

# TECHNICAL MEMORANDUM

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**To:** Nevada Environmental Response Trust

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**Cc:** Nevada Division of Environmental Protection  
United States Environmental Protection Agency

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**From:** Dan Pastor and Dana Grady

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**Date:** December 20, 2018

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**Subject:** Seep Well Field Area Bioremediation Treatability Study Monthly Progress Report

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At the direction of the Nevada Environmental Response Trust (NERT or Trust), Tetra Tech, Inc. (Tetra Tech) has prepared this memorandum which summarizes Tetra Tech's progress during October 2018 toward successfully implementing the Seep Well Field (SWF) Area Bioremediation Treatability Study.

## Task Progress Update: October 2018

### Task M11 – Seep Well Field Area Bioremediation Treatability Study (SWFTS)

- Task Leader – Dana Grady/Dan Pastor
- Current Status
  - Results of the September 2018 groundwater sampling event (three months following the third injection event) are summarized below. For reference, the attached Figure 1 provides a map of the injection and monitoring well locations, which includes the baseline groundwater potentiometric surface. Well construction details and a summary of the groundwater analytical results for perchlorate, chlorate, nitrate, total organic carbon (TOC), and dissolved oxygen through September 2018 are provided in Tables 1 and 2, respectively.
    - Effectiveness monitoring results continue to indicate that perchlorate concentrations remain at levels significantly below their respective baseline concentrations, with groundwater at 16 of the downgradient monitoring wells showing a greater than 50% reduction in groundwater perchlorate concentrations. Of these 16 monitoring wells, groundwater samples from nine wells observed a greater than 75% reduction in perchlorate concentrations when compared to baseline concentrations, while one well has concentrations less than 15 µg/L (micrograms per liter).
      - Groundwater samples collected from monitoring wells between the injection well transects continued to indicate perchlorate concentration decreases, including very low concentrations in groundwater samples from monitoring well SWFTSMW14 at 6.4 micrograms per liter (µg/L). Groundwater samples from SWFTS-MW02 and SWFTS-MW15 also continued to show decreases in perchlorate concentrations when compared to baseline, including the lowest

concentrations to date at both wells during the July and September 2018 events. Perchlorate concentrations in groundwater samples from SWFTS-MW02 have continued to exhibit a steady decreasing trend from baseline of 23,000  $\mu\text{g/L}$  to 1,300  $\mu\text{g/L}$  during the most recent September 2018 event.

- Groundwater samples collected from monitoring wells downgradient of the injection well transects also continue to indicate perchlorate concentration decreases similar to those observed following the first injection event, with nearly all downgradient monitoring wells showing at least a 50% reduction and six monitoring wells showing greater than 75% reduction.
  - Chlorate concentrations in groundwater follow decreasing trends similar to perchlorate with 12 downgradient monitoring wells exhibiting greater than 80% reduction in chlorate concentrations in groundwater when compared to baseline. A review of analytical data from the four sampling events conducted following the third injection event indicates that five locations (PC-91, SWFTS-MW03, SWFTS-MW10A, SWFTS-MW14, and SWFTS-MW16) have each exhibited chlorate concentrations in groundwater less than the laboratory reporting limit in at least one of the four sampling events.
  - Nitrate concentrations in groundwater were also evaluated since it is the most likely competing electron acceptor and carbon substrate consumer. A majority of the downgradient monitoring wells have exhibited concentration reductions when compared to baseline. Nitrate concentrations in groundwater were generally greater than 10 milligrams per liter (mg/L) during the baseline sampling event. The average nitrate concentration in groundwater from downgradient monitoring wells during the September 2018 sampling event is 5 mg/L, with many wells less than 1 mg/L.
    - A groundwater monitoring event was performed October 8 – 12, 2018. Data from this event will be presented in a future monthly progress once all data have been received.
- Schedule and Progress Updates
  - This task remains on schedule.
- Health and Safety
  - There were no safety incidents related to Task M11 during October 2018.

# CERTIFICATION

## Seep Well Field Area Bioremediation Treatability Study Monthly Progress Report

**Nevada Environmental Response Trust Site  
(Former Tronox LLC Site)  
Henderson, Nevada**

### Nevada Environmental Response Trust (NERT) Representative Certification

I certify that this document and all attachments submitted to the Division were prepared at the request of, or under the direction or supervision of NERT. Based on my own involvement and/or my inquiry of the person or persons who manage the systems(s) or those directly responsible for gathering the information or preparing the document, or the immediate supervisor of such person(s), the information submitted and provided herein is, to the best of my knowledge and belief, true, accurate, and complete in all material respects.

Office of the Nevada Environmental Response Trust

Le Petomane XXVII, not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

**Signature:** Jay A Steinberg *not individually, but solely as President*, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

**Name:** Jay A. Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

**Title:** Solely as President and not individually

**Company:** Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

**Date:** 12/20/73

## CERTIFICATION

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I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been prepared in a manner consistent with the current standards of the profession, and to the best of my knowledge, comply with all applicable federal, state, and local statutes, regulations, and ordinances. I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein.

**Description of Services Provided:** Prepared Seep Well Field Area Bioremediation Treatability Study Monthly Progress Report.



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**Kyle Hansen, CEM**  
Field Operations Manager/Geologist  
Tetra Tech, Inc.

December 20, 2018

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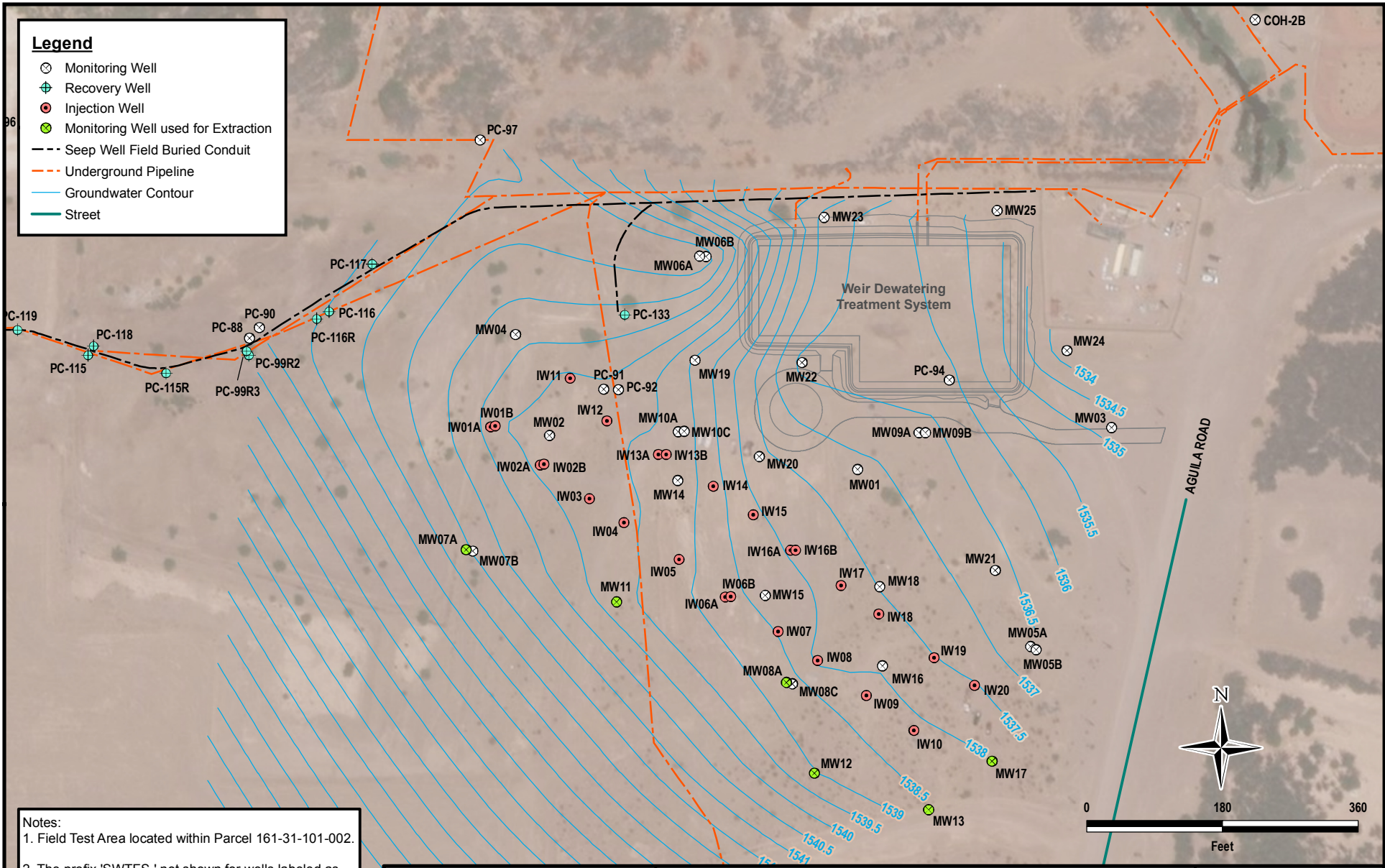
Date

Nevada CEM Certificate Number: 2167  
Nevada CEM Expiration Date: September 18, 2020

# Figures

# DRAFT

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# Tables

**Table 1**  
**Monitoring Wells**  
 Seep Well Field Bioremediation Treatability Study

Monitoring Well/Borehole ID	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Well Diameter	Borehole Diameter	Borehole Total Depth	Well Total Depth	Bottom of Screen	Top of Screen	Screen Length	Slot Size
			feet amsl	feet amsl	feet bTOC	inches	inches	feet bgs	feet bgs	feet bgs	feet bgs	feet	inches
<b>Newly Installed Monitoring Wells (February-June 2017)</b>													
SWFTS-MW01	26733003.73	832067.12	1552.68	1552.39	15.25	2	6	43	39.4	38.9	24.2	15	0.020
SWFTS-MW02	26733048.86	831657.82	1553.90	1553.63	13.80	2	6	41	33.5	33.1	18.4	15	0.020
SWFTS-MW03	26733059.49	832404.39	1549.26	1549.02	14.15	2	6	60	42.2	42.1	27.2	15	0.020
SWFTS-MW04	26733183.35	831612.29	1552.16	1551.82	11.15	2	6	45	40.9	40.4	25.8	15	0.020
SWFTS-MW05A	26732768.53	832296.89	1555.41	1554.91	18.35	2	6	30	29.4	29.3	19.3	10	0.020
SWFTS-MW05B	26732764.09	832304.67	1555.41	1554.86	18.28	2	6	44	42.5	42.0	32.3	10	0.020
SWFTS-MW06A	26733287.15	831857.05	1549.03	1548.41	6.43	2	6	23	21.9	21.4	11.8	10	0.020
SWFTS-MW06B	26733286.65	831865.75	1548.86	1548.59	6.70	2	6	40	36.0	35.5	25.9	10	0.020
SWFTS-MW07A	26733052.94	832148.65	1555.90	1555.64	14.25	4	8	31	30.1	29.5	15	15	0.020
SWFTS-MW07B	26732895.65	831555.99	1555.90	1555.53	13.95	2	6	55	38.9	38.3	33.8	5	0.020
SWFTS-MW08A	26733052.55	832157.19	1556.50	1556.03	17.26	4	8	36	35.3	34.8	20.2	15	0.020
SWFTS-MW08C	26732897.49	831547.35	1556.56	1556.18	18.34	2	6	70	70.0	69.5	49.9	20	0.020
SWFTS-MW09A	26733054.00	831828.76	1551.61	1551.16	14.50	4	8	30	29.4	28.9	19.3	10	0.020
SWFTS-MW09B	26732720.57	831972.55	1551.74	1551.27	14.60	2	6	56	39.5	39.0	34.4	5	0.020
SWFTS-MW10A	26733054.15	831836.75	1551.92	1551.61	12.23	4	8	36	35.5	35.0	20.4	15	0.020
SWFTS-MW10C	26732718.60	831980.38	1551.85	1551.61	9.99	2	6	64	63.6	63.1	43.5	20	0.020
SWFTS-MW11	26732827.46	831747.30	1558.68	1558.10	18.44	4	10	43	40.0	39.6	14.8	25	0.020
SWFTS-MW12	26732600.73	832009.72	1559.00	1558.66	19.65	4	10	45	41.0	40.6	15.8	25	0.020
SWFTS-MW13	26732551.81	832161.20	1563.57	1563.20	24.65	4	10	51	48.0	47.6	17.8	30	0.020
SWFTS-MW14	26732989.39	831828.48	1552.20	1551.89	12.52	2	8	39	37.0	36.6	16.8	20	0.020
SWFTS-MW15	26732836.67	831944.36	1553.64	1553.34	15.00	2	8	37	35.0	34.6	14.8	20	0.020
SWFTS-MW16	26732742.78	832100.29	1561.83	1561.45	23.50	2	8	45	42.0	41.6	21.8	20	0.020
SWFTS-MW17	26732616.54	832245.85	1565.87	1565.56	27.53	4	10	55	53.0	52.6	22.8	30	0.020
SWFTS-MW18	26732847.58	832096.15	1554.59	1554.03	16.55	2	8	39.3	37.0	36.6	16.8	20	0.020
SWFTS-MW19	26733148.9	831850.68	1550.57	1550.37	11.48	2	8	35	31.5	31.1	11.3	20	0.020
SWFTS-MW20	26733020.92	831936.43	1551.63	1551.22	13.62	2	8	39	38.0	37.6	12.8	25	0.020
SWFTS-MW21	26732869.95	832249.88	1553.56	1553.30	16.60	2	8	41.3	40.0	39.6	14.8	25	0.020
SWFTS-MW22	26733146.27	831993.33	1549.55	1549.15	12.82	2	8	35	32.0	31.6	11.8	20	0.020
SWFTS-MW23	26733338.19	832022.56	1547.58	1550.16	13.38	2	8	38	34.0	33.6	13.8	20	0.020
SWFTS-MW24	26733161.74	832345.44	1547.78	1547.49	13.86	2	8	41	38.0	37.6	12.8	25	0.020
SWFTS-MW25	26733347.67	832252.13	1546.73	1546.37	11.20	2	8	44	43.0	42.6	12.8	30	0.020
<b>Existing Monitoring Wells within Treatability Study Area</b>													
COH-2B	26733593.69	832598.59	1544.42	1547.08	16.49	2	-	-	67	-	-	-	-
PC-58	26732118.20	831123.78	1574.21	1576.54	22.70	2	8	36	33	32.8	7.8	25	0.020
PC-91	26733111.11	831729.78	1552.63	1552.17	12.40	2	8	30	22	21.5	11.5	10	0.020



**Table 1**  
**Monitoring Wells**  
 Seep Well Field Bioremediation Treatability Study

Monitoring Well/Borehole ID	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Well Diameter	Borehole Diameter	Borehole Total Depth	Well Total Depth	Bottom of Screen	Top of Screen	Screen Length	Slot Size
			feet amsl	feet amsl	feet bTOC	inches	inches	feet bgs	feet bgs	feet bgs	feet bgs	feet	inches
<b>PC-92</b>	26733110.00	831748.84	1552.14	1551.83	12.05	2	8	65	37	36.5	26.5	10	0.020
<b>PC-94</b>	26733122.77	832188.74	1548.05	1549.89	12.79	2	8	25	19.5	19.5	9.5	10	0.020
<b>PC-97</b>	26733441.54	831565.69	1548.88	1548.42	6.27	2	8	45	33.5	33	23	10	0.020
<b>PC-88</b>	26733178.42	831259.41	1550.90	1550.83	7.13	2	8	62	50.5	50	40	10	0.020

Notes:

amsl - above mean sea level

bTOC - below top of casing

bgs - below ground surface

- Not Available

1. Depth to water measurements collected during baseline groundwater sampling event on July 10, 2017. Water levels from COH-2B and PC-88 are from the first event following injections (September 19, 2017).

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
COH-2B1	8/9/2017	COH-2B1-BL02	N	BL02	1,700	1,800	0.71	2.3	1.14
COH-2B1	9/22/2017	SWFTS-COH-2B1-EM01	N	EM01	1,700	1,600	0.53 J	2.7	1.19
COH-2B1	10/5/2017	SWFTS-COH-2B1-EM03	N	EM03	1,800	1,400	0.60	2.6	0.14
COH-2B1	10/12/2017	SWFTS-COH-2B1-EM04	N	EM04	1,800	1,600	0.58	2.3	7.92
COH-2B1	10/26/2017	SWFTS-COH-2B1-EM05	N	EM05	1,900	1,400	0.42 J	2.6	0.40
COH-2B1	12/14/2017	COH-2B1-EM07	N	EM07	1,700	5,000	0.40	2.6	-0.06
COH-2B1	2/22/2018	COH-2B1-EM08	N	EM08	1,500	1,400	0.57 J	2.9	0.34
COH-2B1	3/29/2018	COH-2B1-EM09	N	EM09	1,800	1,200	<0.55	2.3	0.41
COH-2B1	5/2/2018	COH-2B1-EM10	N	EM10	1,700	1,200	0.45	11	0.00
COH-2B1	7/10/2018	COH-2B1-EM11	N	EM11	3,000	2,400	1.4	1.9	0.47
COH-2B1	8/16/2018	COH-2B1-EM13	N	EM13	1,500	980	0.53 J	2.6	0.50
COH-2B1	9/11/2018	COH-2B1-EM14	N	EM14	2,800	3,800	1.5	1.9	2.18
PC-58	3/28/2017	PC-58-BL01	N	BL01	2,600	19,000	9.9	3.4	0.15
PC-58	7/13/2017	PC-58-BL02	N	BL02	2,600	17,000	9.5	2.8	0.00
PC-58	10/11/2017	SWFTS-PC-58-EM04	N	EM04	1,800	11,000	9.0	3.2	3.40
PC-58	11/16/2017	SWFTS-PC-58-EM06	N	EM06	2,100	16,000	10	2.9	0.65
PC-58	12/14/2017	PC-58-EM07	N	EM07	3,100	24,000	12	2.9	0.29
PC-58	2/21/2018	PC-58-EM08	N	EM08	3,700	35,000	12	5.4	2.49
PC-58	3/28/2018	PC-58-EM09-EM09	N	EM09	1,400	12,000	9.8	2.7	4.31
PC-58	5/2/2018	PC58-EM10	N	EM10	1,200	10,000	9.9	2.7	0.71
PC-58	7/11/2018	PC-58-EM11	N	EM11	1,100	9,800	10	2.6	1.17
PC-58	8/15/2018	PC-58-EM13	N	EM13	1,300	13,000	10	3.1	0.38
PC-58	9/13/2018	PC-58-EM14	N	EM14	1,500	22,000	14	2.5	2.74
PC-88	9/22/2017	SWFTS-PC-88-EM01	N	EM01	15,000	6,900	4.8	2.7	4.15
PC-88	9/28/2017	SWFTS-PC-88-EM02	N	EM02	14,000 J+	6,300	5.8	2.8	1.13
PC-88	10/4/2017	SWFTS-PC-88-EM03	N	EM03	15,000	6,100	5.1	2.6	0.21
PC-88	10/11/2017	SWFTS-PC-88-EM04	N	EM04	15,000	6,200	4.6	2.5	0.37
PC-88	10/11/2017	SWFTS-PC-88-EM04-FD	FD	EM04	15,000	6,000	4.6	2.6	---
PC-88	10/25/2017	SWFTS-PC-88-EM05	N	EM05	15,000	5,400	5.0	2.8	0.37
PC-88	11/15/2017	PC-88-EM06	N	EM06	15,000	5,700	4.5	2.8	0.46
PC-88	11/15/2017	PC-88-EM06-FD	FD	EM06	16,000	5,700	4.6	2.9	---
PC-88	12/14/2017	PC-88-EM07	N	EM07	19,000	20,000	9.9	2.7	0.68
PC-88	2/22/2018	PC-88-EM08	N	EM08	6,700	14,000	12	3.0	0.29
PC-88	3/29/2018	PC-88-EM09	N	EM09	9,100	20,000	13	2.2	0.45
PC-88	5/2/2018	PC88-EM10	N	EM10	7,100	11,000	11	2.3	0.50
PC-88	5/2/2018	PC88-EM10-FD	FD	EM10	6,600	11,000	12	2.5	---
PC-88	7/12/2018	PC-88-EM11	N	EM11	16,000	12,000	7.8	2.4	0.89
PC-88	7/12/2018	PC-88-EM11-FD	FD	EM11	16,000	12,000	7.6	2.3	---
PC-88	8/16/2018	PC-88-EM13	N	EM13	10,000	6,700	6.0	2.9	3.31
PC-88	8/16/2018	PC-88-EM13-FD	FD	EM13	11,000	6,800	6.0	2.9	---
PC-88	9/12/2018	PC-88-EM14	N	EM14	19,000	13,000	6.7	2.6	2.28
PC-88	9/12/2018	PC-88-EM14-FD	FD	EM14	19,000	13,000	6.7	2.4	---
PC-91	3/29/2017	PC-91-BL01	N	BL01	2,400	1,700	1.4	2.7	0.25
PC-91	7/12/2017	PC-91-BL02	N	BL02	2,500	1,600	1.2	2.4	0.31
PC-91	7/12/2017	PC-91-BL02-FD	FD	BL02	2,400	1,500	1.1	2.3	---

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen mg/L
PC-91	9/21/2017	SWFTS-PC-91-EM01	N	EM01	1,600	820	0.50 J	2.3	0.47
PC-91	9/27/2017	SWFTS-PC-91-EM02	N	EM02	1,700	810	0.57	2.8	0.72
PC-91	10/4/2017	SWFTS-PC-91-EM03	N	EM03	1,300	590	0.58	2.9	0.19
PC-91	10/12/2017	SWFTS-PC-91-EM04	N	EM04	960	440	0.35	2.5	0.38 E
PC-91	10/25/2017	SWFTS-PC-91-EM05	N	EM05	750	370	0.62	2.7	0.55
PC-91	11/16/2017	SWFTS-PC-91-EM06	N	EM06	700	610	0.65 J-	2.8	0.82
PC-91	12/13/2017	PC-91-EM07	N	EM07	770	520	0.38	2.5	0.37
PC-91	2/20/2018	PC-91-EM08	N	EM08	900	1,100	0.88 J	2.8	0.82
PC-91	3/26/2018	PC-91-EM09	N	EM09	930	1,200	0.78	2.5	---
PC-91	5/1/2018	PC-91-EM10	N	EM10	860	260	0.56	2.4	0.64
PC-91	7/11/2018	PC-91-EM11	N	EM11	190	<5.0	<0.28	2.7	3.08
PC-91	7/27/2018	SWFTS-PC-91-EM12	N	EM12	160	<2.0	---	---	0.77
PC-91	8/14/2018	PC-91-EM-13	N	EM13	310	12 J	<0.28	3.0	1.08
PC-91	9/12/2018	PC-91-EM14	N	EM14	440	21	<0.28	2.6	3.12
PC-92	3/29/2017	PC-92-BL01	N	BL01	9,600	17,000	4.2	2.8	0.35
PC-92	7/12/2017	PC-92-BL02	N	BL02	4,400	10,000	2.6	2.8	0.31
PC-92	9/21/2017	SWFTS-PC-92-EM01	N	EM01	3,100	7,700	1.7	2.6	0.41
PC-92	9/27/2017	SWFTS-PC-92-EM02	N	EM02	3,500	6,800	1.7	2.8	0.45
PC-92	10/4/2017	SWFTS-PC-92-EM03	N	EM03	3,700	7,100	2.6	2.8	0.12
PC-92	10/12/2017	SWFTS-PC-92-EM04	N	EM04	3,700	7,300	2.1	2.8	9.88 E
PC-92	10/12/2017	SWFTS-PC-92-EM04-FD	FD	EM04	3,700	6,700	2.0	2.6	---
PC-92	10/25/2017	SWFTS-PC-92-EM05	N	EM05	4,000	6,900	2.3	2.9	0.30
PC-92	11/16/2017	SWFTS-PC-92-EM06	N	EM06	2,100	1,300	1.6	3.2	0.42
PC-92	11/16/2017	SWFTS-PC-92-EM06-FD	FD	EM06	2,100	1,300	1.1	3.3	---
PC-92	12/14/2017	PC-92-EM07	N	EM07	3,300	4,600	2.1	3.0	3.78
PC-92	12/14/2017	PC-92-EM07-FD	FD	EM07	3,300	4,800	1.8	3.0	---
PC-92	2/20/2018	PC-92-EM08	N	EM08	4,900	7,700	2.7	3.2	4.60
PC-92	2/20/2018	PC-92-EM08-FD	FD	EM08	5,000	7,400	2.7	3.2	---
PC-92	3/26/2018	PC-92-EM09	N	EM09	7,900	19,000	4.5	2.5	---
PC-92	3/26/2018	PC-92-EM09-FD	FD	EM09	8,000	18,000	4.5	2.5	---
PC-92	5/1/2018	PC-92-EM10	N	EM10	9,200	22,000	5.6	2.4	0.70
PC-92	7/11/2018	PC-92-EM11	N	EM11	7,300	17,000	4.2	2.3	1.47
PC-92	7/27/2018	SWFTS-PC-92-EM12	N	EM12	5,200	15,000	---	---	0.28
PC-92	8/15/2018	PC-92-EM13	N	EM13	4,700	13,000	3.1	3.0	0.98
PC-92	9/12/2018	PC-92-EM14	N	EM14	4,100	12,000	2.6	2.6	2.95
PC-94	3/28/2017	PC-94-BL01	N	BL01	13,000	51,000	12	1.7	0.33
PC-94	7/13/2017	PC-94-BL02	N	BL02	14,000	47,000	12	1.3	0.41
PC-94	9/20/2017	SWFTS-PC-94-EM01	N	EM01	2,300	3,800	0.58 J	34	0.15
PC-94	9/26/2017	SWFTS-PC-94-EM02	N	EM02	2,000	3,700	<1.1	37	0.19
PC-94	10/5/2017	SWFTS-PC-94-EM03	N	EM03	1,700	3,600	1.3 J	5.2	0.13
PC-94	10/11/2017	SWFTS-PC-94-EM04	N	EM04	970	2,900	0.78 J	3.9	0.55
PC-94	10/26/2017	SWFTS-PC-94-EM05	N	EM05	540	1,300	1.4	3.1	3.80
PC-94	11/16/2017	PC-94-EM06	N	EM06	1,500	1,300	0.57 J	2.2	0.50
PC-94	12/12/2017	PC-94-EM07	N	EM07	4,300	9,300	0.68	2.1	0.19
PC-94	2/21/2018	PC-94-EM08	N	EM08	7,200	19,000	4.9	2.1	3.75

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen mg/L
PC-94	3/27/2018	PC-94-EM09	N	EM09	6,400	16,000	4.8	1.9	2.07
PC-94	5/1/2018	PC-94-EM10	N	EM10	6,700	18,000	6.3	1.5	0.00
PC-94	7/10/2018	PC-94-EM11	N	EM11	4,200	7,200	5.6	2.0	0.10
PC-94	7/27/2018	SWFTS-PC-94-EM12	N	EM12	1,500	1,600	---	---	0.25
PC-94	8/15/2018	PC-94-EM13	N	EM13	2,600	1,800	3.2	2.2	1.53
PC-94	9/11/2018	PC-94-EM14	N	EM14	3,500	6,200	5.2	1.7	1.67
PC-97	7/13/2017	PC-97-BL02	N	BL02	1,900	180	0.84	3.0	0.27
PC-97	9/22/2017	SWFTS-PC-97-EM01	N	EM01	2,900	360	2.1	3.0	0.39
PC-97	9/22/2017	SWFTS-PC-97-EM01-FD	FD	EM01	2,900	340	2.2	3.0	---
PC-97	9/28/2017	SWFTS-PC-97-EM02	N	EM02	2,600	370	2.1	3.6	4.28
PC-97	9/28/2017	SWFTS-PC-97-EM02-FD	FD	EM02	2,700	380	2.0	3.6	---
PC-97	10/4/2017	SWFTS-PC-97-EM03	N	EM03	2,900	460	2.6	2.7	0.19
PC-97	10/4/2017	SWFTS-PC-97-EM03-FD	FD	EM03	2,900	410	2.3	2.8	---
PC-97	10/11/2017	SWFTS-PC-97-EM04	N	EM04	2,500	400	2.5	2.7	0.48
PC-97	10/11/2017	SWFTS-PC-97-EM04-FD	FD	EM04	2,700	390	2.3	2.8	---
PC-97	10/25/2017	SWFTS-PC-97-EM05	N	EM05	3,400	390	2.9	2.8	0.39
PC-97	10/25/2017	SWFTS-PC-97-EM05-FD	FD	EM05	3,300	410	2.9	2.9	---
PC-97	11/16/2017	SWFTS-PC-97-EM06	N	EM06	1,600	190	1.8	3.2	0.48
PC-97	12/13/2017	PC-97-EM07	N	EM07	2,600	320	1.6	3.0	0.79
PC-97	12/13/2017	PC-97-EM07-FD	FD	EM07	3,000	320	1.9	3.0	---
PC-97	2/21/2018	PC-97-EM08	N	EM08	1,500	77	0.56	3.3	2.47
PC-97	3/27/2018	PC-97-EM09	N	EM09	900	<10	0.19	3.3	1.68
PC-97	5/1/2018	PC-97-EM10	N	EM10	820	<5.0	0.088 J	3.2	2.10
PC-97	7/10/2018	PC-97-EM11	N	EM11	1,700	91	0.32	3.0	3.45
PC-97	8/16/2018	PC-97-EM13	N	EM13	1,100	85	0.38 J+	3.4	2.94
PC-97	9/12/2018	PC-97-EM14	N	EM14	2,400	210	0.82	3.0	1.74
SWFTS-IDW	9/22/2017	SWFTS-RINSE WATER TOTE	N	EM01	<95	---	---	---	---
SWFTS-IW01A	7/11/2017	SWFTS-IW01A-BL02	N	BL02	20,000	51,000	12	---	0.55
SWFTS-IW01A	11/14/2017	SWFTS-IW01A-EM06	N	EM06	42	---	<0.55	610 J-	0.09
SWFTS-IW01A	11/14/2017	SWFTS-IW01A-EM06B	N	EM06	---	---	---	610 J-	---
SWFTS-IW01B	7/11/2017	SWFTS-IW01B-BL02	N	BL02	20,000	48,000	11	---	0.61
SWFTS-IW01B	11/14/2017	SWFTS-IW01B-EM06B	N	EM06	---	---	---	160 J-	---
SWFTS-IW01B	11/15/2017	SWFTS-IW01B-EM06	N	EM06	170	---	<0.55	220	0.17
SWFTS-IW02A	7/11/2017	SWFTS-IW02A-BL02	N	BL02	22,000	52,000	12	2.0	0.57
SWFTS-IW02A	11/14/2017	SWFTS-IW02A-EM06B	N	EM06	---	---	---	3,900 J-	---
SWFTS-IW02B	7/11/2017	SWFTS-IW02B-BL02	N	BL02	22,000	55,000	12	2.8	0.46
SWFTS-IW02B	11/14/2017	SWFTS-IW02B-EM06B	N	EM06	---	---	---	3,100 J-	---
SWFTS-IW03	7/11/2017	SWFTS-IW03-BL02	N	BL02	21,000	58,000	13	---	0.48
SWFTS-IW03	7/11/2017	SWFTS-IW03-BL02-FD	FD	BL02	21,000	53,000	12	---	---
SWFTS-IW03	12/11/2017	SWFTS-IW03-EM07	N	EM07	---	---	---	340 J-	---
SWFTS-IW04	7/11/2017	SWFTS-IW04-BL02	N	BL02	17,000	42,000	11	---	0.42
SWFTS-IW04	7/11/2017	SWFTS-IW04-BL02-FD	FD	BL02	16,000	42,000	12	---	---
SWFTS-IW04	12/11/2017	SWFTS-IW04-EM07	N	EM07	---	---	---	4,600 J-	---
SWFTS-IW05	7/11/2017	SWFTS-IW05-BL02	N	BL02	15,000	45,000	12	1.7	0.53
SWFTS-IW05	12/11/2017	SWFTS-IW05-EM07	N	EM07	---	---	---	3,700 J-	---

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen mg/L
SWFTS-IW06A	7/11/2017	SWFTS-IW06A-BL02	N	BL02	15,000	46,000	12	---	2.02
SWFTS-IW06A	11/14/2017	SWFTS-IW06A-EM06B	N	EM06	---	---	---	440 J-	---
SWFTS-IW06A	11/15/2017	SWFTS-IW06A-EM06	N	EM06	230	---	<0.55	630	0.16
SWFTS-IW06B	7/11/2017	SWFTS-IW06B-BL02	N	BL02	15,000	41,000	12	---	0.38
SWFTS-IW06B	11/14/2017	SWFTS-IW06B-EM06B	N	EM06	---	---	---	600 J-	---
SWFTS-IW06B	11/15/2017	SWFTS-IW06B-EM06	N	EM06	20	---	<0.55	660	0.36
SWFTS-IW07	7/11/2017	SWFTS-IW07-BL02	N	BL02	15,000	45,000	11	---	0.55
SWFTS-IW07	12/11/2017	SWFTS-IW07-EM07	N	EM07	---	---	---	5,600 J-	---
SWFTS-IW08	7/12/2017	SWFTS-IW08-BL02	N	BL02	14,000	40,000	12	---	0.79
SWFTS-IW08	12/11/2017	SWFTS-IW08-EM07	N	EM07	---	---	---	6,700 J-	---
SWFTS-IW09	7/12/2017	SWFTS-IW09-BL02	N	BL02	11,000	48,000	12	1.7	0.47
SWFTS-IW09	7/12/2017	SWFTS-IW09-BL02-FD	FD	BL02	11,000	47,000	12	1.4	---
SWFTS-IW09	12/11/2017	SWFTS-IW09-EM07	N	EM07	---	---	---	290 J-	---
SWFTS-IW10	7/12/2017	SWFTS-IW10-BL02	N	BL02	7,800	37,000	14	---	0.30
SWFTS-IW10	12/11/2017	SWFTS-IW10-EM07	N	EM07	---	---	---	290 J-	---
SWFTS-IW11	7/12/2017	SWFTS-IW11-BL02	N	BL02	5,600	6,600	2.0	2.6	0.38
SWFTS-IW11	12/11/2017	SWFTS-IW11-EM07	N	EM07	---	---	---	1,000 J-	---
SWFTS-IW12	7/12/2017	SWFTS-IW12-BL02	N	BL02	6,200	7,800	2.5	---	0.51
SWFTS-IW12	12/11/2017	SWFTS-IW12-EM07	N	EM07	---	---	---	2,700 J-	---
SWFTS-IW13A	7/11/2017	SWFTS-IW13A-BL02	N	BL02	19,000	52,000	14	---	0.54
SWFTS-IW13A	11/14/2017	SWFTS-IW13A-EM06B	N	EM06	---	---	---	3,700 J-	---
SWFTS-IW13B	7/11/2017	SWFTS-IW13B-BL02	N	BL02	21,000	53,000	12	---	0.46
SWFTS-IW13B	11/14/2017	SWFTS-IW13B-EM06B	N	EM06	---	---	---	1,100 J-	---
SWFTS-IW14	7/12/2017	SWFTS-IW14-BL02	N	BL02	21,000	51,000	42 J	1.9	0.49
SWFTS-IW14	11/14/2017	SWFTS-IW14-EM06B	N	EM06	---	---	---	4,600	---
SWFTS-IW14	11/14/2017	SWFTS-IW14-EM06B-FD	FD	EM06	---	---	---	4,500 J-	---
SWFTS-IW15	7/12/2017	SWFTS-IW15-BL02	N	BL02	15,000	44,000	13	---	0.32
SWFTS-IW15	12/11/2017	SWFTS-IW15-EM07	N	EM07	---	---	---	1,300 J-	---
SWFTS-IW15	12/11/2017	SWFTS-IW15-EM07-FD	FD	EM07	---	---	---	1,300 J-	---
SWFTS-IW16A	7/11/2017	SWFTS-IW16A-BL02	N	BL02	17,000	45,000	11	---	0.86
SWFTS-IW16A	12/11/2017	SWFTS-IW16A-EM07	N	EM07	---	---	---	2,800 J-	---
SWFTS-IW16B	7/11/2017	SWFTS-IW16B-BL02	N	BL02	15,000	44,000	12	---	0.42
SWFTS-IW16B	12/11/2017	SWFTS-IW16B-EM07	N	EM07	---	---	---	940 J-	---
SWFTS-IW17	7/13/2017	SWFTS-IW17-BL02	N	BL02	13,000	47,000	12	1.4	0.41
SWFTS-IW17	11/14/2017	SWFTS-IW17-EM06B	N	EM06	---	---	---	6,500 J-	---
SWFTS-IW17	11/15/2017	SWFTS-IW17-EM06	N	EM06	<19	---	<1.1	7,500	0.36
SWFTS-IW18	7/13/2017	SWFTS-IW18-BL02	N	BL02	14,000	47,000	12	---	0.30
SWFTS-IW18	11/14/2017	SWFTS-IW18-EM06B	N	EM06	---	---	---	1.8	---
SWFTS-IW19	7/13/2017	SWFTS-IW19-BL02	N	BL02	6,400	57,000	16	---	3.30
SWFTS-IW19	12/11/2017	SWFTS-IW19-EM07	N	EM07	---	---	---	4,100 J-	---
SWFTS-IW20	7/12/2017	SWFTS-IW20-BL02	N	BL02	4,400	31,000	17	1.0	4.23
SWFTS-IW20	11/14/2017	SWFTS-IW20-EM06B	N	EM06	---	---	---	6,500 J-	---
SWFTS-MW01	3/29/2017	SWFTS-MW01-BL01	N	BL01	15,000	49,000	12	1.6	1.07
SWFTS-MW01	9/19/2017	SWFTS-MW01-EM01	N	EM01	2,100	39,000	<0.55	11	1.38
SWFTS-MW01	9/26/2017	SWFTS-MW01-EM02	N	EM02	4,300	10,000	1.4 J	4.3	0.23

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen mg/L
SWFTS-MW01	10/4/2017	SWFTS-MW01-EM03	N	EM03	5,000	13,000	3.3	2.5	0.20
SWFTS-MW01	10/10/2017	SWFTS-MW01-EM04	N	EM04	5,600	15,000	3.3	2.2	0.47
SWFTS-MW01	10/25/2017	SWFTS-MW01-EM05	N	EM05	15,000	18,000	5.1	2.1	0.89
SWFTS-MW01	11/15/2017	SWFTS-MW01-EM06	N	EM06	7,900	22,000	4.9	1.9	0.81
SWFTS-MW01	12/14/2017	SWFTS-MW01-EM07	N	EM07	8,000	24,000	5.3	1.9	0.20
SWFTS-MW01	2/20/2018	SWFTS-MW01-EM08	N	EM08	3,900	12,000	3.4	2.7	2.85
SWFTS-MW01	3/27/2018	SWFTS-MW01-EM09	N	EM09	6,900	26,000	5.3	1.9	2.42
SWFTS-MW01	4/30/2018	SWFTS-MW01-EM10	N	EM10	9,400	36,000	8.9	1.4	0.15
SWFTS-MW01	7/10/2018	SWFTS-MW01-EM11	N	EM11	3,100	6,900	1.4	2.4	0.04
SWFTS-MW01	7/27/2018	SWFTS-MW01-EM12	N	EM12	5,500	28,000	---	---	0.29
SWFTS-MW01	7/27/2018	SWFTS-MW01-EM12-FD	FD	EM12	5,500	28,000	---	---	---
SWFTS-MW01	8/16/2018	SWFTS-MW01-EM13	N	EM13	6,100	34,000	6.4	2.0	0.80
SWFTS-MW01	9/10/2018	SWFTS-MW01-EM14	N	EM14	6,300	34,000	8.4	1.9	6.07
SWFTS-MW02	3/29/2017	SWFTS-MW02-BL01	N	BL01	25,000	58,000	11	2.2	0.33
SWFTS-MW02	9/21/2017	SWFTS-MW02-EM01	N	EM01	23,000	52,000	8.5	2.1	0.16
SWFTS-MW02	9/27/2017	SWFTS-MW02-EM02	N	EM02	23,000	47,000	9.4	2.2	0.14
SWFTS-MW02	10/4/2017	SWFTS-MW02-EM03	N	EM03	22,000	45,000	8.7	2.0	1.76
SWFTS-MW02	10/12/2017	SWFTS-MW02-EM04	N	EM04	20,000	23,000	6.2	2.3	0.25
SWFTS-MW02	10/26/2017	SWFTS-MW02-EM05	N	EM05	21,000	34,000	4.6 J-	2.5	2.11
SWFTS-MW02	11/14/2017	SWFTS-MW02-EM06	N	EM06	17,000	32,000	6.5	2.5	0.90
SWFTS-MW02	12/13/2017	SWFTS-MW02-EM07	N	EM07	19,000	38,000	6.7	2.1	0.01
SWFTS-MW02	2/19/2018	SWFTS-MW02-EM08	N	EM08	14,000	28,000	4.7	2.5	2.59
SWFTS-MW02	3/27/2018	SWFTS-MW02-EM09	N	EM09	4,400	7,400	0.80	2.5	1.76
SWFTS-MW02	4/30/2018	SWFTS-MW02-EM10	N	EM10	4,600	6,100	0.95 J	2.3	1.59
SWFTS-MW02	7/11/2018	SWFTS-MW02-EM11	N	EM11	3,700	5,100	1.7	1.9	1.86
SWFTS-MW02	7/27/2018	SWFTS-MW02-EM12	N	EM12	2,100	3,900	---	---	0.24
SWFTS-MW02	8/15/2018	SWFTS-MW02-EM13	N	EM13	1,700	2,600	0.74 J	2.5	2.35
SWFTS-MW02	9/10/2018	SWFTS-MW02-EM14	N	EM14	1,300	2,500	<0.55	2.5	5.31
SWFTS-MW03	3/30/2017	SWFTS-MW03-BL01	N	BL01	9,900	47,000	13	1.6	1.64
SWFTS-MW03	3/30/2017	SWFTS-MW03-BL01-FD	FD	BL01	9,200	47,000	13	1.7	---
SWFTS-MW03	9/21/2017	SWFTS-MW03-EM01	N	EM01	<4.8	<100	<0.55	4.2	0.19
SWFTS-MW03	9/27/2017	SWFTS-MW03-EM02	N	EM02	4.8	<100	<0.55	3.0	0.11
SWFTS-MW03	10/4/2017	SWFTS-MW03-EM03	N	EM03	<0.95	<50	<0.55	2.3	1.02
SWFTS-MW03	10/12/2017	SWFTS-MW03-EM04	N	EM04	21	<100	<0.55	2.0	0.14
SWFTS-MW03	10/26/2017	SWFTS-MW03-EM05	N	EM05	990	3,200	0.73 J	2.1	1.59
SWFTS-MW03	11/16/2017	SWFTS-MW03-EM06	N	EM06	3,200	15,000	3.2	1.7	0.64
SWFTS-MW03	12/12/2017	SWFTS-MW03-EM07	N	EM07	3,700	22,000	4.3	1.8	2.21
SWFTS-MW03	2/21/2018	SWFTS-MW03-EM08	N	EM08	3,400	33,000	4.2	1.7	0.30
SWFTS-MW03	3/27/2018	SWFTS-MW03-EM09	N	EM09	4,200	27,000	6.4	1.5	0.62
SWFTS-MW03	5/2/2018	SWFTS-MW03-EM10	N	EM10	4,300	30,000	7.9	1.4	0.45
SWFTS-MW03	7/10/2018	SWFTS-MW03-EM11	N	EM11	1,300	3,000	1.3	2.3	0.79
SWFTS-MW03	7/27/2018	SWFTS-MW03-EM12	N	EM12	1,900 J+	1,800	---	---	0.23
SWFTS-MW03	8/15/2018	SWFTS-MW03-EM13	N	EM13	1,900	280 J	3.6	1.9	0.48
SWFTS-MW03	9/11/2018	SWFTS-MW03-EM14	N	EM14	2,200	<10	4.9	1.5	1.84
SWFTS-MW04	3/31/2017	SWFTS-MW04-BL01	N	BL01	14,000	26,000	5.5	2.3	7.02 E

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW04	9/20/2017	SWFTS-MW04-EM01	N	EM01	3,600	4,900	1.3	2.6	0.85
SWFTS-MW04	9/20/2017	SWFTS-MW04-EM01-FD	FD	EM01	3,600	4,800	1.3	2.6	---
SWFTS-MW04	9/27/2017	SWFTS-MW04-EM02	N	EM02	3,600	5,400	1.5	3.1	2.73
SWFTS-MW04	9/27/2017	SWFTS-MW04-EM02-FD	FD	EM02	3,500	5,400	1.5	3.1	---
SWFTS-MW04	10/4/2017	SWFTS-MW04-EM03	N	EM03	4,000	4,700	1.5	2.7	0.11
SWFTS-MW04	10/4/2017	SWFTS-MW04-EM03-FD	FD	EM03	3,900	4,700	1.9	2.6	---
SWFTS-MW04	10/11/2017	SWFTS-MW04-EM04	N	EM04	2,900	3,900	1.3	2.7	1.39
SWFTS-MW04	10/24/2017	SWFTS-MW04-EM05	N	EM05	3,600	4,200	1.4	2.9	0.28
SWFTS-MW04	10/24/2017	SWFTS-MW04-EM05-FD	FD	EM05	3,500	4,200	1.5	3.0	---
SWFTS-MW04	11/15/2017	SWFTS-MW04-EM06	N	EM06	3,500	3,400	1.6	3.0	0.89
SWFTS-MW04	12/14/2017	SWFTS-MW04-EM07	N	EM07	4,000	4,700	1.8	2.9	0.45
SWFTS-MW04	2/21/2018	SWFTS-MW04-EM08	N	EM08	5,200	8,000	2.4	2.7	0.37
SWFTS-MW04	3/27/2018	SWFTS-MW04-EM09	N	EM09	6,100	14,000	3.5	2.5	0.43
SWFTS-MW04	5/1/2018	SWFTS-MW04-EM10	N	EM10	4,100	3,700	1.4	2.8	2.80
SWFTS-MW04	7/10/2018	SWFTS-MW04-EM11	N	EM11	6,400	15,000	4.5	2.5	0.00
SWFTS-MW04	8/16/2018	SWFTS-MW04-EM13	N	EM13	3,100	8,700	1.9 J+	2.9	0.91
SWFTS-MW04	9/12/2018	SWFTS-MW04-EM14	N	EM14	4,000	9,100	2.6	2.9	2.64
SWFTS-MW05A	3/30/2017	SWFTS-MW05A-BL01	N	BL01	7,400	67,000	18	1.4	4.28
SWFTS-MW05A	9/20/2017	SWFTS-MW05A-EM01	N	EM01	5,700	51,000	17	1.1	4.18
SWFTS-MW05A	9/27/2017	SWFTS-MW05A-EM02	N	EM02	5,600	44,000	18	1.2	3.30
SWFTS-MW05A	10/3/2017	SWFTS-MW05A-EM03	N	EM03	5,800	46,000	16	0.80 J	5.46
SWFTS-MW05A	10/10/2017	SWFTS-MW05A-EM04	N	EM04	5,600	44,000	16	1.3	3.41
SWFTS-MW05A	10/23/2017	SWFTS-MW05A-EM05	N	EM05	4,700	43,000	15	1.3	2.96
SWFTS-MW05A	11/14/2017	SWFTS-MW05A-EM06	N	EM06	5,500	38,000	16	1.4	2.27
SWFTS-MW05A	12/13/2017	SWFTS-MW05A-EM07	N	EM07	5,300	43,000	17	1.3	2.10
SWFTS-MW05A	2/20/2018	SWFTS-MW05A-EM08	N	EM08	6,400	53,000	18	1.4	2.78
SWFTS-MW05A	3/26/2018	SWFTS-MW05A-EM09	N	EM09	6,600	180,000	16	1.1	---
SWFTS-MW05A	4/30/2018	SWFTS-MW05A-EM10	N	EM10	6,400 J	55,000	17	1.0	2.16
SWFTS-MW05A	7/11/2018	SWFTS-MW05A-EM11	N	EM11	5,200	46,000	28 J	0.87 J	2.65
SWFTS-MW05A	7/27/2018	SWFTS-MW05A-EM12	N	EM12	4,300	41,000	---	---	3.46
SWFTS-MW05A	8/14/2018	SWFTS-MW05A-EM13	N	EM13	3,600	35,000	10 J+	1.5	0.93
SWFTS-MW05A	9/11/2018	SWFTS-MW05A-EM14	N	EM14	3,400	30,000	13 J	1.2	2.59
SWFTS-MW05B	3/30/2017	SWFTS-MW05B-BL01	N	BL01	7,200	48,000	13	1.5	0.70
SWFTS-MW05B	9/22/2017	SWFTS-MW05B-EM01	N	EM01	190	300	<0.55	39	0.24
SWFTS-MW05B	9/27/2017	SWFTS-MW05B-EM02	N	EM02	<0.95	<50	<0.55	57	0.10
SWFTS-MW05B	10/3/2017	SWFTS-MW05B-EM03	N	EM03	8.3	<50	<0.55	90	0.10
SWFTS-MW05B	10/10/2017	SWFTS-MW05B-EM04	N	EM04	<0.95	<100	<0.55	100	0.08
SWFTS-MW05B	10/23/2017	SWFTS-MW05B-EM05	N	EM05	<0.95	<100	<0.55	68	0.34
SWFTS-MW05B	11/14/2017	SWFTS-MW05B-EM06	N	EM06	<0.95	16 J	<0.55	3.2	0.46
SWFTS-MW05B	12/13/2017	SWFTS-MW05B-EM07	N	EM07	990	5,300	0.36 J	2.3	0.30
SWFTS-MW05B	2/20/2018	SWFTS-MW05B-EM08	N	EM08	2,000	11,000	4.2	2.2	0.34
SWFTS-MW05B	3/26/2018	SWFTS-MW05B-EM09	N	EM09	2,600	5,800	4.6	1.7	---
SWFTS-MW05B	4/30/2018	SWFTS-MW05B-EM10	N	EM10	2,600	18,000	5.4	1.9	0.00
SWFTS-MW05B	7/10/2018	SWFTS-MW05B-EM11	N	EM11	190	1,500	0.66 J-	2.4	1.45
SWFTS-MW05B	7/27/2018	SWFTS-MW05B-EM12	N	EM12	240	1,600	---	---	4.21 E

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW05B	8/14/2018	SWFTS-MW05B-EM13	N	EM13	420	2,000	<0.55	2.5	0.80
SWFTS-MW05B	9/11/2018	SWFTS-MW05B-EM14	N	EM14	860	4,800	1.3	1.9	2.37
SWFTS-MW06A	3/30/2017	SWFTS-MW06A-BL01	N	BL01	170	<10	<0.11	3.6	0.38
SWFTS-MW06A	9/21/2017	SWFTS-MW06A-EM01	N	EM01	2,400	220	1.5	3.0	0.16
SWFTS-MW06A	9/27/2017	SWFTS-MW06A-EM02	N	EM02	2,600	320	1.7	3.3	0.30
SWFTS-MW06A	10/3/2017	SWFTS-MW06A-EM03	N	EM03	2,700	300	2.0 J-	2.8	0.12
SWFTS-MW06A	10/11/2017	SWFTS-MW6A-EM04	N	EM04	5,500	1,100	1.9	3.0	0.37
SWFTS-MW06A	10/23/2017	SWFTS-MW06A-EM05	N	EM05	2,300	350	1.9	3.3	2.52
SWFTS-MW06A	11/16/2017	SWFTS-MW06A-EM06	N	EM06	3,300	380	2.5	2.8	0.42
SWFTS-MW06A	12/13/2017	SWFTS-MW06A-EM07	N	EM07	3,600	520	2.6	2.7	0.17
SWFTS-MW06A	2/22/2018	SWFTS-MW06A-EM08	N	EM08	1,800	200	0.88	3.4	0.37
SWFTS-MW06A	3/28/2018	SWFTS-MW06A-EM09	N	EM09	1,500	77	0.36	3.1	0.44
SWFTS-MW06A	5/1/2018	SWFTS-MW06A-EM10	N	EM10	760 J	10 J	0.11	3.1	0.27
SWFTS-MW06A	5/1/2018	SWFTS-MW06A-EM10-FD	FD	EM10	880	13 J	0.11	3.1	---
SWFTS-MW06A	7/11/2018	SWFTS-MW06A-EM11	N	EM11	830	21	0.11 J	2.9	2.40
SWFTS-MW06A	7/11/2018	SWFTS-MW06A-EM11-FD	FD	EM11	840	20	<0.11	2.9	---
SWFTS-MW06A	8/14/2018	SWFTS-MW06A-EM13	N	EM13	1,500	96	0.28	3.4	0.69
SWFTS-MW06A	8/14/2018	SWFTS-MW06A-EM13-FD	FD	EM13	1,500	95	0.29	3.3	---
SWFTS-MW06A	9/11/2018	SWFTS-MW06A-EM14	N	EM14	1,700	150	0.42	3.4	0.49
SWFTS-MW06A	9/11/2018	SWFTS-MW06A-EM14-FD	FD	EM14	1,600	140	0.43	3.3	---
SWFTS-MW06B	3/30/2017	SWFTS-MW06B-BL01	N	BL01	1,000	490	0.13 J	3.5	0.06
SWFTS-MW06B	9/21/2017	SWFTS-MW06B-EM01	N	EM01	2,000	350	0.70	2.8	0.18
SWFTS-MW06B	9/27/2017	SWFTS-MW06B-EM02	N	EM02	2,000	360	0.76	3.3	0.78
SWFTS-MW06B	10/3/2017	SWFTS-MW06B-EM03	N	EM03	2,500	340	1.0	2.8	0.11
SWFTS-MW06B	10/11/2017	SWFTS-MW6B-EM04	N	EM04	4,400	380	1.1	3.1	0.45
SWFTS-MW06B	10/23/2017	SWFTS-MW06B-EM05	N	EM05	2,000	390	1.3	3.1	1.14
SWFTS-MW06B	11/16/2017	SWFTS-MW06B-EM06	N	EM06	2,800	400	1.8	2.9	0.44
SWFTS-MW06B	12/13/2017	SWFTS-MW06B-EM07	N	EM07	3,200	590	2.2	2.9	0.91
SWFTS-MW06B	2/22/2018	SWFTS-MW06B-EM08	N	EM08	2,900	480	1.9	3.1	0.47
SWFTS-MW06B	3/28/2018	SWFTS-MW06B-EM09	N	EM09	2,500	370	1.1	2.8	0.59
SWFTS-MW06B	5/1/2018	SWFTS-MW06B-EM10	N	EM10	1,800	270	0.56	2.9	1.31
SWFTS-MW06B	7/11/2018	SWFTS-MW06B-EM11	N	EM11	880	140	0.18 J	2.9	2.05
SWFTS-MW06B	8/14/2018	SWFTS-MW06B-EM13	N	EM13	1,200	170	0.14	3.8	0.57
SWFTS-MW06B	9/11/2018	SWFTS-MW06B-EM14	N	EM14	1,700	230	0.23	3.3	0.71
SWFTS-MW07A	3/30/2017	SWFTS-MW07A-BL01	N	BL01	14,000	44,000	11	2.1	0.16
SWFTS-MW07A	9/20/2017	SWFTS-MW07A-EM01	N	EM01	14,000	41,000	11	2.0	0.20
SWFTS-MW07A	9/26/2017	SWFTS-MW07A-EM02	N	EM02	15,000	36,000	11	2.3	0.49
SWFTS-MW07A	10/3/2017	SWFTS-MW07A-EM03	N	EM03	16,000	37,000	10	2.1	0.22
SWFTS-MW07A	10/11/2017	SWFTS-MW07A-EM04	N	EM04	12,000	39,000	12	2.0	0.11
SWFTS-MW07A	10/24/2017	SWFTS-MW07A-EM05	N	EM05	14,000	38,000	10	2.3	0.43
SWFTS-MW07A	11/15/2017	SWFTS-MW07A-EM06	N	EM06	16,000	40,000	12	2.1	0.35
SWFTS-MW07A	12/14/2017	SWFTS-MW07A-EM07	N	EM07	14,000	35,000	11	2.1	-0.02
SWFTS-MW07A	2/19/2018	SWFTS-MW07A-EM08	N	EM08	12,000	36,000	12	2.2	0.72
SWFTS-MW07A	3/28/2018	SWFTS-MW07A-EM09	N	EM09	11,000	36,000	12	1.8	3.29
SWFTS-MW07A	5/2/2018	SWFTS-MW07A-EM10	N	EM10	11,000	40,000	13	1.7	1.02



**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW07A	7/11/2018	SWFTS-MW07A-EM11	N	EM11	11,000	44,000	14	1.6	1.42
SWFTS-MW07A	8/16/2018	SWFTS-MW07A-EM13	N	EM13	8,600	76,000	15	2.0	0.58
SWFTS-MW07A	9/12/2018	SWFTS-MW07A-EM14	N	EM14	9,500	42,000	17	1.8	1.30
SWFTS-MW07B	3/30/2017	SWFTS-MW07B-BL01	N	BL01	13,000	40,000	11	2.0	1.29
SWFTS-MW07B	9/20/2017	SWFTS-MW07B-EM01	N	EM01	10,000	33,000	9.0	1.8	0.35
SWFTS-MW07B	9/26/2017	SWFTS-MW07B-EM02	N	EM02	11,000	29,000	10	2.2	0.60
SWFTS-MW07B	10/3/2017	SWFTS-MW07B-EM03	N	EM03	9,400	28,000	9.9	1.6	1.38
SWFTS-MW07B	10/11/2017	SWFTS-MW07B-EM04	N	EM04	8,400	28,000	11	1.7	0.13
SWFTS-MW07B	10/24/2017	SWFTS-MW07B-EM05	N	EM05	9,300	29,000	11	1.2	0.33
SWFTS-MW07B	11/15/2017	SWFTS-MW07B-EM06	N	EM06	9,700	29,000	12	2.0	0.42
SWFTS-MW07B	12/14/2017	SWFTS-MW07B-EM07	N	EM07	9,400	30,000	12	1.9	-0.09
SWFTS-MW07B	2/19/2018	SWFTS-MW07B-EM08	N	EM08	9,700	37,000	14	2.2	1.23
SWFTS-MW07B	3/28/2018	SWFTS-MW07B-EM09	N	EM09	11,000	47,000	16	1.7	0.30
SWFTS-MW07B	5/2/2018	SWFTS-MW07B-EM10	N	EM10	9,100	34,000	13	1.9	4.67
SWFTS-MW07B	7/11/2018	SWFTS-MW07B-EM11	N	EM11	8,300	43,000	16	1.7	1.60
SWFTS-MW07B	8/16/2018	SWFTS-MW07B-EM13	N	EM13	6,500	44,000	17	2.0	0.49
SWFTS-MW07B	9/12/2018	SWFTS-MW07B-EM14	N	EM14	6,200	31,000	17	1.8	1.69
SWFTS-MW08A	3/30/2017	SWFTS-MW08A-BL01	N	BL01	14,000	20,000	28 J	1.5	0.25
SWFTS-MW08A	9/20/2017	SWFTS-MW08A-EM01	N	EM01	10,000	47,000	12	1.4	0.41
SWFTS-MW08A	9/20/2017	SWFTS-MW08A-EM01-FD	FD	EM01	10,000	46,000	13	1.4	---
SWFTS-MW08A	9/26/2017	SWFTS-MW08A-EM02	N	EM02	9,800	40,000	12	1.7	0.27
SWFTS-MW08A	9/26/2017	SWFTS-MW08A-EM02-FD	FD	EM02	10,000	42,000	12	1.8	---
SWFTS-MW08A	10/5/2017	SWFTS-MW08A-EM03	N	EM03	7,800	42,000	14	1.6	4.16
SWFTS-MW08A	10/5/2017	SWFTS-MW08A-EM03-FD	FD	EM03	9,800	49,000	12	2.0	---
SWFTS-MW08A	10/10/2017	SWFTS-MW08A-EM04	N	EM04	9,500	43,000	12	1.6	44.01 E
SWFTS-MW08A	10/23/2017	SWFTS-MW08A-EM05	N	EM05	8,100	41,000	14	1.8	1.49
SWFTS-MW08A	10/23/2017	SWFTS-MW08A-EM05-FD	FD	EM05	8,100	40,000	12	1.8	---
SWFTS-MW08A	11/15/2017	SWFTS-MW08A-EM06	N	EM06	9,000	43,000	14	1.6	0.60
SWFTS-MW08A	12/14/2017	SWFTS-MW08A-EM07	N	EM07	8,900	45,000	14	1.6	0.11
SWFTS-MW08A	2/22/2018	SWFTS-MW08A-EM08	N	EM08	9,500	54,000	14	1.9	5.05
SWFTS-MW08A	3/29/2018	SWFTS-MW08A-EM09	N	EM09	9,100	59,000	15	1.5	2.61
SWFTS-MW08A	5/3/2018	SWFTS-MW08A-EM10	N	EM10	9,100	55,000	17	1.5	0.37
SWFTS-MW08A	7/11/2018	SWFTS-MW08A-EM11	N	EM11	7,500	63,000	15	1.3	1.54
SWFTS-MW08A	8/16/2018	SWFTS-MW08A-EM13	N	EM13	5,500	47,000	15	1.8	0.63
SWFTS-MW08A	9/12/2018	SWFTS-MW08A-EM14	N	EM14	5,600	43,000	15	1.6	0.77
SWFTS-MW08C	3/28/2017	SWFTS-MW08C-BL01	N	BL01	7,800	55,000	13	1.3	0.08
SWFTS-MW08C	12/14/2017	SWFTS-MW08C-EM07	N	EM07	9,300	50,000	13	1.1	-0.06
SWFTS-MW09A	3/29/2017	SWFTS-MW09A-BL01	N	BL01	14,000	50,000	13	1.6	0.33
SWFTS-MW09A	9/21/2017	SWFTS-MW09A-EM01	N	EM01	3,400	1,200	<0.55	51	0.57
SWFTS-MW09A	9/28/2017	SWFTS-MW09A-EM02	N	EM02	54	<100	<0.55	40	0.26
SWFTS-MW09A	10/4/2017	SWFTS-MW09A-EM03	N	EM03	420	200	<0.55	22	4.54
SWFTS-MW09A	10/11/2017	SWFTS-MW09A-EM04	N	EM04	8.4 J+	55	<0.55	7.5	0.12
SWFTS-MW09A	10/25/2017	SWFTS-MW09A-EM05	N	EM05	1,300	1,700	<0.55	2.9	0.31
SWFTS-MW09A	11/16/2017	SWFTS-MW09A-EM06	N	EM06	3,400	8,400	1.2	2.1	1.88
SWFTS-MW09A	12/12/2017	SWFTS-MW09A-EM07	N	EM07	5,400	16,000	2.7	2.1	0.29

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW09A	2/20/2018	SWFTS-MW09A-EM08	N	EM08	6,800	16,000	5.3	2.1	4.16
SWFTS-MW09A	3/27/2018	SWFTS-MW09A-EM09	N	EM09	6,700	18,000	6.4	1.8	2.12
SWFTS-MW09A	5/1/2018	SWFTS-MW09A-EM10	N	EM10	7,300	19,000	8.0	1.6	0.00
SWFTS-MW09A	7/12/2018	SWFTS-MW09A-EM11	N	EM11	2,800	2,700	3.1	2.0	1.86
SWFTS-MW09A	7/27/2018	SWFTS-MW09A-EM12	N	EM12	1,900	1,600	---	---	5.97
SWFTS-MW09A	8/14/2018	SWFTS-MW09A-EM13	N	EM13	7,200	7,600	4.5	2.2	2.83
SWFTS-MW09A	9/11/2018	SWFTS-MW09A-EM14	N	EM14	4,000	13,000	6.5	1.7	1.72
SWFTS-MW09B	3/29/2017	SWFTS-MW09B-BL01	N	BL01	13,000	46,000	12	1.8	0.31
SWFTS-MW09B	3/29/2017	SWFTS-MW09B-BL01-FD	FD	BL01	15,000	46,000	12	1.8	---
SWFTS-MW09B	9/21/2017	SWFTS-MW09B-EM01	N	EM01	220	390	<0.55	30	1.81
SWFTS-MW09B	9/28/2017	SWFTS-MW09B-EM02	N	EM02	990	2,500	<0.55	25	0.38
SWFTS-MW09B	10/4/2017	SWFTS-MW09B-EM03	N	EM03	430	1,000	<1.1	29	3.71
SWFTS-MW09B	10/11/2017	SWFTS-MW09B-EM04	N	EM04	1,400	3,000	1.1	18	0.12
SWFTS-MW09B	10/25/2017	SWFTS-MW09B-EM05	N	EM05	2,700	7,700	1.7	2.4	0.38
SWFTS-MW09B	11/16/2017	SWFTS-MW09B-EM06	N	EM06	2,400	8,600	2.1	2.1	0.77
SWFTS-MW09B	12/12/2017	SWFTS-MW09B-EM07	N	EM07	3,500	13,000	3.4	2.1	0.07
SWFTS-MW09B	2/20/2018	SWFTS-MW09B-EM08	N	EM08	800	1,400	<1.1	2.5	5.47
SWFTS-MW09B	3/27/2018	SWFTS-MW09B-EM09	N	EM09	7,700	28,000	5.9	1.8	2.09
SWFTS-MW09B	4/30/2018	SWFTS-MW09B-EM10	N	EM10	7,400	23,000	7.9	1.8	0.00
SWFTS-MW09B	7/12/2018	SWFTS-MW09B-EM11	N	EM11	6,500	15,000	7.0	1.9	1.58
SWFTS-MW09B	7/26/2018	SWFTS-MW09B-EM12	N	EM12	6,600	20,000	---	---	1.16
SWFTS-MW09B	8/14/2018	SWFTS-MW09B-EM13	N	EM13	6,400	24,000	9.7	2.1	2.99
SWFTS-MW09B	9/11/2018	SWFTS-MW09B-EM14	N	EM14	6,600	28,000	11	1.6	1.12
SWFTS-MW10A	3/31/2017	SWFTS-MW10A-BL01	N	BL01	13,000	27,000	5.1	2.8	2.70
SWFTS-MW10A	9/21/2017	SWFTS-MW10A-EM01	N	EM01	1.9 J	<50	<0.55	23	0.42
SWFTS-MW10A	9/27/2017	SWFTS-MW10A-EM02	N	EM02	100	<100	0.66 J	12	5.10
SWFTS-MW10A	10/4/2017	SWFTS-MW10A-EM03	N	EM03	14	<100	<0.28	10	4.56
SWFTS-MW10A	10/12/2017	SWFTS-MW10A-EM04	N	EM04	<0.95	13 J	<0.11	13	0.15
SWFTS-MW10A	10/24/2017	SWFTS-MW10A-EM05	N	EM05	14	630	<0.28	6.3	1.38
SWFTS-MW10A	11/16/2017	SWFTS-MW10A-EM06	N	EM06	11	<50	<0.28	4.2	0.60
SWFTS-MW10A	11/16/2017	SWFTS-MW10A-EM06-FD	FD	EM06	15	<50	<0.28	4.0	---
SWFTS-MW10A	12/12/2017	SWFTS-MW10A-EM07	N	EM07	160	190	<0.28	3.2	0.53
SWFTS-MW10A	12/12/2017	SWFTS-MW10A-EM07-FD	FD	EM07	170	180	<0.28	3.4	---
SWFTS-MW10A	2/20/2018	SWFTS-MW10A-EM08	N	EM08	990	1,400	<1.1	3.2	0.44
SWFTS-MW10A	2/20/2018	SWFTS-MW10A-EM08-FD	FD	EM08	1,000	1,300	1.3 J	3.3	---
SWFTS-MW10A	3/26/2018	SWFTS-MW10A-EM09	N	EM09	2,300	4,000	0.37 J	2.8	---
SWFTS-MW10A	3/26/2018	SWFTS-MW10A-EM09-FD	FD	EM09	2,200	4,000	0.36 J	2.8 J-	---
SWFTS-MW10A	5/1/2018	SWFTS-MW10A-EM10	N	EM10	4,300	4,800	0.96 J	2.5	0.83
SWFTS-MW10A	7/11/2018	SWFTS-MW10A-EM11	N	EM11	3,000 J-	40 J	0.89 J	2.2	2.42
SWFTS-MW10A	7/26/2018	SWFTS-MW10A-EM12	N	EM12	1,300	<10	---	---	0.55
SWFTS-MW10A	8/14/2018	SWFTS-MW10A-EM13	N	EM13	1,500	<10	<0.55	3.0	2.59
SWFTS-MW10A	9/10/2018	SWFTS-MW10A-EM14	N	EM14	1,500	<10	<0.55	2.9	0.37
SWFTS-MW10C	3/28/2017	SWFTS-MW10C-BL01	N	BL01	8,300	39,000	7.6	1.5	0.09
SWFTS-MW10C	12/12/2017	SWFTS-MW10C-EM07	N	EM07	9,200	38,000	8.4	1.3	0.51
SWFTS-MW11	7/12/2017	SWFTS-MW11-BL02	N	BL02	13,000 J+	41,000	12	1.8	4.30

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW11	9/20/2017	SWFTS-MW11-EM01	N	EM01	13,000	40,000	11	1.7	1.86
SWFTS-MW11	9/26/2017	SWFTS-MW11-EM02	N	EM02	14,000	37,000	12	2.1	1.47
SWFTS-MW11	10/3/2017	SWFTS-MW11-EM03	N	EM03	13,000	36,000	12	1.8	0.93
SWFTS-MW11	10/11/2017	SWFTS-MW11-EM04	N	EM04	16,000	38,000	11	1.6	1.15
SWFTS-MW11	10/24/2017	SWFTS-MW11-EM05	N	EM05	13,000	36,000	12	5.7	2.32
SWFTS-MW11	11/16/2017	SWFTS-MW11-EM06	N	EM06	14,000	37,000	12	1.7	0.95
SWFTS-MW11	12/14/2017	SWFTS-MW11-EM07	N	EM07	12,000	40,000	11	2.0	1.78
SWFTS-MW11	2/21/2018	SWFTS-MW11-EM08	N	EM08	12,000	45,000	14	1.7	7.35
SWFTS-MW11	2/21/2018	SWFTS-MW11-EM08-FD	FD	EM08	12,000	46,000	13	1.9	---
SWFTS-MW11	3/28/2018	SWFTS-MW11-EM09	N	EM09	13,000	49,000	14	1.5	4.05
SWFTS-MW11	3/28/2018	SWFTS-MW11-EM09-FD	FD	EM09	13,000	49,000	14	1.5	---
SWFTS-MW11	5/1/2018	SWFTS-MW11-EM10	N	EM10	13,000	52,000	14	1.5	5.35
SWFTS-MW11	5/1/2018	SWFTS-MW11-EM10-FD	FD	EM10	12,000	48,000	14	1.4	---
SWFTS-MW11	7/12/2018	SWFTS-MW11-EM11	N	EM11	11,000	52,000	16	1.2	5.48
SWFTS-MW11	7/12/2018	SWFTS-MW11-EM11-FD	FD	EM11	11,000	52,000	16	1.2	---
SWFTS-MW11	8/16/2018	SWFTS-MW11-EM13	N	EM13	9,400	53,000	16	1.7	2.83
SWFTS-MW11	8/16/2018	SWFTS-MW11-EM13-FD	FD	EM13	9,600	52,000	16	1.8	---
SWFTS-MW11	9/12/2018	SWFTS-MW11-EM14	N	EM14	11,000	52,000	16	1.5	4.18
SWFTS-MW11	9/12/2018	SWFTS-MW11-EM14-FD	FD	EM14	11,000	52,000	16	1.4	---
SWFTS-MW12	7/13/2017	SWFTS-MW12-BL02	N	BL02	5,100	37,000	16	0.88 J	7.81
SWFTS-MW12	9/19/2017	SWFTS-MW12-EM01	N	EM01	5,100	360,000	14	1.1	4.36
SWFTS-MW12	9/26/2017	SWFTS-MW12-EM02	N	EM02	4,900	34,000	14	1.6	2.98
SWFTS-MW12	10/3/2017	SWFTS-MW12-EM03	N	EM03	5,400	34,000	14 J-	0.78 J	2.77
SWFTS-MW12	10/11/2017	SWFTS-MW12-EM04	N	EM04	4,800	35,000	13	0.93 J	1.59
SWFTS-MW12	10/24/2017	SWFTS-MW12-EM05	N	EM05	5,000	37,000	14	1.2	5.09
SWFTS-MW12	11/14/2017	SWFTS-MW12-EM06	N	EM06	4,700	33,000	14	0.99 J	2.52
SWFTS-MW12	12/14/2017	SWFTS-MW12-EM07	N	EM07	4,900	30,000	13	1.5	4.37
SWFTS-MW12	2/22/2018	SWFTS-MW12-EM08	N	EM08	4,500	26,000	12	1.6	5.95
SWFTS-MW12	3/28/2018	SWFTS-MW12-EM09	N	EM09	6,400	39,000	14	1.3	4.30
SWFTS-MW12	5/3/2018	SWFTS-MW12-EM10	N	EM10	4,200	28,000	13	0.89 J	2.24
SWFTS-MW12	7/12/2018	SWFTS-MW12-EM11	N	EM11	4,600	35,000	13	0.69 J	5.35
SWFTS-MW12	8/16/2018	SWFTS-MW12-EM13	N	EM13	4,000	86,000	14	1.2	2.75
SWFTS-MW12	9/12/2018	SWFTS-MW12-EM14	N	EM14	4,800	36,000	14	1.1	3.46
SWFTS-MW13	7/12/2017	SWFTS-MW13-BL02	N	BL02	4,600	40,000	12	1.6	4.72
SWFTS-MW13	9/20/2017	SWFTS-MW13-EM01	N	EM01	10,000	52,000	17	1.1	5.20
SWFTS-MW13	9/26/2017	SWFTS-MW13-EM02	N	EM02	6,200	53,000	18	1.4	3.17
SWFTS-MW13	10/3/2017	SWFTS-MW13-EM03	N	EM03	6,900	100	17 J-	1.1	5.57
SWFTS-MW13	10/10/2017	SWFTS-MW13-EM04	N	EM04	6,300	51,000	16	0.98 J	2.40
SWFTS-MW13	10/24/2017	SWFTS-MW13-EM05	N	EM05	6,100	52,000	19	1.3	6.62
SWFTS-MW13	11/15/2017	SWFTS-MW13-EM06	N	EM06	5,900	49,000	16	0.93 J	3.22
SWFTS-MW13	12/14/2017	SWFTS-MW13-EM07	N	EM07	6,200	49,000	16	1.2	3.79
SWFTS-MW13	2/22/2018	SWFTS-MW13-EM08	N	EM08	5,800	50,000	15	1.5	4.95
SWFTS-MW13	3/26/2018	SWFTS-MW13-EM09	N	EM09	6,400	52,000	16 J+	1.2	---
SWFTS-MW13	5/3/2018	SWFTS-MW13-EM10	N	EM10	6,000	49,000	18	1.1	8.17
SWFTS-MW13	7/12/2018	SWFTS-MW13-EM11	N	EM11	6,300	49,000	16	0.80 J	6.45

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW13	8/16/2018	SWFTS-MW13-EM13	N	EM13	5,200	21,000	17	1.3	2.95
SWFTS-MW13	9/13/2018	SWFTS-MW13-EM14	N	EM14	5,000	48,000	16	1.2	3.44
SWFTS-MW14	7/12/2017	SWFTS-MW14-BL02	N	BL02	23,000	54,000	12	2.6	0.65
SWFTS-MW14	7/12/2017	SWFTS-MW14-BL02-FD	FD	BL02	22,000	52,000	12	2.3	---
SWFTS-MW14	9/20/2017	SWFTS-MW14-EM01	N	EM01	<9.5	<100	<0.55	100	0.39
SWFTS-MW14	9/26/2017	SWFTS-MW14-EM02	N	EM02	<4.8	2,400	<1.1	81	0.17
SWFTS-MW14	10/3/2017	SWFTS-MW14-EM03	N	EM03	4.8	<100	<0.55 UJ	36	0.19
SWFTS-MW14	10/11/2017	SWFTS-MW14-EM04	N	EM04	<9.5	<50	<0.55	4.1	0.39
SWFTS-MW14	10/27/2017	SWFTS-MW14-EM05	N	EM05	26	<50	<0.28	3.5	0.60
SWFTS-MW14	11/15/2017	SWFTS-MW14-EM06	N	EM06	20 J+	<50	<0.55	3.1	0.83
SWFTS-MW14	12/12/2017	SWFTS-MW14-EM07	N	EM07	1,600	2,400	<0.55	2.6	6.49
SWFTS-MW14	2/20/2018	SWFTS-MW14-EM08	N	EM08	2,200	<100	<1.1	670	3.12
SWFTS-MW14	3/26/2018	SWFTS-MW14-EM09	N	EM09	5,500	<50	<0.28	220	---
SWFTS-MW14	4/30/2018	SWFTS-MW14-EM10	N	EM10	4,300	26 J	<0.55	91	0.45
SWFTS-MW14	7/10/2018	SWFTS-MW14-EM11	N	EM11	6.5	<25	<0.55	180	0.90
SWFTS-MW14	7/26/2018	SWFTS-MW14-EM12	N	EM12	<95	<10	---	---	2.26
SWFTS-MW14	8/14/2018	SWFTS-MW14-EM13	N	EM13	8.2 J	<10	<0.55	130	0.47
SWFTS-MW14	9/11/2018	SWFTS-MW14-EM14	N	EM14	6.4 J	<10	<0.55	91	0.25
SWFTS-MW15	7/13/2017	SWFTS-MW15-BL02	N	BL02	15,000	43,000	10	1.6	0.47
SWFTS-MW15	9/20/2017	SWFTS-MW15-EM01	N	EM01	11,000	40,000	10	1.6	0.27
SWFTS-MW15	9/26/2017	SWFTS-MW15-EM02	N	EM02	12,000	41,000	11	1.5	0.30
SWFTS-MW15	10/4/2017	SWFTS-MW-15-EM03	N	EM03	11,000	39,000	12	1.4	0.38
SWFTS-MW15	10/10/2017	SWFTS-MW15-EM04	N	EM04	18,000	40,000	11	1.6	0.21
SWFTS-MW15	10/27/2017	SWFTS-MW15-EM05	N	EM05	13,000	38,000	13	1.8	0.78
SWFTS-MW15	11/14/2017	SWFTS-MW15-EM06	N	EM06	9,900	38,000	12	1.8	1.08
SWFTS-MW15	12/13/2017	SWFTS-MW15-EM07	N	EM07	13,000	38,000	12	1.6	3.83
SWFTS-MW15	2/19/2018	SWFTS-MW15-EM08	N	EM08	12,000	47,000	11	1.6	3.24
SWFTS-MW15	3/26/2018	SWFTS-MW15-EM09	N	EM09	12,000	52,000	12	1.7	---
SWFTS-MW15	5/2/2018	SWFTS-MW15-EM10	N	EM10	13,000	59,000	14	1.4	1.09
SWFTS-MW15	7/11/2018	SWFTS-MW15-EM11	N	EM11	9,300	45,000	12 J-	3.5	6.10
SWFTS-MW15	7/26/2018	SWFTS-MW15-EM12	N	EM12	6,800	39,000	---	---	2.73
SWFTS-MW15	8/15/2018	SWFTS-MW15-EM13	N	EM13	9,000	52,000	16	1.9	0.97
SWFTS-MW15	9/11/2018	SWFTS-MW15-EM14	N	EM14	7,800	48,000	16	1.4	0.73
SWFTS-MW16	7/13/2017	SWFTS-MW16-BL02	N	BL02	8,400	38,000	12	1.6	0.93
SWFTS-MW16	9/22/2017	SWFTS-MW16-EM01	N	EM01	1,700	8,700	3.3	120	0.71
SWFTS-MW16	9/26/2017	SWFTS-MW16-EM02	N	EM02	1,300	8,800	3.8	68	1.54
SWFTS-MW16	10/3/2017	SWFTS-MW16-EM03	N	EM03	1,600	6,300	2.7	92	1.30
SWFTS-MW16	10/12/2017	SWFTS-MW16-EM04	N	EM04	1,100	5,800	2.1	180	1.32
SWFTS-MW16	10/24/2017	SWFTS-MW16-EM05	N	EM05	830	4,700	1.5	180	1.03
SWFTS-MW16	11/16/2017	SWFTS-MW16-EM06	N	EM06	<0.95	4,000	1.2	110	0.49
SWFTS-MW16	12/12/2017	SWFTS-MW16-EM07	N	EM07	490	3,100	1.1	5.9	0.56
SWFTS-MW16	2/21/2018	SWFTS-MW16-EM08	N	EM08	620	2,800	<1.1	7.7	0.49
SWFTS-MW16	3/27/2018	SWFTS-MW16-EM09	N	EM09	9,000	46,000	12	1.5	0.49
SWFTS-MW16	5/2/2018	SWFTS-MW16-EM10	N	EM10	1,500 J	11,000	3.5	2.3	0.15
SWFTS-MW16	7/11/2018	SWFTS-MW16-EM11	N	EM11	<4.8	<5.0	<0.55	7.9	5.38

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW16	7/26/2018	SWFTS-MW16-EM12	N	EM12	<0.95	<4.0	---	---	1.99
SWFTS-MW16	8/15/2018	SWFTS-MW16-EM13	N	EM13	12	67	<0.28	3.2	0.98
SWFTS-MW16	9/10/2018	SWFTS-MW16-EM14	N	EM14	200	1,400	0.42 J	2.9	0.78
SWFTS-MW17	7/12/2017	SWFTS-MW17-BL02	N	BL02	3,200	---	16	1.1	4.30
SWFTS-MW17	9/19/2017	SWFTS-MW17-EM01	N	EM01	2,600	180,000	16	1.2	5.07
SWFTS-MW17	9/19/2017	SWFTS-MW17-EM01-FD	FD	EM01	2,600	180,000	16	1.3	---
SWFTS-MW17	9/26/2017	SWFTS-MW17-EM02	N	EM02	2,800	17,000	17	1.5	4.04
SWFTS-MW17	9/26/2017	SWFTS-MW17-EM02-FD	FD	EM02	2,800	17,000	17	1.5	---
SWFTS-MW17	10/3/2017	SWFTS-MW17-EM03	N	EM03	3,300	19,000	15	1.1	6.87
SWFTS-MW17	10/3/2017	SWFTS-MW17-EM03-FD	FD	EM03	3,300	19,000	16	1.0	---
SWFTS-MW17	10/10/2017	SWFTS-MW17-EM04	N	EM04	2,800	16,000	16	1.3	3.90
SWFTS-MW17	10/24/2017	SWFTS-MW17-EM05	N	EM05	2,700	15,000	17	1.2	5.28
SWFTS-MW17	10/24/2017	SWFTS-MW17-EM05-FD	FD	EM05	2,700	15,000	16	2.2	---
SWFTS-MW17	11/15/2017	SWFTS-MW17-EM06	N	EM06	2,300	16,000	17	1.3	4.91
SWFTS-MW17	11/15/2017	SWFTS-MW17-EM06-FD	FD	EM06	2,200	15,000	17	1.2	---
SWFTS-MW17	12/13/2017	SWFTS-MW17-EM07	N	EM07	2,200	14,000	16	1.2	5.54
SWFTS-MW17	12/13/2017	SWFTS-MW17-EM07-FD	FD	EM07	2,300	13,000	16	1.2	---
SWFTS-MW17	2/22/2018	SWFTS-MW17-EM08	N	EM08	2,000	15,000	16	2.1	3.65
SWFTS-MW17	3/28/2018	SWFTS-MW17-EM09	N	EM09	2,000	14,000	15	1.2	3.49
SWFTS-MW17	5/3/2018	SWFTS-MW17-EM10	N	EM10	1,900 J-	11,000	15	1.1	4.08
SWFTS-MW17	7/11/2018	SWFTS-MW17-EM11	N	EM11	1,300	11,000	15	1.1	4.35
SWFTS-MW17	8/16/2018	SWFTS-MW17-EM13	N	EM13	1,600	12,000	16	1.4	4.56
SWFTS-MW17	9/12/2018	SWFTS-MW17-EM14	N	EM14	1,900	13,000	15	1.0	3.49
SWFTS-MW18	7/11/2017	SWFTS-MW18-BL02	N	BL02	13,000	52,000	12	1.5	2.68
SWFTS-MW18	9/21/2017	SWFTS-MW18-EM01	N	EM01	9,700	34,000	8.9	2.0	0.59
SWFTS-MW18	9/27/2017	SWFTS-MW18-EM02	N	EM02	11,000	36,000	12	2.2	0.40
SWFTS-MW18	10/3/2017	SWFTS-MW18-EM03	N	EM03	8,100	30,000	8.6	1.5	2.22
SWFTS-MW18	10/10/2017	SWFTS-MW18-EM04	N	EM04	9,700	40,000	12	1.7	0.31
SWFTS-MW18	10/23/2017	SWFTS-MW18-EM05	N	EM05	8,200	38,000	12	1.7	0.98
SWFTS-MW18	11/15/2017	SWFTS-MW18-EM06	N	EM06	11,000	37,000	11	1.8	1.37
SWFTS-MW18	12/13/2017	SWFTS-MW18-EM07	N	EM07	9,100	39,000	12	1.6	0.40
SWFTS-MW18	2/22/2018	SWFTS-MW18-EM08	N	EM08	8,900	45,000	12	2.3	0.51
SWFTS-MW18	3/27/2018	SWFTS-MW18-EM09	N	EM09	2,000	11,000	3.9	2.5	0.25
SWFTS-MW18	3/27/2018	SWFTS-MW18-EM09-FD	FD	EM09	2,100	11,000	3.5	2.4	---
SWFTS-MW18	5/1/2018	SWFTS-MW18-EM10	N	EM10	9,200	50,000	13	1.5	0.43
SWFTS-MW18	7/11/2018	SWFTS-MW18-EM11	N	EM11	6,900	41,000	11	1.6	0.01
SWFTS-MW18	7/26/2018	SWFTS-MW18-EM12	N	EM12	6,100	43,000	---	---	2.81
SWFTS-MW18	8/15/2018	SWFTS-MW18-EM13	N	EM13	5,900	41,000	13	2.0	0.58
SWFTS-MW18	9/11/2018	SWFTS-MW18-EM14	N	EM14	5,600	41,000	13	1.6	0.79
SWFTS-MW19	7/12/2017	SWFTS-MW19-BL02	N	BL02	840	130	0.33	2.6	0.77
SWFTS-MW19	9/21/2017	SWFTS-MW19-EM01	N	EM01	1,400	220	0.51	2.3	0.43
SWFTS-MW19	9/28/2017	SWFTS-MW19-EM02	N	EM02	1,400	260	0.74	2.8	6.39
SWFTS-MW19	10/5/2017	SWFTS-MW19-EM03	N	EM03	1,400	220	0.63	2.6	5.16
SWFTS-MW19	10/12/2017	SWFTS-MW19-EM04	N	EM04	1,400	220 J+	0.70	2.2	0.28
SWFTS-MW19	10/27/2017	SWFTS-MW19-EM05	N	EM05	1,900	250	0.77	2.6	0.38

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW19	11/16/2017	SWFTS-MW-19-EM06	N	EM06	1,500	270	0.97	2.3	0.73
SWFTS-MW19	12/12/2017	SWFTS-MW19-EM07	N	EM07	2,000	410	1.2	2.4	0.92
SWFTS-MW19	2/20/2018	SWFTS-MW19-EM08	N	EM08	1,900	610	0.73	2.6	1.25
SWFTS-MW19	3/27/2018	SWFTS-MW19-EM09	N	EM09	1,800	650	0.71	2.2	1.09
SWFTS-MW19	4/30/2018	SWFTS-MW19-EM10	N	EM10	1,800	820	0.70	2.2	0.56
SWFTS-MW19	4/30/2018	SWFTS-MW19-EM10-FD	FD	EM10	1,700	760	0.67	2.2	---
SWFTS-MW19	7/10/2018	SWFTS-MW19-EM11	N	EM11	2,000	1,100	0.52	1.9	2.80
SWFTS-MW19	7/10/2018	SWFTS-MW19-EM11-FD	FD	EM11	2,000	1,000	0.52	1.9	---
SWFTS-MW19	7/26/2018	SWFTS-MW19-EM12	N	EM12	1,800	890	---	---	1.11
SWFTS-MW19	7/26/2018	SWFTS-MW19-EM12-FD	FD	EM12	1,700	890	---	---	---
SWFTS-MW19	8/15/2018	SWFTS-MW19-EM13	N	EM13	1,700	900	0.44	2.4	0.95
SWFTS-MW19	9/11/2018	SWFTS-MW19-EM14	N	EM14	1,500	850	0.37	2.0	1.06
SWFTS-MW20	7/12/2017	SWFTS-MW20-BL02	N	BL02	20,000	51,000	13	1.7	6.05
SWFTS-MW20	9/21/2017	SWFTS-MW20-EM01	N	EM01	17,000	30,000	7.3	2.5	3.72
SWFTS-MW20	9/26/2017	SWFTS-MW20-EM02	N	EM02	16,000	33,000	7.6	3.0	0.49
SWFTS-MW20	10/4/2017	SWFTS-MW20-EM03	N	EM03	19,000	38,000	9.6	2.6	0.22
SWFTS-MW20	10/12/2017	SWFTS-MW20-EM04	N	EM04	14,000	42,000	8.5	2.2	0.23
SWFTS-MW20	10/12/2017	SWFTS-MW20-EM04-FD	FD	EM04	14,000	40,000	9.1	2.2	---
SWFTS-MW20	10/25/2017	SWFTS-MW20-EM05	N	EM05	17,000	40,000	11	2.6	0.45
SWFTS-MW20	11/16/2017	SWFTS-MW20-EM06	N	EM06	7,900	16,000	4.0	3.0	0.74
SWFTS-MW20	12/12/2017	SWFTS-MW20-EM07	N	EM07	16,000	43,000	8.5	2.2	0.20
SWFTS-MW20	2/19/2018	SWFTS-MW20-EM08	N	EM08	6,600	16,000	3.2	2.5	2.54
SWFTS-MW20	3/27/2018	SWFTS-MW20-EM09	N	EM09	11,000	24,000	5.2	2.2	3.64
SWFTS-MW20	4/30/2018	SWFTS-MW20-EM10	N	EM10	6,700	14,000	3.3	2.3	0.19
SWFTS-MW20	7/11/2018	SWFTS-MW20-EM11	N	EM11	6,700	16,000	3.2	2.8	1.72
SWFTS-MW20	7/26/2018	SWFTS-MW20-EM12	N	EM12	7,500	19,000	---	---	1.88
SWFTS-MW20	8/15/2018	SWFTS-MW20-EM13	N	EM13	4,300	5,600	2.8	2.8	0.81
SWFTS-MW20	8/15/2018	SWFTS-MW20-EM13-FD	FD	EM13	4,300	5,700	2.7	2.8	---
SWFTS-MW20	9/11/2018	SWFTS-MW20-EM14	N	EM14	3,400	8,500	2.3 J	2.6	0.51
SWFTS-MW20	9/11/2018	SWFTS-MW20-EM14-FD	FD	EM14	3,900	9,500	6.9 J	2.6	---
SWFTS-MW21	7/13/2017	SWFTS-MW21-BL02	N	BL02	5,800	49,000	15	0.94 J	6.15
SWFTS-MW21	9/21/2017	SWFTS-MW21-EM01	N	EM01	5,200	15,000	3.9	7.5	4.90
SWFTS-MW21	9/27/2017	SWFTS-MW21-EM02	N	EM02	950	4,700	1.8 J	19	0.28
SWFTS-MW21	10/5/2017	SWFTS-MW21-EM03	N	EM03	1,100	7,700	3.2	24	4.40
SWFTS-MW21	10/11/2017	SWFTS-MW21-EM04	N	EM04	820	4,200	1.8	25	0.28
SWFTS-MW21	10/27/2017	SWFTS-MW21-EM05	N	EM05	890	5,000	2.0	2.8	0.45
SWFTS-MW21	11/15/2017	SWFTS-MW21-EM06	N	EM06	2,300	13,000	3.7	2.1	3.07
SWFTS-MW21	12/13/2017	SWFTS-MW21-EM07	N	EM07	3,500	26,000	22	1.6	0.68
SWFTS-MW21	2/20/2018	SWFTS-MW21-EM08	N	EM08	4,800	34,000	11	1.6	0.24
SWFTS-MW21	2/20/2018	SWFTS-MW21-EM08-FD	FD	EM08	4,900	33,000	11	1.6	---
SWFTS-MW21	3/27/2018	SWFTS-MW21-EM09	N	EM09	4,600	32,000	10	1.1	0.37
SWFTS-MW21	4/30/2018	SWFTS-MW21-EM10	N	EM10	4,400	27,000	10	1.3	0.00
SWFTS-MW21	7/12/2018	SWFTS-MW21-EM11	N	EM11	1,300	7,900	2.8	3.7	0.06
SWFTS-MW21	7/27/2018	SWFTS-MW21-EM12	N	EM12	1,000	9,000	---	---	8.98 E
SWFTS-MW21	8/15/2018	SWFTS-MW21-EM13	N	EM13	1,300	2,900	1.9	2.7	0.68

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement Dissolved Oxygen
					ug/L	ug/L	mg/L	mg/L	mg/L
SWFTS-MW21	9/12/2018	SWFTS-MW21-EM14	N	EM14	2,000	2,600	1.3	2.2	0.35
SWFTS-MW22	7/13/2017	SWFTS-MW22-BL02	N	BL02	5,000	7,900	2.2	2.2	2.09
SWFTS-MW22	9/20/2017	SWFTS-MW22-EM01	N	EM01	4,000	6,700	1.7	2.2	0.32
SWFTS-MW22	9/27/2017	SWFTS-MW22-EM02	N	EM02	3,800	6,300	1.7	2.6	0.12
SWFTS-MW22	10/5/2017	SWFTS-MW22-EM03	N	EM03	3,500	6,000	1.7	2.7	0.41
SWFTS-MW22	10/12/2017	SWFTS-MW22-EM04	N	EM04	2,600	5,700	1.4	2.3	2.72
SWFTS-MW22	10/26/2017	SWFTS-MW22-EM05	N	EM05	3,700	5,500	1.6	2.6	0.29
SWFTS-MW22	11/16/2017	SWFTS-MW22-EM06	N	EM06	3,000	4,400	1.3	2.5	0.45
SWFTS-MW22	12/14/2017	SWFTS-MW22-EM07	N	EM07	2,500	4,900	1.4	2.6	1.31
SWFTS-MW22	2/21/2018	SWFTS-MW22-EM08	N	EM08	2,000	2,400	0.89 J	2.4	0.43
SWFTS-MW22	3/28/2018	SWFTS-MW22-EM09	N	EM09	2,000	2,600	0.83	2.4	0.65
SWFTS-MW22	4/30/2018	SWFTS-MW22-EM10	N	EM10	1,900	1,800	<0.055	2.2	0.26
SWFTS-MW22	7/10/2018	SWFTS-MW22-EM11	N	EM11	2,900	840	0.81	2.3	2.80
SWFTS-MW22	7/27/2018	SWFTS-MW22-EM12	N	EM12	2,200	3,600	---	---	4.13
SWFTS-MW22	8/16/2018	SWFTS-MW22-EM13	N	EM13	2,400	1,300	0.95 J+	2.4	2.29
SWFTS-MW22	9/11/2018	SWFTS-MW22-EM14	N	EM14	2,800	1,600 J+	1.2	2.2	0.47
SWFTS-MW23	7/13/2017	SWFTS-MW23-BL02	N	BL02	930	20	0.14 J	2.9	0.36
SWFTS-MW23	9/22/2017	SWFTS-MW23-EM01	N	EM01	1,700	160 J	0.64	3.1	0.55
SWFTS-MW23	9/28/2017	SWFTS-MW23-EM02	N	EM02	1,700	120	0.67	3.3	0.16
SWFTS-MW23	10/5/2017	SWFTS-MW23-EM03	N	EM03	1,900	<2,000	0.79	3.2	0.79
SWFTS-MW23	10/11/2017	SWFTS-MW23-EM04	N	EM04	4,000	220	0.88	2.9	1.87
SWFTS-MW23	10/26/2017	SWFTS-MW23-EM05	N	EM05	2,400	270	1.2	2.8	0.38
SWFTS-MW23	11/15/2017	SWFTS-MW23-EM06	N	EM06	2,400	270	1.4	3.0	0.49
SWFTS-MW23	12/12/2017	SWFTS-MW23-EM07	N	EM07	2,800	370	1.5	2.7	0.23
SWFTS-MW23	2/21/2018	SWFTS-MW23-EM08	N	EM08	2,800	300 J-	1.6	3.1	5.42
SWFTS-MW23	3/28/2018	SWFTS-MW23-EM09	N	EM09	2,100	180	0.83	2.8	2.59
SWFTS-MW23	5/2/2018	SWFTS-MW23-EM10	N	EM10	1,400	120	0.43	2.8	0.30
SWFTS-MW23	7/10/2018	SWFTS-MW23-EM11	N	EM11	1,000	18 J	0.11	2.7	0.44
SWFTS-MW23	8/16/2018	SWFTS-MW23-EM13	N	EM13	870	28	0.055 J	3.2	2.48
SWFTS-MW23	9/12/2018	SWFTS-MW23-EM14	N	EM14	1,300	52	0.11	2.7	0.64
SWFTS-MW24	7/13/2017	SWFTS-MW24-BL02	N	BL02	13,000	47,000	13	1.3	3.04
SWFTS-MW24	9/22/2017	SWFTS-MW24-EM01	N	EM01	9,400	32,000	9.0	1.7	1.31
SWFTS-MW24	9/28/2017	SWFTS-MW24-EM02	N	EM02	5,200	12,000	4.5	4.3	0.48
SWFTS-MW24	10/5/2017	SWFTS-MW24-EM03	N	EM03	7,800	34,000	9.4	2.0	0.76
SWFTS-MW24	10/11/2017	SWFTS-MW24-EM04	N	EM04	4,400	17,000	4.7	1.9	3.88
SWFTS-MW24	10/26/2017	SWFTS-MW24-EM05	N	EM05	7,000	24,000	7.9	2.0 J-	3.06
SWFTS-MW24	11/15/2017	SWFTS-MW24-EM06	N	EM06	4,100	14,000	3.9	1.9	1.39
SWFTS-MW24	12/12/2017	SWFTS-MW24-EM07	N	EM07	6,600	26,000	6.1	1.5	1.11
SWFTS-MW24	2/21/2018	SWFTS-MW24-EM08	N	EM08	6,100	22,000	6.9	2.0	0.95
SWFTS-MW24	3/28/2018	SWFTS-MW24-EM09	N	EM09	4,800	15,000	5.4	1.6	0.55
SWFTS-MW24	5/2/2018	SWFTS-MW24-EM10	N	EM10	4,800	12,000	6.6	1.5	0.00
SWFTS-MW24	7/12/2018	SWFTS-MW24-EM11	N	EM11	5,000	6,100	7.3	1.3	0.10
SWFTS-MW24	7/27/2018	SWFTS-MW24-EM12	N	EM12	4,000	7,100	---	---	5.09
SWFTS-MW24	8/15/2018	SWFTS-MW24-EM13	N	EM13	4,000	4,800	7.6	1.9	1.83
SWFTS-MW24	9/12/2018	SWFTS-MW24-EM14	N	EM14	3,700	3,500	6.1	1.6	0.75

**Table 2**  
**Groundwater Analytical Results**  
 Seep Well Field Area Bioremediation Treatability

Well	Sample Date	Sample ID	QC Type	Event	Perchlorate by USEPA Method 314.0	Chlorate by USEPA Method 300.1B	Nitrate (as N) by USEPA Method 300.0	Total Organic Carbon by SM 5310B	Field Measurement
					ug/L	ug/L	mg/L	mg/L	Dissolved Oxygen mg/L
SWFTS-MW25	7/13/2017	SWFTS-MW25-BL02	N	BL02	17,000	43,000	10	1.8	3.03
SWFTS-MW25	9/22/2017	SWFTS-MW25-EM01	N	EM01	280	<200	<0.55	13	0.50
SWFTS-MW25	9/28/2017	SWFTS-MW25-EM02	N	EM02	370	130	<0.55	4.8	0.14
SWFTS-MW25	10/5/2017	SWFTS-MW25-EM03	N	EM03	230	<500	<0.55	3.3	0.96
SWFTS-MW25	10/11/2017	SWFTS-MW25-EM04	N	EM04	140	160	<0.55	2.7	0.26
SWFTS-MW25	10/26/2017	SWFTS-MW25-EM05	N	EM05	420	170	<0.28	2.6	0.98
SWFTS-MW25	11/15/2017	SWFTS-MW25-EM06	N	EM06	440	630	<0.55	2.5	1.11
SWFTS-MW25	12/12/2017	SWFTS-MW25-EM07	N	EM07	2,300	1,700	<0.55	2.3	0.63
SWFTS-MW25	2/21/2018	SWFTS-MW25-EM08	N	EM08	2,800	4,700	<1.1	2.4	0.32
SWFTS-MW25	3/28/2018	SWFTS-MW25-EM09	N	EM09	4,600	11,000	2.8	2.0	0.20
SWFTS-MW25	5/3/2018	SWFTS-MW25-EM10	N	EM10	5,700	3,600	4.2	1.9	0.00
SWFTS-MW25	7/10/2018	SWFTS-MW25-EM11	N	EM11	4,300	2,100	3.6	1.7	3.00
SWFTS-MW25	7/27/2018	SWFTS-MW25-EM12	N	EM12	3,500	2,300	---	---	2.49
SWFTS-MW25	8/15/2018	SWFTS-MW25-EM13	N	EM13	4,500	4,300	5.2	2.3	1.91
SWFTS-MW25	9/12/2018	SWFTS-MW25-EM14	N	EM14	5,200	6,800	6.9	1.9	0.47

Notes:

mg/L - milligrams per liter

ug/L - micrograms per liter

-- not analyzed

< The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

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 high.

J- The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

E Instrument error during sampling