite 100
Oak Ridge, TN 37830

Phone: 865-535-2030

Fax: 865-482-6052

Identifier: 016RA **Date Rec:** 01/09/2020 **Report Date:** 01/24/2020

Client Project #: NERT M11 **Client Project Name:** SWFTS

Purchase Order #: M11-CWP-03-WA6

Analysis Requested: CENSUS, PLFA, Standard Bio-Trap

Reviewed By:

Kate Clark

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **Tetra Tech, Inc.**
Project: SWFTS

MI Project Number: **016RA**
Date Received: 01/09/2020

Sample Information

Sample Name:	**SWFTS-MW09B-20200108**	**SWFTS-IW02A-20200108**	**SWFTS-MW07A-20200108**	**SWFTS-MW14-20200108**
Sample Date:	01/08/2020	01/08/2020	01/08/2020	01/08/2020
Sample Matrix:	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap
Analyst/Reviewer:	KH	KH	KH	KH

Biomass Concentrations

Total Biomass (cells/bead)	**7.47E+04**	**7.30E+05**	**7.36E+04**	**1.29E+05**

Community Structure (% total PLFA)

Firmicutes (TerBrSats)	**0.00**	**4.47**	**0.00**	**0.09**
Proteobacteria (Monos)	**37.79**	**65.37**	**60.47**	**39.49**
Anaerobic metal reducers (BrMonos)	**0.00**	**0.94**	**0.00**	**5.79**
SRB/Actinomycetes (MidBrSats)	**0.00**	**0.73**	**0.00**	**6.79**
General (Nsats)	**62.22**	**19.53**	**39.53**	**33.03**
Eukaryotes (polyenoics)	**0.00**	**8.98**	**0.00**	**14.83**

Physiological Status (Proteobacteria only)

Slowed Growth	**0.47**	**0.49**	**0.49**	**1.03**
Decreased Permeability	**0.00**	**1.84**	**1.84**	**1.07**

Legend:
NA = Not Analyzed NS = Not Sampled

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10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: **Tetra Tech, Inc.**
Project: SWFTS

MI Project Number: **016RA**
Date Received: 01/09/2020

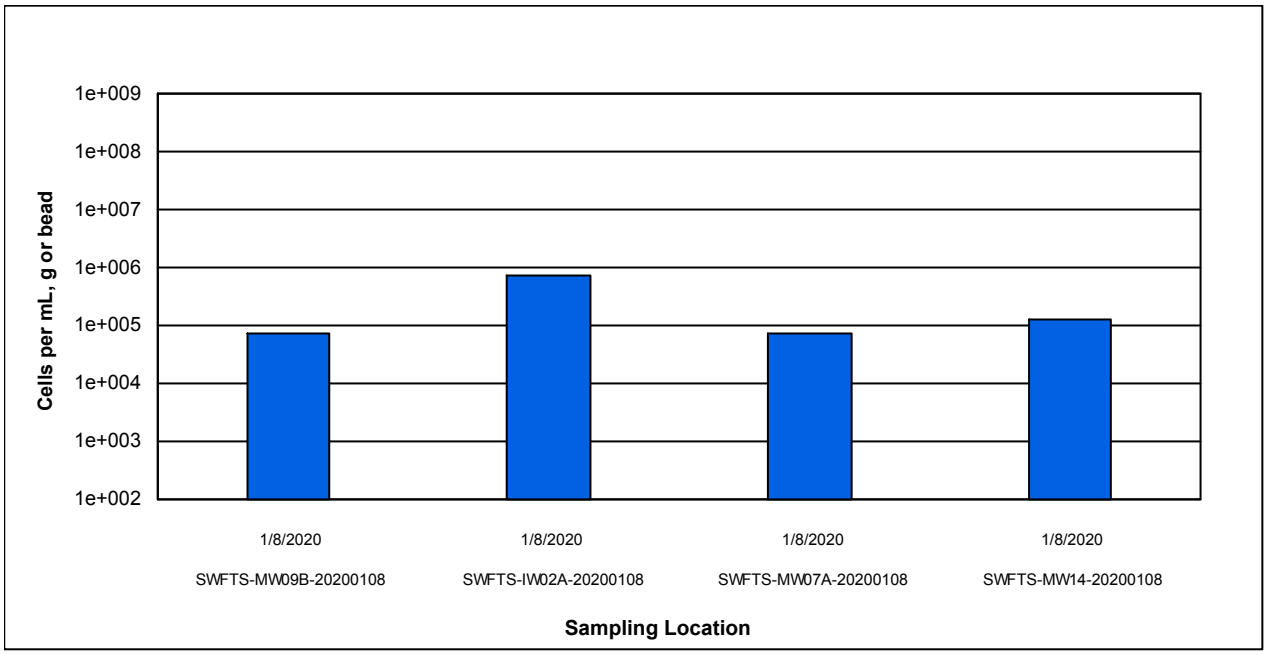

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

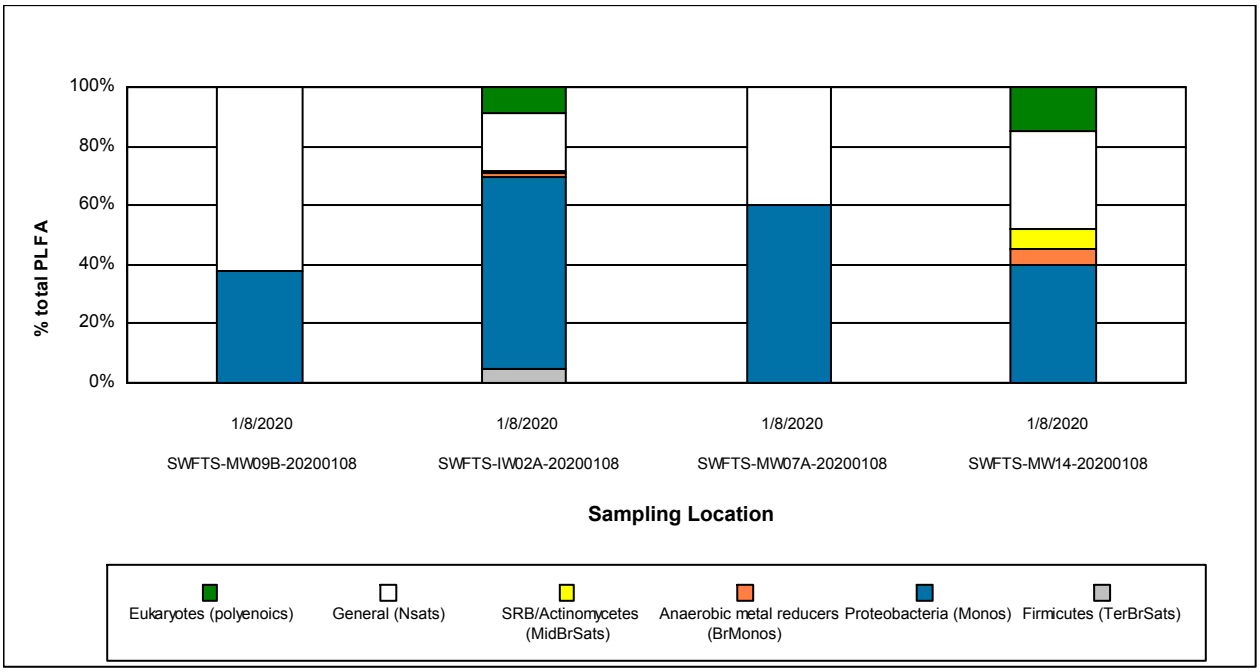

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

Quality Assurance/Quality Control Data

Samples Received **1/9/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
PLFA	01/09/2020	01/24/2020	0 °C	100%	non-detect	non-detect

REPORT TO:

Name: Valerie Bogle
Company: Tetra Tech
Address: 1093 Commerce Park Dr.
Suite 100
Oak Ridge, TN 37830
email:
Phone: 865-483-9900
Fax:

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name:
Company:
Address:
email:
Phone:
Fax:

microbialinsights
10515 Research Dr
Knoxville, TN 37932
865-573-8188
www.microbe.com

Project Manager: Dana Grady
Project Name: SWFTS
Project No.: M11

Purchase Order No.
Subcontract No.
MI Quote No.

Please Check One:
☐ More samples to follow
☐ No Additional Samples

Report Type: ☒ Standard (default) ☐ Microbial Insights Level III raw data(15% surcharge) ☐ Microbial Insights Level IV (25% surcharge) ☐ Comprehensive Interpretive(15%) ☐ Historical Interpretive (35%)

EDD type: ☒ Microbial Insights Standard (default) ☐ All other available EDDs (5% surcharge) Specify EDD Type:

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information						Analyses				CENSUS: Please select the target organism/gene																							
MI ID (Laboratory Use Only)	Sample Name	Date Sampled 1/8/20 (all)	Time Sampled	Matrix	Total Number of Containers	PLFA	NGS	QuantArray Chlor	QuantArray Petro	DHC (Dehalococcoides)	DHC Functional genes (bvc, tce, vcr)	DHBt (Dehalobacter)	DHG (Dehalogenimonas)	DSM (Desulfuromonas)	DSB (Desulfitobacterium)	EBAC (Total)	SRB (Sulfate Reducing Bacteria-APS)	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Dentrifiers-nirS and nirK)	AMO (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Napthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR: Perchlorate reductase	RNA (Expression Option)*	Other:	Other:	Other:
016RA1	SWFTS-MW09B-20200108		1030	W	1	X																							X				
2	SWFTS-IW02A-20200108		1100	W	1	X																							X				
3	SWFTS-MW07A-20200108		1130	W	1	X																							X				
4	SWFTS-MW14-20200108		1200	W	1	X																							X				

Relinquished by: Date 1/8/20 Received by: Date 1/9/20

It is vital that chain of custody is filled out correctly & that all relative information is provided.
Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

Appendix J
Long-Term Water Level Monitoring

TETRA TECH

TECHNICAL MEMORANDUM

To:	**Dana Grady and Ronnie Britto, Tetra Tech**
From:	Sonya Cadle, Audrey Crockett, and Jenny Dabbs, Tetra Tech
Date:	May 18, 2020
Subject:	Long-Term Water Level Monitoring – Seep Well Field Area Bioremediation Treatability Study

1.0 INTRODUCTION

This technical memorandum describes the implementation of long-term water level monitoring as part of the hydrogeological evaluation for the Seep Well Field Area Bioremediation Treatability Study conducted by Tetra Tech, Inc. on behalf of the Nevada Environmental Response Trust. Initial data and results from the long-term water level monitoring were reported in the *Seep Well Field Bioremediation Treatability Study Results Report* (Tetra Tech, 2019). The current reporting period for this report is December 2018 through December 2019.

The locations of the wells instrumented in the treatability study area and the Pond 13 area are shown in ***Figure J.1*** and ***Figure J.2,*** respectively. The objectives of long-term water level monitoring are to characterize seasonal and long-term trends in water levels, to monitor the hydraulic effects of injection into the injection well transects, and to characterize potential changes in vertical gradients over time.

2.0 LONG-TERM WATER LEVEL MONITORING

A total of 10 water level monitoring transducers (In-Situ Rugged TROLL 100) were placed in monitoring wells during implementation of the treatability study. The instrumented locations were chosen to provide coverage across the treatability study area. In some locations, multiple wells in a cluster were instrumented to provide data for characterization of vertical gradients. Transducers were installed in the treatability study area in August 2017, in accordance with the *Seep Well Field Area Bioremediation Treatability Study Work Plan* (Tetra Tech, 2016). Transducers installed at three monitoring wells (SWFTS-MW05B, SWFTS-MW09B, and SWFTS-MW14) were relocated to three alternate monitoring wells (SWFTS-MW03, SWFTS-MW06B, and SWFTS-MW23) in December 2017. One barometric pressure transducer (In-Situ Rugged BaroTROLL) was also deployed for the duration of the treatability study to facilitate the compensation of water level monitoring data for changes in barometric pressure. Instruments were installed prior to the first injection event in August 2017 so that hydraulic responses to injection activities could be measured. The instruments have continued to monitor water levels during subsequent injections in 2017, 2018, and 2019.

Tetra Tech, Inc.
150 S. 4th Street, Unit A, Henderson, NV 89015
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Transducers were also installed in August 2017 in two wells (MW-K5 and PC-98R) in the vicinity of the City of Henderson (COH) Pond 13, which is located upgradient (south) of the treatability study area (see ***Figure J.2***). A second barometric pressure transducer was installed in the Pond 13 area to facilitate the compensation of water level monitoring data for changes in barometric pressure because Pond 13 is significantly south of the treatability study area. These transducers are used to monitor the periodic releases of water to COH Pond 13, located upgradient of the Seep Well Field Treatability Study area.

Table J.1 summarizes the locations and initial deployment dates of transducers. Long-term water level monitoring data have been downloaded periodically. Downloaded transducer data are imported into a database, corrected for barometric pressure, and converted into groundwater elevations for further analysis.

Table J.1. Locations and Deployment Details of Long-Term Water Level Monitoring Transducers

Well	Screened Unit	Transducer Type	Date Installed	Study Area
SWFTS-MW02	Alluvium	In-Situ Rugged TROLL	8/22/2017	SWFTS
SWFTS-MW03	Alluvium	In-Situ Rugged TROLL	12/22/2017	SWFTS
SWFTS-MW06B	Alluvium	In-Situ Rugged TROLL	12/22/2017	SWFTS
SWFTS-MW07B	Alluvium	In-Situ Rugged TROLL	8/14/2017	SWFTS
SWFTS-MW09A	Alluvium	In-Situ Rugged TROLL	8/14/2017	SWFTS
SWFTS-MW10A	Alluvium	In-Situ Rugged TROLL	8/14/2017	SWFTS
SWFTS-MW10C	UMCf	In-Situ Rugged TROLL	8/14/2017	SWFTS
SWFTS-MW15	Alluvium	In-Situ Rugged TROLL and BaroTROLL	8/14/2017	SWFTS
SWFTS-MW23	Alluvium	In-Situ Rugged TROLL	12/22/2017	SWFTS
SWFTS-MW25	Alluvium	In-Situ Rugged TROLL	8/14/2017	SWFTS
PC-98R	Alluvium	In-Situ Rugged TROLL and BaroTroll	8/14/2017	Pond 13
MW-K5	Alluvium	In-Situ Rugged TROLL	8/14/2017	Pond 13

Notes:
UMCf-– Upper Muddy Creek formation
SWFTS – Seep Well Field Treatability Study Area

3.0 TREATABILITY STUDY AREA RESULTS

Data from the treatability study area monitoring wells were downloaded in May 2019 and January 2020 to cover the current reporting period. The data were corrected for barometric pressure and compared to the precipitation data from the nearby C-1 Channel gaging station (United States Geological Survey [USGS] 09419745 C-1 Channel Abv Mouth Nr Henderson, NV), located east of the study area. ***Figure J.3*** provides hydrographs for the treatability study area monitoring wells.

The hydrographs show that all wells were visibly influenced by precipitation. The wells instrumented in the treatability study area are located over 1,000 feet from the Las Vegas Wash, and they appear to be too far away to respond to daily changes in the surface water elevation and flow in the Las Vegas Wash. The preliminary data also indicate that the vertical gradients between the alluvium and Upper Muddy Creek formation (UMCf) in the treatability study area remained relatively stable during the reporting period. Precipitation appears to have the largest influence on water levels at monitoring well SWFTS-MW06B, but a water level rise correlated to precipitation events is observed at all the wells, including monitoring well SWFTS-MW10C, which is screened in the UMCf. These impacts were most noticeable during the precipitation events on February 14 and November 20, 2019.

In addition, most of the instrumented treatability study monitoring wells were visibly influenced by injection events at the site, with the maximum measured response to injection of approximately one foot. The injection events are visually identified on ***Figure J.3***. As expected, the largest responses to injection activities were observed in instrumented monitoring wells located between and immediately downgradient of the two injection well transects (SWFTS-MW02, SWFTS-MW10A, and SWFTS-MW15). Pressure responses decreased with distance away from the injection well transects such that the maximum response observed about 200 feet downgradient was approximately one inch. Injection-related responses are visible as intervals of rapidly changing monitoring well water levels that coincide with the timing of injection events, as shown on ***Figure J.3***.

All instrumented treatability study monitoring wells showed an additional period of somewhat "noisy" monitoring well water levels during the period from May to July 2019, coinciding with the decommissioning and revegetation of the Weir Dewatering Treatment System and the surrounding area (***Figure J.1***). The small but frequent changes are likely in response to the operation of heavy equipment and use of irrigation on the site of the former Weir Dewatering Treatment System.

4.0 POND 13 AREA RESULTS

Data from the transducers installed in monitoring wells in the vicinity of Pond 13 were downloaded in May and August 2018. The Pond 13 area data were corrected for barometric pressure and compared to the precipitation data from the nearby C-1 Channel gaging station (USGS 09419745), located east of the treatability study area. ***Figure J.4*** provides hydrographs for the Pond 13 area monitoring wells.

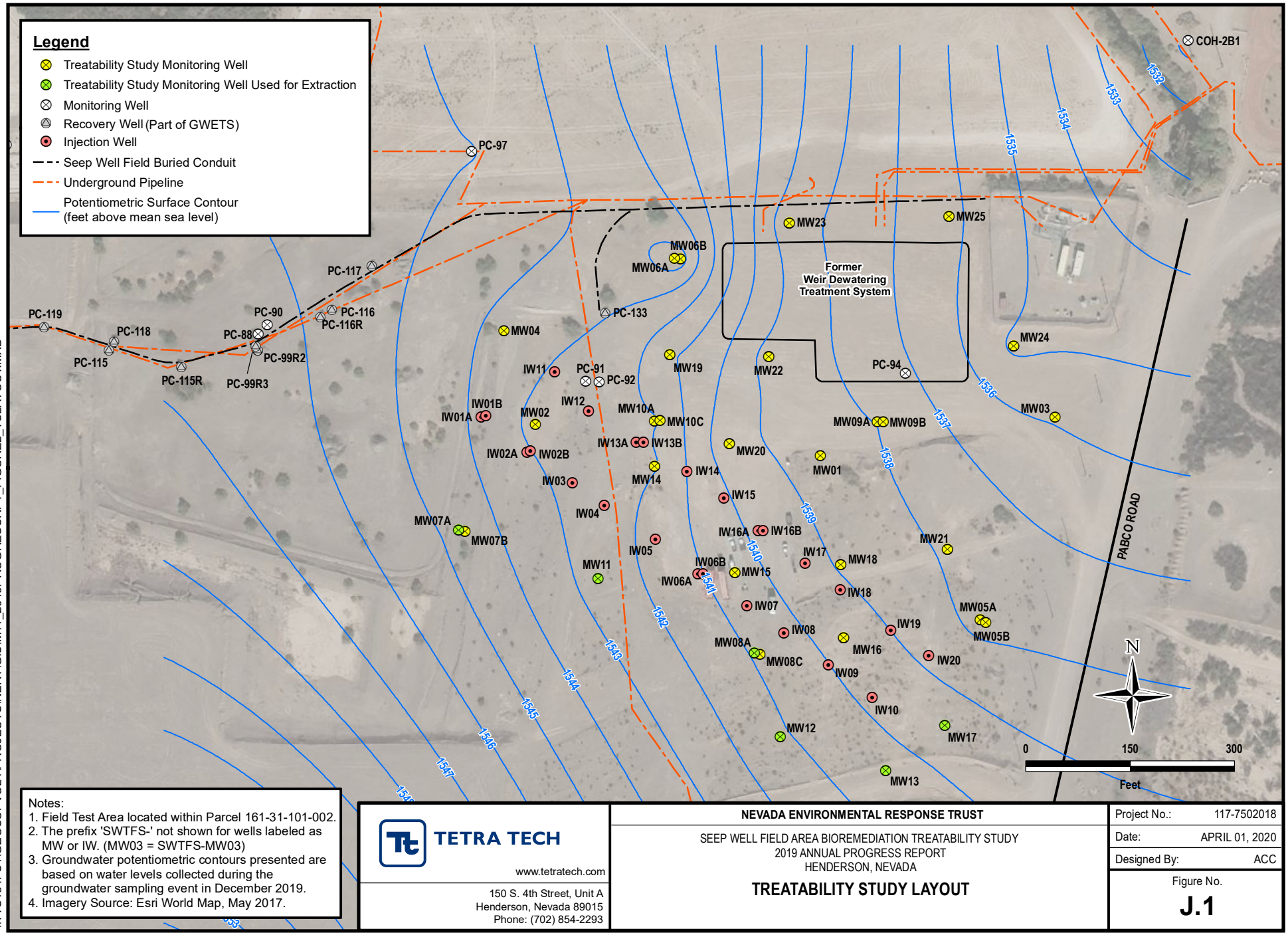
The hydrographs indicate that the Pond 13 area monitoring wells are significantly influenced by the water level in Pond 13. Sudden water level increases of over 10 feet indicate that sizeable releases of treated effluent to COH Pond 13 occurred during September and November 2019; smaller releases are also visible as sudden rises in water level that do not correspond to precipitation events. Monitoring of such releases is important because the treated effluent significantly dilutes perchlorate concentrations that reach the Seep Well Field and treatability study area via groundwater in the paleochannel and via adjacent groundwater outside the paleochannel. Precipitation also appears to have a visible influence on water levels in the Pond 13 area monitoring wells, though not as significant an influence as the treated effluent releases to the nearby Pond 13 area. Precipitation responses are visible as small increases in monitoring well water levels shortly following the precipitation events. Example responses to precipitation events occurred on February 14 and April 29, 2019.

5.0 REFERENCES

Tetra Tech. (2016). *Seep Well Field Treatability Study Work Plan, Nevada Environmental Response Trust Site, Henderson, Nevada.* May 31.

Tetra Tech. (2019). *Seep Well Field Bioremediation Treatability Study Results Report, Nevada Environmental Response Trust Site, Henderson, Nevada.* August 13.

Figures



Notes:
1. Field Test Area located within Parcel 161-31-101-002.
2. The prefix 'SWTFS-' not shown for wells labeled as MW or IW. (MW03 = SWTFS-MW03)
3. Groundwater potentiometric contours presented are based on water levels collected during the groundwater sampling event in December 2019.
4. Imagery Source: Esri World Map, May 2017.

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NEVADA ENVIRONMENTAL RESPONSE TRUST

SEEP WELL FIELD AREA BIOREMEDIATION TREATABILITY STUDY
2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

TREATABILITY STUDY LAYOUT

Project No.:	117-7502018
Date:	APRIL 01, 2020
Designed By:	ACC

Figure No.
J.1

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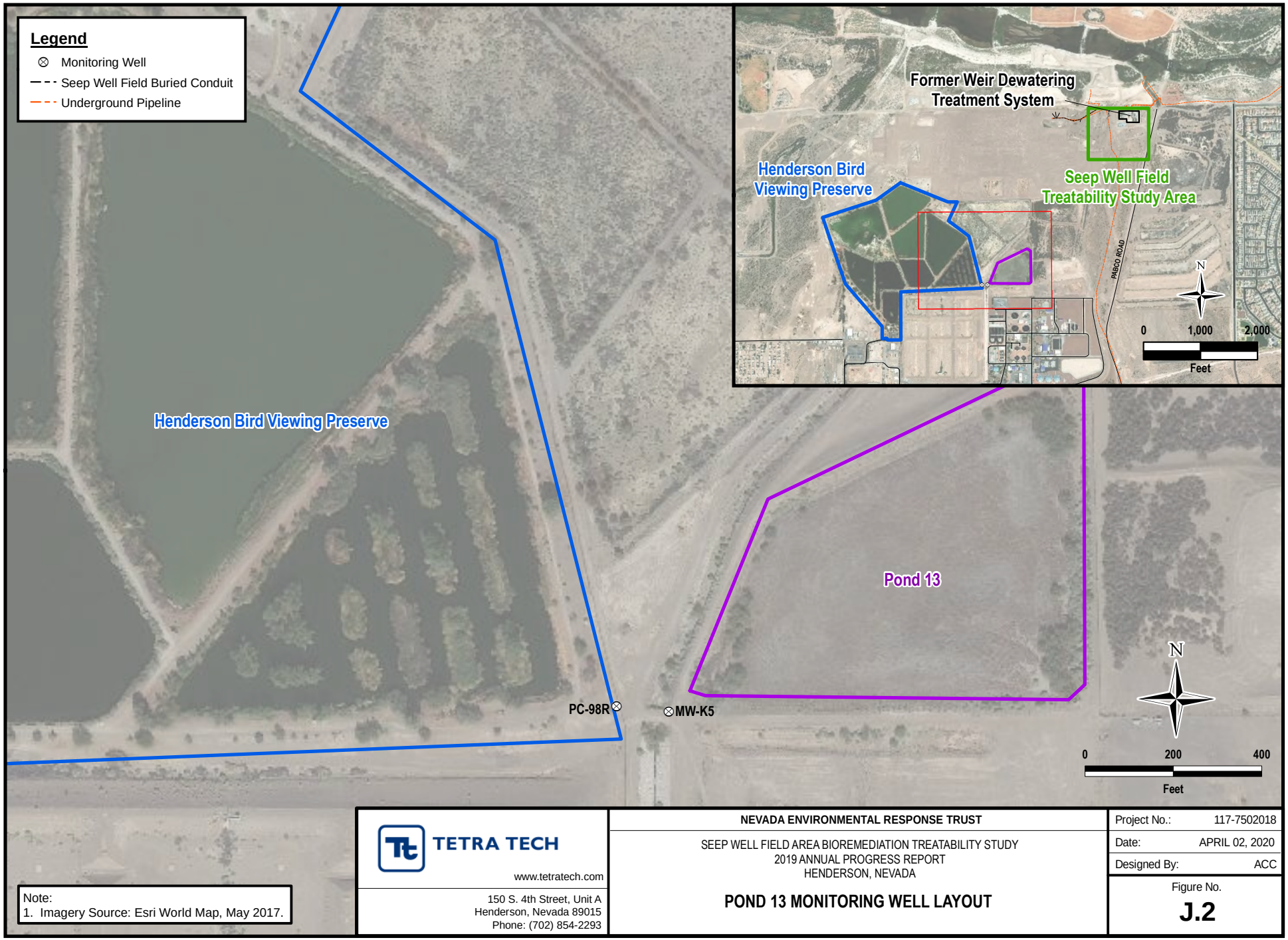

Note:
1. Imagery Source: Esri World Map, May 2017.

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NEVADA ENVIRONMENTAL RESPONSE TRUST

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2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

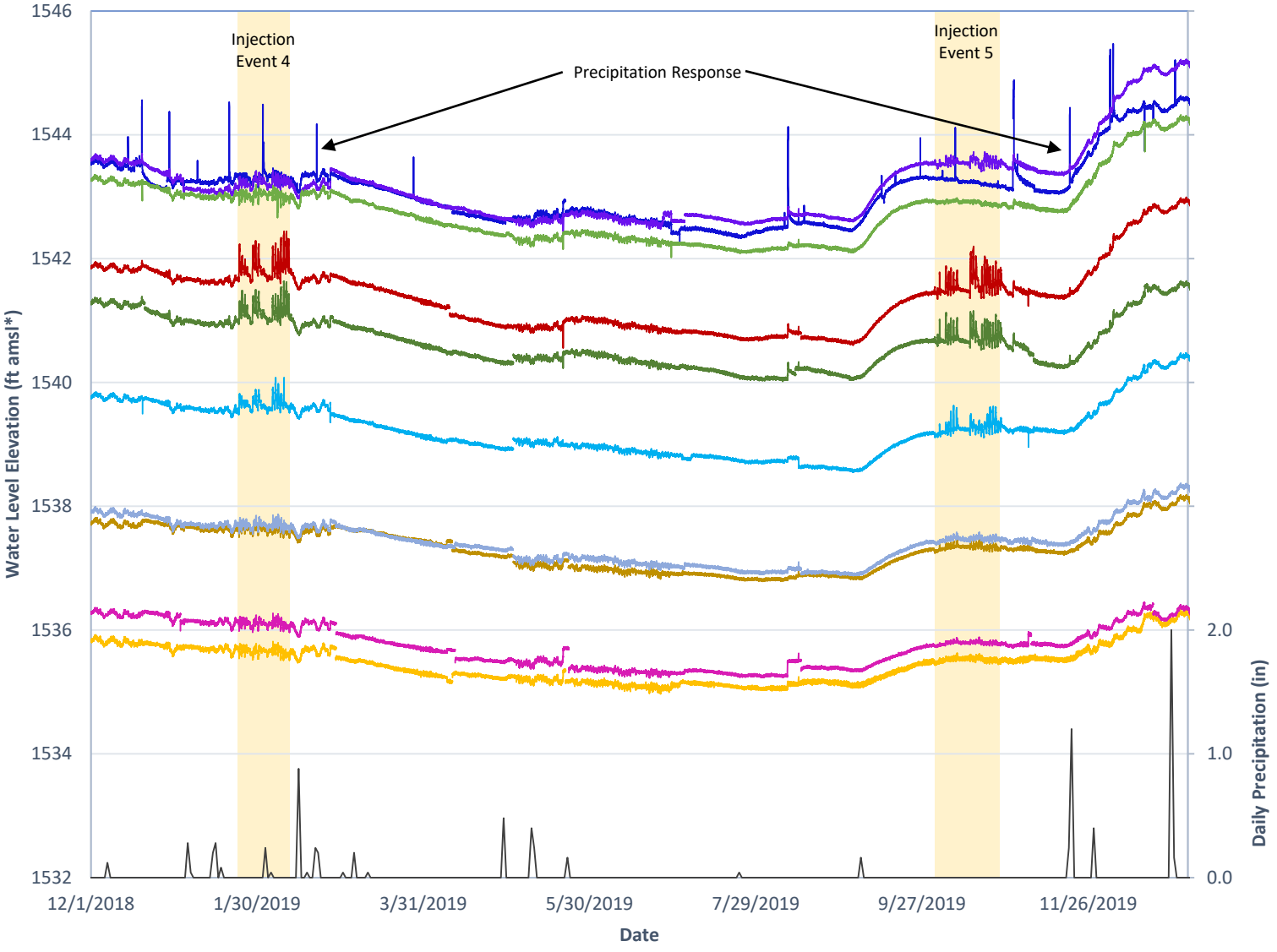
POND 13 MONITORING WELL LAYOUT

Project No.:	117-7502018
Date:	APRIL 02, 2020
Designed By:	ACC

Figure No.
J.2

T:\NERT\M11\NERT_GIS\RESULTS FIGURES\POND13_LOCATION_V2.MXD

Water Level Elevations in SWFTS Wells



Legend

C-1 Channel Precipitation Gauge

Groundwater

- SWFTS-MW02
- SWFTS-MW03
- SWFTS-MW06B
- SWFTS-MW07B
- SWFTS-MW09A
- SWFTS-MW10A
- SWFTS-MW10C
- SWFTS-MW15
- SWFTS-MW23
- SWFTS-MW25

*amsl – above mean sea level

Precipitation data obtained 02/06/2020 from waterdata.usgs.gov, United States Geological Survey gauging station 09419745 C-1 CHANNEL ABV MOUTH NR Henderson, NV.

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2019 ANNUAL PROGRESS REPORT
HENDERSON, NEVADA

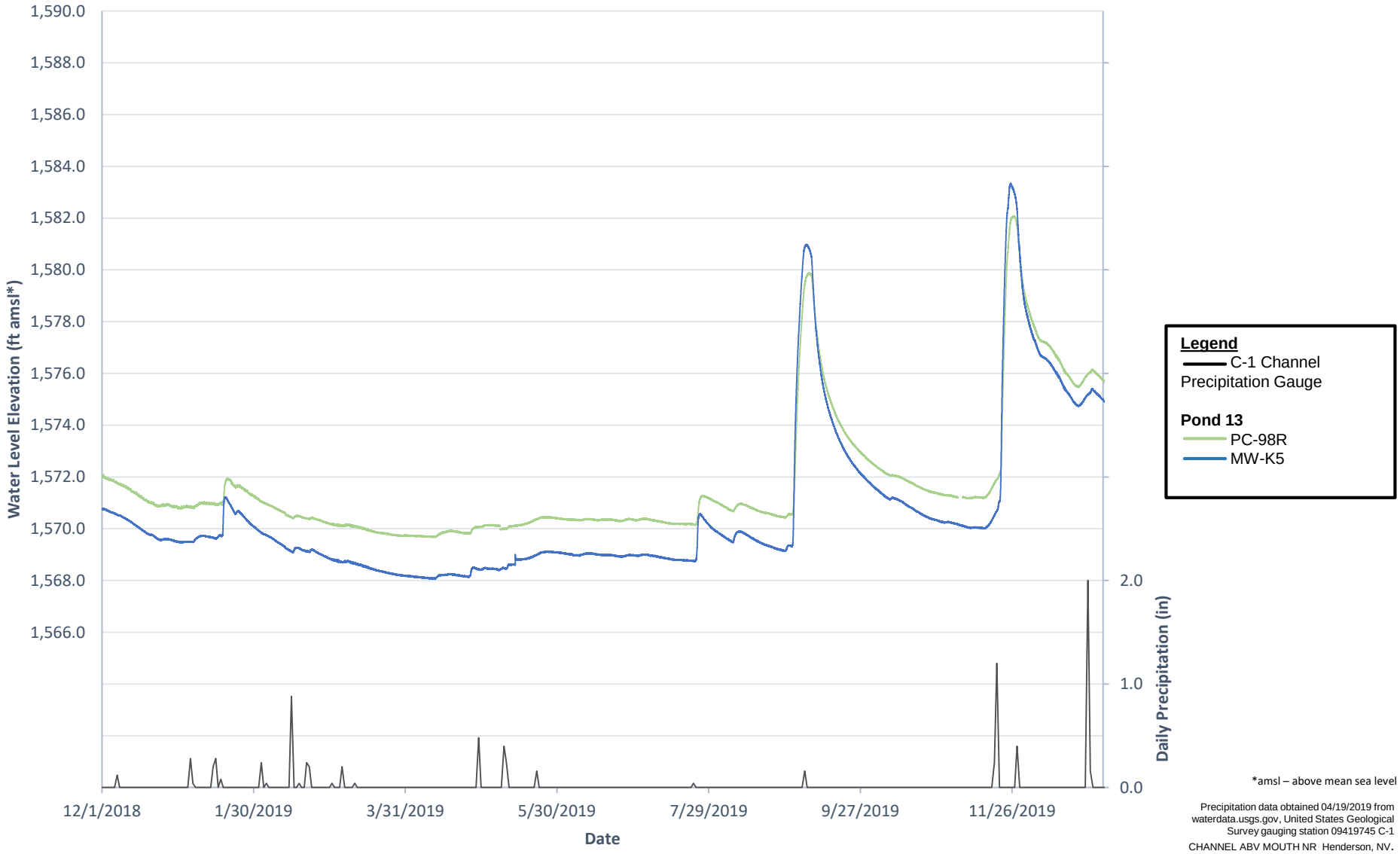
HYDROGRAPH FOR SWFTS MONITORING WELLS

Project No.:	117-7502018
Date:	
Designed By:	ACC

Figure No.

J.3

Water Level Elevations in SWFTS Wells



*amsl – above mean sea level

Precipitation data obtained 04/19/2019 from waterdata.usgs.gov, United States Geological Survey gauging station 09419745 C-1 CHANNEL ABV MOUTH NR Henderson, NV.

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HYDROGRAPH FOR POND 13 MONITORING WELLS

Project No.:	117-7502018
Date:	
Designed By:	ACC

Figure No.

J.4

Appendix K
Performance Criteria Tables

Table K.1. **Performance Criteria**

Performance Criteria	Description	Primary or Secondary
Contaminant Reduction	Evaluate the feasibility and effectiveness of implementing ISB to reduce the perchlorate and chlorate mass flux in an area located east of the Seep Well Field (SWF); Determined by evaluating concentration trends of the primary contaminants of perchlorate and chlorate.	Primary
Distribution and Implementability	• Estimate the overall influence of substrate injection and biodegradation achievable in the areas downgradient of the injections during the treatability study. • Evaluate the distribution of electron donor in groundwater through evidence of contaminant reduction and reducing conditions in downgradient monitoring wells and future evaluation of soil borings (including detailed chemical and biogeochemical analyses of soil samples) installed in the vicinity of the injection wells.	Primary
Carbon Substrate Longevity and Frequency of Injections	Estimation or extrapolation of the longevity of the carbon substrate and frequency of carbon substrate replenishment required to reduce perchlorate contamination immediately downgradient of the treatability study injection transect.	Primary
Factors Affecting Technology Performance	Hydrogeologic characteristics including: • Presence of paleochannels in select areas, • Vertical gradients, • Presence of low-permeability lenses or layers that may affect the vertical and lateral distribution of injected substrates, and • Variable lithological characteristics that may result in zones where limited treatment may occur for a while until gradual attainment of reducing conditions throughout the area is achieved or addition of more injection points in perceived “dead or disconnected” zones can be established. Chemical and biogeochemical characteristics including: • Contaminant concentrations and distributions, • Presence of high quantities of sulfate, resulting in sulfate reducing conditions and over consumption of the carbon substrate, and • Secondary mobilization of key metals, such as iron, manganese, and arsenic.	Primary

Table K.1. **Performance Criteria**

Performance Criteria	Description	Primary or Secondary
Operations and Maintenance	Tasks associated with operations and maintenance (O&M) of the system include: • Monitoring injection rates and pressures at each injection well as well as injectate solution consistency during carbon substrate injections. • Evaluation of batch and in-line mixing operations. • Periodic Injection Well Maintenance (as required) to maintain long-term injectability.	Primary
Adaptability	An ISB system has been previously tested within a paleochannel for remediation of perchlorate and chlorate. With this study, the technology is being examined for ISB within a different geologic setting and a larger area within the alluvium where there is still considerable heterogeneity. This study coupled with future studies being conducted in a source area, large paleochannel near the Las Vegas Wash, and the UMCf will attest to the potential versatility of the ISB technology for remediation purposes.	Secondary
Scale-Up Considerations	The treatability study was designed to treat a relatively small area within the alluvium. Scale-up to meet the requirements of full-scale site remediation would involve treatability and/or pilot studies performed for a variety of site conditions that are likely to be encountered during full-scale remediation, such as source areas, deep and wide paleochannels, varying lithology of alluvium and/or UMCf, and unique geochemical conditions (i.e., high TDS and sulfate concentrations). Due to the high level of heterogeneity at the site, on-going treatability and pilot studies are being performed to evaluate the effectiveness of ISB in a variety of these settings.	Secondary

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
Primary Criteria (Quantitative)			
Contaminant Reduction	<u>Perchlorate:</u> • Reductions observed in perchlorate concentrations in groundwater samples collected from monitoring wells located in between and downgradient of the injection well transects. Effectiveness monitoring results will compare post-injection concentrations to baseline concentrations prior to injections. • Evaluation of the ability of ISB to achieve a reduction in perchlorate concentrations to less the perchlorate federal preliminary remedial goal (PRG) of 15 micrograms per liter (µg/L).	• EPA Standard Method 314.0 (Perchlorate)	• Significant reduction in perchlorate concentrations in groundwater samples collected from downgradient monitoring wells were observed throughout the reporting period. • Groundwater concentrations below the perchlorate PRG of 15 µg/L was attained and sustained at multiple groundwater monitoring well locations. • Mass estimates indicated that approximately 2,748 pounds of perchlorate were destroyed during the initial 14-month treatability study timeframe. Following the initial large mass reduction after the first injection event, the sustained average perchlorate mass flux treated was approximately 3 pounds per day. The mass destroyed during the reporting period of November 2018 through December 2019 was approximately 784 pounds, which is less than the daily average previously observed. This is due to the upgradient groundwater perchlorate concentrations that are entering the treatment area being at lower concentrations than the concentrations observed during the previous reporting period. Fluctuations in upgradient perchlorate concentrations are commonly observed within the study area.
	<u>Chlorate and Nitrate:</u> • Reductions observed in chlorate concentrations in groundwater samples collected from monitoring wells located in between and downgradient of the injection well transects. Effectiveness monitoring results will compare post-injection concentrations to baseline concentrations prior to injections.	• EPA Standard Method 300.0 (Nitrate-N) • EPA Method 300.1 (Chlorate)	• Chlorate concentration trends followed a similar reducing pattern as the perchlorate concentration trends (up to 99% decrease when compared to baseline concentrations in groundwater from several locations). • Groundwater chlorate concentrations below the sample detection limit were regularly reported in several monitoring wells during the reporting period. • Groundwater nitrate concentrations were observed up to 18 milligrams per liter (mg/L) during baseline sampling. Following the fourth and fifth injection events, groundwater nitrate

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
	• Reductions observed in nitrate concentrations in groundwater samples collected from monitoring wells located in between and downgradient of the injection well transects. Effectiveness monitoring results will compare post-injection concentrations to baseline concentrations prior to injections. Nitrate is evaluated throughout the study since it is the most likely competing electron acceptor and perchlorate and chlorate biodegradation generally commences when denitrification is complete.		concentrations had reduced by an average of 50% when compared to their baseline concentrations.
Distribution and Implementability	<u>Overall System Performance:</u> • Observe the overall influence of substrate injection and biodegradation achievable in the areas downgradient of the injection well transect through evidence of contaminant reduction and reducing conditions in downgradient monitoring wells. • Evaluate the distribution of electron donor in groundwater and coating of the EVO to the soil grains.	• Experience from demonstration • EPA Standard Method 314.0 (Perchlorate) • EPA Method 300.0 (Nitrate-N) • EPA Method 300.1 (Chlorate)	• Perchlorate, chlorate, and nitrate concentration reductions were observed in groundwater samples collected from monitoring wells located between the injection well transects as well as monitoring wells located up to 600 feet downgradient of the injection well transect immediately following the first injection event. • Groundwater samples collected from monitoring well SWFTS-MW15, located between the injection well transects continues to exhibit fluctuations in perchlorate and chlorate concentrations. It is possible that subsurface lithological and geochemical heterogeneity, potential back diffusion from the Upper Muddy Creek formation (UMCf), as well as fluctuations in injection rates and pressures from upgradient injection wells, could be the cause of these local variations and fluctuations.
Carbon Substrate Longevity and Frequency of Injections	• Observe concentration rebounds following injection events to evaluate carbon substrate injection frequency to maintain a biologically active zone.	• Experience from demonstration	• The injection frequency has decreased over time (i.e., more months in between injection events) while still sustaining a biologically active zone that is degrading substantial perchlorate and chlorate in groundwater. Initial injections were spaced approximately four months apart but are now approximately once

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
	• Monitor concentration reductions with varying injection quantities to determine optimal quantities of carbon substrate for subsequent injection events to maintain a biologically active zone.	• EPA Standard Method 314.0 (Perchlorate) • EPA Method 300.0 (Nitrate) • EPA Method 300.1 (Chlorate) • SM5310B (TOC)	every seven to eight months. This is an indication that the span between injection events could be extended considerably, provided other conditions such as hydraulic conditions remain fairly consistent and contaminant flux from upgradient locations does not significantly increase. • Over the period of this study extension, the injection frequency and potential adjustments to injection quantities will continue to be evaluated as part of ISB system optimization.
Factors Affecting Technology Performance	<u>Minimal Impacts to Downgradient Groundwater Geochemistry:</u> • Observe concentrations of sulfate since it as an electron acceptor and potential carbon substrate consumer with goal of minimizing the creation of sulfate reducing conditions. • Observe concentrations of metals to evaluate potential secondary mobilization of metals at downgradient locations. • Observe concentrations of phosphorus since it is added to the injectate mixture to serve as a micronutrient to confirm that it is used as a nutrient, absorbed to the soil, or combined with cations such as calcium, rather than increasing its concentration in groundwater.	• EPA Method 300.0 (Sulfate) • SW6010B/6020 (Dissolved Metals) • EPA Method 365.3 (Total Phosphorus)	• Limited sulfate reduction was observed in groundwater from downgradient monitoring wells during the reporting period. This is likely due to the employment of the slow release carbon substrate EOS, designed quantities of injectate, and groundwater flow rates in the setting are relatively high and may not provide sufficient residence time for sulfate biodegradation to occur. Although sulfate reduction has been observed in groundwater from monitoring wells located in between the injection well transects, the level of sulfate reduction has decreased during the reporting period. • Minimal metals mobilization occurred within the treatability study area and therefore, metals mobilization is unlikely to be a secondary issue during the implementation of ISB using EVO as the carbon substrate. Select monitoring wells located in between or immediately downgradient of the injection well transects observed temporary increases in concentrations of arsenic. However, these increases were observed by rapid declines likely because the geochemical conditions created can also promote the production of sulfide from sulfate (even in very small quantities), which likely resulted in the precipitation of arsenic as arsenic sulfide. Similar trends were observed for iron, manganese, and selenium.

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
			• Dissolved phosphorus in groundwater was monitored during the reporting period because a phosphate solution is added to the injectate mixture to serve as a macronutrient for reduced acclimation time for the onset of perchlorate biodegradation. Dissolved phosphorus concentrations in groundwater were generally below the sample detection limit throughout the reporting period, which indicates that the augmented phosphorus was likely used as a nutrient, adsorbed to the soil, or combined with cations such as calcium, rather than increasing its concentration in groundwater. Only groundwater samples collected from monitoring wells SWFTS-MW12 (upgradient) and SWFTS-MW14 (in between the injection well transects) had marginal dissolved phosphorus concentrations, albeit at low concentrations of 1.9 mg/L and 0.2 mg/L, respectively.
Operation and Maintenance	<u>Injection Wells:</u> • Observe injection pressures and injection rates during subsequent injection events • Perform maintenance on select injection well(s) if required (objective to examine maintenance methods and frequencies)	Measurement of pressures and flow in injection wells during injection operations	• The ability of the formation to accept substrate injections following five injection events indicates ISB is a feasible long-term option for groundwater in the alluvium at this site. Over the course of the five injection events, carbon substrate was injected in relatively the same time frames at flows greater than 5 gpm and pressures that were less than the maximum permissible. Injection pressures have gradually increased over the five injection events. Slightly higher injection pressures during subsequent injections is common and expected with ISB as a normal response to the engineered biomass growth on the subsurface media. • During the fourth injection event, 2 of the 25 injection wells did not accept injectate at the maximum permissible injection pressure. As a result, the first injection well maintenance event was performed in September 2019, which included testing a range of maintenance techniques on nine injection wells, which included the two injection wells that did not accept injectate during the fourth event. The remaining seven wells continued to accept

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
			injectate during the fourth event but had an increased pressure and slightly decreased injection rate, therefore, making them ideal for maintenance testing. Maintenance testing included evaluation of surge and bail, hydrojetting, and a combination of surge, bail, hydrojetting, and chemical addition. Following completion of well maintenance, injection pressures and flow rates were monitored and recorded during both a short-term water injection test and injection event 5, with results compared to previous injection events to evaluate increased injectability. Results indicated that eight of the nine injection wells selected for well maintenance demonstrated improved injectability. Injection well SWFTS-IW19, which did not accept injectate during the fourth injection event, substantially improved and exhibited an average injection rate of 10 gpm during injection event 5. The only injection well that did not demonstrate improved injectability was SWFTS-IW13B, which did not accept injectate during the fourth and fifth injection events. However, the post-maintenance specific capacity testing results did show a slight improvement when compared to the pre-maintenance results indicating that this injection well can be amenable to injection well maintenance but may require slightly more aggressive cleaning and chemical addition[1].
Secondary Criteria (Qualitative)			
Adaptability	• Use at other locations associated with the NERT site • Use with other lithological, chemical, and/or geochemical settings.	Experience from demonstration	This treatability study extension continues to evaluate implementation, effectiveness, and long-term operation and maintenance of ISB in an alluvial environment (as described in previous performance criteria). Other on-going studies will evaluate adaptability of ISB as follows:

[1] Subsequent to this reporting period, injection well maintenance was performed in February 2020 on injection well SWFTS-IW13B using the combination of surge and bail, hydrojetting, and chemical addition. This injection well was successfully restored, with post-maintenance water injection testing indicating an injection rate of up to 9 gpm."

Table K.2. **Performance Metrics and Demonstrations**

Performance Criteria	Performance Metric	Performance Confirmation Method	Performance Demonstration
			• Unit 4 Source Area Bioremediation Treatability Study – ISB applied in a source area with high concentrations of perchlorate, chlorate, hexavalent chromium, and total dissolved solids. • Las Vegas Wash Bioremediation Pilot Study – Applied in large deep paleochannels and deep UMCf/UMCf-cg.
Scale-up Considerations	• Equipment; • Injection and monitoring well layout; • Injection activities; • Analytical sampling evaluation criteria.	Experience from demonstration	Based on the work performed associated with this treatability study and lessons learned to-date, the following items should be considered when scaling up the ISB technology: • Extent of areas selected for ISB treatment; • Depths and lithology targeted in each area selected for ISB treatment (i.e., different carbon dosing and frequencies for alluvium, paleochannels, UMCf, etc); • Presence of buildings or other surface structures in the selected areas which make the installation of and access to injection wells more difficult; • RAOs selected (i.e., source reduction or downgradient barrier treatment to achieve a specified cleanup goal such as the federal PRG of 15 µg/L); • Potential combination of ISB with other technologies; • Supply and demand to various technology components, such as EVO; • Potential cost efficiencies/discounts gained through Trust negotiations with consultants and/or vendors. • Potential back diffusion or upflux from the UMCf and understanding its impact; • Pros and cons of batch versus in-line mixing and finalizing operational aspects; and • Long-term understanding of substrate injection well pressures and flows.