TETRA TECH

TECHNICAL MEMORANDUM

To:	**Nevada Environmental Response Trust**
Cc:	Nevada Division of Environmental Protection United States Environmental Protection Agency
From:	Chris Hayes
Date:	February 10, 2023
Subject:	**Unit 4 Source Area In-Situ Bioremediation Treatability Study Monthly Progress Report**

At the direction of the Nevada Environmental Response Trust (NERT or Trust), Tetra Tech, Inc. (Tetra Tech) has prepared this memorandum to summarize Tetra Tech's progress during December 2022 toward successfully implementing the Unit 4 Source Area In-Situ Bioremediation (ISB) Treatability Study.

Task Progress Update: December 2022

Task M21 – Unit 4 Source Area ISB Treatability Study

- Current Status –

  Phase 2 of the Unit 4 Source Area ISB Treatability Study is ongoing. A layout map and construction details of all injection, monitoring, and extraction wells are provided on Figure 1 and in Table 1. Operations, maintenance, and monitoring activities completed during December 2022 are summarized below.

  - Operations and Maintenance
    - Area 1 – The first phase of the treatability study for Area 1 consists of a total dissolved solids (TDS) reduction period prior to the injection of a carbon substrate due to the presence of extremely elevated TDS concentrations in groundwater in the Area 1 deep zone. Groundwater-only circulation consisting of the injection of clean water (formerly known as stabilized Lake Mead water [SLMW]) in a pulsed manner and continuous groundwater extraction is being performed to reduce TDS concentrations to levels that will allow biodegradation processes to proceed (i.e., TDS concentrations to below 21,000 milligrams per liter [mg/L]) prior to carbon substrate/water injections. The water injection and extraction operations began in the Area 1 deep zone on September 8, 2022 and are on-going. Specific details of ongoing operations include:
      - No injection/extraction operations occurred within the Area 1 intermediate zone because TDS concentrations are already suitable for carbon substrate/water injections.

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        - During the month of December, a total of 20,564 gallons of groundwater was extracted from one extraction well screened within the Area 1 deep zone, while a total of 71,341 gallons of clean water was injected into four injection wells. Summaries of Area 1 extractions and injections are provided in Tables 2 and 3, respectively. Operations were suspended for 24 hours on December 25, 2022 for the Christmas holiday.
    - Area 2 – Because TDS concentrations in Area 2 are lower than Area 1 and averaged approximately 19,500 mg/L during baseline sampling, ISB injection/extraction activities are being implemented without an initial TDS reduction step. Carbon substrate solution/water injection and groundwater extraction operations in both the intermediate and deep zones within Area 2 began on September 13, 2022 and are on-going. The injection process consists of daily-pulsed injections of a carbon substrate solution, followed by daily injections of distribution water. The carbon substrate solution currently consists of molasses, 0.5 molar sodium bicarbonate solution, trace mineral solution, and vitamin B12. The carbon substrate solution also initially contained filtered biosolids collected from the on-site fluidized bed reactors. The addition of the biosolids in the carbon substrate solution was discontinued on December 15, 2022 following completion of the first 90 days of system operation (in accordance with the Work Plan Addendum). As explained in previous monthly reports, the macronutrient solution consisting of urea and diammonium phosphate is not currently being added to the injectate solution to minimize precipitate formation. This macronutrient may be added in the future if required based on effectiveness monitoring results. Specific details of ongoing operations include the following:
        - During December 2022, approximately 27,506 gallons of groundwater were extracted from two extraction wells screened within the Area 2 intermediate zone, while approximately 25,192 gallons of carbon solution and 19,091 gallons of distribution water were injected into two injection wells. Within the Area 2 deep zone, approximately 10,365 gallons of groundwater were extracted from one extraction well, while approximately 15,352 gallons of carbon solution and 10,985 gallons of distribution water were injected into four injection wells. Summaries of Area 2 extractions and injections are provided in Tables 2 and 4, respectively. Operations were suspended for 24 hours on December 25, 2022 for the Christmas holiday.
- Effectiveness Monitoring – The effectiveness monitoring program included a baseline groundwater sampling event completed in April 2022 prior to system start-up. Following system start-up in early September 2022, the post-injection effectiveness monitoring program was implemented in accordance with the NDEP-approved Unit 4 Source Area ISB Treatability Study Work Plan Addendum. During the first month of operations, one biweekly sampling event of Area 2 monitoring wells was conducted in September 2022. The monitoring program shifted to monthly sampling in October 2022 and is ongoing for both Areas 1 and 2. Available draft groundwater analytical results from the baseline sampling event and subsequent monitoring events performed from September to November 2022 are presented in Table 5. The November 2022 groundwater results are summarized below. Groundwater analytical results from the most recent effectiveness monitoring event performed from December 5 – December 8, 2022 will be provided in future monthly progress reports as data become available. Final validated data will be provided in the final treatability study results report.
    - Area 1 Intermediate – Although active injection/extraction operations are not being performed in the Area 1 intermediate zone, groundwater samples were collected from

three intermediate monitoring wells during the November 2022 sampling event. Perchlorate concentrations in groundwater samples collected from U4-MW-02I and U4-MW-05I increased to levels above baseline, with concentrations of 1,190 milligrams per liter (mg/L) and 2,180 mg/L, respectively. However, the groundwater sample collected from monitoring well U4-MW07I indicated a 55 percent decrease in perchlorate concentrations when compared to baseline concentrations. Nitrate and chlorate concentrations at monitoring well U4-MW07I also decreased by 70 and 61 percent, respectively. TDS concentrations in the Area 1 intermediate zone ranged from 1,340 to 22,800 mg/L during the November reporting period. TDS concentrations in the groundwater sample collected from U4-MW-07I only slightly decreased by 20 percent compared to baseline concentrations. The migration of treated groundwater from Area 2 into the intermediate zone within Area 1 is likely occurring to some extent based on the increased total organic carbon (TOC) concentration of 88.5 mg/L observed at monitoring well U4-MW-02I during the November 2022 sampling event. This result was expected because Area 1 is downgradient from Area 2 and groundwater modeling indicated likely incomplete capture of Area 2 injectate based on achievable extraction rates from Area 2 extraction wells. Groundwater concentration trends in the Area 1 intermediate zone will continue to be monitored.

- Area 1 Deep – Groundwater samples were collected from four deep monitoring wells and one extraction well in Area 1 in November 2022 to evaluate TDS reductions due to active injection/extraction operations. TDS concentration reductions ranging from 16 to 79 percent were observed in groundwater samples collected from the four monitoring wells. The average TDS concentration in samples collected from the four monitoring wells reduced from an average baseline concentration of 34,305 mg/L to 22,080 mg/L in November 2022, which slightly remains above the targeted 21,000 mg/L criteria for the TDS reduction phase. TDS concentrations also reduced by 55 percent in the groundwater sample collected from extraction well U4-E-03D compared to baseline conditions. Concentration reductions of perchlorate, chlorate, and nitrate were also observed in groundwater samples collected from three of the four monitoring wells. During November 2022, perchlorate concentrations in the Area 1 deep zone ranged from 53.8 mg/L to 3,790 mg/L. Groundwater concentration trends in the Area 1 deep zone will continue to be monitored and compared to the 21,000 mg/L target for the TDS reduction phase of operations.
- Area 2 Intermediate – In November 2022, groundwater samples were collected from three monitoring wells and two extraction wells screened in the Area 2 intermediate zone. During November 2022, perchlorate concentrations in the Area 2 intermediate zone ranged from 2.9 mg/L to 149 mg/L, which represents perchlorate concentration reductions ranging from 64 to 97 percent when compared to baseline concentrations. Hexavalent chromium concentration reductions range from 73 to greater than 99 percent in groundwater samples collected from all three Area 2 intermediate monitoring wells. Greater than 95 percent reductions in nitrate and chlorate concentrations were also observed in groundwater samples collected from monitoring wells U4-MW-11I and U4-MW-12I. The groundwater samples collected from these locations also exhibited elevated TOC concentrations of 364 mg/L and 11.1 mg/L, respectively, which is notably higher than previous sampling events, indicating that the injected carbon substrate solution is being successfully distributed in the area of U4-MW-11I and U4-MW12I. Concentration reductions in the groundwater sample collected from monitoring well U4-MW13I also improved when compared to the October 2022 event, with perchlorate, chlorate, and nitrate concentration reductions ranging from 47 to 80 percent in November 2022 when

compared to baseline. Lastly, sulfate concentrations in groundwater samples collected from Area 2 intermediate monitoring wells in November 2022 indicated concentration reductions ranging from 14 to 75 percent, which were lower than the reductions for perchlorate, chlorate and nitrate. This is not unexpected because sulfate biodegradation often lags behind the more favorable nitrate, chlorate, and perchlorate biodegradation which appears to be the sequence observed in the Area 2 intermediate monitoring wells based on groundwater concentration reductions observed thus far.

- Area 2 Deep – Groundwater samples were collected from three deep monitoring wells and one deep extraction well during the November 2022 monthly sampling event. When compared to baseline, perchlorate concentration reductions of 20 percent and 67 percent were observed in groundwater samples collected from monitoring wells U4-MW-12D and U4-MW-13D, respectively. The groundwater sample collected from monitoring well U4-MW-11D indicated that perchlorate concentrations in November 2022 slightly decreased compared to October 2022; however, concentrations still remained approximately 7 percent above the baseline concentration. Hexavalent chromium concentration reductions of 25 and 97 percent were also observed in groundwater samples collected from monitoring wells U4-MW-12D and U4-MW-13D. Concentration reductions of nitrate and chlorate were slightly greater than that of perchlorate (reductions of up to 89 percent for nitrate and up to 72 percent for chlorate compared to baseline conditions), which is not surprising because the biodegradation sequence is often nitrate, chlorate, and then perchlorate. Results will continue to be monitored throughout the study to assess the reduction components related to biodegradation and dilution on reducing concentrations.
- Dye Study Monitoring – Dye samples were collected during the November 2022 effectiveness monitoring event, with results provided in Table 6. There were several cases where charcoal samplers showed low detections of dye, but the water samples did not show visible dye, indicating that either the dye peak already passed before the water sample was collected, or the concentrations of dye in the water were too low to be detectable. Dye testing will continue to be performed during the planned groundwater monitoring and extraction monitoring activities during the first six months of operations. Noteworthy results from the November 2022 sampling event are described below:
    - Area 1 – Fluorescein dye continued to be detected in samples collected from monitoring wells U4-MW-05D and U4-MW-07D, which was expected because those wells are immediately downgradient from the dye release points of U4-E-04D and U4-E-05D. The dye has continued to move downgradient and was detected in extraction well U4-E03D in November 2022. As expected, fluorescein has also been detected in the sample collected from U4-MW-07I, which is the shallower monitoring well screened in the intermediate zone. This confirms some hydraulic connectivity between the deep and intermediate zones.
    - Area 2 – Rhodamine WT was released in the intermediate zone at U4-E-09I and U4-E-10I. Rhodamine has been sporadically detected in a mix of shallow, intermediate, and deep wells that are not spatially related (i.e., not all in the same cluster). Results to date indicate that the intermediate zone may have some very specific preferential flow paths that are relatively fast and cross-connect the various zones. Rhodamine has not been detected in monitoring wells in the southern portion of the study area, which may indicate that the monitoring wells in that vicinity are not well-connected to the preferential flow pathways intersected by the two release points. Additionally, Rhodamine WT was also detected at low concentrations in several monitoring wells in Area 1, namely, U4-

MW04D, U4-MW-08DD, M-251-100 and M-252. These results indicate a connection between the deeper zones in Area 1 and Area 2.

- Lastly, although it was only detected at low concentrations in select monitoring wells during baseline, sulforhodamine B has been detected in groundwater samples from several monitoring wells since sampling began. Discussions with the laboratory are on-going about these results.

- Schedule and Progress Updates
  - Area 1 TDS reduction operations are anticipated to continue through March 2023 or until the average TDS concentrations from monitoring wells M251-100, U4-MW-02D, U4-MW-05D, and U4-MW-07D are reduced to approximately 21,000 mg/L or less, whichever occurs first.
  - Area 2 ISB operations are anticipated to continue through September 2023.
- Health and Safety
  - There were no health and safety incidents related to Task M21 during December 2022.

CERTIFICATION

Unit 4 Source Area In-Situ 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

Not Individually, but Solely
as President of the Trustee

Signature: Jay A Steinberg, 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

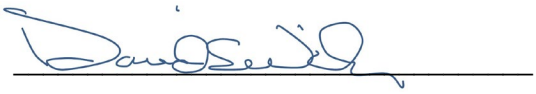
Company: Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

Date: 2/10/23

CERTIFICATION

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 Unit 4 Source Area In-Situ Bioremediation Treatability Study Monthly Progress Report.



February 10, 2023

David S. Wilson, CEM
Principal Engineer
Tetra Tech, Inc.

Date

Nevada CEM Certificate Number: 2385
Nevada CEM Expiration Date: September 19, 2024

Figures

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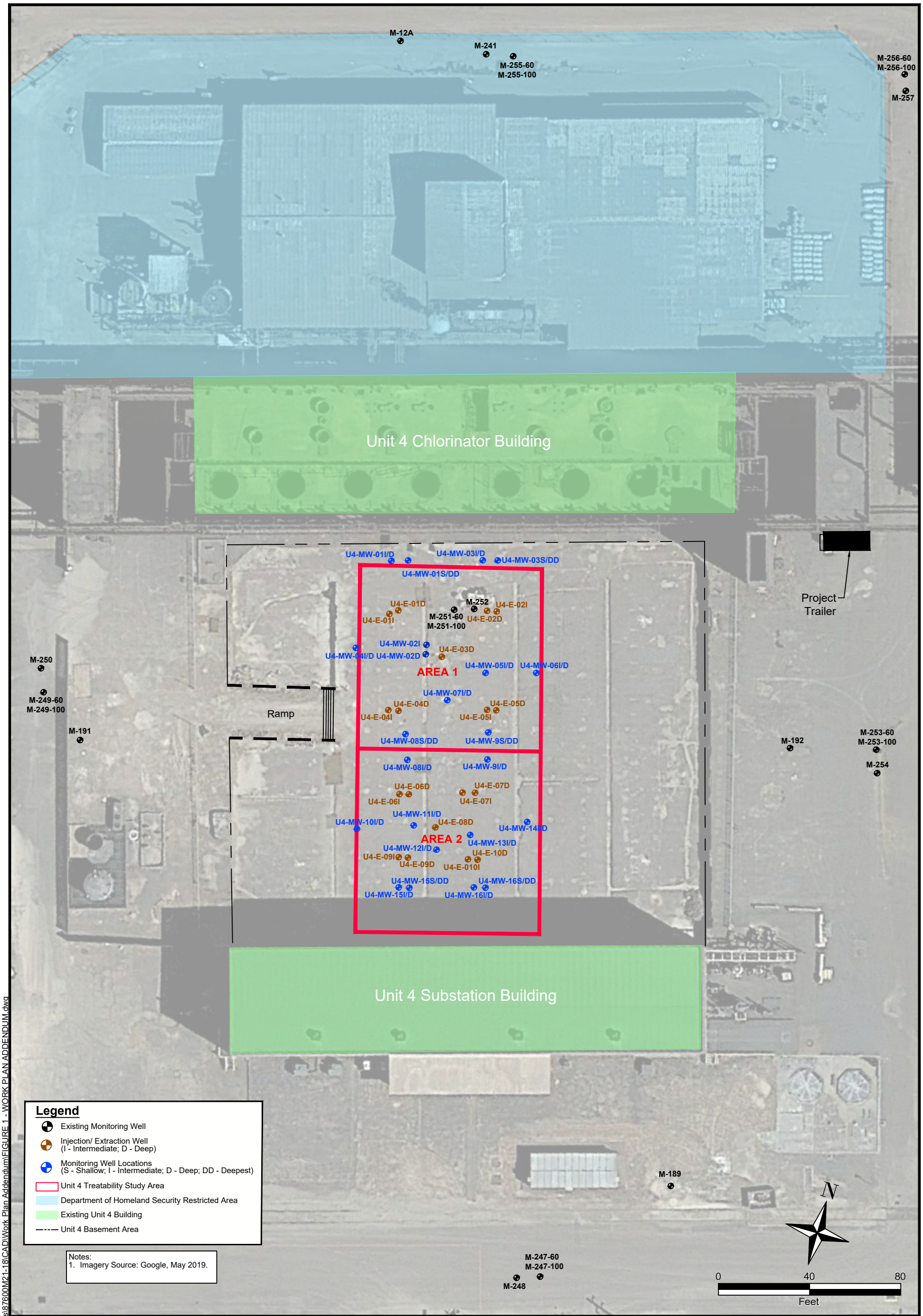

Legend

- Existing Monitoring Well
- Injection/ Extraction Well (I - Intermediate; D - Deep)
- Monitoring Well Locations (S - Shallow; I - Intermediate; D - Deep; DD - Deepest)
- Unit 4 Treatability Study Area
- Department of Homeland Security Restricted Area
- Existing Unit 4 Building
- Unit 4 Basement Area

Notes:
1. Imagery Source: Google, May 2019.

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NEVADA ENVIRONMENTAL RESPONSE TRUST SITE

UNIT 4 SOURCE AREA IN-SITU BIOREMEDIATION TREATABILITY STUDY
HENDERSON, NEVADA

INJECTION/ EXTRACTION AND MONITORING WELL LAYOUT

Project No.:	117-7502021-M21
Date:	May 10, 2022
Designed By:	AC

Figure No.

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Tables

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Table 1
Well Construction Details
Unit 4 Source Area In-Situ Bioremediation Treatability Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation[1]	Top of Casing Elevation	Construction Type	Casing Material	Screen Material	Slot Size	Filter Pack Gradation	Borehole Diameter	Borehole Total Depth	Well Diameter	Nominal Screen Length	Well Total Depth	Bottom of Screen	Top of Screen
				feet amsl	feet amsl				inches		inches	feet bgs[1]	inches	feet	feet bgs[1]	feet bgs[1]	feet bgs[1]
U4-E-01D	UMCf	26717332.49	828215.74	1805.50	1805.11	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	115.0	4	15	110.3	94.7	109.7
U4-E-01I	UMCf	26717330.42	828212.11	1805.40	1805.15	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.3	74.6	89.6
U4-E-02D	UMCf	26717338.47	828258.40	1805.55	1804.99	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	115.0	4	15	110.3	94.4	109.4
U4-E-02I	UMCf	26717338.14	828254.24	1805.51	1804.99	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.3	74.4	89.4
U4-E-04D	UMCf	26717288.90	828222.53	1805.49	1804.95	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	115.0	4	15	110.3	95.0	110.0
U4-E-03D	UMCf	26717310.37	828241.13	1805.49	1804.94	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	113.0	4	15	111.1	110.1	95.1
U4-E-04I	UMCf	26717288.51	828217.91	1805.64	1805.03	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.3	75.0	90.0
U4-E-05D	UMCf	26717295.64	828264.86	1805.48	1804.95	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	115.0	4	15	110.3	95.0	110.0
U4-E-05I	UMCf	26717295.15	828260.95	1805.58	1804.72	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.3	75.0	90.0
U4-E-06D	UMCf	26717253.44	828232.43	1805.44	1804.74	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	112.0	4	15	111.1	110.1	95.1
U4-E-06I	UMCf	26717252.90	828228.29	1805.47	1805.04	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.5	4	15	89.2	88.2	73.2
U4-E-07D	UMCf	26717258.48	828261.02	1805.62	1805.31	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	111.5	4	15	110.6	109.6	94.6
U4-E-07I	UMCf	26717257.68	828255.56	1805.62	1805.16	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.7	89.7	74.7
U4-E-08D	UMCf	26717240.82	828246.11	1805.45	1804.91	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	120.0	4	15	110.6	109.6	94.6
U4-E-09D	UMCf	26717225.92	828236.22	1805.45	1804.91	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	112.0	4	15	110.5	109.5	94.5
U4-E-09I	UMCf	26717225.46	828232.18	1805.47	1805.14	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	93.3	4	15	90.9	89.9	74.9
U4-E-10D	UMCf	26717229.55	828266.50	1805.66	1805.28	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	112.0	4	15	110.5	109.5	94.5
U4-E-10I	UMCf	26717229.15	828262.34	1805.71	1805.37	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.2	89.2	74.2
U4-MW-01I	UMCf	26717353.59	828209.51	1805.57	1805.14	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.0	2	10	86.7	86.7	76.7
U4-MW-01D	UMCf	26717353.51	828209.25	1805.57	1805.10		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.7	106.7	96.7
U4-MW-01S	UMCf	26717354.83	828216.42	1805.57	1805.02	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	131.0	2	10	64.7	64.7	54.7
U4-MW-01DD	UMCf	26717354.86	828216.87	1805.57	1805.09		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	129.9	129.9	119.9
U4-MW-02D	UMCf	26717315.33	828230.47	1805.50	1805.07	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	115.0	4	15	110.3	95.0	110.0
U4-MW-02I	UMCf	26717319.45	828230.17	1805.47	1805.07	Single	Schedule 80 PVC	Stainless Steel	0.010	#2/16	8	92.0	4	15	90.3	75.0	90.0
U4-MW-03I	UMCf	26717359.79	828248.76	1805.61	1805.17	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.3	2	10	86.6	86.6	76.6
U4-MW-03D	UMCf	26717360.01	828249.20	1805.61	1805.18		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.6	106.6	96.6
U4-MW-03S	UMCf	26717360.79	828255.35	1805.56	1805.19	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	131.3	2	10	64.5	64.5	54.5
U4-MW-03DD	UMCf	26717360.84	828255.62	1805.56	1805.20		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	129.7	129.7	119.7
U4-MW-04I	UMCf	26717313.50	828199.89	1805.49	1805.13	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.5	2	10	86.8	86.8	76.8
U4-MW-04D	UMCf	26717313.36	828199.55	1805.49	1805.15		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	107.0	107.0	97.0
U4-MW-05I	UMCf	26717311.18	828257.53	1805.52	1805.06	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.0	2	10	86.6	86.6	76.6
U4-MW-05D	UMCf	26717311.18	828257.89	1805.52	1805.05		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	108.2	108.2	98.2
U4-MW-06I	UMCf	26717314.46	828279.53	1805.52	1805.21	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.3	2	10	86.5	86.5	76.5
U4-MW-06D	UMCf	26717314.51	828279.82	1805.52	1805.20		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	107.1	107.1	97.1
U4-MW-07I	UMCf	26717296.98	828242.85	1805.36	1805.16	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.2	2	10	86.8	86.8	76.8
U4-MW-07D	UMCf	26717296.68	828242.80	1805.36	1805.01		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.5	106.5	96.5
U4-MW-08I	UMCf	26717268.25	828229.36	1805.45	1804.97	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.0	2	10	88.0	88.0	78.0
U4-MW-08D	UMCf	26717268.30	828229.62	1805.45	1804.99		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	108.6	108.6	98.6
U4-MW-08S	UMCf	26717279.33	828226.78	1805.47	1804.94	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	131.2	2	10	64.9	64.9	54.9
U4-MW-08DD	UMCf	26717279.35	828227.22	1805.47	1804.95		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	129.8	129.8	119.8
U4-MW-09I	UMCf	26717273.70	828264.04	1805.62	1805.22	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.0	2	10	86.8	86.8	76.8
U4-MW-09D	UMCf	26717273.73	828264.40	1805.62	1805.20		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.9	106.9	96.9
U4-MW-09S	UMCf	26717285.44	828262.62	1805.55	1805.12	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	132.0	2	10	65.3	65.3	55.3
U4-MW-09DD	UMCf	26717285.52	828263.00	1805.55	1805.12		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	129.8	129.8	119.8
U4-MW-10I	UMCf	26717234.83	828212.05	1805.55	1805.10	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.0	2	10	87.1	87.1	77.1
U4-MW-10D	UMCf	26717235.18	828212.26	1805.55	1805.07		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.9	106.9	96.9
U4-MW-11I	UMCf	26717240.19	828236.42	1805.41	1805.03	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.0	2	10	87.0	87.0	77.0
U4-MW-11D	UMCf	26717240.23	828236.77	1805.41	1804.96		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	107.4	107.4	97.4
U4-MW-12I	UMCf	26717231.25	828247.87	1805.47	1805.11	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.0	2	10	86.8	86.8	76.8
U4-MW-12D	UMCf	26717231.22	828248.29	1805.47	1805.12		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	107.1	107.1	97.1
U4-MW-13I	UMCf	26717242.66	828261.00	1805.64	1805.28	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.0	2	10	87.1	87.1	77.1
U4-MW-13D	UMCf	26717242.70	828261.37	1805.64	1805.35		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	108.2	108.2	98.2
U4-MW-14I	UMCf	26717249.26	828285.32	1805.43	1805.13	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.0	2	10	87.3	87.3	77.3
U4-MW-14D	UMCf	26717249.24	828285.84	1805.43	1805.05		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	107.3	107.3	97.3
U4-MW-15I	UMCf	26717212.34	828233.91	1805.48	1805.03	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	109.0	2	10	86.8	86.8	76.8
U4-MW-15D	UMCf	26717212.35	828234.41	1805.48	1804.97		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.0	106.0	96.0
U4-MW-15S	UMCf	26717212.89	828238.61	1805.44	1805.05	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	132.0	2	10	64.8	64.8	54.8
U4-MW-15DD	UMCf	26717212.87	828239.01	1805.44	1804.98		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	130.3	130.3	120.3
U4-MW-16I	UMCf	26717217.25	828266.62	1805.68	1805.36	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	108.5	2	10	87.0	87.0	77.0
U4-MW-16D	UMCf	26717217.40	828266.90	1805.68	1805.27		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	106.8	106.8	96.8
U4-MW-16S	UMCf	26717217.87	828271.70	1805.59	1805.24	Dual-Nested	Schedule 80 PVC	Stainless Steel	0.010	#2/16	11	131.0	2	10	64.8	64.8	54.8
U4-MW-16DD	UMCf	26717218.04	828271.95	1805.59	1805.32		Schedule 80 PVC	Stainless Steel	0.010	#2/16			2	10	130.8	130.8	120.8

Notes
amsl - above mean sea level
bgs - below ground surface
bTOC - below top of casing
PVC - polyvinyl chloride
UMCf - Upper Muddy Creek formation
1. Ground surface refers to the concrete floor of the Unit 4 basement, which is approximately 8 feet below the surrounding grade.
2. Well names including E indicate an extraction/injection well. Well names including MW indicate a monitoring well.

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Table 2
Summary of Groundwater Extraction Activities - December 2022
Unit 4 Source Area Bioremediation Treatability Study

Study Area			Area 1 Deep			Area 2 Intermediate						Area 2 Deep		
Well ID			U4-E-03D			U4-E-06I			U4-E-07I			U4-E-08D		
Date	Time	Duration[1]	Average Flow Rate	Volume Extracted[1]	Cumulative Total Volume	Average Flow Rate	Volume Extracted[1]	Cumulative Total Volume	Average Flow Rate	Volume Extracted[1]	Cumulative Total Volume	Average Flow Rate	Volume Extracted[1]	Cumulative Total Volume
		minutes	gpm	gallons	gallons	gpm	gallons	gallons	gpm	gallons	gallons	gpm	gallons	gallons
12/1/2022	15:10	1,446	0.7	945.39	67,312.87	0.5	660.56	70,695.80	0.2	291.24	25,690.50	0.3	492.48	35,456.99
12/2/2022	14:59	1,429	0.7	1,005.58	68,318.45	0.8	1166.37	71,862.17	0.2	316.24	26,006.74	0.3	490.32	35,947.31
12/3/2022	14:59	1,440	0.7	1,055.52	69,373.97	0.8	1137.56	72,999.73	0.2	301.06	26,307.80	0.4	505.80	36,453.11
12/4/2022	15:03	1,444	0.7	1,045.44	70,419.41	0.7	1055.24	74,054.97	0.2	298.40	26,606.20	0.4	520.36	36,973.47
12/5/2022	14:59	1,436	0.7	1,049.75	71,469.16	0.7	1048.81	75,103.78	0.2	288.09	26,894.29	0.4	516.97	37,490.44
12/6/2022	15:05	931	0.7	647.78	72,116.94	0.8	707.01	75,810.79	0.2	210.42	27,104.71	0.4	336.02	37,826.46
12/7/2022	15:04	1,439	0.7	935.42	73,052.36	0.8	1117.93	76,928.72	0.2	281.54	27,386.25	0.3	487.77	38,314.23
12/8/2022	14:39	1,415	0.7	970.39	74,022.75	0.7	997.32	77,926.04	0.2	292.77	27,679.02	0.4	563.35	38,877.58
12/9/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/10/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/11/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/12/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/13/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/14/2022[2]	---	---	---	---	74,022.75	---	---	77,926.04	---	---	27,679.02	---	---	38,877.58
12/15/2022	15:00	553	0.7	400.02	74,422.77	0.8	433.39	78,359.43	0.4	226.46	27,905.48	0.3	173.13	39,050.71
12/16/2022	14:57	1,437	0.7	974.80	75,397.57	0.8	1126.99	79,486.42	0.3	427.41	28,332.89	0.4	528.55	39,579.26
12/17/2022	15:00	1,443	0.6	866.91	76,264.48	0.8	1095.77	80,582.19	0.3	371.50	28,704.39	0.4	563.22	40,142.48
12/18/2022	15:00	1,440	0.6	835.20	77,099.68	0.7	1067.12	81,649.31	0.2	342.94	29,047.33	0.4	546.83	40,689.31
12/19/2022	16:12	1,512	0.6	915.51	78,015.19	0.7	1053.82	82,703.13	0.2	353.19	29,400.52	0.4	572.20	41,261.51
12/20/2022	15:01	1,369	0.7	891.10	78,906.29	0.7	941.16	83,644.29	0.2	301.92	29,702.44	0.4	504.50	41,766.01
12/21/2022	14:58	1,437	0.6	930.80	79,837.09	0.7	955.02	84,599.31	0.2	300.11	30,002.55	0.3	468.00	42,234.01
12/22/2022	15:02	1,444	0.7	952.17	80,789.26	0.6	879.81	85,479.12	0.2	299.85	30,302.40	0.2	287.71	42,521.72
12/23/2022	14:58	1,436	0.6	860.18	81,649.44	0.6	831.54	86,310.66	0.2	285.10	30,587.50	0.2	282.54	42,804.26
12/24/2022	12:00	1,262	0.5	659.25	82,308.69	0.5	655.64	86,966.30	0.2	256.04	30,843.54	0.2	239.16	43,043.42
12/25/2022[2]	---	---	---	---	82,308.69	---	---	86,966.30	---	---	30,843.54	---	---	43,043.42
12/26/2022	14:56	565	0.7	397.64	82,706.33	0.6	356.86	87,323.16	0.2	135.50	30,979.04	0.3	161.34	43,204.76
12/27/2022	15:01	1,445	0.7	977.20	83,683.53	0.6	803.91	88,127.07	0.2	293.97	31,273.01	0.3	394.78	43,599.54
12/28/2022	14:59	1,438	0.6	903.32	84,586.85	0.5	754.28	88,881.35	0.2	268.88	31,541.89	0.3	457.53	44,057.07
12/29/2022	14:58	1,439	0.6	791.68	85,378.53	0.4	644.56	89,525.91	0.2	263.40	31,805.29	0.3	451.06	44,508.13
12/30/2022	15:00	1,442	0.5	762.73	86,141.26	0.4	511.18	90,037.09	0.2	259.40	32,064.69	0.3	436.60	44,944.73
12/31/2022	15:00	1,440	0.5	790.57	86,931.83	0.4	578.17	90,615.26	0.2	260.85	32,325.54	0.3	384.62	45,329.35
September 2022 Total					**24,421.00**			**30,779.80**			**9,315.20**			**8,873.62**
October 2022 Total					**25,383.51**			**24,356.91**			**8,911.93**			**12,594.68**
November 2022 Total					**16,562.97**			**14,898.53**			**7,172.13**			**13,496.21**
December 2022 Total					**20,564.35**			**20,580.02**			**6,926.28**			**10,364.84**

Notes:
gpm - gallons per minute
1. Extraction operations are active 24 hours per day. Volume and duration quantities represent gallons or minutes of extraction since previous record indicated.
2. System operations were temporarily suspended from 12/9/22 through 12/15/22 and on 12/25/22.

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Table 3
Summary of Injection Activities
Area 1 - December 2022
Unit 4 Source Area Bioremediation Treatability Study

Study Area				Area 1 Deep											
Well ID				U4-E-01D			U4-E-02D			U4-E-04D			U4-E-05D		
Date	Injection Start Time	Injection Stop Time	Duration	Average Flow Rate	Volume Injected	Maximum Injection Pressure	Average Flow Rate	Volume Injected	Maximum Injection Pressure	Average Flow Rate	Volume Injected	Maximum Injection Pressure	Average Flow Rate	Volume Injected	Maximum Injection Pressure
			minutes	gpm	gallons	psi	gpm	gallons	psi	gpm	gallons	psi	gpm	gallons	psi
12/1/2022	5:04	14:28	520	1.5	796.15	22	1.5	795.79	30	1.5	784.98	18	1.5	786.32	20
12/2/2022	4:36	14:09	529	1.5	804.87	22	1.5	798.45	30	1.5	795.05	18	1.5	797.79	20
12/3/2022	4:55	14:19	520	1.5	794.17	22	1.5	791.31	30	1.5	787.49	18	1.5	789.80	20
12/4/2022	4:49	14:13	520	1.5	802.59	22	1.5	792.56	30	1.5	782.17	18	1.5	786.24	20
12/5/2022	4:37	14:07	526	1.5	803.35	22	1.5	797.32	30	1.5	783.35	18	1.5	793.72	20
12/6/2022	5:05	14:29	520	1.5	796.22	22	1.5	789.21	31	1.5	792.28	19	1.5	789.17	22
12/7/2022	5:03	14:30	523	1.6	810.71	22	1.5	797.83	32	1.5	792.59	18	1.5	787.52	22
12/8/2022	5:04	10:09	261	1.7	452.08	22	1.7	455.70	30	1.7	447.62	18	1.7	446.54	22
12/9/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/10/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/11/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/12/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/13/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/14/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/15/2022	5:05	14:08	499	1.5	755.95	23	1.5	758.93	33	1.5	760.82	20	1.5	749.82	24
12/16/2022	4:51	14:08	513	1.5	781.27	22	1.5	786.69	31	1.5	774.63	19	1.5	771.19	22
12/17/2022	5:02	13:59	493	1.4	695.42	23	1.5	745.96	31	1.4	676.36	21	1.5	739.36	24
12/18/2022	5:12	14:25	509	1.5	772.59	22	1.5	774.92	31	1.5	753.98	22	1.5	766.67	22
12/19/2022	5:08	16:10	618	1.6	958.72	28	1.4	889.03	32	1.5	942.76	23	1.5	943.40	22
12/20/2022	5:19	14:06	483	1.5	728.33	21	1.5	734.40	31	1.6	749.19	22	1.5	735.13	23
12/21/2022	5:11	14:07	492	1.6	769.19	21	1.5	759.28	34	1.5	752.80	22	1.5	747.29	23
12/22/2022	5:11	15:05	550	1.4	750.51	21	1.4	751.94	32	1.4	749.30	22	1.4	749.91	22
12/23/2022	5:22	14:21	495	1.5	750.91	21	1.5	752.77	32	1.5	746.43	21	1.5	749.28	25
12/24/2022	5:01	9:43	238	1.6	386.92	21	1.6	387.49	32	1.6	383.30	19	1.6	386.56	24
12/25/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/26/2022	5:11	14:02	487	1.5	743.07	22	1.5	734.84	32	1.5	740.14	21	1.5	735.79	24
12/27/2022	5:32	14:35	499	1.5	765.67	20	1.5	763.41	32	1.5	765.33	20	1.5	770.71	24
12/28/2022	5:19	14:24	501	1.5	752.55	20	1.5	767.33	32	1.5	763.79	21	1.5	760.23	24
12/29/2022	5:18	14:27	505	1.5	766.79	21	1.5	771.63	32	1.5	769.85	22	1.5	770.49	25
12/30/2022	5:19	14:17	494	1.5	741.99	21	1.5	746.07	32	1.5	755.35	22	1.5	753.20	25
12/31/2022	5:01	13:34	469	1.5	717.68	20	1.5	716.97	32	1.5	712.40	20	1.5	715.75	25
September Total				**18,524.74**			**17,036.15**			**18,474.90**			**18,327.61**		
October Total				**20,999.35**			**20,565.66**			**20,499.99**			**20,495.77**		
November Total				**13,189.82**			**13,023.57**			**13,008.37**			**12,999.23**		
December Total				**17,897.70**			**17,859.83**			**17,761.96**			**17,821.88**		
Cumulative Total				**70,611.61**			**68,485.21**			**69,745.22**			**69,644.49**		

Notes:
gpm - gallons per minute
psi - pounds per square inch
1. System operations were temporarily suspended from 12/9/22 through 12/15/22 and on 12/25/22.
2. Injectate solution in Area 1 Deep wells consists of only Stabilized Lake Mead Water as part of the total dissolved solids (TDS)-reduction period of the treatability study.

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Table 4
Summary of Injection Activities
Area 2 - December 2022
Unit 4 Source Area Bioremediation Treatability Study

Study Area				Area 2 Intermediate								Area 2 Deep			
Well ID				U4-E-09I				U4-E-10I				U4-E-06D			
Date	Injection Start Time	Injection Stop Time	Duration[1]	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure
			minutes	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi
12/1/2022	5:03	14:28	520	561.97	420.55	1.9	12	575.48	419.31	1.9	9	153.45	115.11	0.5	22
12/2/2022	4:35	14:09	529	579.93	419.84	1.9	12	579.99	427.22	1.9	8	154.76	121.71	0.5	22
12/3/2022	4:54	14:19	520	570.17	418.38	1.9	12	577.05	414.51	1.9	10	157.63	115.74	0.5	22
12/4/2022	4:48	14:13	520	564.12	427.21	1.9	12	559.86	428.27	1.9	8	157.57	110.07	0.5	22
12/5/2022	4:36	14:07	526	578.59	428.22	1.9	11	580.53	427.43	1.9	8	160.19	111.90	0.5	21
12/6/2022	5:04	14:29	520	563.56	416.22	1.9	12	573.41	418.36	1.9	8	156.64	109.73	0.5	22
12/7/2022	5:02	14:30	523	567.58	416.46	1.9	12	560.90	430.55	1.9	8	155.41	118.49	0.5	22
12/8/2022	5:03	14:30	519	563.37	443.59	1.9	12	566.52	452.03	2.0	9	158.10	114.40	0.5	23
12/9/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/10/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/11/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/12/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/13/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/14/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/15/2022	5:04	14:08	499	515.12	409.29	1.9	16	542.09	421.14	1.9	13	146.76	109.42	0.5	26
12/16/2022	4:50	14:08	513	545.06	400.39	1.8	12	545.42	407.54	1.9	10	156.04	118.10	0.5	24
12/17/2022	5:01	13:59	493	541.58	402.56	1.9	11	546.28	401.43	1.9	9	142.59	116.56	0.5	24
12/18/2022	5:11	14:25	509	549.46	414.28	1.9	11	549.71	422.35	1.9	9	160.07	117.78	0.5	25
12/19/2022	5:07	16:10	642	418.46	341.99	1.2	12	418.81	366.36	1.2	10	468.98	102.40	0.9	23
12/20/2022	5:18	14:06	483	521.66	412.98	1.9	10	517.48	424.61	2.0	10	153.15	109.49	0.5	20
12/21/2022	5:01	14:07	499	515.06	428.38	1.9	12	539.68	417.57	1.9	13	147.44	111.34	0.5	23
12/22/2022	5:10	15:05	550	544.05	407.63	1.7	10	549.75	392.39	1.7	9	157.80	110.99	0.5	23
12/23/2022	5:21	14:21	495	533.62	393.24	1.9	8	558.52	404.30	1.9	9	151.19	112.00	0.5	24
12/24/2022	5:00	9:43	260	276.84	197.90	1.8	9	275.68	209.34	1.9	9	75.69	66.33	0.5	22
12/25/2022(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/26/2022	5:10	14:02	487	546.28	404.20	2.0	10	540.16	403.29	1.9	10	144.87	115.69	0.5	22
12/27/2022	5:31	14:35	500	569.82	394.70	1.9	8	556.48	396.74	1.9	8	158.98	104.45	0.5	22
12/28/2022	5:18	14:24	501	538.26	407.12	1.9	8	558.45	408.64	1.9	9	150.48	112.81	0.5	21
12/29/2022	5:17	14:27	505	538.89	416.71	1.9	9	539.52	416.12	1.9	9	149.04	116.04	0.5	20
12/30/2022	5:18	14:17	494	558.65	406.62	2.0	9	553.66	401.02	1.9	9	149.81	102.32	0.5	21
12/31/2022	5:00	13:34	469	281.73	273.30	1.9	8	282.89	278.53	1.9	11	284.50	180.68	1.0	21
			September Total	**8,865.83**	**7,003.57**			**8,525.14**	**6,908.92**			**2,749.97**	**2,328.86**		
			October Total	**15,362.98**	**11,815.29**			**15,427.59**	**11,782.52**			**4,281.88**	**3,201.80**		
			November Total	**15,314.47**	**11,462.79**			**15,310.27**	**11,478.18**			**4,280.61**	**3,139.23**		
			December Total	**12,543.83**	**9,501.76**			**12,648.32**	**9,589.05**			**4,051.14**	**2,723.55**		
			Cumulative Total	**52,087.11**	**39,783.41**			**51,911.32**	**39,758.67**			**15,363.60**	**11,393.44**		

Notes:

gpm - gallons per minute

psi - pounds per square inch

1. Injection duration indicates the total minutes of active injection per day, accounting for any downtime in injections that may have occurred throughout the day. Therefore, injection duration may be less than the difference in daily injection start and stop times indicated.

2. Carbon substrate solution is batch mixed. Batches of carbon substrate solution includes the following components in solution with Stabilized Lake Mead Water (SLMW): 0.5% molasses, 0.25% filtered Fluidized Bed Reactor (FBR) sludge, 1.25% 0.5 Molar Sodium Bicarbonate Solution, 0.001% trace mineral solution, and 5 milligrams per liter Vitamin B12. Injections after December 15, 2022 no longer included FBR sludge.

3. Distribution water solution is batch mixed. Batches of distribution water solution includes 0.0025 pounds of Vitamin C per gallon of Stabilized Lake Mead Water (SLMW).

4. System operations were temporarily suspended from 12/9/22 through 12/15/22 and on 12/25/22.

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Table 4
Summary of Injection Activities
Area 2 - December 2022
Unit 4 Source Area Bioremediation Treatability Study

Study Area				Area 2 Deep											
Well ID				U4-E-07D				U4-E-09D				U4-E-010D			
Date	Injection Start Time	Injection Stop Time	Duration[1]	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected[2]	Volume Distribution Water Solution Injected[3]	Average Flow Rate	Maximum Injection Pressure
			minutes	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi
12/1/2022	5:03	14:28	520	159.48	128.90	0.6	15	155.90	119.52	0.5	13	146.18	110.05	0.5	19
12/2/2022	4:35	14:09	529	146.67	121.05	0.5	12	150.93	117.86	0.5	12	157.48	109.87	0.5	17
12/3/2022	4:54	14:19	520	172.10	120.34	0.6	15	157.63	118.61	0.5	11	153.37	111.97	0.5	18
12/4/2022	4:48	14:13	520	154.48	123.52	0.5	14	151.33	111.57	0.5	12	155.69	113.66	0.5	20
12/5/2022	4:36	14:07	526	158.32	117.07	0.5	12	157.54	113.55	0.5	11	157.53	111.13	0.5	21
12/6/2022	5:04	14:29	520	163.10	115.07	0.5	14	147.11	118.58	0.5	12	158.92	108.84	0.5	24
12/7/2022	5:02	14:30	523	160.62	113.13	0.5	12	154.61	115.43	0.5	12	155.52	112.32	0.5	18
12/8/2022	5:03	14:30	519	161.87	85.62	0.5	14	154.07	129.00	0.5	13	147.72	83.76	0.4	18
12/9/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/10/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/11/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/12/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/13/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/14/2022[2]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/15/2022	5:04	14:08	499	163.42	110.04	0.5	18	156.75	111.13	0.5	15	131.80	106.00	0.5	20
12/16/2022	4:50	14:08	513	168.15	98.75	0.5	16	161.58	115.73	0.5	15	142.58	115.05	0.5	18
12/17/2022	5:01	13:59	493	169.96	115.16	0.6	11	163.02	108.81	0.6	14	150.01	108.24	0.5	19
12/18/2022	5:11	14:25	509	170.74	117.27	0.6	13	161.81	109.73	0.5	14	138.13	111.56	0.5	17
12/19/2022	5:07	16:10	642	133.45	132.24	0.4	19	139.07	125.68	0.4	14	129.18	168.71	0.5	25
12/20/2022	5:18	14:06	483	138.89	114.12	0.5	20	161.67	114.79	0.6	13	145.87	115.18	0.5	18
12/21/2022	5:01	14:07	499	157.02	114.06	0.5	16	156.57	105.67	0.5	14	145.98	110.14	0.5	17
12/22/2022	5:10	15:05	550	162.29	126.07	0.5	16	154.98	115.05	0.5	12	144.21	106.24	0.5	17
12/23/2022	5:21	14:21	495	156.87	118.16	0.6	13	149.41	112.34	0.5	12	144.26	106.68	0.5	16
12/24/2022	5:00	9:43	260	78.90	55.43	0.5	12	67.50	55.61	0.5	12	75.00	54.76	0.5	16
12/25/2022(2)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/26/2022	5:10	14:02	487	163.95	117.58	0.6	13	169.15	111.13	0.6	11	157.83	111.13	0.6	16
12/27/2022	5:31	14:35	500	168.67	123.16	0.6	11	150.11	115.29	0.5	11	130.85	116.27	0.5	16
12/28/2022	5:18	14:24	501	156.55	116.65	0.5	10	144.52	116.88	0.5	11	160.48	104.85	0.5	15
12/29/2022	5:17	14:27	505	165.32	117.88	0.6	12	161.76	121.49	0.6	19	157.53	113.93	0.5	15
12/30/2022	5:18	14:17	494	152.30	112.54	0.5	9	164.81	107.78	0.6	11	154.53	105.00	0.5	15
12/31/2022	5:00	13:34	469	294.64	183.18	1.0	18	296.43	179.94	1.0	13	294.22	177.78	1.0	16
			September Total	**2,768.33**	**2,227.39**			**2,693.95**	**2,339.33**			**2,696.94**	**2,327.15**		
			October Total	**4,439.80**	**3,249.33**			**4,261.59**	**3,153.44**			**4,335.35**	**3,185.87**		
			November Total	**3,583.12**	**2,613.81**			**3,491.83**	**2,591.23**			**3,340.65**	**2,515.34**		
			December Total	**3,877.76**	**2,796.99**			**3,788.26**	**2,771.17**			**3,634.87**	**2,693.12**		
			Cumulative Total	**14,669.01**	**10,887.52**			**14,235.63**	**10,855.17**			**14,007.81**	**10,721.48**		

Notes:

gpm - gallons per minute

psi - pounds per square inch

1. Injection duration indicates the total minutes of active injection per day, accounting for any downtime in injections that may have occurred throughout the day. Therefore, injection duration may be less than the difference in daily injection start and stop times indicated.

2. Carbon substrate solution is batch mixed. Batches of carbon substrate solution includes the following components in solution with Stabilized Lake Mead Water (SLMW): 0.5% molasses, 0.25% filtered Fluidized Bed Reactor (FBR) sludge, 1.25% 0.5 Molar Sodium Bicarbonate Solution, 0.001% trace mineral solution, and 5 milligrams per liter Vitamin B12. Injections after December 15, 2022 no longer included FBR sludge.

3. Distribution water solution is batch mixed. Batches of distribution water solution includes 0.0025 pounds of Vitamin C per gallon of Stabilized Lake Mead Water (SLMW).

4. System operations were temporarily suspended from 12/9/22 through 12/15/22 and on 12/25/22.

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	E314.0	E300.1		Anions by E300.0/SW9065A			E350.1	E351.2	E365.1	Alkalinity by SM2320B				Dissolved Metals by SW6020									
						Perchlorate	Chlorate	Chlorite	Chloride	Nitrate (as N)	Sulfate	Ammonia (as N)	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Antimony	Arsenic	Cadmium	Copper	Lead	Nickel	Selenium	Silver	Thallium	Uranium
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	3,080	12,800	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	2,850,000	26,900,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	3,110,000	21,100,000	<240,000	5,360,000	52,900	1,480,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	2,000,000	11,700,000	----	----	29,700	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	1,410,000	679	----	----	21,500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	27,900	316,000	<2,400	234,000	2,360	1,220,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	91,200	381,000	<2,400	259,000	2,440	180,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	457,000	505,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	75,100	564,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	2,500,000	19,700,000	<240000 R	4,560,000	45,200	1,020,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	219,000	1,670,000	<24,000	542,000	4,170	1,050,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	253,000	2,010,000	<24,000	706,000	6,420	1,030,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	1,040,000	5,060,000	<24,000	1,460,000	12,200	1,120,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	428,000	2,390,000	<24000 R	842,000	7,430	1,020,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	2,170,000	16,600,000	<24,000	4,310,000	48,700	1,420,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	1,320,000	8,100,000	<240,000	2,400,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	1,090,000	7,560,000	<240,000	1,950,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	1,270,000	12,100,000	<24,000	2,640,000	27,800	508,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	47,900	793,000	<2,400	321,000	3,940	1,090,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	1,900,000	11,600,000	<240,000	2,770,000	4,770	758,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	164,000	993,000	<24,000	400,000	3,290	1,100,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	320,000	4,550,000	<24000 R	1,150,000	12,200	214,000	<117	<1,400	33.3 R	68,700	68,700	<8,450	<8,450	<1.03	5.21	<0.150	<1.51	<0.849	5.53	2.53	<0.0700	<0.121	5.59
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	36,400	660,000	<2,400	355,000	3,550	1,220,000	<117	<700	33.3 R	96,800	96,800	<8,450	<8,450	<1.03	32.9	<0.150	2.20 J	<0.849	<0.816	2.37	<0.0700	<0.121	7.83
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	35,900	553,000	<12,000	345,000	3,660	1,300,000	<117	<700	33.3 R	96,100	96,100	<8,450	<8,450	<1.03	32.6	<0.150	3.02 J	<0.849	<0.816	2.53	<0.0700	<0.121	7.85
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	367,000	4,900,000	<240,000	1,140,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	243,000	3,180,000	<240,000	895,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	1,700,000	18,500,000	<240,000	3,780,000	56,100	965,000	<117	<7,000	<33.3	120,000	----	----	----	<10.3	12.2 J	<1.50	<15.1	<8.49	<8.16	9.10 J	<0.700	<1.21	5.33 J
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	301,000	4,470,000	<24,000	723,000	10,200	1,120,000	<117	<7,000	194 J+	179,000	----	----	----	1.17 J	72.5	<0.150	2.99 J	<0.849	1.14 J	3.34	<0.0700	<0.121	9.05
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	948,000	7,420,000	<240,000	1,810,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	877,000	6,410,000	<240,000	1,580,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	1,570,000	20,600,000	<240,000	4,180,000	63,500	948,000	<117	<7,000	<33.3	131,000	----	----	----	<10.3	5.36 J	<1.50	<15.1	<8.49	<8.16	7.15 J	<0.700	<1.21	7.00 J
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	1,330,000	12,000,000	<240,000	2,780,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	1,200,000	15,000,000	<240,000	2,490,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	464,000	7,850,000	<24,000	1,710,000	19,200	475,000	<117	<3,500	<33.3	76,100	76,100	<8,450	<8,450	<10.3	9.35 J	<1.50	<15.1	<8.49	<8.16	3.01 J	<0.700	<1.21	5.49 J
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	130,000	2,210,000	<24,000	638,000	9,440	1,100,000	<117	<1,400	52.3 J	105,000	105,000	<8,450	<8,450	1.07 J	30.8	<0.150	6.53	<0.849	2.61	2.47	<0.0700	<0.121	9.29
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	412,000	3,430,000	<24,000	895,000	11,200	550,000	<117	<1,400	33.3 R	59,100	51,600	<8,450	<8,450	<1.03	6.71	<0.150	<1.51	<0.849	20.5	2.51	<0.0700	<0.121	1.64
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	407,000	3,550,000	<24,000	911,000	10,400	711,000	<117	<1,400	33.3 R	114,000	114,000	<8,450	<8,450	<1.03	19.6	<0.150	4.02 J	<0.849	2.29	2.58	<0.0700	<0.121	10.6
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	708,000	5,180,000	<24,000	1,040,000	5,360	437,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	29,800	217,000	<2,400	191,000	230	214,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	28,500	202,000	<2,400	191,000	259	214,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	410,000	3,510,000	<24,000	920,000	5,610	590,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	37,300	312,000	<2,400	289,000	2,730	1,290,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	2,850,000	24,800,000	<240,000	6,150,000	72,300	993,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	3,530,000	28,400,000	----	----	84,600	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	3,790,000	27,900,000	----	----	81,900	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	291,000	2,420,000	<24,000	808,000	9,670	1,200,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	891,000	5,380,000	----	----	15,300	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	1,190,000	7,270,000	----	----	23,800	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	1,200,000	6,610,000	----	----	20,600	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	1,430,000	9,200,000	<240,000	2,110,000	22,400	534,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	152,000	735,000	<2,400	319,000	1,180	255,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	207,000	1,200,000	<24,000	391,000	3,990 J	1,080,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	26,500	262,000	<2,400	222,000	1,750	1,160,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	26,200	264,000	<2,400	215,000	1,680	1,180,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	3,270,000	26,400,000	<240,000	5,690,000	53,500	1,160,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	1,100,000	10,700,000	<24,000	2,460,000	23,300	1,150,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	2,240,000	13,600,000	<240,000	4,020,000	46,500	1,400,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	2,930,000	12,500,000	----	----	42,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	1,780,000	8,150,000	----	----	24,900	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	1,220,000	8,940,000	<24,000	2,380,000	26,000	1,300,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	2,760,000	12,200,000	----	----	40,500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	2,180,000	10,700,000	----	----	37,200 J-	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	4,270,000	17,900,000	<240,000	4,670,000	48,100	1,160,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	201,000	801,000	<24,000	353,000	146 J+	967,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	471,000	5,210,000	<24,000	1,260,000	13,500	568,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	76,400	413,000	----	----	1,240	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	61,100	383,000	----	----	1,230	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	53,800	391,000	----	----	1,220	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	140,000	1,150,000	<24,000	463,000	4,200	1,190,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	69,100 J-	426,000	----	----	1,290	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	63,700	445,000	----	----	1,280	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	E314.0	E300.1		Anions by E300.0/SW9065A			E350.1	E351.2	E365.1	Alkalinity by SM2320B				Dissolved Metals by SW6020									
						Perchlorate	Chlorate	Chlorite	Chloride	Nitrate (as N)	Sulfate	Ammonia (as N)	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Antimony	Arsenic	Cadmium	Copper	Lead	Nickel	Selenium	Silver	Thallium	Uranium
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	1,640,000	2,450,000	<24,000	4,960,000	71,400	1,130,000	<117	<2,800	68.2 J	184,000	184,000	<8,450	<8,450	<10.3	10.8 J	<1.50	<15.1	<8.49	<8.16	7.61 J	<0.700	<1.21	10.1
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	25,700	281,000	<2,400	213,000	1,520	210,000	<117	<140	146 J+	89,800	89,800	<8,450	<8,450	<1.03	10.9	<0.150	<1.51	<0.849	1.49 J	2.68	<0.0700	<0.121	3.24
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	23,800	294,000	<2,400	227,000	1,610	230,000	<117	<140	133 J	84,300	84,300	<8,450	<8,450	<1.03	11.1	<0.150	<1.51	<0.849	1.44 J	2.31	<0.0700	<0.121	3.20
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	152,000	2,550,000	<24,000	768,000	7,610	1,160,000	<117	<700	55.5 J	175,000	166,000	9,060 J	<8,450	<1.03	43.1	<0.150	1.90 J	<0.849	0.820 J	2.69	<0.0700	<0.121	6.55
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	11,600	154,000	<2,400	227,000	3,430	1,280,000	<117	<140	<33.3	57,500	15,500 J	42,000	<8,450	<1.03	14.5	<0.150	<1.51	<0.849	<0.816	2.19	<0.0700	<0.121	0.591 J
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	1,770,000	14,600,000	<240,000	3,270,000	43,200	877,000	<117	<1,400	58.0 J	179,000	179,000	<8,450	<8,450	<10.3	7.44 J	<1.50	<15.1	<8.49	<8.16	3.90 J	<0.700	<1.21	10.2
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	25,200	110,000	<2,400	172,000	1,060	178,000	<117	<140	84.5 J	98,100	91,300	<8,450	<8,450	<1.03	10.2	<0.150	3.53 J	<0.849	<0.816	1.98 J	<0.0700	<0.121	2.98
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	78,700	439,000	<2,400	242,000	3,120	1,100,000	<117	<140	120 J+	109,000	109,000	<8,450	<8,450	<1.03	24.8	<0.150	2.16 J	<0.849	0.971 J	2.24	<0.0700	<0.121	5.48
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	14,800	91,400	<2,400	182,000	2,260	964,000	<117	<140	76.5 J	141,000	123,000	17,900 J	<8,450	<1.03	46.2	<0.150	1.69 J	<0.849	<0.816	2.13	<0.0700	<0.121	6.57
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	118,000	2,180,000	<24,000	706,000	4,090	340,000	<117	<700	<33.3	93,000	93,000	<8,450	<8,450	<1.03	8.78	<0.150	<1.51	<0.849	<0.816	2.14	<0.0700	<0.121	9.13
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	141,000	2,330,000	<24,000	936,000	8,520	1,300,000	<117	<1,400	65.7 J	187,000	187,000	<8,450	<8,450	<1.03	12.6	0.369 J	2.97 J	<0.849	1.08 J	2.88	<0.0700	0.490 J	6.45
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	1,290,000	20,100,000	<240,000	4,040,000	62,300	880,000	<117	<3,500	71.7 J	201,000	201,000	<8,450	<8,450	<10.3	6.16 J	<1.50	<15.1	<8.49	<8.16	6.05 J	<0.700	<1.21	5.93 J
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	1,350,000	20,700,000	<120,000	3,720,000	47,900	751,000	<117	<700	118 J-	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	1,410,000	19,000,000	<240,000	4,260,000	55,600	886,000	<117	<2,800	42.1 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	1,380,000	18,400,000	<240,000	3,850,000	51,800	768,000	153 J	<2,800	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	98,700	1,550,000	<24000 R	512,000	7,100	1,080,000	<117	<1,400	210 J+	96,300	92,500	<8,450	<8,450	<1.03	17.5	<0.150	1.60 J	<0.849	1.07 J	2.57	<0.0700	<0.121	3.18
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	33,000	266,000	54,400	328,000	<48.0	694,000	<117	968	739 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	34,400	265,000	53,300	328,000	<48.0	694,000	<117	792	35.9 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	530	<2,400	66,800	363,000	<48.0	508,000	<117	970 J	<33.3 UJ	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	476	2,400 J	66,100	362,000	<48.0	509,000	<117	1,230 J	102 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	2,900 J	7,470 J	66,500	321,000	<48.0	273,000	<117	1,100 J	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	1,800 J	3,470 J	84,800	316,000	<48.0	244,000	<117	1,560 J	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	1,280,000	14,400,000	<24,000	3,380,000	61,000	1,130,000	<117	<3,500	67.4 J	138,000	138,000	<8,450	<8,450	<10.3	6.66 J	<1.50	<15.1	<8.49	<8.16	6.13 J	<0.700	<1.21	10.8
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	793,000	8,490,000	<120,000	2,080,000	29,800	696,000	<117	<1,400	161 J-	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	1,070,000	9,510,000	<240,000	2,150,000	32,400	846,000	<117	<700	48.9 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	1,030,000	9,430,000	<240,000	2,060,000	28,700	842,000	<117	<7,000	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	424,000	4,000,000	<24,000	967,000	7,700	1,230,000	<117	<1,400	68.0 J	147,000	147,000	<8,450	<8,450	3.92 J	14.6	2.51 J	3.24 J	2.29	4.10 J	5.65 J	0.454 J	2.39	9.47
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	420,000	3,920,000	<24,000	968,000	8,310	1,220,000	<117	<1,400	104 J+	139,000	139,000	<8,450	<8,450	1.29 J	12.6	<0.150 UJ	2.11 J	<0.849	1.90 J	3.39 J	<0.0700	<0.121	7.29
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	51,500	535,000	<2,400	278,000	2,190	1,080,000	<117	<140	271 J-	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	35,100	475,000 J	<240000 R	280,000	535	1,030,000	<117 UJ	<140 UJ	42.6 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	28,800	170,000	<2400 UJ	283,000	383	989,000	<117	<140 UJ	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	1,330,000	14,700,000	<240,000	3,130,000	60,700	662,000	<117	<1,400	115 J+	128,000	128,000	<8,450	<8,450	<10.3	5.43 J	<1.50	<15.1	<8.49	<8.16	4.11 J	<0.700	<1.21	10.8
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	401,000	5,370,000	<24,000	1,330,000	10,900	336,000 J	<117	<280	<33.3 UJ	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	413,000	4,100,000	<120,000	1,400,000	6,780 J	379,000 J	<117	<560	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	433,000	4,080,000	<240,000	1,300,000	6,960	295,000	<117	<280	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	418,000	4,180,000	<24,000	943,000	7,030	1,090,000	<117	<1,400	109 J+	116,000	116,000	<8,450	<8,450	<1.03	12.6	<0.150	<1.51	<0.849	1.80 J	3.62	<0.0700	<0.121	7.29
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	233,000	1,720,000	<12,000	487,000	9,130 J	1,040,000	<117	<280	79.5 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	212,000	1,410,000	<24,000	441,000	5,560	1,060,000	<117	<140	50.5 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	149,000	830,000	<24,000	402,000	3,730	932,000	<117	<140	<33.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	140,000	462,000	<12,000	349,000	729 J	2,560,000	<117	<140	33.3 R	101,000	101,000	<8,450	<8,450	<1.03	21.3	<0.150	3.44 J	<0.849	9.04	3.31	<0.0700	<0.121	18.5
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	181,000	506,000	<2,400	274,000	2,490	1,410,000	<117	<140	173 J+	77,600	70,500	<8,450	<8,450	<1.03	16.6	<0.150	<1.51	<0.849	1.09 J	2.53	<0.0700	<0.121	4.68
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	141,000	2,400,000	<24,000	749,000	3,170	410,000	<117	<700	63.7 J	112,000	112,000	<8,450	<8,450	<1.03	9.66	<0.150	<1.51	<0.849	0.944 J	2.38	<0.0700	0.186 J	13.6
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	1,380	19,700	<2,400	152,000	878	214,000	<117	<140	<33.3	108,000	100,000	<8,450	<8,450	<1.03	18.8	<0.150	2.23 J	<0.849	2.78	2.15	<0.0700	<0.121	4.23
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	86,400	1,190,000	<24,000	420,000	5,590	1,070,000	<117	<140	85.9 J	233,000	----	----	----	<1.03	31.1	<0.150	<1.51	<0.849	<0.816	2.64	<0.0700	<0.121	6.59
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	3,800	36,100	<24.0	178,000	2,750	1,190,000	<117	<140	74.6 J	100,000	100,000	<8,450	<8,450	<1.03	35.0	<0.150	<1.51	<0.849	<0.816	2.71	<0.0700	<0.121	4.94
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	1,670,000	15,000,000	<240,000	3,030,000	39,300	722,000	<117	<2,800	33.3 R	119,000	119,000	<8,450	<8,450	<10.3	7.23 J	<1.50	<15.1	<8.49	<8.16	5.89 J	<0.700	<1.21	6.64 J
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	77,900	396,000	<240	229,000	569	623,000	<117	<140	87.1 J	94,500	----	----	----	<1.03	20.0	<0.150	2.29 J	<0.849	0.870 J	3.05	<0.0700	<0.121	7.68
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	366,000	1,820,000	<24,000	546,000	6,600	979,000	<117	<700	33.3 R	60,000	42,800	17,200 J	<8,450	<1.03	11.2	<0.150	<1.51	<0.849	<0.816	2.58	<0.0700	<0.121	2.26
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	9,400	64,100	<240	173,000	2,700	1,150,000	<117	<140	<33.3	64,800	----	----	----	<1.03	20.9	<0.150	<1.51	<0.849	<0.816	2.47	<0.0700	<0.121	3.64
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	9,860	64,100	<240	171,000	2,850	1,140,000	<117	<140	33.3 R	64,400	----	----	----	<1.03	21.2	<0.150	<1.51	<0.849	<0.816	2.96	<0.0700	<0.121	3.66
U4-SLMW	11/10/2022	N	EM03		-	<0.300	4,220 J-	<240	----	384	221,000	<117	325	46.9 J	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-T3	10/13/2022	N	EM02		-	928,000	7,380,000	<240,000	1,890,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-T3	11/3/2022	N	EM03		-	887,000	7,450,000	<240,000	1,780,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Dissolved Metals by SW6020	Dissolved Metals by SW6010B														FIELD TESTS							
						Zinc	Aluminum	Barium	Beryllium	Calcium	Chromium	Cobalt	Iron	Magnesium	Manganese	Molybdenum	Phosphorus	Potassium	Sodium	Vanadium	Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mS/cm	mg/L	mg/L	mV	SU	mL/min	mg/L	C
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	0.956	1.80	0.0 U	22.9	8.02	190	0.0 U	26.9
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	34.552	0.56	0.0 U	140.6	6.99	120	0.0 U	27.5
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	42.112	1.63	0.0 U	212.1	7.36	100	0.0 U	26.3
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16.998	4.13	----	172.0	7.19	280	----	24.9
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	18.268	4.61	----	118.7	7.71	250	----	24.1
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.163	5.64	0.0 U	44.4	10.69	100	0.0 U	30.5
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.053	5.66	0.0 U	142.6	8.13	100	0.0 U	29.6
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.393	3.04	0.0 U	36.4	8.03	60	0.0 U	25.2
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.198	1.87	0.0 U	175.7	7.89	100	0.0 U	25.1
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	42.734	0.85	0.0 U	167.3	7.78	100	0.0 U	26.2
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	0.072	9.17	0.0 U	120.6	8.70	100	0.0 U	26.5
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9.255	0.62	0.0 U	129.9	7.36	130	0.0 U	27.0
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9.309	4.25	0.0 U	190.6	8.46	105	0.0 U	24.6
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	36.139	0.68	0.0 U	96.0	7.14	200	0.0 U	28.6
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16.802	4.86	----	109.3	7.34	----	----	17.8
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	22.249	1.29	0.0 U	34.2	7.19	70	0.0 U	25.5
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4.524	0.84	0.0 U	-18.2	8.40	70	0.0 U	27.4
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	26.037	3.43	0.0 U	177.7	7.33	100	0.0 U	28.8
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.209	0.59	0.0 U	101.8	8.45	100	0.0 U	28.4
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	5.24 J	81.0 J	187 J	<0.330	515,000 J	11,900 J	<0.840	<18.0	255,000 J	19.9	3.31 J	25.3 J	32,800 J	1,310,000	<4.99	9.911	2.39	0.0 U	138.8	7.24	90	0.0 U	23.5
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	4.73 J	87.1 J	34.2	<0.330	223,000	2,270	<0.840	<18.0	88,400	8.86 J	13.6	45.1 J	23,300	624,000	17.4 J	4.282	2.10	0.0 U	128.1	7.47	90	0.0 U	25.8
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	5.71 J	68.8 J	33.8	<0.330	222,000	2,260	<0.840	<18.0	87,900	8.46 J	13.9	46.2 J	23,200	622,000	15.5 J	----	----	----	----	----	----	----	----
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<30.2	<280	135	<1.65	1,450,000	79,000	<4.20	<90.0	634,000	22.5 J	8.85 J	<91.5	74,800	5,760,000	<25.0	28.599	1.02	0.0 U	134.9	7.20	100	0.0 U	18.5
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	3.42 J	117 J	29.6 J+	<0.330	157,000	15,100	<0.840	<18.0	66,000	8.86 J	18.0	194 J	23,400	1,610,000	45.7	6.791	2.78	0.0 U	164.9	8.12	100	0.0 U	20.2
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	14.508	4.32	----	191.3	7.16	----	----	22.3
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<30.2	<280	143	<1.65	1,670,000	92,600	<4.20	<90.0	737,000	54.7	10.2 J	<91.5	82,200	6,200,000	<25.0	31.747	1.11	0.0 U	185.4	7.17	100	0.0 U	20.2
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	22.510	2.00	----	-21.2	6.86	----	----	21.8
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	<30.2	106 J	106	<0.330	832,000	27,200	<0.840	18.8 J	360,000	23.2	<5.80	172 J	46,900	1,840,000	7.06 J	16.373	1.12	0.0 U	131.3	7.20	100	0.0 U	26.7
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	3.75 J	<56.1	27.1	<0.330	215,000	9,660	<0.840	<18.0	91,600	21.6	13.2	199 J	25,300	1,100,000	16.8 J	6.980	5.93	0.0 U	42.3	7.51	100	0.0 U	25.0
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	<3.02	102 J	112	<0.330	436,000	9,680	<0.840	<18.0	165,000	7.51 J	8.19	34.0 J	29,700	1,120,000	6.53 J	8.624	0.77	0.0 U	200.4	8.07	100	0.0 U	23.0
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	7.05 J	115 J	34.7	<0.330	307,000	16,100	<0.840	<18.0	133,000	7.93 J	11.6	<18.3	26,000	1,410,000	14.5 J	9.367	1.04	0.0 U	223.7	7.20	100	0.0 U	21.6
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11.556	0.72	0.0 U	130.5	7.14	130	0.0 U	30.0
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.873	0.81	0.0 U	70.8	7.75	100	0.0 U	33.3
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9.209	0.67	0.0 U	103.3	7.70	220	0.0 U	27.3
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4.903	4.81	0.0 U	99.5	8.75	220	0.0 U	27.6
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	47.936	0.74	0.0 U	206.4	7.25	100	0.0 U	26.4
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	82.713	0.99	----	202.1	7.14	280	----	26.1
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	61.099	0.93	----	114.9	7.21	150	----	27.6
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	8.827	3.75	0.0 U	159.8	8.09	100	0.0 U	28.4
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	20.389	0.98	----	172.7	7.07	280	----	25.3
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17.936	0.44	----	148.7	6.86	200	----	25.0
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	19.006	2.71	0.0 U	209.7	7.29	100	0.0 U	26.7
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.756	1.07	0.0 U	220.6	7.54	100	0.0 U	26.3
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6.055	1.28	0.0 U	57.0	8.02	60	0.0 U	30.2
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4.716	9.18	0.0 U	105.4	9.74	195	0.0 U	27.3
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	50.188	0.90	0.0 U	76.7	7.01	200	0.0 U	30.1
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	22.833	0.68	0.0 U	49.8	7.36	100	0.0 U	27.6
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	39.740	0.77	0.0 U	146.1	7.03	100	0.0 U	28.3
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	24.933	3.56	----	190.6	7.02	280	----	28.3
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17.012	4.46	----	121.3	7.64	140	----	23.6
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	20.080	0.87	0.0 U	140.1	7.54	100	0.0 U	23.2
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	24.065	2.94	----	205.5	7.04	280	----	25.6
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	21.533	3.08	----	130.9	7.57	240	----	24.1
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	0.0 U	----	----	----	0.0 U	----
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6.356	0.75	0.0 U	132.2	8.14	100	0.0 U	27.5
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	10.924	4.48	0.0 U	182.2	7.48	100	0.0 U	26.7
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.057	6.89	----	93.5	7.79	50	----	28.7
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.730	6.43	----	111.1	7.85	200	----	23.9
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.556	0.59	0.0 U	158.2	7.86	100	0.0 U	25.6
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.078	6.24	----	135.0	7.86	50	----	26.9
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.794	6.05	----	141.5	7.93	180	----	23.9

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Dissolved Metals by SW6020	Dissolved Metals by SW6010B													FIELD TESTS							
						Zinc	Aluminum	Barium	Beryllium	Calcium	Chromium	Cobalt	Iron	Magnesium	Manganese	Molybdenum	Phosphorus	Potassium	Sodium	Vanadium	Conductivity	Dissolved Oxygen	Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mS/cm	mg/L	mg/L	mV	SU	mL/min	mg/L	C
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	<30.2	<280	144	<1.65	1,610,000	112,000	<4.20	<90.0	707,000	37.2 J	11.9 J	<91.5	102,000	7,950,000	<25.0	43.677	1.07	0.0 U	166.4	6.92	100	0.0 U	24.7
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	<3.02	<56.1	19.0	<0.330	58,200	764	<0.840	<18.0	28,400	14.7	9.57	110 J	11,000	258,000	10.4 J	1.774	0.95	0.0 U	5.0	7.70	70	0.0 U	24.6
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	<3.02	<56.1	19.2	<0.330	58,000	780	<0.840	<18.0	28,400	14.6	9.89	107 J	11,100	258,000	9.34 J	----	----	----	----	----	----	----	----
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	3.30 J	92.7 J	20.6	<0.330	107,000	8,950	<0.840	<18.0	44,400	5.20 J	18.7	25.4 J	23,000	1,300,000	23.5	8.786	1.97	0.0 U	183.3	7.71	100	0.0 U	22.8
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	<3.02	<56.1	25.0	<0.330	165,000	519	<0.840	26.0 J	3,570	<0.934	20.1	<18.3	20,400	580,000	47.5	3.391	3.42	0.0 U	79.6	9.96	285	0.0 U	27.1
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	165 J	<56.1	14.2	<0.330	123,000	5,930	<0.840	<18.0	532,000	4.62 J	<1.16	<18.3	6,610	475,000	<4.99	25.834	1.79	0.0 U	36.4	7.03	100	0.0 U	24.3
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	3.03 J	<56.1	27.6	<0.330	41,300	154	<0.840	18.0 J	20,000	7.39 J	9.61	221 J	7,460	181,000	9.16 J	1.339	1.49	0.0 U	144.1	7.81	100	0.0 U	23.2
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<3.02	<56.1	16.6	<0.330	114,000	2,350	<0.840	<18.0	42,300	4.58 J	13.2	172 J	19,300	588,000	19.1 J	3.354	10.37	0.0 U	8.8	7.57	120	0.0 U	24.5
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	<3.02	<56.1	17.5	<0.330	72,400	398	<0.840	141	30,200	5.72 J	19.0	168 J	14,000	461,000	36.3	2.893	4.00	0.0 U	179.7	8.27	160	0.0 U	23.4
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	3.53 J	<56.1	58.7	<0.330	275,000	5,290	<0.840	<18.0	134,000	23.5	8.67	32.2 J	24,200	626,000	8.78 J	5.411	0.91	0.0 U	206.3	7.33	100	0.0 U	22.6
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	4.88 J	<56.1	35.2	<0.330	278,000	5,960	<0.840	27.9 J	135,000	25.2	17.8	194 J	31,700	995,000	9.70 J	7.650	0.90	0.0 U	183.9	7.68	100	0.0 U	23.9
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<30.2	<280	151	<1.65	1,530,000	92,800	<4.20	<90.0	652,000	68.0	17.8 J	315 J	86,800	5,920,000	<25.0	31.458	0.75	0.0 U	194.9	7.12	100	0.0 U	23.3
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	49.507	1.26	0.0 U	49.2	7.38	100	0.0 U	31.6
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	49.047	1.30	0.0 U	5.2	7.07	250	0.0 U	23.7
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	25.648	1.17	0.0 U	-20.2	7.07	150	0.0 U	22.8
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<3.02	<56.1	24.6	<0.330	161,000	6,040	<0.840	40.5 J	47,100	10.4	18.7	202 J	26,900	924,000	14.2 J	7.803	1.01	0.0 U	123.8	7.72	110	0.0 U	26.3
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.582	10.67	0.0 U	-17.7	6.92	100	0.0 U	27.0
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.413	1.08	0.0 U	-117.1	6.58	250	0.0 U	24.4
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.179	0.82	0.0 U	-266.8	6.57	180	0.6	23.3
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	<30.2	115 J	115	<0.330	1,230,000	72,500	<4.20	92.3 J	501,000	59.4	15.8 J	365 J	83,300	4,920,000	<4.99	32.048	0.90	0.0 U	90.8	6.98	100	0.0 U	26.2
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17.403	5.30	0.0 U	183.7	7.31	100	0.0 U	27.2
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11.998	2.16	0.0 U	193.7	7.02	250	0.0 U	23.4
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9.367	1.89	0.0 U	145.9	7.12	250	0.0 U	20.8
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<3.02	<56.1	48.2	<0.330	317,000	17,200	<0.840	18.3 J	126,000	44.1	17.6	122 J	35,700	1,720,000	9.09 J	11.234	1.32	----	35.2	7.74	100	----	26.1
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	<3.02	61.1 J	47.3	<0.330	314,000	16,700	<0.840	41.4 J	125,000	44.4	17.7	265 J+	35,500	1,690,000	6.67 J	----	----	----	----	----	----	----	----
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.677	0.92	0.0 U	121.6	7.60	140	0.0 U	27.4
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.587	1.25	0.0 U	190.1	7.30	280	0.0 U	23.5
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.684	1.15	0.0 U	95.4	7.23	180	0.0 U	22.6
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	<30.2	375 J	173	<1.65	1,520,000	55,300	<4.20	<90.0	664,000	32.9 J	9.95 J	140 J	71,200	3,990,000	<25.0	32.518	0.90	0.0 U	136.1	6.94	100	0.0 U	25.2
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11.793	0.96	0.0 U	-329.7	6.65	100	0.0 U	28.9
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11.124	1.77	0.0 U	-147.3	6.57	50	0.0 U	23.5
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.404	1.67	0.0 U	26.5	6.45	250	0.0 U	21.5
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<3.02	<56.1	43.5	<0.330	395,000	20,300	<0.840	<18.0	169,000	28.6	13.8	132 J	33,100	1,640,000	9.14 J	11.607	2.38	0.0 U	127.9	7.42	100	0.0 U	23.7
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5.667	2.79	0.0 U	96.9	7.52	100	0.0 U	27.2
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6.053	1.93	0.0 U	110.0	7.58	50	0.0 U	27.9
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.675	2.64	0.0 U	141.8	7.46	250	0.0 U	20.1
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	<3.02	<56.1	33.5	<0.330	561,000	308	<0.840	<18.0	152,000	79.2	41.2	<18.3	25,400	673,000	22.2	5.770	0.87	0.0 U	161.5	7.20	100	0.0 U	26.5
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	<3.02	<56.1	23.1	<0.330	237,000	2,150	<0.840	<18.0	52,400	19.0	16.2	191 J	25,400	596,000	13.3 J	5.720	0.77	0.0 U	110.5	8.07	150	0.0 U	22.8
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<3.02	149 J	56.0	<0.330	338,000	4,940	<0.840	21.8 J	157,000	26.1	9.77	<18.3	25,500	646,000	8.06 J	5.015	1.02	0.0 U	209.2	7.09	100	0.0 U	20.7
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<3.02	<56.1	21.3	<0.330	34,000	64.4	<0.840	162	15,400	2.57 J	10.4	<18.3	6,830	159,000	17.9 J	0.999	2.14	0.0 U	123.8	8.36	100	0.0 U	18.6
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	<3.02	<56.1	20.5 J+	<0.330	127,000	5,510	<0.840	24.4 J	56,500	14.9	17.8	25.2 J	22,300	897,000	18.7 J	5.348	1.45	0.0 U	125.1	7.95	150	0.0 U	22.6
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<3.02	112 J	21.0	<0.330	166,000 J	268 J	<0.840	95.9 J	50,100 J	2.61 J	19.2	50.3 J	15,200 J	387,000 J	23.5	2.466	5.73	0.0 U	165.2	8.11	200	0.0 U	21.5
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	44.4 J	<56.1	191	<0.330	474,000	12,600	<0.840	<18.0	240,000	12.4	4.62 J	<18.3	30,600	1,210,000	<4.99	27.119	4.03	0.0 U	165.2	7.15	100	0.0 U	23.7
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	5.37 J	<56.1	24.7 J+	<0.330	114,000	922	<0.840	25.5 J	48,200	11.0	13.8	<18.3	12,500	390,000	18.9 J	2.380	1.10	0.0 U	121.7	7.62	100	0.0 U	18.3
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	3.91 J	<56.1	38.6	<0.330	231,000	8,620	<0.840	<18.0	76,200	2.20 J	13.7	<18.3	30,800	968,000	<4.99	6.673	8.63	0.0 U	129.8	8.36	200	0.0 U	23.5
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	<3.02	<56.1	22.2 J+	<0.330	169,000	427	<0.840	<18.0	37,500	2.69 J	18.3	28.9 J	18,500	409,000	15.4 J	2.712	4.29	0.0 U	136.6	8.80	200	0.0 U	22.3
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	<3.02	<56.1	22.5 J+	<0.330	168,000	426	<0.840	<18.0	37,700	2.07 J	18.4	25.5 J	18,300	405,000	14.3 J	----	----	----	----	----	----	----	----
U4-SLMW	11/10/2022	N	EM03		-	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-T3	10/13/2022	N	EM02		-	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-T3	11/3/2022	N	EM03		-	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16.618	2.05	----	-60.4	6.51	----	----	20.4

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	FIELD TESTS	RSK175			SM2540C	SW7199	Volatile Organic Compounds by SW8260B																
						Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene (Mesitylene)
						NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	22.0	----	----	----	712,000	<150	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	60.6	----	----	----	54,000,000	77,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	17.1	----	----	----	39,900,000	96,900 J-	<0.147	<0.149	<0.133	<0.158	0.204 J	0.484 J	<0.142	<0.230	0.428 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.346 J	<0.149	<0.104
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	58.8	----	----	----	25,800,000	57,600	<0.147	<0.149	<0.133	<0.158	<0.100	0.398 J	0.297 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	33.2	----	----	----	18,700,000	39,500	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	18.3	----	----	----	2,330,000 J	1,510 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	9.9	----	----	----	1,410,000	32.5 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	21.0	----	----	----	2,130,000	598	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	12.0	----	----	----	1,600,000	1,350	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	8.7	----	----	----	43,600,000	87,000 J-	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	2.7	----	----	----	4,770,000 J	6,190 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	----	----	----	----	2,770,000 J	7,860 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	2.0	----	----	----	10,800,000	17,400	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	9.8	----	----	----	4,130,000	8,910 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322 UJ	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104 R
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	33.2	----	----	----	34,400,000	77,900 J-	<0.147	<0.149	<0.133	<0.158	0.126 J	0.465 J	<0.142	<0.230	0.293 J	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	----	----	----	----	18,900,000 J	48,700	<29.4	<29.8	<26.6	<31.6	<20.0	<37.6	<28.4	<46.0	<47.4	<96.2	<64.4	<55.2	<25.2	<21.4	<16.4	<29.8	<20.8
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	225.3	----	----	----	15,400,000	44,000	<0.147	<0.149	<0.133	<0.158	<0.100	0.481 J	0.479 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	15.1	----	----	----	24,000,000	37,500 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.223 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	28.9	----	----	----	3,430,000	3,380 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	45.2	----	----	----	28,400,000	47,900 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.271 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	10.5	----	----	----	4,070,000	5,710 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	37.2	<4.07	<4.26	<2.91	9,590,000	10,800	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	11.6	<4.07	<4.26	<2.91	3,220,000	2,420	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	----	<4.07	<4.26	<2.91	3,150,000	3,210	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	----	----	----	----	9,760,000 J-	9,930	<0.147	<0.149	<0.133	<0.158	<0.100	0.210 J	0.258 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	----	----	----	----	5,900,000	3,080	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	0.204 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	16.0	<4.07	<4.26	<2.91	37,900,000	76,300 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.682 J	0.594 J	<0.230	0.393 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.205 J	<0.149	<0.104
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	2.8	<4.07	<4.26	<2.91	6,860,000	12,200 J	<0.147	<0.149	<0.133	<0.158	0.122 J	0.424 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.138 J	0.191 J	<0.104
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	----	----	----	----	17,000,000	48,700	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	21294.5	----	----	----	12,800,000	42,300 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.225 J	0.316 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	3.6	<4.07	<4.26	<2.91	39,500,000	85,100 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.759 J	0.631 J	<0.230	0.429 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.240 J	<0.149	<0.104
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	----	----	----	----	24,000,000	69,700	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	24.9	----	----	----	22,800,000	60,100 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.501 J	0.528 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	5.2	<4.07	<4.26	<2.91	7,500,000	26,400 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	53.8	<4.07	<4.26	<2.91	5,550,000	13,000	<0.147	<0.149	<0.133	<0.158	<0.100	0.401 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.118 J	<0.149	<0.104
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	13.1	<4.07	<4.26	<2.91	3,940,000	9,360	<0.147	<0.149	<0.133	<0.158	<0.100	0.398 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.132 J	<0.149	<0.104
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	17.0	<4.07	<4.26	<2.91	3,690,000	17,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.120 J	<0.149	<0.104
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	7.9	----	----	----	7,230,000	16,500 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	27.7	----	----	----	1,040,000	477 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	----	----	----	----	1,020,000	458 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	60.1	----	----	----	3,790,000	<150 UJ	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	1501.7	----	----	----	3,130,000	1,770 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	5.4	----	----	----	63,700,000	95,800	<0.147	<0.149	<0.133	<0.158	0.135 J	0.735 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.322 J	<0.149	<0.104
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	2.9	----	----	----	75,100,000 J	148,000	<0.147	<0.149	<0.133	<0.158	<0.100	0.517 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	1.4	----	----	----	53,300,000	139,000	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	15.2	----	----	----	6,660,000	12,800	<0.147	<0.149	<0.133	<0.158	<0.100	0.431 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.102 J	<0.149	<0.104
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	56.9	----	----	----	11,000,000	33,900	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	36.2	----	----	----	15,700,000	48,200	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	----	----	----	----	20,400,000	46,600	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	31.0	----	----	----	23,000,000	42,100	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	24.2	----	----	----	2,070,000	2,660	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	8489.8	----	----	----	2,350,000	<150 UJ	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	38.0	----	----	----	2,890,000	1,390 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	----	----	----	----	2,190,000 J-	1,390 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	18.0	----	----	----	56,100,000	103,000 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.560 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.900 J	<0.149	<0.104
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	78.2	----	----	----	22,500,000	34,300 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	39.5	----	----	----	27,800,000	73,100 J-	<0.147	<0.149	<0.133	<0.158	0.181 J	0.659 J	0.565 J	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	235.7	----	----	----	30,400,000 J	69,500	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	92823.7	----	----	----	15,100,000	46,500	<0.147	<0.149	<0.133	<0.158	0.118 J	0.278 J	0.297 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	2057.3	----	----	----	12,900,000	42,800 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.359 J	0.311 J	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	1860.6	----	----	----	29,100,000	70,800	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	90637.6	----	----	----	22,800,000	61,900 J-	<0.147	<0.149	<0.133	<0.158	0.154 J	0.448 J	0.557 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	----	----	----	----	43,400,000	73,100 J-	<0.147	<0.149	<0.133	<0.158	0.134 J	0.315 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.785 J	<0.149	<0.104
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	171.5	----	----	----	3,420,000	3,070 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	52.5	----	----	----	5,820,000	23,900 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	9.7	----	----	----	1,310,000 J-	2,080	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	----	----	----	----	1,330,000	2,120	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	97.4	----	----	----	1,220,000 J+	1,610 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	10.7	----	----	----	1,670,000	4,810 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	119.0	----	----	----	1,350,000 J	2,720	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	1667.5	----	----	----	1,340,000	1,650 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	FIELD TESTS	RSK175			SM2540C	SW7199	Volatile Organic Compounds by SW8260B																
						Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene (Mesitylene)
						NTU	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	98.8 E	<4.07	<4.26	<2.91	48,000,000	106,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	62.4	<4.07	<4.26	<2.91	1,240,000	694	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	----	<4.07	<4.26	<2.91	1,220,000	723	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	5857914.0 E	<4.07	<4.26	<2.91	3,380,000	7,950	<0.147	<0.149	<0.133	<0.158	<0.100	1.02	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.345 J	<0.149	<0.104
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	55.4	<4.07	<4.26	<2.91	1,970,000	506 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	640.2	<4.07	<4.26	<2.91	30,000,000	67,800	<0.147	<0.149	<0.133	<0.158	<0.100	0.455 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.239 J	<0.149	<0.104
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	25.6	<4.07	<4.26	<2.91	759,000 J	121	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	322.6	<4.07	<4.26	<2.91	2,030,000	2,320	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	33.5	<4.07	<4.26	<2.91	1,900,000	387	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	52.9	<4.07	<4.26	<2.91	4,840,000	5,450	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	72915.5	<4.07	<4.26	<2.91	5,670,000	6,160	<0.147	<0.149	<0.133	<0.158	<0.100	0.373 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.115 J	<0.149	<0.104
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	218.4	<4.07	<4.26	<2.91	34,200,000	90,100 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.543 J	0.380 J	<0.230	0.334 J	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	74.6	----	----	----	34,600,000	93,300	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	155.4	----	----	----	40,200,000	96,300	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	53.4	----	----	----	38,300,000	91,100	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	99.8	<4.07	<4.26	<2.91	2,730,000	6,370	<0.147	<0.149	<0.133	<0.158	<0.100	0.385 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104 UJ
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	384.2	----	----	----	2,470,000	1,320 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	----	----	----	----	2,690,000	1,330 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	170.6	----	----	----	2,200,000	0.753 J-	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	----	----	----	----	2,450,000	0.886	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	36.5	----	----	----	2,390,000	1.95	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	<1.15	<1.19	<2.41 UJ	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	----	----	----	----	2,340,000	2.25	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	40.3	<4.07	<4.26	<2.91	29,700,000	63,700 J-	<0.147	<0.149	<0.133	<0.158	<0.100	0.417 J	0.374 J	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	97.6	----	----	----	14,900,000	41,900	<2.94	<2.98	<2.66	<3.16	<2.00	<3.76	<2.84	<4.60	<4.74	<9.62	<6.44	<5.52	<2.52	<2.14	<1.64	<2.98	<2.08
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	141.7	----	----	----	19,300,000 J	50,700	<0.147	<0.149	<0.133	<0.158	<0.100	0.326 J	0.350 J	<0.230	0.325 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.157 J	<0.149	<0.104
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	84.0	----	----	----	16,600,000	47,900	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	988.9	<4.07	<4.26	<2.91	8,680,000	21,200	<0.147	<0.149	<0.133	<0.158	<0.100	0.465 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.144 J	<0.149	<0.104
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	----	<4.07	<4.26	<2.91	8,670,000	19,400	<0.147	<0.149	<0.133	<0.158	<0.100	0.461 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.146 J	<0.149	<0.104
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	70.6	----	----	----	2,360,000	2,880 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	343.0	----	----	----	2,410,000 J-	2,060	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.0834 J	<0.149	<0.104
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	123.8	----	----	----	4,360,000	1,520	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	85.7	<4.07	<4.26	<2.91	30,300,000	56,200	<0.147	<0.149	<0.133	<0.158	<0.100	0.565 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.200 J	<0.149	<0.104
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	50.9	----	----	----	6,280,000 J+	45,000	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	22.7	----	----	----	6,140,000	19,800	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	138.4	----	----	----	9,360,000 J	1,860	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	2478.1	<4.07	<4.26	<2.91	8,680,000	21,900	<0.147	<0.149	<0.133	<0.158	<0.100	0.403 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.133 J	<0.149	<0.104
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	70.5	----	----	----	2,540,000 J+	17,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	142.6	----	----	----	2,660,000	8,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	119.3	----	----	----	3,340,000 J	5,840 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	50.4	<4.07	<4.26	<2.91	2,550,000	239	<0.147	<0.149	<0.133	<0.158	<0.100	0.409 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.134 J	<0.149	<0.104
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	57.4	<4.07	<4.26	<2.91	3,220,000	2,270	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	76.6	<4.07	<4.26	<2.91	3,490,000	5,240	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	82.3	<4.07	<4.26	<2.91	677,000	67.5	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	20895.7 E	<4.07	<4.26	<2.91	4,080,000	5,010	<0.147	<0.149	<0.133	<0.158	<0.100	0.367 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	71.7	<4.07	<4.26	<2.91	1,450,000	262	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	84.8 E	<4.07	<4.26	<2.91	30,500,000	61,300	<0.147	<0.149	<0.133	<0.158	<0.100	0.237 J	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	35.4	<4.07	<4.26	<2.91	1,940,000	682	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	-449448.0 E	<4.07	<4.26	<2.91	5,220,000	9,350	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	-8.5	<4.07	8.07 J	19.8	1,990,000	365 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	----	<4.07	<4.26	<2.91	2,000,000	361 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-SLMW	11/10/2022	N	EM03		-	----	----	----	----	588,000	<0.150	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520
U4-T3	10/13/2022	N	EM02		-	----	----	----	----	16,100,000 J	38,400	<0.147	<0.149	<0.133	<0.158	<0.100	0.284 J	0.271 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104
U4-T3	11/3/2022	N	EM03		-	169.1	----	----	----	15,400,000	36,900	<0.147	<0.149	<0.133	<0.158	<0.100	0.293 J	0.376 J	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B																					
						1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	13.1	8.80	<0.605	<0.128	<0.116	<0.192	8,010	<0.960	<0.126	<0.111
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	6.92	3.40	<0.605	<0.128	<0.116	<0.192	3,950	<0.960	<0.126	<0.111
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	5.61 J	<1.29	<6.05	<1.28	<1.16	<1.92	2,420	<9.60	<1.26	<1.11
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.132 J	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	13.5	<0.960	<0.126	<0.111
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	<0.110	<0.110	<0.120	<0.161	7.60 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.192 J	<0.960	<0.126	<0.111
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5	<0.471	<0.590	<0.640	5.46	9.81 J-	<3.03	<0.640	<0.580	<0.960	6,650	<4.80	<0.630	<0.555
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	<0.110	<0.110	<0.120	<0.161	3.29 J	<0.106	<0.787	<0.114	<0.478	11.7 J	<0.0941	<0.118	<0.128	0.521 J	0.388 J	<0.605	<0.128	<0.116	<0.192	186 J	<0.960	<0.126	<0.111
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	<0.110	<0.110	<0.120	<0.161	3.45 J	<0.106	0.848 J	<0.114	<0.478	11.7 J	<0.0941	<0.118	<0.128	0.509 J	<0.129	<0.605	<0.128	<0.116	<0.192	280 J	<0.960	<0.126	<0.111
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	3.33 J+	1.82	<0.605	<0.128	<0.116	<0.192	1,660	<0.960	<0.126	<0.111
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118 UJ	<0.128	1.65	1.65	<0.605	<0.128	<0.116	<0.192	727	<0.960	<0.126	<0.111
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	10.9	6.45	<0.605	<0.128	<0.116	<0.192	6,390	<0.960	<0.126	<0.111
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	<22.0	<22.0	<24.0	<32.2	<238	<21.2	<157	<22.8	<95.6	<2,260	<18.8	<23.6	<25.6	<27.2	<25.8	<121	<25.6	<23.2	<38.4	4,280	<192	<25.2	<22.2
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	9.37	4.31	<0.605	2.75	<0.116	<0.192	4,350	<0.960	<0.126	<0.111
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.28	0.947 J	<0.605	<0.128	<0.116	<0.192	2,980	<0.960	<0.126	<0.111
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.591 J	<0.129	<0.605	<0.128	<0.116	<0.192	433	<0.960	<0.126	<0.111
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.110	<0.110	<0.120	<0.161	2.86 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	4.11	3.20	<0.605	<0.128	<0.116	<0.192	3,780	<0.960	<0.126	<0.111
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	<0.110	<0.110	<0.120	<0.161	4.61 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.41	1.99	<0.605	<0.128	<0.116	<0.192	516	<0.960	<0.126	<0.111
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.186 J	<0.118	<0.128	0.502 J	0.185 J	<0.605	<0.128	<0.116	<0.192	819	<0.960	<0.126	<0.111
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.166 J	<0.118	<0.128	0.679 J	<0.129	<0.605	<0.128	<0.116	<0.192	218	<0.960	<0.126	<0.111
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.153 J	<0.118	<0.128	0.605 J	<0.129	<0.605	<0.128	<0.116	<0.192	215	<0.960	<0.126	<0.111
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	<0.110	<0.110	<0.120	<0.161	8.89 J	<0.106	<0.787	<0.114	<0.478	33.8 J	<0.0941	<0.118	0.445 J	1.58	0.258 J	<0.605	1.14	<0.116	<0.192	<0.111	<0.960	<0.126	<0.111
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	<0.110	<0.110	<0.120	<0.161	10.5	<0.106	<0.787	<0.114	<0.478	39.8 J	<0.0941	<0.118	<0.128	1.16 J+	0.235 J	<0.605	0.654 J	<0.116	<0.192	1,740	<0.960	<0.126	<0.111
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	3.05	1.20	<0.605	2.62	<0.116	<0.192	5,980	<0.960	<0.126	<0.111
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	<0.110	<0.110	<0.120	<0.161	1.25 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.21	0.866 J	<0.605	1.03	<0.116	<0.192	1,140	<0.960	<0.126	<0.111
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	2.84 J	<1.29	<6.05	5.80 J	<1.16	<1.92	3,920	<9.60	<1.26	<1.11
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	<0.110	<0.110	<0.120	<0.161	2.17 J	<0.106	<0.787	<0.114	<0.478	<11.3	0.186 J	<0.118	<0.128	4.41	1.98 J+	<0.605	1.58	<0.116	<0.192	3,510	<0.960	<0.126	<0.111
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	0.298 J	2.74	0.954 J	<0.605	2.96	<0.116	<0.192	7,120	<0.960	<0.126	<0.111
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	<1.36	<1.29	<6.05	5.96 J	<1.16	<1.92	4,850	<9.60	<1.26	<1.11
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	<0.110	<0.110	<0.120	<0.161	1.32 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.56 J+	0.740 J	<0.605	2.84	<0.116	<0.192	5,020	<0.960	<0.126	<0.111
U4-E-09D	4/19/2022	N	BL02	UMCf	94.5 - 109.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.642 J	0.461 J	<0.605	0.533 J	<0.116	<0.192	1,450	<0.960	<0.126	<0.111
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	<0.110	<0.110	<0.120	<0.161	1.24 J	<0.106	<0.787	<0.114	<0.478	<11.3	0.188 J	<0.118	<0.128	1.00 J	0.618 J	<0.605	0.610 J	<0.116	<0.192	1,240	<0.960	<0.126	<0.111
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.14	0.707 J	<0.605	0.717 J	<0.116	<0.192	704 J+	<0.960	<0.126	<0.111
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.478 J	0.509 J	<0.605	0.585 J	<0.116	<0.192	1,330	<0.960	<0.126	<0.111
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	<0.110	<0.110	<0.120	<0.161	3.67 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.564 J	0.346 J	<0.605	<0.128	<0.116	<0.192	608	<0.960	<0.126	<0.111
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	<0.110	<0.110	<0.120	<0.161	5.15 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.170 J	<0.129	<0.605	<0.128	<0.116	<0.192	21.2	<0.960	<0.126	<0.111
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	<0.110	<0.110	<0.120	<0.161	5.81 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	20.3	<0.960	<0.126	<0.111
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.622 J	0.371 J	<0.605	<0.128	<0.116	<0.192	395	<0.960	<0.126	<0.111
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.375 J	0.147 J	<0.605	<0.128	<0.116	<0.192	56.8	<0.960	<0.126	<0.111
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	9.08	5.28	<0.605	2.50	<0.116	<0.192	8,990	<0.960	<0.126	<0.111
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	13.2	6.19	<0.605	5.24	<0.116	<0.192	10,700	<0.960	<0.126	<0.111
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	<5.50	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	<4.71	<5.90	<6.40	10.6 J	<6.45	<30.3	<6.40	<5.80	<9.60	4,950	<48.0	16.2 J	<5.55
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.73	1.62	<0.605	0.809 J	<0.116	<0.192	1,380	<0.960	<0.126	<0.111
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	11.9 J	<0.0941	<0.118	<0.128	4.87	2.46	<0.605	2.06	<0.116	<0.192	2,860	<0.960	<0.126	<0.111
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	3.93 J	<1.29	<6.05	<1.28	<1.16	<1.92	3,760	<9.60	<1.26	<1.11
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	2.76 J	<1.29	<6.05	5.26 J	<1.16	<1.92	3,760	<9.60	<1.26	<1.11
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.81 J+	0.629 J	<0.605	<0.128	<0.116	<0.192	2,270	<0.960	<0.126	<0.111
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	<0.110	<0.110	<0.120	<0.161	3.03 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.152 J	<0.129	<0.605	<0.128	<0.116	<0.192	173	<0.960	<0.126	<0.111
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	<0.110	<0.110	<0.120	<0.161	17.3	<0.106	1.71 J	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.846 J	0.580 J	<0.605	<0.128	<0.116	<0.192	277	<0.960	<0.126	<0.111
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118 UJ	<0.128	0.176 J	<0.129	<0.605	<0.128	<0.116	<0.192	45.1	<0.960	<0.126	<0.111
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118 UJ	<0.128	0.182 J	<0.129	<0.605	<0.128	<0.116	<0.192	44.1	<0.960	<0.126	<0.111
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	4.27	1.46	<0.605	<0.128	<0.116	<0.192	6,140	<0.960	<0.126	<0.111
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	2.71 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.86	0.968 J	<0.605	<0.128	<0.116	<0.192	1,830	<0.960	<0.126	<0.111
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	14.8	8.45 J-	<0.605	3.80	<0.116	<0.192	6,320	<0.960	<0.126	<0.111
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	<11.0	<11.0	<12.0	<16.1	<119	<10.6	<78.7	<11.4	<47.8	<1,130	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	5,350	<96.0	<12.6	<11.1
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	11.3	5.15	<0.605	1.89	<0.116	<0.192	3,790	<0.960	<0.126	<0.111
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	9.46	5.71 J-	<0.605	2.53	<0.116	<0.192	3,530	<0.960	<0.126	<0.111
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	<11.0	<11.0	<12.0	<16.1	<119	<10.6	<78.7	<11.4	<47.8	<1,130	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	5,930	<96.0	<12.6	<11.1
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	15.2	8.95	<0.605	3.70	<0.116	<0.192	5,800	<0.960	<0.126	<0.111
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	<0.110	<0.110	<0.120	<0.161	4.05 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	10.0	5.10	<0.605	<0.128	<0.116	<0.192	4,840	<0.960	<0.126	<0.111
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.128 J	<0.118	<0.128	0.674 J	0.297 J	<0.605	<0.128	<0.116	<0.192	217	<0.960	<0.126	<0.111
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.13	0.515 J	<0.605	0.461 J	0.137 J	<0.192	1,330	<0.960	<0.126	<0.111
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	<0.110	<0.110	<0.120	<0.161	1.20 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	3.77	0.211 J	<0.605	0.373 J	<0.116	<0.192	113	<0.960	<0.126	<0.111
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.98	0.201 J	<0.605	<0.128	<0.116	<0.192	95.5	<0.960	<0.126	<0.111
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	3.76	0.280 J	<0.605	<0.128	<0.116	<0.192	146	<0.960	<0.126	<0.111
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.676 J	0.206 J	<0.605	0.313 J	<0.116	<0.192	373	<0.960	<0.126	<0.111
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	5.11	0.403 J	<0.605	0.425 J	<0.116	<0.192	164	<0.960	<0.126	<0.111
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	3.61	0.321 J	<0.605	<0.128	<0.116	<0.192	153	<0.960	<0.126	<0.111

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B																				
						1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	0.452 J	<0.605	<0.128	<0.116	<0.192	10,300 J+	<0.960	<0.126	<0.111
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	<0.110	<0.110	<0.120	<0.161	18.7 J	<0.106	3.03 J	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	90.2	<0.960	<0.126	<0.111
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	<0.110	<0.110	<0.120	<0.161	5.79 J	<0.106	1.23 J	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	85.4	<0.960	<0.126	<0.111
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	5.72	2.19	<0.605	2.14	<0.116	<0.192	1,100 J+	<0.960	<0.126	<0.111
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	<0.110	<0.110	<0.120	<0.161	1.31 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.213 J	<0.129 UJ	<0.605	<0.128	<0.116	<0.192	38.2	<0.960	<0.126	<0.111
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.86	0.936 J	<0.605	0.488 J	<0.116	<0.192	2,940	<0.960	<0.126	<0.111
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	21.9	<0.960	<0.126	<0.111
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	2.49	<0.118	<0.128	0.516 J	0.526 J	<0.605	0.384 J	<0.116	<0.192	130	<0.960	<0.126	<0.111
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.248 J	<0.129	<0.605	<0.128	<0.116	<0.192	20.3	<0.960	<0.126	<0.111
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.213 J	0.477 J	<0.605	<0.128	<0.116	<0.192	316	<0.960	<0.126	<0.111
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.790 J	0.558 J	<0.605	0.491 J	<0.116	<0.192	695	<0.960	<0.126	<0.111
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.44	0.612 J	<0.605	2.22	<0.116	<0.192	5,540	<0.960	<0.126	<0.111
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<5.50	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	<4.71	<5.90	<6.40	<6.80	<6.45	<30.3	<6.40	<5.80	<9.60	8,910	<48.0	<6.30	<5.55
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	1.68 J	<1.29	<6.05	6.48 J	<1.16	<1.92	6,480	<9.60	<1.26	<1.11
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<5.50	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	<4.71	<5.90	<6.40	<6.80	<6.45	<30.3	<6.40	<5.80	<9.60	8,490	<48.0	<6.30	<5.55
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.588 J	0.503 J	<0.605	0.593 J	<0.116	<0.192	704	<0.960	<0.126	<0.111
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	20.1	<0.106	<0.787	<0.114	<0.478	184	<0.0941	<0.118	<0.128	0.397 J	<0.129	<0.605	<0.128	<0.116	<0.192	287	<0.960	<0.126	<0.111
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	20.5	<0.106	<0.787	<0.114	<0.478	176	<0.0941	<0.118	0.663 J	0.336 J	<0.129	<0.605	<0.128	<0.116	<0.192	273	<0.960	<0.126	<0.111
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<1.10	<1.10	<1.20	<1.61	16.0 J	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	<1.36	<1.29	<6.05	<1.28	<1.16	<1.92	203	<9.60	<1.26	<1.11
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	24.1	<0.106	<0.787	<0.114	<0.478	18.3 J	<0.0941	<0.118	0.614 J	<0.136	<0.129	<0.605	2.85	<0.116	<0.192	214	<0.960	<0.126	<0.111
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<0.550	<0.550	<0.600	<0.805	62.2	<0.530	<3.94	<0.570	<2.39	<56.5	<0.471	<0.590	<0.640	<0.680	<0.645	<3.03	<0.640	<0.580	<0.960	125	<4.80	<0.630	<0.555
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	70.6	<0.106	<0.787	<0.114	<0.478	44.2 J	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	151	<0.960	<0.126	<0.111
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	<0.110	<0.110	<0.120	<0.161	1.23 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	2.15	0.934 J	<0.605	1.81	<0.116	<0.192	4,690	<0.960	<0.126	<0.111
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	<2.20	<2.20	<2.40	<3.22	<23.8	<2.12	<15.7	<2.28	<9.56	<226	<1.88	<2.36	<2.56	<2.72	<2.58	<12.1	<2.56	<2.32	<3.84	4,030 J	<19.2	<2.52	<2.22
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.59	0.380 J	<0.605	1.63	<0.116	<0.192	<0.111	<0.960	<0.126	<0.111
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	<1.36	<1.29	<6.05	<1.28	<1.16	<1.92	3,140	<9.60	<1.26	<1.11
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	1.87 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.28	0.688 J	<0.605	0.961 J	<0.116	<0.192	1,670	<0.960	<0.126	<0.111
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	2.86 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.16	0.609 J	<0.605	0.812 J	<0.116	<0.192	1,640	<0.960	<0.126	<0.111
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	13.7 J	<0.0941	<0.118	<0.128	0.456 J	<0.129	<0.605	0.351 J	<0.116	<0.192	231	<0.960	<0.126	<0.111
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.344 J	<0.129 UJ	<0.605	0.486 J	<0.116	<0.192	194	<0.960	<0.126	<0.111
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.236 J	<0.129	<0.605	<0.128	<0.116	<0.192	182	<0.960	<0.126	<0.111
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.63	0.706 J	<0.605	1.11	<0.116	<0.192	3,460	<0.960	<0.126	<0.111
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	<0.941	<1.18	<1.28	<1.36	<1.29	<6.05	<1.28	<1.16	<1.92	1,270	<9.60	<1.26	<1.11
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	<0.110	<0.110	<0.120	<0.161	14.7	<0.106	<0.787	<0.114	<0.478	66.9	<0.0941	<0.118	<0.128	0.628 J	<0.129	<0.605	<0.128	<0.116	<0.192	983	<0.960	<0.126	<0.111
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.110	<0.110	<0.120	<0.161	2.69 J	<0.106	<0.787	<0.114	<0.478	15.0 J	<0.0941	<0.118	<0.128	1.01 J+	0.198 J	<0.605	0.415 J	<0.116	<0.192	1,060	<0.960	<0.126	<0.111
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	1.18	0.624 J	<0.605	0.865 J	<0.116	<0.192	1,350	<0.960	<0.126	<0.111
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.157 J	<0.118	<0.128	0.584 J	<0.129	<0.605	0.400 J	<0.116	<0.192	154 J-	<0.960	<0.126	<0.111
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	<0.110	<0.110	<0.120	<0.161	1.81 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.505 J	<0.129	<0.605	0.759 J	<0.116	<0.192	451	<0.960	0.394 J	<0.111
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.580 J	<0.129	<0.605	0.426 J	<0.116	<0.192	441	<0.960	<0.126	<0.111
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.920 J	0.628 J	<0.605	0.805 J	<0.116	<0.192	110 J	<0.960	<0.126	<0.111
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.557 J	0.536 J	<0.605	0.537 J	<0.116	<0.192	157	<0.960	<0.126	<0.111
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.402 J	<0.129	<0.605	<0.128	<0.116	<0.192	407 J+	<0.960	<0.126	<0.111
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	13.2 J+	<0.960	<0.126	<0.111
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.609 J	0.428 J	<0.605	0.809 J	<0.116	<0.192	705	<0.960	<0.126	<0.111
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	9.07 J+	<0.960	<0.126	<0.111
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.261 J	<0.118	<0.128	1.91	0.510 J	<0.605	<0.128	<0.116	<0.192	3,310	<0.960	<0.126	<0.111
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	0.369 J	<0.116	<0.192	121	<0.960	<0.126	<0.111
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	0.186 J	<0.118	<0.128	0.794 J	0.154 J	<0.605	<0.128	<0.116	<0.192	424	<0.960	<0.126	<0.111
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	<0.110	<0.110	<0.120	<0.161	1.22 J	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.323 J	<0.129	<0.605	0.365 J	<0.116	<0.192	12.8	<0.960	<0.126	<0.111
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3	<0.0941	<0.118	<0.128	0.308 J	<0.129	<0.605	0.346 J	<0.116	<0.192	12.3	<0.960	<0.126	<0.111
U4-SLMW	11/10/2022	N	EM03		-	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5	<0.471	<0.590	<0.640	1.60 J	<0.645	<3.03	<0.640	<0.580	<0.960	1.75 J	<4.80	<0.630	<0.555
U4-T3	10/13/2022	N	EM02		-	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	22.8 J	<0.0941	<0.118	<0.128	4.01	1.87	<0.605	<0.128	<0.116	<0.192	3,720	<0.960	<0.126	<0.111
U4-T3	11/3/2022	N	EM03		-	<0.110	<0.110	<0.120	<0.161	3.43 J	<0.106	<0.787	<0.114	<0.478	12.3 J	<0.0941	<0.118	<0.128	5.54	2.33	<0.605	2.09	<0.116	<0.192	3,460	<0.960	<0.126	<0.111

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B																						
						Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert-Butyl Ether (ETBE)	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylene (Sum of Isomers)	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Cymene (p-Isopropyltoluene)	sec-Butylbenzene	Styrene	tert-Amyl Methyl Ether	tert-Butyl Alcohol	tert-Butyl Methyl Ether (MTBE)	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	6.51	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.11 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	3.91	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.845 J	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	12.5 J+	<0.101	<0.127	<0.300	<0.278
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	2.27 J	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.292 J
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	4.26 J	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69	<0.525	<2.15	<2.15	<5.00	<0.785 UJ	<0.497	<0.870	<0.600	<0.625	<0.590 UJ	<0.975	<20.3 UJ	<0.505	<0.635	<1.50	<1.39
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	0.328 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	6.58	<0.101	<0.127	<0.300	0.471 J
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.05	<0.101	<0.127	<0.300	0.330 J
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	1.39	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.478 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.644 J
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	0.956 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430 UJ	<0.430	<1.00 UJ	<0.157 UJ	<0.0993 UJ	<0.174 UJ	<0.120	<0.125 UJ	<0.118 R	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	4.96	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.797 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	6.74	<0.101	<0.127	<0.300	0.333 J
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	<28.0	<24.4	<74.8	<21.0	<20.2	<27.4	<67.4	<21.0	<86.0	<86.0	<200 UJ	<31.4	<19.9	<34.8	<24.0	<25.0	<23.6	<39.0	<812	<20.2	<25.4	<60.0	<55.6
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	5.14 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.543 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.494 J	<0.278
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	0.812 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.71	<0.101	<0.127	<0.300	0.341 J
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	0.141 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	4.31 J	<0.101	<0.127	<0.300	<0.278
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	2.06	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.513 J
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	0.948 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118 R	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	0.447 J	<0.122	<0.374	<0.105	4.56	<0.137	<0.337	<0.105	<0.430	0.976 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.450 J	<0.278
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	0.414 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	2.60 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.389 J	<0.278
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	1.08	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.637 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	4.41 J	<0.101	<0.127	<0.300	3.53
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	0.715 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	13.0	<0.101	<0.127	<0.300	<0.278
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	2.14 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	2.44 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.397 J	<0.278
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	1.00 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.819 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.12	<0.101	<0.127	<0.300	1.49
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	0.768 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.540 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.399 J	<0.278
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	0.209 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.672 J
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	0.576 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	0.220 J	<0.120	<0.125	<0.118	<0.195	12.7	<0.101	<0.127	<0.300	0.454 J
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	0.612 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	0.441 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	0.274 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	7.15	<0.101	<0.127	<0.300	<0.278
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	0.190 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	0.259 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	3.00	0.473 J	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.47 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.42	<0.101	<0.127	<0.300	<0.278
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	4.51	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.47 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.459 J	<0.278
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9	<5.25	<21.5	<21.5	<50.0	<7.85	<4.97	<8.70	<6.00	<6.25	<5.90	<9.75	<203	<5.05	<6.35	<15.0	<13.9
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	1.22	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	1.94	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.571 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.429 J	<0.278
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	4.54 J	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	0.605 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.74 J	<0.101	<0.127	<0.300	<0.278
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.285 J
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	0.457 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	4.28 J	<0.101	<0.127	<0.300	0.798 J
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	1.42	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.856 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.59	<0.101	<0.127	<0.300	<0.278
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	0.749 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	10.8	<0.101	<0.127	<0.300	0.375 J
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	7.16	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7	<10.5	<43.0	<43.0	<100 UJ	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	6.10	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.767 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	4.75	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7	<10.5	<43.0	<43.0	<100 UJ	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	7.90	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.570 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.354 J	<0.278
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	3.82	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.58 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	0.273 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.332 J
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	0.410 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.04 J	<0.101	<0.127	<0.300	<0.278
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	2.38	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	0.181 J	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.557 J
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	1.83	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.576 J
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	2.53 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	0.189 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	3.22	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.478 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.315 J
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	2.52 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B																				
						Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert-Butyl Ether (ETBE)	Ethylbenzene	Hexachlorobutadiene	Isopropylbenzene	m,p-Xylene (Sum of Isomers)	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	p-Cymene (p-Isopropyltoluene)	sec-Butylbenzene	Styrene	tert-Amyl Methyl Ether	tert-Butyl Alcohol	tert-Butyl Methyl Ether (MTBE)	tert-Butylbenzene	Tetrachloroethene (PCE)	Toluene
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	0.370 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	8.05	<0.101	<0.127	2.63	<0.278
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.486 J
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.531 J
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	1.76	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.14 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	6.37	<0.101	<0.127	<0.300	<0.278
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	0.814 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.520 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	0.509 J	<0.122	<0.374	<0.105	<0.101	0.232 J	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	0.326 J	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	3.30
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	0.374 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	0.400 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	0.460 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	0.584 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.565 J	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<406	<0.101	<0.127	<0.300	<0.278
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9	<5.25	<21.5	<21.5	<50.0	<7.85	<4.97	<8.70	<6.00	<6.25	<5.90	<9.75	<203	<5.05	<6.35	<15.0	<13.9
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9	<5.25	<21.5	<21.5	<50.0	<7.85	<4.97	<8.70	<6.00	<6.25	<5.90	<9.75	<203	<5.05	<6.35	<15.0	<13.9
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	0.462 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118 R	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<0.140	<0.122	<0.374	<0.105	4.90	<0.137	<0.337	<0.105	<0.430	0.707 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<0.140	<0.122	<0.374	<0.105	5.43	<0.137	<0.337	<0.105	<0.430	0.866 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	5.54 J	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	95.7 J	3.30 J
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<0.140	<0.122	<0.374	<0.105	3.02	<0.137	<0.337	<0.105	<0.430	2.44 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	1.82 J	<0.278
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69	<0.525	<2.15	12.9 J	<5.00	<0.785	<0.497	<0.870	<0.600	<0.625	<0.590	<0.975	<20.3	<0.505	<0.635	<1.50	<1.39
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	14.6	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	0.664 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.639 J	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	<2.80	<2.44	<7.48	<2.10	<2.02	<2.74	<6.74	<2.10	<8.60	<8.60	<20.0	<3.14	<1.99	<3.48	<2.40	<2.50	<2.36	<3.90	<81.2	<2.02	<2.54	<6.00	<5.56
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	0.454 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	0.610 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.31	<0.101	<0.127	<0.300	<0.278
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	0.573 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118 UJ	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	1.52 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	0.639 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	7.16	<0.101	<0.127	<0.300	<0.278
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37	<1.05	<4.30	5.02 J	<10.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.543 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	0.551 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.508 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	0.618 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	4.13 J	<0.101	<0.127	<0.300	<0.278
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	0.164 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	2.01 J	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	0.395 J
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	5.02	0.914 J
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	0.159 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.573 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	0.561 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	0.471 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	6.75	<0.101	<0.127	<0.300	<0.278
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	4.48 J	<0.101	<0.127	<0.300	<0.278
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	0.447 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	0.533 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	0.256 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	0.363 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	<0.430	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278
U4-SLMW	11/10/2022	N	EM03		-	1.52 J	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69	<0.525	<2.15	<2.15	<5.00	<0.785	<0.497	<0.870	<0.600	<0.625	<0.590	<0.975	<20.3	<0.505	<0.635	<1.50	<1.39
U4-T3	10/13/2022	N	EM02		-	2.05	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.687 J	<1.00 UJ	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	35.0 J+	<0.101	<0.127	<0.300	<0.278
U4-T3	11/3/2022	N	EM03		-	3.01 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337	<0.105	<0.430	0.879 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.440 J	<0.278

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B						SW9060A/SM5310B	Volatile Fatty Acids by AM23G									
						trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total	Total Organic Carbon	3-Methylbutanoic Acid	Acetic Acid	Butyric Acid	Formic Acid	Hexanoic Acid	i-Hexanoic Acid	Lactic Acid	Pentanoic Acid	Propionic Acid	Pyruvic Acid
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
M-247-100	4/20/2022	N	BL02	UMCf	100.5 - 110.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-249-100	4/20/2022	N	BL02	UMCf	99.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-251-100	4/19/2022	N	BL02	UMCf	92.5 - 102.5	<0.149	<0.118	0.907 J	<0.160	<0.234	<0.174	1,410 J+	----	----	----	----	----	----	----	----	----	----
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	<0.149	<0.118	0.557 J	<0.160	<0.234	<0.174	3,660 J+	----	----	----	----	----	----	----	----	----	----
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	1,030 J+	----	----	----	----	----	----	----	----	----	----
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,590 J+	----	----	----	----	----	----	----	----	----	----
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	520 J	----	----	----	----	----	----	----	----	----	----
M-253-100	4/20/2022	N	BL02	UMCf	100.8 - 110.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
M-255-100	4/20/2022	N	BL02	UMCf	100.2 - 110.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	4/18/2022	N	BL02	UMCf	94.7 - 109.7	<0.745	<0.590	<0.950	<0.800	<1.17	<0.870	1,030 J+	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	2,420 J+	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	2,670 J+	----	----	----	----	----	----	----	----	----	----
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,540 J+	----	----	----	----	----	----	----	----	----	----
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	<0.149	<0.118	0.260 J	<0.160	<0.234	<0.174	1,240 J+	----	----	----	----	----	----	----	----	----	----
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	<0.149	<0.118	0.609 J	<0.160	<0.234	<0.174	1,660 J+	----	----	----	----	----	----	----	----	----	----
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	<29.8	<23.6	<38.0	<32.0	<46.8	<34.8	971 J	----	----	----	----	----	----	----	----	----	----
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	<0.149	<0.118	0.753 J	<0.160	<0.234	<0.174	1,710 J+	----	----	----	----	----	----	----	----	----	----
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.149	<0.118	0.460 J	<0.160	<0.234	<0.174	1,380 J+	----	----	----	----	----	----	----	----	----	----
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	863 J	----	----	----	----	----	----	----	----	----	----
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.149	<0.118	0.429 J	<0.160	<0.234	<0.174	1,070 J+	----	----	----	----	----	----	----	----	----	----
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,110 J+	----	----	----	----	----	----	----	----	----	----
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	605 J	----	----	----	----	----	----	----	----	----	----
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	863 J	----	----	----	----	----	----	----	----	----	----
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	909 J	----	----	----	----	----	----	----	----	----	----
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	<0.149	<0.118	0.514 J	<0.160	<0.234	<0.174	221,000	----	----	----	----	----	----	----	----	----	----
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	<0.149	<0.118	0.394 J	<0.160	<0.234	<0.174	659,000	----	----	----	----	----	----	----	----	----	----
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.149	<0.118	0.745 J	<0.160	<0.234	<0.174	3,200 J	----	----	----	----	----	----	----	----	----	----
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	<0.149	<0.118	0.259 J	<0.160	<0.234	<0.174	2,760 J	----	----	----	----	----	----	----	----	----	----
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	12,500	----	----	----	----	----	----	----	----	----	----
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	<0.149	<0.118	0.652 J	<0.160	<0.234	<0.174	18,800	----	----	----	----	----	----	----	----	----	----
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.149	<0.118	0.807 J	<0.160	<0.234	<0.174	3,170 J	----	----	----	----	----	----	----	----	----	----
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	2,450	----	----	----	----	----	----	----	----	----	----
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	<0.149	<0.118	1.13	<0.160	<0.234	<0.174	2,770 J+	----	----	----	----	----	----	----	----	----	----
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	<0.149	<0.118	0.211 J	<0.160	<0.234	<0.174	875 J	----	----	----	----	----	----	----	----	----	----
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	<0.149	<0.118	0.223 J	<0.160	<0.234	0.220 J	1,280 J	----	----	----	----	----	----	----	----	----	----
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	<0.149	<0.118	0.235 J	<0.160	<0.234	<0.174	766 J	----	----	----	----	----	----	----	----	----	----
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,790 J	----	----	----	----	----	----	----	----	----	----
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	952 J	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,120 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,080 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,160 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	972 J	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	<0.149	<0.118	0.883 J	<0.160	<0.234	<0.174	1,570 J	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	<0.149	<0.118	1.23	<0.160	<0.234	<0.174	787 J	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	<7.45	<5.90	<95.0	<8.00	<11.7	<8.70	558 J	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	<0.149	<0.118	0.222 J	<0.160	<0.234	<0.174	1,100 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	<0.149	<0.118	0.414 J	<0.160	<0.234	<0.174	8,510	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	88,500	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	75,900	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	<0.149	<0.118	0.208 J	<0.160	<0.234	<0.174	964 J	----	----	----	----	----	----	----	----	----	----
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	999 J	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	3,300 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,200 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,320 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	<0.149	<0.118	0.805 J	<0.160	<0.234	<0.174	7,260 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	0.225 J	<0.160	<0.234	<0.174	1,530 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	<0.149	<0.118	0.920 J	<0.160	<0.234	<0.174	1,710 J	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	<14.9	<11.8	<19.0	<16.0	<23.4	<17.4	1,300 J	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.149	<0.118	0.421 J	<0.160	<0.234	<0.174	1,450 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	<0.149	<0.118	0.500 J	<0.160	<0.234	<0.174	1,460 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	<14.9	<11.8	<19.0	<16.0	<23.4	<17.4	1,180 J	----	----	----	----	----	----	----	----	----	----
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	<0.149	<0.118	0.797 J	<0.160	<0.234	<0.174	1,370 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	<0.149	<0.118	0.524 J	<0.160	<0.234	<0.174	1,350 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,190 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	<0.149	<0.118	0.191 J	<0.160	<0.234	<0.174	631 J	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	<0.149	<0.118	<0.190	<0.160	<0.234	0.181 J	1,630 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,490 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,680 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	2,760 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,370 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,530 J+	----	----	----	----	----	----	----	----	----	----

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Table 5
Groundwater Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Well	Sample Date	QC Type	Event	Screened Lithology	Screened Interval	Volatile Organic Compounds by SW8260B						SW9060A/SM5310B	Volatile Fatty Acids by AM23G									
						trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total	Total Organic Carbon	3-Methylbutanoic Acid	Acetic Acid	Butyric Acid	Formic Acid	Hexanoic Acid	i-Hexanoic Acid	Lactic Acid	Pentanoic Acid	Propionic Acid	Pyruvic Acid
						µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
U4-MW-08D	4/13/2022	N	BL02	UMCf	98.6 - 108.6	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	3,420 J	----	----	----	----	----	----	----	----	----	----
U4-MW-08DD	4/20/2022	N	BL02	UMCf	119.8 - 129.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	670 J	----	----	----	----	----	----	----	----	----	----
U4-MW-08DD	4/20/2022	FD	BL02	UMCf	119.8 - 129.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	672 J	----	----	----	----	----	----	----	----	----	----
U4-MW-08I	4/13/2022	N	BL02	UMCf	78.0 - 88.0	<0.149	<0.118	0.904 J	<0.160	0.413 J	<0.174	1,740 J	----	----	----	----	----	----	----	----	----	----
U4-MW-08S	4/15/2022	N	BL02	UMCf	54.9 - 64.9	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,190 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-09D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.149	<0.118	0.195 J	<0.160	<0.234	<0.174	1,590 J	----	----	----	----	----	----	----	----	----	----
U4-MW-09DD	4/14/2022	N	BL02	UMCf	119.8 - 129.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	493 J	----	----	----	----	----	----	----	----	----	----
U4-MW-09I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	0.326 J	1,090 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-09S	4/14/2022	N	BL02	UMCf	55.3 - 65.3	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	892 J	----	----	----	----	----	----	----	----	----	----
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,020 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,200 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<0.149	<0.118	0.873 J	<0.160	<0.234	<0.174	3,440 J+	<6.1	25 J	<5.8	460	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<7.45	<5.90	<9.50	<8.00	<11.7	<8.70	20,200 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	1,360 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<7.45	<5.90	<9.50	<8.00	<11.7	<8.70	1,820 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<0.149	<0.118	0.194 J	<0.160	<0.234	<0.174	1,040 J+	<1.2	3.6 J	<1.2	91	<1.2	<1.1	<1.1	<1.1	<1.1	<1.2
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	208,000	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	201,000	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	61,800 J	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<0.149	<0.118	0.631 J	<0.160	<0.234	<0.174	306,000 J	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<0.745	<0.590	<0.950	<0.800	<1.17	<0.870	364,000	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	370,000	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	<0.149	<0.118	0.752 J	<0.160	<0.234	<0.174	1,440 J+	<6.1	26 J	<5.8	460	<5.8	43 J	<5.3	<5.6	<5.3	<6.0
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	<2.98	<2.36	<3.80	<3.20	<4.68	<3.48	903 J	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	<0.149	<0.118	0.684 J	<0.160	<0.234	<0.174	1,020 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	469 J	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	0.363 J	<0.160	<0.234	<0.174	1,630 J	<6.1	<12	<5.8	240	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	0.314 J	<0.160	<0.234	<0.174	1,930 J	<6.1	<12	<5.8	220	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,440 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	4,410 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	11,100	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	<0.149	<0.118	0.456 J	<0.160	<0.234	<0.174	1,640 J	<12	27 J	<12	490	<12	<11	<11	<11	<11	<12
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	<1.49	<1.18	<1.90	<1.60	<2.34	<1.74	58,400	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	55,200	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	7,010	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.149	<0.118	0.291 J	<0.160	<0.234	<0.174	1,080 J+	<3.0	17 J	<2.9	240	<2.9	<2.8	21 J	<2.8	<2.6	<3.0
U4-MW-13I	9/28/2022	N	EM01	UMCf	77.1 - 87.1	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	2,450 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	10/10/2022	N	EM02	UMCf	77.1 - 87.1	<0.149	<0.118	1.49	<0.160	<0.234	<0.174	1,900 J	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	11/3/2022	N	EM03	UMCf	77.1 - 87.1	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	2,000 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	<0.149	<0.118	0.295 J	<0.160	<0.234	<0.174	1,220 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,090 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,240 J	----	----	----	----	----	----	----	----	----	----
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	532 J	----	----	----	----	----	----	----	----	----	----
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	<0.149	<0.118	0.215 J	<0.160	<0.234	<0.174	1,440 J	----	----	----	----	----	----	----	----	----	----
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	848 J	----	----	----	----	----	----	----	----	----	----
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	<0.149	<0.118	0.534 J	<0.160	<0.234	<0.174	1,340 J	----	----	----	----	----	----	----	----	----	----
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	827 J	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	950 J	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	1,070 J+	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	<0.149	<0.118	<0.190	<0.160	<0.234	<0.174	931 J	----	----	----	----	----	----	----	----	----	----
U4-SLMW	11/10/2022	N	EM03		-	<0.745	<0.590	<0.950	<0.800	<1.17	<0.870	3,660 J+	----	----	----	----	----	----	----	----	----	----
U4-T3	10/13/2022	N	EM02		-	<0.149	<0.118	0.525 J	<0.160	<0.234	<0.174	114,000	----	----	----	----	----	----	----	----	----	----
U4-T3	11/3/2022	N	EM03		-	<0.149	<0.118	0.746 J	<0.160	<0.234	<0.174	61,500	----	----	----	----	----	----	----	----	----	----

Notes:
FD - Field duplicate
E - Field instrument error.
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
R - The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the 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.

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Table 6
Tracer Dye Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Location	Sample Date	Sample ID	Event	Eosine				Fluorescein				Rhodamine WT (RWT)				Sulforhodamine B (SRB)			
				Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater	
				Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)
CARBON-SOLN	10/18/2022	CARBON-SOLN-20221018	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
M-251-100	4/19/2022	M-251-100-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
M-251-100	9/20/2022	M-251-100-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
M-251-100	10/11/2022	M-251-100-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	570.1	1.15	571.2 **	18.7	ND	BLANK	ND	BLANK
M-251-100	11/2/2022	M-251-100-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
M-251-100	11/2/2022	M-251-100-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
M-251-60	4/18/2022	M-251-60-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
M-251-60	9/20/2022	M-251-60-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	566.5	3.70	ND	BLANK	ND	BLANK	ND	BLANK
M-251-60	10/11/2022	M-251-60-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
M-251-60	11/3/2022	M-251-60-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	570.2 **	1.32	ND	BLANK	ND	BLANK	ND	BLANK
M-252	4/21/2022	M-252-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
M-252	9/20/2022	M-252-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	567.7	9.28	571.8 **	72.4	ND	BLANK	ND	BLANK
M-252	10/11/2022	M-252-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	567.6	36.2	571.2 **	173	ND	BLANK	ND	BLANK
M-252	11/2/2022	M-252-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	567.7	18.00	ND	BLANK	ND	BLANK	ND	BLANK
U4-E-01D	4/18/2022	U4-E-01D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	583.8 **	2.31
U4-E-01I	4/19/2022	U4-E-01I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	581.8	4.97
U4-E-02D	4/20/2022	U4-E-02D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-02I	4/18/2022	U4-E-02I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-03D	4/19/2022	U4-E-03D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-03D	10/13/2022	U4-E-03D-EM02	EM02	---	---	ND	BLANK	---	---	507.8	1.24	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-03D	11/3/2022	U4-E-03D-EM03	EM03	---	---	ND	BLANK	---	---	507.6	5.55	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-04D	4/19/2022	U4-E-04D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-04I	4/18/2022	U4-E-04I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-05D	4/19/2022	U4-E-05D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-05I	4/19/2022	U4-E-05I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-06D	4/11/2022	U4-E-06D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-06I	4/11/2022	U4-E-06I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-06I	10/12/2022	U4-E-06I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-06I	11/3/2022	U4-E-06I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-07D	4/12/2022	U4-E-07D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-07I	4/12/2022	U4-E-07I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-07I	10/11/2022	U4-E-07I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-07I	11/3/2022	U4-E-07I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-08D	4/12/2022	U4-E-08D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-08D	10/11/2022	U4-E-08D-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-08D	11/3/2022	U4-E-08D-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-09D	4/15/2022	U4-E-09D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-09I	4/14/2022	U4-E-09I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-10D	4/13/2022	U4-E-10D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-E-10I	4/13/2022	U4-E-10I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-EM03	11/3/2022	U4-EM03-EB	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-01D	4/19/2022	U4-MW-01D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-01D	9/24/2022	U4-MW-01D-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	577.2	1.71	ND	BLANK
U4-MW-01D	10/10/2022	U4-MW-01D-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	579.5	4.99	584.5 **	12.2
U4-MW-01D	11/2/2022	U4-MW-01D-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	578.9	12.9	584.6 **	9.75
U4-MW-01DD	4/19/2022	U4-MW-01DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.2 **	5.88
U4-MW-01DD	9/20/2022	U4-MW-01DD-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	579.1	5.65	581.9	0.897
U4-MW-01DD	10/10/2022	U4-MW-01DD-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	579.0	6.23	581.5	0.598
U4-MW-01DD	11/2/2022	U4-MW-01DD-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	578.9	4.42	584.0 **	0.573
U4-MW-01I	4/19/2022	U4-MW-01I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-01I	9/24/2022	U4-MW-01I-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	578.3	7.13	585.5 **	10.7
U4-MW-01I	10/10/2022	U4-MW-01I-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	507.8	0.027	ND	BLANK	ND	BLANK	578.5	5.28	580.4	8.83
U4-MW-01I	11/2/2022	U4-MW-01I-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	579.5	2.22	584.4 **	7.10
U4-MW-01S	4/18/2022	U4-MW-01S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	583.6	1.33
U4-MW-01S	9/20/2022	U4-MW-01S-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	15.1	ND	BLANK	ND	BLANK	576.2	1.34	ND	BLANK
U4-MW-01S	10/10/2022	U4-MW-01S-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	577.8	1.67	ND	BLANK
U4-MW-01S	11/2/2022	U4-MW-01S-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-02D	4/14/2022	U4-MW-02D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-02D	10/11/2022	U4-MW-02D-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.6 **	0.772
U4-MW-02D	11/1/2022	U4-MW-02D-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-02I	4/14/2022	U4-MW-02I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-02I	10/11/2022	U4-MW-02I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	584.6 *	0.059
U4-MW-02I	11/2/2022	U4-MW-02I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	581.8	0.226
U4-MW-03D	4/20/2022	U4-MW-03D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-03D	9/22/2022	U4-MW-03D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03D	10/10/2022	U4-MW-03D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03D	11/2/2022	U4-MW-03D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03DD	4/20/2022	U4-MW-03DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-03DD	9/22/2022	U4-MW-03DD-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03DD	10/11/2022	U4-MW-03DD-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03DD	11/2/2022	U4-MW-03DD-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03I	4/19/2022	U4-MW-03I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-03I	9/22/2022	U4-MW-03I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03I	10/10/2022	U4-MW-03I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03I	11/2/2022	U4-MW-03I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03S	4/18/2022	U4-MW-03S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-03S	9/22/2022	U4-MW-03S-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---

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Table 6
Tracer Dye Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Location	Sample Date	Sample ID	Event	Eosine				Fluorescein				Rhodamine WT (RWT)				Sulforhodamine B (SRB)			
				Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater	
				Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)
U4-MW-03S	10/11/2022	U4-MW-03S-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-03S	11/2/2022	U4-MW-03S-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-04D	4/19/2022	U4-MW-04D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-04D	9/22/2022	U4-MW-04D-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	565.8 **	2.81	574.6	24.2	ND	BLANK	ND	BLANK
U4-MW-04D	10/11/2022	U4-MW-04D-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	567.5	19.4	571.8 **	2.18	ND	BLANK	ND	BLANK
U4-MW-04D	11/3/2022	U4-MW-04D-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	568.4	7.03	574.2 *	2.94	ND	BLANK	ND	BLANK
U4-MW-04I	4/19/2022	U4-MW-04I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-04I	9/22/2022	U4-MW-04I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-04I	10/11/2022	U4-MW-04I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-04I	11/3/2022	U4-MW-04I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-05D	4/15/2022	U4-MW-05D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-05D	10/13/2022	U4-MW-05D-EM02	EM02	---	---	ND	BLANK	---	---	507.5	4.37	---	---	ND	BLANK	---	---	586.6 **	2.40
U4-MW-05D	11/3/2022	U4-MW-05D-EM03	EM03	---	---	ND	BLANK	---	---	507.8	6.73	---	---	ND	BLANK	---	---	585.4 **	2.24
U4-MW-05I	4/15/2022	U4-MW-05I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-05I	10/13/2022	U4-MW-05I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.2 **	4.11
U4-MW-05I	11/3/2022	U4-MW-05I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.6 **	2.64
U4-MW-06D	4/19/2022	U4-MW-06D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-06D	9/21/2022	U4-MW-06D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-06D	10/11/2022	U4-MW-06D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-06D	11/3/2022	U4-MW-06D-EM03	EM03	ND	BLANK	ND	BLANK	515.9	0.350	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK
U4-MW-06I	4/19/2022	U4-MW-06I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-06I	9/21/2022	U4-MW-06I-INJ	INJ	ND	BLANK	ND	BLANK	514.6	0.834	ND	BLANK	568.8 *	1.43	ND	BLANK	BLANK	BLANK	ND	BLANK
U4-MW-06I	10/11/2022	U4-MW-06I-EM02	EM02	ND	BLANK	ND	BLANK	515.0	1.38	ND	BLANK	568.2	0.953	572.0	11.5	ND	BLANK	ND	BLANK
U4-MW-06I	11/3/2022	U4-MW-06I-EM03	EM03	ND	BLANK	ND	BLANK	514.8	1.26	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK
U4-MW-07D	4/15/2022	U4-MW-07D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-07D	9/21/2022	U4-MW-07D-INJ	INJ	ND	BLANK	ND	BLANK	516	2590	507.2	BLANK	ND	BLANK	ND	BLANK	578	464	581.6	2.92
U4-MW-07D	10/12/2022	U4-MW-07D-EM02	EM02	ND	BLANK	ND	BLANK	515.6	3,620	507.3	30.7	ND	BLANK	ND	BLANK	579.1	27.0	ND	BLANK
U4-MW-07D	11/3/2022	U4-MW-07D-EM03	EM03	ND	BLANK	ND	BLANK	515.6	1,050	507.6	6.81	ND	BLANK	ND	BLANK	578.6	11.5	ND	BLANK
U4-MW-07I	4/15/2022	U4-MW-07I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-07I	9/21/2022	U4-MW-07I-INJ	INJ	ND	BLANK	ND	BLANK	515.2	162	507.1	36.9	ND	BLANK	ND	BLANK	579.1	104	586.1 **	5.54
U4-MW-07I	10/12/2022	U4-MW-07I-EM02	EM02	ND	BLANK	ND	BLANK	515.9	2,070	507.4	32.4	ND	BLANK	ND	BLANK	579	3.94	ND	BLANK
U4-MW-07I	11/3/2022	U4-MW-07I-EM03	EM03	ND	BLANK	ND	BLANK	516.0	578	507.6	7.07	ND	BLANK	ND	BLANK	580.0	3.38	ND	BLANK
U4-MW-08D	4/13/2022	U4-MW-08D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-08D	9/20/2022	U4-MW-08D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08D	10/12/2022	U4-MW-08D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08D	11/2/2022	U4-MW-08D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08DD	4/20/2022	U4-MW-08DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-08DD	10/11/2022	U4-MW-08DD-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	569.3	1.67	573.8	10.6	ND	BLANK	ND	BLANK
U4-MW-08DD	11/4/2022	U4-MW-08DD-EM03	EM03	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	567.4	4.02	574.9	6.02	ND	BLANK	ND	BLANK
U4-MW-08I	4/13/2022	U4-MW-08I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-08I	9/20/2022	U4-MW-08I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08I	10/12/2022	U4-MW-08I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08I	11/2/2022	U4-MW-08I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-08S	4/15/2022	U4-MW-08S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-08S	9/20/2022	U4-MW-08S-INJ	INJ	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	566.2 *	0.924	ND	BLANK	ND	BLANK	ND	BLANK
U4-MW-08S	10/11/2022	U4-MW-08S-EM02	EM02	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	569.0 *	0.839	574.3	5.65	ND	BLANK	ND	BLANK
U4-MW-08S	11/1/2022	U4-MW-08S-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-09D	4/14/2022	U4-MW-09D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-09D	10/13/2022	U4-MW-09D-EM02	EM02	---	---	ND	BLANK	---	---	507.5	6.50	---	---	ND	BLANK	---	---	581.1	11.2
U4-MW-09D	11/4/2022	U4-MW-09D-EM03	EM03	---	---	ND	BLANK	---	---	507.5	15.7	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-09DD	4/14/2022	U4-MW-09DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-09DD	9/20/2022	U4-MW-09DD-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-09DD	10/12/2022	U4-MW-09DD-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-09DD	11/3/2022	U4-MW-09DD-EM03	EM03	ND	BLANK	ND	BLANK	515.0	40.9	507.2	0.319	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK
U4-MW-09I	4/14/2022	U4-MW-09I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-09I	10/13/2022	U4-MW-09I-EM02	EM02	---	---	ND	BLANK	---	---	507.3	0.765	---	---	ND	BLANK	---	---	582.9	16.9
U4-MW-09I	11/4/2022	U4-MW-09I-EM03	EM03	---	---	ND	BLANK	---	---	507.4	8.50	---	---	ND	BLANK	---	---	577.4 **	3.26
U4-MW-09S	4/14/2022	U4-MW-09S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-09S	9/20/2022	U4-MW-09S-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-09S	10/12/2022	U4-MW-09S-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-09S	11/3/2022	U4-MW-09S-EM03	EM03	ND	BLANK	ND	BLANK	514.3	0.332	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK	ND	BLANK
U4-MW-10D	4/14/2022	U4-MW-10D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-10D	9/20/2022	U4-MW-10D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-10D	10/12/2022	U4-MW-10D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-10D	11/2/2022	U4-MW-10D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-10I	4/14/2022	U4-MW-10I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-10I	9/20/2022	U4-MW-10I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-10I	10/12/2022	U4-MW-10I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-10I	11/2/2022	U4-MW-10I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-11D	4/15/2022	U4-MW-11D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.7 **	24.5
U4-MW-11D	9/26/2022	U4-MW-11D-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	584.2 **	7.58
U4-MW-11D	10/11/2022	U4-MW-11D-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.0 **	6.96
U4-MW-11D	11/1/2022	U4-MW-11D-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-11I	4/14/2022	U4-MW-11I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-11I	9/26/2022	U4-MW-11I-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.6 **	21.1
U4-MW-11I	10/10/2022	U4-MW-11I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-11I	10/31/2022	U4-MW-11I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	583.0	1.35

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Table 6
Tracer Dye Analytical Results
Unit 4 Source Area Bioremediation Treatability Study

Location	Sample Date	Sample ID	Event	Eosine				Fluorescein				Rhodamine WT (RWT)				Sulforhodamine B (SRB)			
				Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater		Charcoal		Groundwater	
				Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)	Peaks(nm)	Conc.(ppb)
U4-MW-12D	4/15/2022	U4-MW-12D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-12D	9/27/2022	U4-MW-12D-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.3 **	39.9
U4-MW-12D	10/12/2022	U4-MW-12D-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	584.9 **	5.99
U4-MW-12D	11/2/2022	U4-MW-12D-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	584.6 **	3.70
U4-MW-12I	4/14/2022	U4-MW-12I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-12I	9/27/2022	U4-MW-12I-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	587.0 **	4.07
U4-MW-12I	10/12/2022	U4-MW-12I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.4 **	3.73
U4-MW-12I	11/2/2022	U4-MW-12I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	585.4 **	1.58
U4-MW-13D	4/14/2022	U4-MW-13D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-13D	9/28/2022	U4-MW-13D-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.2 **	12.9
U4-MW-13D	10/11/2022	U4-MW-13D-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	584.6 **	3.87
U4-MW-13D	11/3/2022	U4-MW-13D-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	583.4	0.224
U4-MW-13I	4/14/2022	U4-MW-13I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-13I	9/28/2022	U4-MW-13I-EM01	EM01	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.2 **	7.80
U4-MW-13I	10/10/2022	U4-MW-13I-EM02	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.6 **	4.67
U4-MW-13I	11/3/2022	U4-MW-13I-EM03	EM03	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	586.2 **	1.86
U4-MW-14D	4/13/2022	U4-MW-14D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-14D	9/20/2022	U4-MW-14D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-14D	10/13/2022	U4-MW-14D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-14D	11/3/2022	U4-MW-14D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-14I	4/14/2022	U4-MW-14I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-14I	9/20/2022	U4-MW-14I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-14I	10/13/2022	U4-MW-14I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-14I	11/3/2022	U4-MW-14I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15D	4/13/2022	U4-MW-15D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-15D	9/19/2022	U4-MW-15D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15D	10/12/2022	U4-MW-15D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15D	11/3/2022	U4-MW-15D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15DD	4/13/2022	U4-MW-15DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-15DD	9/19/2022	U4-MW-15DD-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15DD	10/13/2022	U4-MW-15DD-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15DD	11/3/2022	U4-MW-15DD-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15I	4/12/2022	U4-MW-15I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-15I	9/19/2022	U4-MW-15I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15I	10/12/2022	U4-MW-15I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15I	11/3/2022	U4-MW-15I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15S	4/13/2022	U4-MW-15S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-15S	9/19/2022	U4-MW-15S-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15S	10/13/2022	U4-MW-15S-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-15S	11/3/2022	U4-MW-15S-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16D	4/11/2022	U4-MW-16D-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-16D	9/19/2022	U4-MW-16D-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16D	10/13/2022	U4-MW-16D-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16D	11/3/2022	U4-MW-16D-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16DD	4/12/2022	U4-MW-16DD-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-16DD	9/19/2022	U4-MW-16DD-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16DD	10/13/2022	U4-MW-16DD-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16DD	11/3/2022	U4-MW-16DD-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16I	4/11/2022	U4-MW-16I-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-16I	9/19/2022	U4-MW-16I-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16I	10/13/2022	U4-MW-16I-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16I	11/3/2022	U4-MW-16I-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16S	4/12/2022	U4-MW-16S-BL02	BL02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK
U4-MW-16S	9/19/2022	U4-MW-16S-INJ	INJ	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16S	10/13/2022	U4-MW-16S-EM02	EM02	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-MW-16S	11/3/2022	U4-MW-16S-EM03	EM03	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---
U4-SLMW	10/18/2022	SLMW-20221018	EM02	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK	---	---	ND	BLANK

Notes:
ND No dye detected
* A fluorescence peak is present that does not meet all the criteria for a positive dye result. However, it has been calculated as though it was the tracer dye.
** A fluorescence peak is present that does not meet all the criteria for this dye. However, it has been calculated as a positive dye result.
--- Not tested
ppb parts per billion
nm nanometers