

TECHNICAL MEMORANDUM

To: Nevada Environmental Response Trust

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

From: Chris Hayes and Dana Grady

Date: August 24, 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 July 2023 toward successfully implementing the Unit 4 Source Area In-Situ Bioremediation (ISB) Treatability Study.

Task Progress Update: July 2023

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, respectively. Operations, maintenance, and monitoring activities completed during July 2023 are summarized below.

- Operations and Maintenance

- Area 1 –The first phase of the treatability study for Area 1 consisted of a total dissolved solids (TDS) reduction period prior to the injection of a carbon substrate due to the presence of elevated TDS concentrations in groundwater in the Area 1 deep zone. This phase included the injection of clean water (formerly known as stabilized Lake Mead water [SLMW]) in a pulsed manner and continuous groundwater extraction 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 TDS reduction period began on September 8, 2022 in the Area 1 deep zone. Once TDS concentrations were below the TDS goal of 21,000 mg/L for three consecutive events, a baseline groundwater sampling event was performed and the second phase of the treatability study, which included the start-up of carbon substrate injections for application of ISB into Area 1 intermediate and deep zones, was initiated. The baseline groundwater sampling event was performed in March 2023 and the carbon substrate injections as part of the ISB phase began on April 6, 2023.

The ISB injection process into Area 1 consists of daily-pulsed injections of a carbon substrate solution, followed by daily injections of anaerobic distribution water (clean water amended with Vitamin C). The carbon substrate solution initially consisted of 0.5 percent molasses solution, 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 June 6, 2023, after the Area 1 60-day evaluation period. In addition, the molasses concentration was increased from 0.5% to 1% on July 12, 2023 in an effort to meet the large theoretical carbon demand due to the high concentrations of chemicals of potential concern present in Area 1. The macronutrient solution consisting of urea and diammonium phosphate is not currently being added to the injectate solution to minimize precipitate formation. The macronutrient solution may be added in the future if required based on effectiveness monitoring results. Summaries of Area 1 extractions and injections are provided in Tables 2 and 3, respectively. Specific details of ongoing operations in July 2023 include the following:

- Area 1 Intermediate Zone – A total of 24,151 gallons of groundwater was extracted from two extraction wells screened within Area 1 intermediate zone while approximately 27,178 gallons of carbon substrate solution and 21,316 gallons of distribution water were injected into two injection wells.
- Area 1 Deep Zone – Approximately 12,669 gallons of groundwater were extracted from one extraction well screened within the Area 1 deep zone, while approximately 18,742 gallons of carbon substrate solution and 13,343 gallons of distribution water were injected into four Area 1 deep injection wells. Although slight increases in injection pressure were observed at injection wells U4-E-04D and U4-E-05D in June 2023 to a maximum injection pressure of 40 psi, no additional pressure increases were observed in July 2023. On July 15, 2023, injection rates were increased from an average of 0.3 gallons per minute (gpm) to an average of 0.8 gpm in injection wells U4-E-01D and U4-E-02D in effort to enhance carbon substrate distribution in the Area 1 deep zone.
- Operations were suspended from July 18 to July 20, 2023 to perform routine system maintenance and complete modifications to the Area 2 injection/extraction well network.
- Area 2 – Because TDS concentrations in Area 2 were lower than Area 1 and averaged approximately 19,500 mg/L during baseline sampling, ISB injection/extraction activities were 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 ongoing. The injection process consists of daily-pulsed injections of a carbon substrate solution, followed by daily injections of anaerobic distribution water (clean water amended with Vitamin C). The carbon substrate solution initially consisted of 0.5 percent molasses solution, 0.5 molar sodium bicarbonate solution, trace mineral solution, and vitamin B12. The molasses concentration was increased from 0.5% to 1% on July 12, 2023 in an effort to meet the theoretical carbon requirements for Area 2 by the end of treatability study. 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 NDEP-approved Unit 4 Source Area ISB Treatability Study Work Plan Addendum). The macronutrient solution consisting of urea and

diammonium phosphate is not currently being added to the injectate solution to minimize precipitate formation. This macronutrient solution may be added in the future if required based on effectiveness monitoring results. Summaries of Area 2 extractions and injections are provided in Tables 2 and 4, respectively. Specific details of ongoing operations during July 2023 include the following:

- Area 2 Intermediate Zone – Approximately 7,445 gallons of groundwater were extracted from two extraction wells, while approximately 14,777 gallons of carbon substrate solution and 11,524 gallons of distribution water were injected into two injection wells.
 - Area 2 Deep Zone – Approximately 2,180 gallons of groundwater were extracted from one extraction well, while approximately 32,127 gallons of carbon substrate solution and 25,070 gallons of distribution water were injected into five injection wells.
 - Operations were suspended from July 18 to July 20, 2023 to perform routine system maintenance and complete modifications to the Area 2 injection/extraction well network. Modifications consisted of converting the deep extraction well U4-E-08D to an injection well in an effort to improve carbon substrate distribution and increase total organic carbon (TOC) concentrations within the targeted Area 2 deep treatment interval during the final three months of Area 2 operations.
- Effectiveness Monitoring – The effectiveness monitoring program included a baseline groundwater sampling event completed in April 2022 prior to system start-up. Following start-up in early September 2022, the effectiveness monitoring program was implemented in accordance with the Work Plan Addendum. During the first month of operations in Area 2, 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. In March 2023, groundwater samples were collected from all Area 1 intermediate and deep injection, extraction, and monitoring wells to establish baseline conditions prior to the startup of carbon substrate solution injections in Area 1, which began on April 6, 2023. The April 2023 sampling event was performed approximately two weeks after ISB start-up in Area 1, and therefore serves as a biweekly sampling event for Area 1 monitoring wells and the regular monthly sampling event for Area 2. Similar to the Area 2 monitoring program, the sampling in Area 1 then shifted to a monthly basis in May 2023 and coincides with the monthly sampling performed for Area 2. Available draft groundwater analytical results from the baseline sampling event and subsequent monitoring events performed from September 2022 to June 2023 are presented in Table 5. The June 2023 groundwater results are summarized below. Groundwater analytical results from the most recent effectiveness monitoring event performed from July 11 to July 18, 2023 will be provided in future monthly progress reports as data become available from the laboratory. Final validated data will be provided in the final treatability study results report.
- Area 1 Intermediate – The June 2023 sampling event was conducted approximately two months after the start of ISB injections into Area 1 and included collection of groundwater samples from two extraction wells screened in the Area 1 intermediate zone, and nine monitoring wells, including wells located immediately within the Area 1 study area and around the perimeter of the Area 1 study area. Four of the nine perimeter monitoring wells are screened in the overlying shallow zone. Groundwater analytical results from the June 2023 sampling event are summarized below.
 - During the June 2023 sampling event (performed approximately two months after the start of ISB operations in Area 1), results from groundwater samples

collected from all three intermediate monitoring wells located within the immediate vicinity of the Area 1 intermediate treatment zone (i.e., U4-MW-02I, U4-MW-05I, and U4-MW-07I) indicated perchlorate concentration reductions ranging from 96 percent to greater than 99 percent compared to pre-ISB baseline concentrations in March 2023. Of these results, the greatest concentration reduction occurred in the groundwater sample collected from U4-MW-07I, with perchlorate concentrations reducing from 325 mg/L in the March 2023 pre-ISB baseline sampling event to 0.0483 mg/L in June 2023. Of the six perimeter monitoring wells sampled in June 2023, the perchlorate concentration in the groundwater sample collected from U4-MW-04I (located approximately 30 feet northwest of the nearest injection well) reduced by approximately 61 percent when compared to the March 2023 pre-ISB baseline concentration.

- Chlorate and nitrate concentration trends were similar to perchlorate, with reductions of greater than 95 percent in groundwater samples collected from all three monitoring wells within the immediate vicinity of the Area 1 intermediate treatment zone (i.e., U4-MW-02I, U4-MW-05I and U4-MW-07I). Concentration reductions were also observed in samples collected from the Area 1 perimeter wells. Specifically, chlorate concentration reductions were observed in groundwater samples collected from four of the six perimeter monitoring wells, with reductions ranging from 10 percent to 40 percent. Nitrate concentration reductions were also observed in groundwater samples collected from four of the six perimeter monitoring wells, with reductions ranging from 26 percent to 79 percent.
- During the June 2023 sampling event, groundwater samples collected from all three monitoring wells located in the immediate vicinity of the Area 1 intermediate treatment zone (i.e., U4-MW-02I, U4-MW-05I, and U4-MW-07I) continued to indicate hexavalent chromium reductions of greater than 98 percent, with concentrations ranging from less than sample detection limits to 4.9 µg/L. No significant hexavalent chromium concentration reductions were observed in groundwater samples collected from monitoring wells located around the perimeter of the targeted Area 1 intermediate treatment zone.
- Elevated TOC concentrations continued to be observed two months after the start of ISB, with TOC concentrations in groundwater samples collected from monitoring wells located within the immediate vicinity of the Area 1 intermediate treatment zone ranging from 159 mg/L to 485 mg/L in June 2023. The groundwater sample collected from perimeter monitoring well U4-MW-04I also indicated an elevated TOC concentration of 39 mg/L compared to a March 2023 pre-ISB baseline concentration of 1.2 mg/L. This result correlates with the reduced perchlorate, chlorate, and nitrate concentrations also observed in the June 2023 sample collected from this location. These results indicate that the influence of the ISB injections is being observed up to 30 feet cross-gradient from Area 1 injection wells.
- Area 1 Deep – During the June 2023 sampling event performed two months after the start of ISB operations in Area 1, groundwater samples were collected from one deep extraction well, four deep monitoring wells within Area 1, and six perimeter monitoring wells surrounding Area 1 screened in the targeted deep treatment interval and underlying deep zone (designated with “DD”). Groundwater analytical results from the June 2023 sampling event are summarized below.

- Groundwater samples collected from two of the four Area 1 deep zone monitoring wells (U4-MW-05D and U4-MW-07D) indicated reductions in perchlorate concentrations ranging from 65 percent to 81 percent compared to pre-ISB baseline concentrations in March 2023. The lowest perchlorate concentration detected was in the groundwater sample collected from U4-MW-07D, with a perchlorate concentration of 76.4 mg/L in June 2023 compared to 400 mg/L during the March 2023 pre-ISB baseline sampling event. No reductions in perchlorate concentrations were observed in the groundwater samples collected from monitoring wells U4-MW-02D and M-251-100 located in the northeast corner of the study area during the June 2023 sampling events compared to the March 2023 pre-ISB baseline concentrations. Perchlorate concentrations in groundwater samples collected from two of the six perimeter monitoring wells (namely, U4-MW-01D and U4-MW-03DD) reduced by approximately 59 percent and 95 percent, respectively, compared to the March 2023 pre-ISB baseline concentrations.
- Chlorate and nitrate concentration trends were similar to perchlorate, with the greatest reductions observed in groundwater collected from monitoring wells U4-MW-05D and U4-MW-07D. The chlorate concentration of 1,170 mg/L detected in the June 2023 groundwater sample from U4-MW-05D was the lowest to date within Area 1 deep and represents an approximate 79 percent reduction when compared to the March 2023 pre-ISB baseline concentration of 5,680 mg/L. Nitrate concentration reductions were also observed in groundwater samples collected from monitoring wells U4-MW-05D and U4-MW-07D, with reductions of 97 and 34 percent, respectively, when compared to March 2023 pre-ISB baseline concentrations. Chlorate and nitrate concentrations in groundwater samples collected from the six perimeter monitoring wells showed moderate decreases with average concentration reductions of 33 percent and 43 percent, respectively, when compared to the March 2023 pre-ISB baseline concentrations.
- Hexavalent chromium concentrations reduced in groundwater collected from three of the four monitoring wells located within the targeted Area 1 deep zone, with concentration reductions ranging from 10 percent to 81 percent compared to March 2023 pre-ISB baseline concentrations. The most notable June 2023 concentration reduction was observed in the groundwater sample collected from U4-MW-05D, with a June 2023 concentration of 5,460 µg/L compared to the March 2023 pre-ISB baseline concentration of 28,200 µg/L. Hexavalent chromium concentrations in groundwater samples collected from five of the six perimeter monitoring wells showed moderate hexavalent chromium concentration reductions ranging from 18 percent to 63 percent compared to March 2023 pre-ISB baseline conditions.
- TOC concentration increases were observed in groundwater samples collected from two of the four monitoring wells screened within the Area 1 deep zone. Specifically, TOC concentrations measured 129 mg/L and 392 mg/L in monitoring wells U4-MW-05D and U4-MW-07D, respectively, during the June 2023 sampling event compared to pre-ISB TOC concentrations in March 2023 of less than 2.0 mg/L. These TOC concentration increases correlate with the perchlorate concentration decreases also observed in samples collected from U4-MW-05D and U4-MW-07D. A notable increase in TOC concentration was also observed in the groundwater sample collected from perimeter monitoring

well U4-MW-04D, with a June 2023 TOC concentration of 57.6 mg/L compared to a baseline TOC concentration of 7.26 mg/L.

- Area 2 Intermediate – In June 2023 approximately nine months after the start of ISB in Area 2, groundwater samples were collected from three intermediate monitoring wells located within Area 2 and two extraction wells screened in the Area 2 intermediate zone. In addition, groundwater samples were collected from ten perimeter monitoring wells located immediately around the perimeter of the Area 2 study area. Four of these ten perimeter monitoring wells are screened in the overlying shallow zone, while the remaining six monitoring wells are screened in the intermediate zone. Groundwater analytical results from the June 2023 sampling event are summarized below.
 - Perchlorate concentrations in groundwater samples collected in June 2023 from all three intermediate monitoring wells located within the immediate vicinity of the Area 2 treatment zone (i.e., U4-MW-11I, U4-MW-12I, and U4-MW-13I) ranged from 0.00908 mg/L to 9.36 mg/L, representing perchlorate concentration reductions of greater than 97 percent compared to baseline concentrations. Perchlorate concentration reductions were observed in groundwater samples collected from seven of the ten perimeter monitoring wells, with reductions of greater than 99 percent compared to the baseline concentrations.
 - As with perchlorate, both chlorate and nitrate concentrations in groundwater samples collected from all three Area 2 intermediate monitoring wells continued to be reduced by greater than 98 percent compared to baseline concentrations, including nitrate concentrations of less than the sample detection limit of 0.1 mg/L in all three samples. Similarly, the groundwater samples collected from the seven perimeter monitoring wells with strong perchlorate reductions of greater than 99 percent also indicated average chlorate and nitrate reductions of greater than 99 percent and 93 percent, respectively.
 - Hexavalent chromium concentrations in groundwater samples collected from all three intermediate monitoring wells within the immediate vicinity of the Area 2 treatment zone were reduced by greater than 98 percent compared to baseline, with concentrations ranging from less than 0.5 µg/L to 0.559 µg/L in June 2023. Hexavalent chromium concentrations in the groundwater samples collected from nine of the ten perimeter monitoring wells also reduced when compared to baseline, with reductions ranging from 51 percent to greater than 99 percent.
 - Groundwater samples collected in June 2023 from intermediate monitoring wells within the immediate vicinity of the Area 2 continued to exhibit elevated TOC concentrations ranging from 21.3 mg/L to 189 mg/L, which are significantly higher than the average baseline concentration of 1.25 mg/L. Notable increases in TOC concentrations above baseline concentrations were also observed in groundwater samples collected from nine of the ten perimeter monitoring wells, with concentrations ranging from 12 mg/L to 724 mg/L compared to an average baseline concentration of 1.15 mg/L. These results indicate that the influence of the ISB injections is being observed up to 15 feet upgradient and 25 feet cross-gradient of the Area 2 intermediate injection wells, as well as in the overlying shallow zone screened from approximately 55 to 65 feet below ground surface (bgs) (compared to the injection interval of 73 to 88 feet bgs). The combination of contaminant concentration decreases and TOC concentration increases indicate that the injected carbon substrate solution is being successfully distributed throughout the targeted Area 2 intermediate treatment zone.

- **Area 2 Deep** – During the June 2023 sampling event performed nine months after the start of ISB operations in Area 2, groundwater samples were collected from one deep extraction well, three deep monitoring wells within Area 2, and ten perimeter monitoring wells surrounding Area 2 and screened in the targeted deep treatment interval or the underlying deep zone (designated with “DD”). Groundwater analytical results from the June 2023 sampling event are summarized below.
 - When compared to baseline, perchlorate concentration reductions ranging from 16 percent to 82 percent were observed in groundwater samples collected from the three deep monitoring wells located within Area 2 (i.e., U4-MW-11D, U4-MW-12D, and U4-MW-13D). Perchlorate concentration reductions were observed in groundwater samples collected from eight of the ten perimeter monitoring wells, with reductions ranging from 15 percent to 99 percent compared to baseline concentrations. Perchlorate concentration reductions in groundwater collected from Area 2 deep monitoring wells have been less significant and more variable compared to the response observed in the intermediate zone. The lower permeability of the Area 2 deep treatment interval compared to the overlying Area 2 intermediate zone combined with the presence of horizontal and vertical preferential flow pathways have resulted in a less consistent distribution of injectate solution throughout the Area 2 deep treatment zone. The system modifications performed in July 2023, which included increasing the molasses concentration to 1% and converting the extraction well U4-E-08D into an injection well, were incorporated into the operations in an effort to improve distribution of carbon substrate and enhance reductive processes throughout the Area 2 deep zone.
 - Concentration reductions for chlorate and nitrate in the groundwater samples collected from the three deep monitoring wells within Area 2 were slightly greater than perchlorate (reductions of up to 87 percent for chlorate and up to 95 percent for nitrate compared to baseline concentrations). Similarly, significant chlorate and nitrate reductions were observed in the majority of the groundwater samples collected from the upgradient and cross-gradient perimeter monitoring wells.
 - Hexavalent chromium concentration reductions ranging from 20 percent to 85 percent when compared to baseline concentrations were observed in groundwater samples collected from the three deep monitoring wells located within Area 2. Hexavalent chromium concentration reductions were observed in groundwater samples collected from eight of the ten perimeter monitoring wells, with reductions ranging from 14 percent to greater than 99 percent compared to baseline concentrations.
 - TOC concentrations were only slightly higher than baseline concentrations in groundwater samples collected from U4-MW-11D, U4-MW-12D, and U4-MW-13D with concentrations ranging from 2.0 to 5.3 mg/L (baseline concentration range of 1.44 mg/L to 3.44 mg/L). Notable increases in TOC concentrations ranging from 9.2 mg/L to 234 mg/L were observed in groundwater samples collected from four of the ten perimeter monitoring wells. This indicates that the influence of ISB injections is being observed up to 15 feet upgradient, 15 feet downgradient, and 25 feet cross-gradient of the Area 2 deep injection wells. The system modifications performed in July 2023, which included increasing the molasses concentration to 1% and converting the extraction well U4-E-08D into

an injection well, were incorporated into the operations in an effort to improve distribution of carbon substrate throughout the Area 2 deep zone.

- Schedule and Progress Updates
 - Area 1 ISB operations are anticipated to continue through April 2024.
 - 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 in July 2023.

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: _____

8/24/23

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.



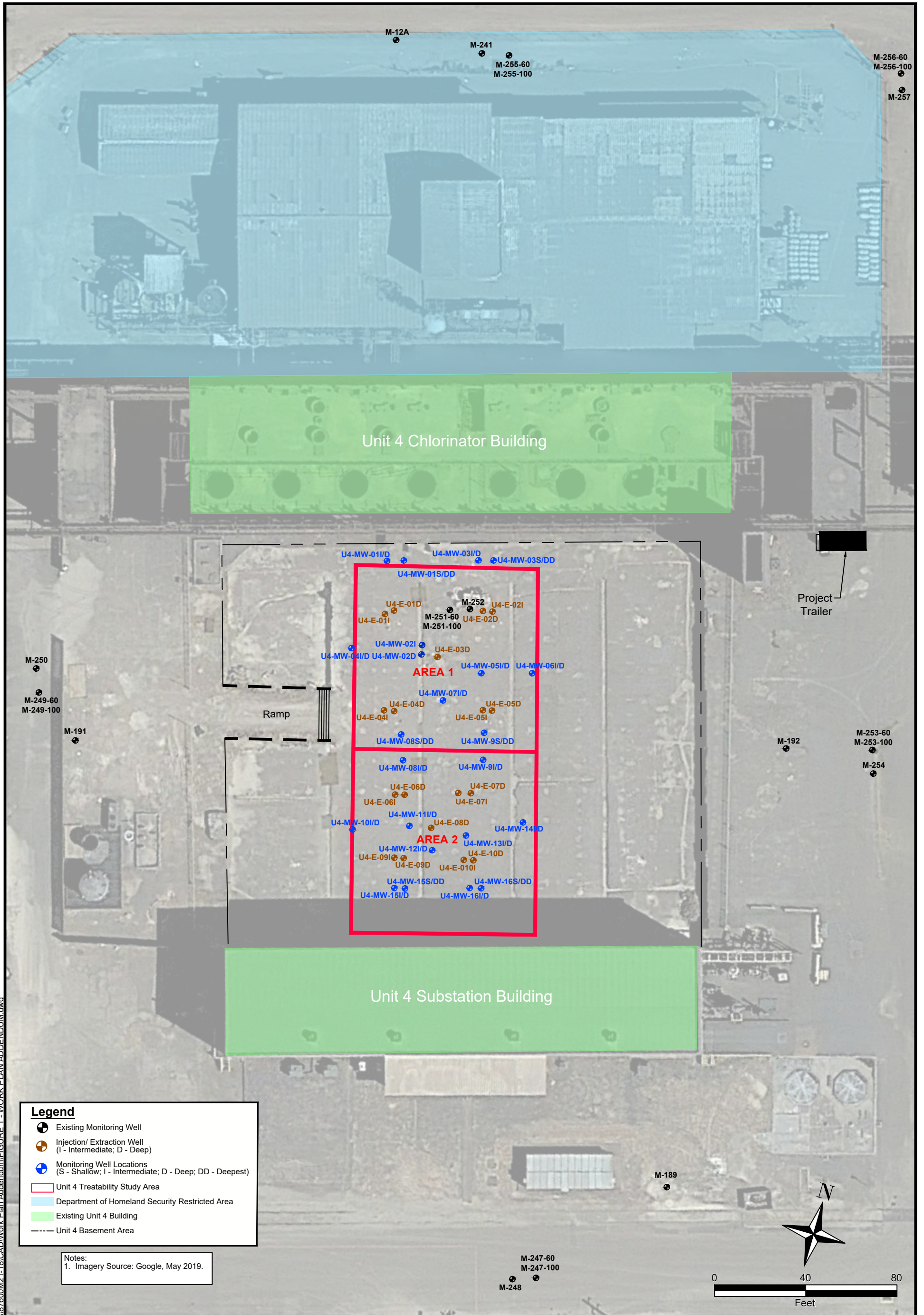
August 24, 2023

Christopher Hayes, CEM
Environmental Engineer
Tetra Tech, Inc.

Date

Nevada CEM Certificate Number: EM2499
Nevada CEM Expiration Date: December 15, 2024

Figures



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.

\\its318fs3.tt.local\CES\Projects\87600\M21-18\CAD\Work Plan Addendum\FIGURE 1 - WORK PLAN ADDENDUM.dwg

NEVADA ENVIRONMENTAL RESPONSE TRUST SITE

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

INJECTION/ EXTRACTION AND MONITORING WELL LAYOUT

TETRA TECH

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Project No.:	117-7502021-M21
Date:	May 10, 2022
Designed By:	AC
Figure No.	1

Tables

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.

Table 2
Summary of Groundwater Extraction Activities - July 2023
 Unit 4 Source Area Bioremediation Treatability Study

Study Area		Duration	Area 1 Deep			Duration	Area 1 Intermediate						Area 2 Deep			Area 2 Intermediate						
Well ID			U4-E-03D				U4-E-011			U4-E-021			U4-E-08D			U4-E-061			U4-E-071			
Date	Time		Average Flow Rate	Volume Extracted	Cumulative Total Volume		Average Flow Rate	Volume Extracted	Cumulative Total Volume	Average Flow Rate	Volume Extracted	Cumulative Total Volume	Average Flow Rate	Volume Extracted	Cumulative Total Volume	Average Flow Rate	Volume Extracted	Cumulative Total Volume	Average Flow Rate	Volume Extracted	Cumulative Total Volume	
		minutes	gpm	gallons	gallons	minutes	gpm	gallons	gallons	gpm	gallons	gallons	gpm	gallons	gallons	gpm	gallons	gallons	gpm	gallons	gallons	
7/1/2023	15:01	1,440	0.4	546.13	240,067.52	596	0.8	474.72	120,786.94	1.2	718.08	126,727.47	0.2	116.72	120,228.29	0.3	186.5	110,880.30	0.2	104.50	59,315.55	
7/2/2023	15:01	1,441	0.4	532.64	240,600.16	595	0.5	301.72	121,088.66	0.9	537.12	127,264.59	0.2	110.28	120,338.57	0.3	179.5	111,059.80	0.3	173.28	59,488.83	
7/3/2023	15:01	1,439	0.4	519.32	241,119.48	556	0.8	444.41	121,533.07	1.0	542.85	127,807.44	0.2	103.03	120,441.60	0.3	174.3	111,234.09	0.2	118.49	59,607.32	
7/4/2023	15:02	1,441	0.3	502.85	241,622.33	597	0.7	430.18	121,963.25	0.9	534.18	128,341.62	0.2	97.76	120,539.36	0.3	180.9	111,415.00	0.2	139.3	59,746.58	
7/5/2023	15:01	1,440	0.3	490.69	242,113.02	596	0.7	441.74	122,404.99	0.9	518.85	128,860.47	0.2	92.49	120,631.85	0.3	163.7	111,578.71	0.2	97.2	59,843.78	
7/6/2023	15:02	1,440	0.3	489.01	242,602.03	597	0.8	451.83	122,856.82	0.8	493.74	129,354.21	0.2	115.97	120,747.82	0.3	168.8	111,747.50	0.2	90.5	59,934.32	
7/7/2023	15:02	1,440	0.3	494.18	243,096.21	595	0.7	395.92	123,252.74	0.7	422.77	129,776.98	0.2	124.24	120,872.06	0.3	169.6	111,917.08	0.2	98.3	60,032.62	
7/8/2023	15:01	1,439	0.3	493.29	243,589.50	596	0.7	416.80	123,669.54	0.7	411.16	130,188.14	0.2	119.22	120,991.28	0.3	166.6	112,083.69	0.2	91.0	60,123.67	
7/9/2023	15:01	1,441	0.3	492.34	244,081.84	594	0.8	459.78	124,129.32	0.7	411.64	130,599.78	0.2	107.17	121,098.45	0.3	162.1	112,245.75	0.1	87.05	60,210.72	
7/10/2023	15:01	1,440	0.3	495.95	244,577.79	596	0.7	416.33	124,545.65	0.6	385.54	130,985.32	0.2	111.40	121,209.85	0.3	190.5	112,436.26	0.1	81.35	60,292.07	
7/11/2023	15:05	1,443	0.3	488.65	245,066.44	600	0.7	414.97	124,960.62	0.6	361.80	131,347.12	0.1	69.99	121,279.84	0.3	187.9	112,624.15	0.0	29.99	60,322.06	
7/12/2023	15:01	1,449	0.3	492.36	245,558.80	597	0.7	422.70	125,383.32	0.6	365.84	131,712.96	0.3	179.81	121,459.65	0.3	188.6	112,812.74	0.1	65.77	60,387.83	
7/13/2023	15:05	1,433	0.3	483.99	246,042.79	601	0.7	442.72	125,826.04	0.6	343.42	132,056.38	0.3	179.11	121,638.76	0.3	184.2	112,996.92	0.1	59.61	60,447.44	
7/14/2023	15:01	1,434	0.3	482.73	246,525.52	596	0.8	449.20	126,275.24	0.5	292.09	132,348.47	0.3	170.50	121,809.26	0.3	201.1	113,198.01	0.1	51.95	60,499.39	
7/15/2023	15:00	1,439	0.3	482.75	247,008.27	595	1.0	590.66	126,865.90	0.5	306.66	132,655.13	0.3	158.69	121,967.95	0.4	208.3	113,406.35	0.1	43.58	60,542.97	
7/16/2023	15:00	1,444	0.3	480.35	247,488.62	595	1.0	603.44	127,469.34	0.5	299.93	132,955.06	0.3	159.66	122,127.61	0.3	201.7	113,608.04	0.1	69.74	60,612.71	
7/17/2023	15:19	1,458	0.3	475.20	247,963.82	614	1.0	583.96	128,053.30	0.5	301.29	133,256.35	0.3	163.92	122,291.53	0.3	195.5	113,803.53	0.1	68.26	60,680.97	
7/18/2023	5:14	829	0.3	248.09	248,211.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/21/2023	14:02	200	0.4	71.53	248,283.44	199	1.0	195.38	128,248.68	0.6	111.18	133,367.53	--	--	122,291.53	0.4	70.7	113,874.23	0.2	49.47	60,730.44	
7/22/2023	15:01	1,501	0.3	424.86	248,708.30	545	1.1	616.13	128,864.81	0.5	272.02	133,639.55	--	--	122,291.53	0.3	183.2	114,057.45	0.2	110.26	60,840.70	
7/23/2023	15:03	1,446	0.3	403.12	249,111.42	547	1.1	627.34	129,492.15	0.5	279.83	133,919.38	--	--	122,291.53	0.3	190.6	114,248.09	0.2	113.26	60,953.96	
7/24/2023	15:02	1,435	0.3	386.98	249,498.40	546	1.1	613.43	130,105.58	0.5	280.69	134,200.07	--	--	122,291.53	0.3	190.1	114,438.14	0.2	110.52	61,064.48	
7/25/2023	15:01	1,438	0.3	383.11	249,881.51	545	1.2	640.41	130,745.99	0.5	277.05	134,477.12	--	--	122,291.53	0.4	191.4	114,629.54	0.2	96.28	61,160.76	
7/26/2023	15:01	1,441	0.3	383.24	250,264.75	545	1.1	600.42	131,346.41	0.5	274.41	134,751.53	--	--	122,291.53	0.3	188.6	114,818.17	0.2	97.71	61,258.47	
7/27/2023	15:03	1,442	0.3	384.33	250,649.08	549	1.1	587.26	131,933.67	0.5	270.34	135,021.87	--	--	122,291.53	0.3	189.4	115,007.55	0.2	92.38	61,350.85	
7/28/2023	15:01	1,438	0.2	347.42	250,996.50	545	1.1	610.69	132,544.36	0.5	263.78	135,285.65	--	--	122,291.53	0.3	186.4	115,193.91	0.1	75.01	61,425.86	
7/29/2023	15:00	1,439	0.4	517.92	251,514.42	544	1.1	622.91	133,167.27	0.5	263.49	135,549.14	--	--	122,291.53	0.3	178.9	115,372.81	0.1	74.18	61,500.04	
7/30/2023	15:01	1,441	0.2	306.00	251,820.42	544	1.1	625.52	133,792.79	0.5	261.50	135,810.64	--	--	122,291.53	0.3	184.2	115,557.02	0.1	53.37	61,553.41	
7/31/2023	15:01	1,441	0.3	369.96	252,190.38	545	1.1	615.25	134,408.04	0.5	253.78	136,064.42	--	--	122,291.53	0.3	181.6	115,738.63	0.1	57.36	61,610.77	
September 2022 Total					24,421									8,874			30,780			9,315		
October 2022 Total					25,916									12,872			25,189			9,128		
November 2022 Total					16,563									13,496			14,899			7,172		
December 2022 Total					20,564									10,365			20,580			6,926		
January 2023 Total					30,354									15,544			6,591			6,639		
February 2023 Total					29,553									14,935			714			4,801		
March 2023 Total					30,458									16,497			166			4,285		
April 2023 Total					24,591				67,805			66,327			13,005			5,000			5,425	
May 2023 Total					21,393				41,606			41,277			10,705			1,811			3,354	
June 2023 Total					15,709				10,902			18,405			3,819			4,965			2,166	
July 2023 Total					12,669				14,096			10,055			2,180			5,045			2,400	
Cumulative Total					252,190				134,408			136,064			122,292			115,739			61,611	

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. On January 18, 2023, Area 2 intermediate wells were transitioned from 24-hour operation to 12-hour operation in an effort to improve daily extraction rates. On June 7, 2023, all extraction wells were transitioned to a 12-hour operation to help improve daily extraction rates. All extraction wells continued to operate on a 12-hour-basis thereafter, with the exception of U4-E-03D, which was returned to 24-hour operations due to continued measurement of 0.5 gpm during the 12-hour operation.

2. Extraction operations were temporarily suspended on July 18, 2023 and resumed on July 21, 2023 due to system maintenance. Extraction well U4-E-08D was converted to an injection well when operations resumed on July 21, 2023.

Table 3
Summary of Injection Activities
Area 1 - July 2023
Unit 4 Source Area Bioremediation Treatability Study

Study Area			Area 1 Intermediate										Area 1 Deep								Area 1 Deep							
Well ID			U4-E-04I				U4-E-05I				U4-E-01D				U4-E-02D				U4-E-04D				U4-E-05D					
Date	Injection Start Time	Injection Stop Time	Duration ⁽¹⁾	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	Volume Carbon Solution Injected ⁽²⁾	Volume Distribution Water Solution Injected ^(3,4)	Average Flow Rate	Maximum Injection Pressure	
				minutes	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi	gallons	gallons	gpm	psi
7/1/2023	5:15	14:19	499	543.80	420.86	1.9	19	543.51	431.66	2.0	14	107.02	76.37	0.4	16	82.9	64.08	0.3	25	235.01	171.72	0.8	32	226.92	175.12	0.8	40	
7/2/2023	5:23	14:25	498	543.34	405.35	1.9	18	547.19	417.50	1.9	14	126.26	87.91	0.4	19	93.7	66.93	0.3	26	223.37	167.31	0.8	29	211.66	166.59	0.8	40	
7/3/2023	5:15	14:07	487	542.06	414.27	2.0	18	544.00	421.24	2.0	14	120.12	94.59	0.4	19	99.8	79.13	0.4	27	248.53	157.09	0.8	30	205.15	167.66	0.8	39	
7/4/2023	5:15	14:15	496	527.53	395.07	1.9	18	521.59	417.37	1.9	14	157.74	79.12	0.5	18	115.3	70.09	0.4	28	220.28	163.38	0.8	32	215.76	165.79	0.8	38	
7/5/2023	5:15	14:10	488	543.13	397.98	1.9	20	527.35	406.99	1.9	14	147.46	97.83	0.5	9	94.9	61.56	0.3	28	225.95	151.75	0.8	31	220.30	162.40	0.8	33	
7/6/2023	5:15	14:04	483	529.82	406.63	1.9	19	537.98	404.31	2.0	14	134.20	95.23	0.5	7	91.6	71.37	0.3	27	222.39	161.40	0.8	31	230.74	153.69	0.8	39	
7/7/2023	5:15	14:16	494	554.61	400.85	1.9	19	545.59	393.44	1.9	14	143.63	77.90	0.4	4	88.4	78.69	0.3	28	220.53	175.34	0.8	36	178.44	154.69	0.7	39	
7/8/2023	5:15	14:12	492	527.28	430.98	1.9	20	540.63	431.30	2.0	14	124.23	96.68	0.4	8	89.2	80.59	0.3	29	208.96	151.39	0.7	42	204.07	159.69	0.7	40	
7/9/2023	5:15	14:23	501	544.51	412.08	1.9	19	545.90	411.08	1.9	14	157.21	135.56	0.6	10	91.4	71.19	0.3	28	215.12	162.95	0.8	40	137.24	58.74	0.4	39	
7/10/2023	5:15	14:05	484	536.81	406.53	1.9	19	483.16 ⁽⁵⁾	401.40	1.8	14	116.07	71.03	0.4	18	102.1	60.18	0.3	29	200.76	150.17	0.7	40	277.52	167.43	0.9	37	
7/11/2023	5:15	14:15	493	545.37	422.47	2.0	19	533.10 ⁽⁵⁾	404.52	1.9	13	110.67	114.04	0.5	6	84.9	68.77	0.3	27	277.08	166.67	0.9	33	182.45	117.24	0.6	38	
7/12/2023	5:10	14:17	472	506.46	402.42	1.9	19	612.44 ⁽⁵⁾	370.02	2.1	18	103.80	78.66	0.4	6	100.7	71.84	0.4	28	209.59	159.08	0.8	36	235.36	224.51	1.0	38	
7/13/2023	5:10	14:15	487	507.25	417.94	1.9	18	665.44 ⁽⁵⁾	394.31	2.2	14	122.45	62.30	0.4	6	92.3	72.61	0.3	26	203.82	180.99	0.8	39	166.25	89.79	0.5	38	
7/14/2023	5:10	14:18	502	533.07	411.54	1.9	20	522.11	418.70	1.9	13	159.30	98.21	0.5	6	96.8	83.31	0.4	26	222.37	170.88	0.8	37	156.88	85.27	0.5	39	
7/15/2023	5:10	14:10	479	505.86	408.75	1.9	20	528.68	386.95	1.9	13	210.77	145.88	0.7	9	221.8	161.66	0.8	28	230.83	160.53	0.8	40	79.88	29.59	0.2	39	
7/16/2023	5:15	14:04	470	495.43	411.70	1.9	20	506.50	393.11	1.9	13	207.16	143.22	0.7	4	213.0	163.56	0.8	28	210.02	162.24	0.8	38	129.33	36.95	0.4	40	
7/17/2023	5:15	14:07	486	515.88	399.68	1.9	21	514.16	406.66	1.9	13	206.50	142.99	0.7	8	216.3	158.58	0.8	27	214.63	153.09	0.8	39	51.33	18.46	0.1	38	
7/18/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/19/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
7/21/2023	10:00	13:43	208	243.79	179.83	2.0	18	234.08	182.92	2.0	16	86.09	82.04	0.8	12	85.0	68.95	0.7	28	85.79	73.05	0.8	37	58.29	21.60	0.4	39	
7/22/2023	6:15	14:06	424	466.35	351.05	1.9	20	479.25	343.55	1.9	15	191.01	142.94	0.8	3	200.6	144.75	0.8	27	176.74	141.53	0.8	38	112.51	67.65	0.4	40	
7/23/2023	6:15	14:13	431	463.94	355.50	1.9	20	481.66	366.55	2.0	11	187.34	134.49	0.7	14	195.7	132.79	0.8	28	187.73	139.97	0.8	36	145.60	67.18	0.5	38	
7/24/2023	6:15	14:13	432	472.88	355.67	1.9	20	454.56	369.67	1.9	17	189.49	139.87	0.8	8	184.8	137.90	0.7	28	202.59	139.70	0.8	34	161.91	58.82	0.5	36	
7/25/2023	6:15	14:12	430	456.89	356.11	1.9	20	475.54	358.06	1.9	11	182.00	132.37	0.7	11	195.8	134.15	0.8	28	196.68	143.25	0.8	34	139.98	71.18	0.5	38	
7/26/2023	6:15	14:11	430	461.24	364.95	1.9	20	448.93	361.89	1.9	12	188.50	137.46	0.8	10	188.9	146.66	0.8	28	194.85	145.49	0.8	38	86.56	44.39	0.3	37	
7/27/2023	6:15	14:08	426	442.58	359.16	1.9	20	448.15	355.09	1.9	12	173.08	140.56	0.7	14	189.8	139.74	0.8	28	190.99	143.09	0.8	36	148.05	59.57	0.5	39	
7/28/2023	6:15	14:14	433	475.38	359.96	1.9	20	472.69	350.14	1.9	12	207.89	139.34	0.8	14	203.3	132.37	0.8	28	186.36	144.86	0.8	36	99.32	38.96	0.3	38	
7/29/2023	6:15	14:06	410	446.55	344.45	1.9	21	446.78	347.28	1.9	12	186.41	154.41	0.8	10	185.5	144.87	0.8	28	187.03	143.79	0.8	34	173.08	117.62	0.7	40	
7/30/2023	6:15	14:05	425	467.17	332.08	1.9	23	449.96	346.33	1.9	12	166.51	133.98	0.7	10	183.0	144.99	0.8	28	198.83	145.29	0.8	37	158.33	131.48	0.7	38	
7/31/2023	6:15	14:06	425	463.56	341.68	1.9	24	445.54	358.73	1.9	12	192.71	134.00	0.8	8	177.9	145.10	0.8	28	188.68	142.62	0.8	35	192.59	137.38	0.8	34	
July 2023 Total				13,863	10,666			14,056	10,651			4,406	3,169			3,965	2,956			5,786	4,269			4,585	2,949			
Cumulative Total				60,060	45,455			60,414	46,170			14,511	147,365			11,691	144,205			24,091	153,518			21,959	150,604			

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, 1.25% 0.5 Molar Sodium Bicarbonate Solution, 0.001% trace mineral solution, and 5 milligrams per liter Vitamin B12. Beginning on July 12, 2023, the concentrations of molasses and 0.5 Molar Sodium Bicarbonate Solution were increased to 1% and 2.5%, respectively.
- 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. Prior to April 6, 2023, injections into Area 1 Deep wells consisted of only Stabilized Lake Mead Water as part of the total dissolved solids (TDS)-reduction period of the treatability study water injection.
- 5. Volume of carbon solution is considered estimated due to flow meter error. Flow meter at U4-E-05I was replaced on July 14, 2023.
- 6. Operations were temporarily suspended for system maintenance on July 18, 2023 and resumed on July 21, 2023.

Table 4
Summary of Injection Activities
Area 2 - July 2023
 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				U4-E-07D				
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	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	gallons	gallons	gpm	psi
7/1/2023	5:15	14:19	499	294.90	229.75	1.1	9	291.30	224.24	1.0	15	293.05	230.47	1.0	25	301.55	241.89	1.1	20
7/2/2023	5:23	14:25	484	280.85	217.68	1.0	10	292.92	215.25	1.0	15	284.17	207.81	1.0	24	291.49	219.26	1.0	18
7/3/2023	5:15	14:07	483	293.73	219.77	1.1	10	284.95	229.71	1.1	13	278.64	216.54	1.0	26	297.56	242.15	1.1	17
7/4/2023	5:15	14:15	484	296.73	208.00	1.0	10	273.36	223.04	1.0	13	286.65	216.65	1.0	28	296.89	225.31	1.1	18
7/5/2023	5:15	14:10	484	284.07	198.67	1.0	10	287.50	211.99	1.0	14	280.83	195.91	1.0	28	297.71	218.06	1.1	18
7/6/2023	5:15	14:04	484	271.59	225.14	1.0	12	291.03	195.11	1.0	13	276.76	225.20	1.0	28	296.22	222.76	1.1	20
7/7/2023	5:15	14:16	484	268.35	205.67	1.0	10	292.86	215.34	1.0	16	284.79	214.17	1.0	28	300.48	224.55	1.1	26
7/8/2023	5:15	14:12	484	284.51	208.15	1.0	12	292.52	229.19	1.1	13	269.36	218.86	1.0	28	299.97	213.28	1.0	19
7/9/2023	5:15	14:23	501	295.98	205.45	1.0	12	313.73	217.51	1.1	14	281.10	227.66	1.0	28	307.41	228.54	1.1	18
7/10/2023	5:15	14:05	484	275.00	216.30	1.0	18	288.94	217.45	1.0	14	263.27	241.45	1.0	30	279.97	223.76	1.0	18
7/11/2023	5:15	14:15	493	264.15	212.87	1.0	10	290.52	220.28	1.0	14	259.95	221.27	1.0	30	296.48	238.92	1.1	19
7/12/2023	5:10	14:17	472	273.16	208.03	1.0	18	288.33	209.63	1.1	16	259.69	212.40	1.0	32	298.02	219.17	1.1	18
7/13/2023	5:10	14:15	487	281.81	209.59	1.0	12	285.57	499.22	1.6	15	242.78	208.29	0.9	31	292.36	245.42	1.1	18
7/14/2023	5:10	14:18	502	304.38	220.04	1.0	10	293.81	215.57	1.0	15	292.55	224.42	1.0	30	274.51	233.10	1.0	19
7/15/2023	5:10	14:10	479	270.22	202.19	1.0	10	292.23	213.00	1.1	14	276.77	204.70	1.0	30	276.31	217.13	1.0	17
7/16/2023	5:15	14:04	470	285.43	222.12	1.1	12	268.28	206.05	1.0	14	267.28	193.00	1.0	29	273.29	227.94	1.1	18
7/17/2023	5:15	14:07	486	291.62	207.00	1.0	10	280.26	207.28	1.0	14	259.67	206.53	1.0	29	271.08	224.26	1.0	17
7/18/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/19/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/21/2023	10:00	13:43	208	110.91	106.97	1.0	14	106.33	95.50	1.0	22	111.99	91.41	1.0	22	127.14	94.41	1.1	18
7/22/2023	6:15	14:06	442	248.47	181.25	1.0	16	242.51	187.74	1.0	21	233.78	202.62	1.0	24	266.10	192.33	1.0	20
7/23/2023	6:15	14:13	450	251.49	185.62	1.0	16	227.03	191.73	0.9	18	225.18	188.38	0.9	24	262.56	185.49	1.0	20
7/24/2023	6:15	14:13	450	238.41	194.17	1.0	16	240.14	197.14	1.0	18	247.62	187.22	1.0	25	262.18	193.06	1.0	19
7/25/2023	6:15	14:12	449	233.88	176.35	0.9	18	237.64	191.01	1.0	17	254.11	192.39	1.0	28	247.93	191.22	1.0	18
7/26/2023	6:15	14:11	448	243.17	167.03	0.9	20	250.48	186.58	1.0	16	244.23	191.48	1.0	24	257.10	193.94	1.0	18
7/27/2023	6:15	14:08	445	233.91	178.67	0.9	20	255.29	185.09	1.0	16	250.01	198.23	1.0	24	247.47	192.53	1.0	18
7/28/2023	6:15	14:14	451	247.52	198.25	1.0	20	245.39	190.37	1.0	16	251.68	182.40	1.0	24	258.62	188.85	1.0	18
7/29/2023	6:15	14:06	429	241.45	199.10	1.0	18	218.05	192.78	1.0	17	226.91	170.93	0.9	25	246.43	198.28	1.0	19
7/30/2023	6:15	14:05	443	229.09	183.55	0.9	19	244.26	188.72	1.0	14	248.13	200.61	1.0	28	254.46	192.99	1.0	20
7/31/2023	6:15	14:06	444	252.48	192.49	1.0	20	254.24	187.88	1.0	14	222.14	178.57	0.9	30	254.65	196.14	1.0	20
July 2023 Total				7,347.26	5,579.87			7,429.47	5,944.40			7,173.09	5,649.57			7,635.94	5,884.74		
Cumulative Total				107,837.58	86,853.75			108,322.14	87,897.08			71,794.67	50,020.06			73,068.18	50,071.50		

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, 1.25% 0.5 Molar Sodium Bicarbonate Solution, 0.001% trace mineral solution, and 5 milligrams per liter Vitamin B12. Beginning on July 12, 2023, the concentrations of molasses and 0.5 Molar Sodium Bicarbonate Solution were increased to 1% and 2.5%, respectively.
- 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. Operations were temporarily suspended on July 18, 2023 and resumed on July 21, 2023 to modify the system to begin injections into U4-E-08D.

Table 4
Summary of Injection Activities
Area 2 - July 2023
 Unit 4 Source Area Bioremediation Treatability Study

Study Area			Area 2 Deep												
Well ID			U4-E-08D				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
7/1/2023	5:15	14:19	499	--	--	--	--	300.67	219.53	1.0	14	293.98	223.28	1.0	19
7/2/2023	5:23	14:25	484	--	--	--	--	291.39	216.72	1.0	14	295.52	215.97	1.0	18
7/3/2023	5:15	14:07	483	--	--	--	--	277.70	223.34	1.0	14	294.40	228.45	1.1	18
7/4/2023	5:15	14:15	484	--	--	--	--	283.67	215.44	1.0	14	300.60	219.24	1.0	17
7/5/2023	5:15	14:10	484	--	--	--	--	284.26	210.60	1.0	15	292.19	216.94	1.0	19
7/6/2023	5:15	14:04	484	--	--	--	--	285.82	205.66	1.0	14	282.38	209.41	1.0	20
7/7/2023	5:15	14:16	484	--	--	--	--	303.91	215.04	1.1	14	302.00	215.38	1.0	18
7/8/2023	5:15	14:12	484	--	--	--	--	286.53	229.41	1.0	15	297.13	216.46	1.0	18
7/9/2023	5:15	14:23	501	--	--	--	--	300.35	224.66	1.0	14	304.65	218.93	1.0	18
7/10/2023	5:15	14:05	484	--	--	--	--	293.93	212.50	1.0	15	282.49	217.61	1.0	18
7/11/2023	5:15	14:15	493	--	--	--	--	282.79	218.77	1.0	15	272.53	210.23	1.0	16
7/12/2023	5:10	14:17	472	--	--	--	--	274.94	213.53	1.0	17	237.51	206.96	0.9	19
7/13/2023	5:10	14:15	487	--	--	--	--	280.56	230.77	1.0	17	259.38	235.55	1.0	17
7/14/2023	5:10	14:18	502	--	--	--	--	292.27	224.81	1.0	16	293.96	220.14	1.0	18
7/15/2023	5:10	14:10	479	--	--	--	--	268.42	237.97	1.1	16	279.15	201.73	1.0	18
7/16/2023	5:15	14:04	470	--	--	--	--	294.36	221.99	1.1	16	273.70	210.45	1.0	17
7/17/2023	5:15	14:07	486	--	--	--	--	281.48	219.05	1.0	15	273.10	217.15	1.0	18
7/18/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/19/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/21/2023	10:00	13:43	208	90	113	1.0	20	95.41	98.62	0.9	17	91.41	94.46	0.9	18
7/22/2023	6:15	14:06	442	226	206	1.0	24	257.09	196.76	1.0	17	229.07	188.00	0.9	20
7/23/2023	6:15	14:13	450	247	215	1.0	25	251.66	194.58	1.0	12	195.78	171.94	0.8	21
7/24/2023	6:15	14:13	450	247	209	1.0	25	252.61	186.22	1.0	13	243.10	188.71	1.0	20
7/25/2023	6:15	14:12	449	243	211	1.0	25	259.63	189.87	1.0	13	227.79	187.70	0.9	21
7/26/2023	6:15	14:11	448	251	200	1.0	24	245.65	198.88	1.0	12	256.70	195.67	1.0	20
7/27/2023	6:15	14:08	445	272	214	1.1	21	256.54	182.98	1.0	12	219.84	191.74	0.9	19
7/28/2023	6:15	14:14	451	251	213	1.0	21	253.01	187.66	1.0	13	225.89	178.49	0.9	20
7/29/2023	6:15	14:06	429	250	198	1.0	21	253.12	191.73	1.0	12	236.28	180.87	1.0	20
7/30/2023	6:15	14:05	443	247	197	1.0	20	252.41	196.40	1.0	13	236.64	179.10	0.9	20
7/31/2023	6:15	14:06	444	268	188	1.0	16	248.86	188.48	1.0	12	219.52	180.11	0.9	20
July 2023 Total				2,591.76	2,162.85			7,509.04	5,751.97			7,216.69	5,620.67		
Cumulative Total				2,591.76	2,162.85			72,152.04	50,757.73			71,233.63	50,470.97		

Notes:

gpm - gallons per minute

psi - pounds per square inch

1. Injection duration indicates the total minutes of active injection. Injection duration is calculated as the difference in daily injection start and stop times in minutes.

2. Carbon substrate solution is batch mixed. Batches of carbon substrate solution were increased to 1% and 2.5%, respectively.

3. Distribution water solution is batch mixed. Batches of distribution water solution were increased to 1% and 2.5%, respectively.

4. Operations were temporarily suspended on July 18, 2023.

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		E350.1	E351.2	E365.1	Anions by E300.0/SW9065A			Alkalinity by SM2320B		Alkalinity by SM2320B		Dissolved Metals by SW6010B/SW6020						
						Perchlorate	Chlorate	Chlorite	Ammonia (as N)	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Chloride	Nitrate (as N)	Sulfate	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
						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-251-100	12/8/2022	N	EM04	UMCF	92.5 - 102.5	1,210,000	7,040,000	----	----	----	----	----	22,300	----	----	----	----	----	----	----	----	----	----	----	
M-251-100	1/11/2023	N	EM05	UMCF	92.5 - 102.5	1,600,000	7,360,000	----	----	----	----	----	31,100 J+	----	----	----	----	----	----	----	----	----	----	----	
M-251-100	2/13/2023	N	EM06	UMCF	92.5 - 102.5	886,000	4,550,000	----	----	----	----	----	15,000	----	----	----	----	----	----	----	----	----	----	----	
M-251-100	3/17/2023	N	EM07	UMCF	92.5 - 102.5	955,000	6,010,000	<24,000	<117	<700	<33.3	1,480,000 J+	15,000 J-	388,000 J	109,000	109,000	<8,450	<8,450	<56.1	<5.15	12.4	75.8	<0.330	<0.750	500,000
M-251-100	4/21/2023	N	EM08	UMCF	92.5 - 102.5	1,340,000	6,790,000	<240,000	<117	<1,400	42.7 J	2,250,000	23,000	503,000	----	----	----	----	----	----	----	----	----	----	----
M-251-100	5/9/2023	N	EM09	UMCF	92.5 - 102.5	1,500,000	10,000,000	<240,000	<117	<1,400	64.2 J	2,290,000	23,200	513,000	----	----	----	----	----	----	----	----	----	----	----
M-251-100	6/14/2023	N	EM10	UMCF	92.5 - 102.5	1,280,000	7,880,000	<240,000	<117	<1,400	51.7 J	2,120,000	24,500 J-	469,000 J	73,000	73,000	<8,450	<8,450	143 J	<5.15	9.84 J	117	<0.330	<0.750	775,000
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-251-60	3/15/2023	N	EM07	UMCF	52.3 - 62.3	30,800	326,000	<2,400	<117	<140	<33.3	240,000	4,430	1,130,000	139,000	<8,450	68,100	70,900	138 J	2.99 J	49.8	28.8	<0.330	<0.150	30,600
M-251-60	6/14/2023	N	EM10	UMCF	52.3 - 62.3	29,700	316,000	<2,400	<117	<140	50.4 J	246,000	3,720 J	1,150,000	126,000	<8,450	72,000	54,200	105 J	1.82 J	60.3	7.04	<0.330	<0.150	22,200
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-252	3/15/2023	N	EM07	UMCF	132.3 - 142.3	180,000	835,000	<2,400	<117	<140	<33.3	344,000	1,230	153,000	49,300	49,300	<8,450	<8,450	<56.1	<1.03	4.03	661	<0.330	<0.150	382,000
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-01D	3/14/2023	N	EM07	UMCF	94.7 - 109.7	41.5 J+	1,360	<24.0	<117	346	<33.3	108,000	357	229,000	140,000	140,000	<8,450	<8,450	<56.1	<1.03	1.52 J	133	<0.330	<0.150	84,300
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-01I	3/14/2023	N	EM07	UMCF	74.6 - 89.6	394,000 J+	3,630,000	<24,000	<117	<560	<33.3	892,000	8,200	389,000	109,000	109,000	<8,450	<8,450	<56.1	<1.03	15.1	49.5	<0.330	<0.150	370,000
U4-E-01I	4/20/2023	N	EM08	UMCF	74.6 - 89.6	262,000	2,310,000	<24,000	----	----	----	693,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	5/10/2023	N	EM09	UMCF	74.6 - 89.6	262,000	2,590,000	<24,000	----	----	----	686,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	6/12/2023	N	EM10	UMCF	74.6 - 89.6	466,000	4,230,000	<240000 UJ	----	----	----	1,410,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	4/20/2022	N	BL02	UMCF	94.4 - 109.4	1,040,000	5,080,000	<24,000	----	----	----	1,460,000	12,200	1,120,000	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	3/14/2023	N	EM07	UMCF	94.4 - 109.4	618 J+	2,490 J+	<240	<117	351	<33.3	109,000	311	234,000	140,000	140,000	<8,450	<8,450	<56.1	<1.03	1.39 J	138	<0.330	<0.150	82,600
U4-E-02I	4/18/2022	N	BL02	UMCF	74.4 - 89.4	428,000	2,390,000	<240000 R	----	----	----	842,000	7,430	1,020,000	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	3/14/2023	N	EM07	UMCF	74.4 - 89.4	75,800 J+	393,000	<2,400	<117	<140	116	218,000	374	253,000	143,000	143,000	<8,450	<8,450	<56.1	<1.03	18.2	58.1	<0.330	<0.150	87,500
U4-E-02I	4/20/2023	N	EM08	UMCF	74.4 - 89.4	274,000	1,140,000	<24,000	----	----	----	503,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	5/11/2023	N	EM09	UMCF	74.4 - 89.4	309,000	1,190,000	<24,000	----	----	----	604,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	6/12/2023	N	EM10	UMCF	74.4 - 89.4	194,000	913,000	64,100 J-	----	----	----	569,000	----	----	----	----	----	----	----	----	----	----	----	----	----
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-03D	12/6/2022	N	EM04	UMCF	95.1 - 110.1	1,110,000 J+	6,630,000	<240000 UJ	----	----	----	1,740,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	1/9/2023	N	EM05	UMCF	95.1 - 110.1	937,000	6,670,000	<240,000	----	----	----	1,730,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	2/13/2023	N	EM06	UMCF	95.1 - 110.1	948,000	6,890,000	<24,000	----	----	----	1,620,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	3/13/2023	N	EM07	UMCF	95.1 - 110.1	654,000 J-	6,260,000	<24,000	----	----	----	1,690,000	16,100	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	3/14/2023	N	EM07	UMCF	95.1 - 110.1	833,000 J+	6,370,000	<24,000	<117	<1,400	<33.3	1,700,000	12,100	591,000	131,000	131,000	<8,450	<8,450	<56.1	<5.15	21.2	65.5	<0.330	<0.750	383,000
U4-E-03D	4/19/2023	N	EM08	UMCF	95.1 - 110.1	948,000	6,990,000	<24,000	----	----	----	1,750,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	5/11/2023	N	EM09	UMCF	95.1 - 110.1	797,000	5,450,000	27,000 J	----	----	----	1,530,000	----	----	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	6/12/2023	N	EM10	UMCF	95.1 - 110.1	835,000	5,650,000	<240000 UJ	----	----	----	1,870,000	----	----	----	----	----	----	----	----	----	----	----	----	----
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-04D	3/14/2023	N	EM07	UMCF	95.0 - 110.0	29.6 J+	1,200	<24.0	<117	345	35.3 J	106,000	328	235,000	142,000	142,000	<8,450	<8,450	<56.1	<1.03	1.61 J	138	<0.330	<0.150	82,200
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-04I	3/14/2023	N	EM07	UMCF	75.0 - 90.0	1,020,000 J+	11,600,000	<240,000	<117	<1,400	<33.3	2,810,000	<480	709,000	128,000	128,000	<8,450	<8,450	<56.1	<5.15	18.6	82.7	<0.330	<0.750	872,000
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-05D	3/16/2023	N	EM07	UMCF	95.0 - 110.0	269	1,560	<24.0	304	636	49.9 J	110,000	<48.0	237,000	151,000	151,000	<8,450	<8,450	<56.1	<1.03	4.08	156	<0.330	<0.150	80,300
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											

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		E350.1	E351.2	E365.1	Anions by E300.0/SW9065A			Alkalinity by SM2320B		Alkalinity by SM2320B		Dissolved Metals by SW6010B/SW6020						
						Perchlorate	Chlorate	Chlorite	Ammonia (as N)	Total Kjeldahl Nitrogen (TKN)	Phosphorus	Chloride	Nitrate (as N)	Sulfate	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium
						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-10D	4/14/2022	N	BL02	UMCF	96.9 - 106.9	118,000	2,180,000	<24,000	<117	<700	<33.3	706,000	4,090	340,000	93,000	93,000	<8,450	<8,450	<56.1	<1.03	8.78	58.7	<0.330	<0.150	275,000
U4-MW-10D	12/5/2022	N	EM04	UMCF	96.9 - 106.9	82,300	956,000	<24,000	<117	<140	<33.3 UJ	383,000	1,720	180,000	60,800	60,800	<8,450	<8,450	<56.1	<1.03	7.91	106	<0.330	<0.150	165,000
U4-MW-10D	3/17/2023	N	EM07	UMCF	96.9 - 106.9	10,600	74,700	101,000	<117 UJ	966 J+	<33.3	478,000	<48.0	74,500	1,200,000	1,200,000	<8,450	<8,450	<56.1	<1.03	33.0	413	<0.330	<0.150	230,000
U4-MW-10D	6/14/2023	N	EM10	UMCF	96.9 - 106.9	789	4,000	<120	<117	776	<33.3 J	453,000	<48.0 UJ	2,780 J	1,010,000	1,010,000	<8,450	<8,450	<56.1	<1.03	49.8	1,010	<0.330	<0.150	187,000
U4-MW-10I	4/14/2022	N	BL02	UMCF	77.1 - 87.1	141,000	2,330,000	<24,000	<117	<1,400	65.7 J	936,000	8,520	1,300,000	187,000	187,000	<8,450	<8,450	<56.1	<1.03	12.6	35.2	<0.330	0.369 J	278,000
U4-MW-10I	12/5/2022	N	EM04	UMCF	77.1 - 87.1	8,680	96,300	<2,400	<117	<140	<33.3 UJ	219,000	1,200	1,180,000	144,000	144,000	<8,450	<8,450	<56.1	<1.03	42.8	13.3	<0.330	<0.150	180,000
U4-MW-10I	3/17/2023	N	EM07	UMCF	77.1 - 87.1	14,700 J-	138,000	<2,400	<117	1,220 J+	<33.3	897,000	94.2 J	295,000	1,010,000	1,010,000	<8,450	<8,450	<56.1	<1.03	37.7	187	<0.330	<0.150	208,000
U4-MW-10I	6/14/2023	N	EM10	UMCF	77.1 - 87.1	1,440	14,200	<240	<117	39.0 J	262,000	352 J	5,490	1,410,000	1,410,000	<8,450	<8,450	<56.1	<1.03	19.4	697	<0.330	<0.150	159,000	
U4-MW-11D	4/15/2022	N	BL02	UMCF	97.4 - 107.4	1,290,000	20,100,000	<240,000	<117	<3,500	71.7 J	4,040,000	62,300	880,000	201,000	201,000	<8,450	<8,450	<280	<10.3	6.16 J	151	<1.65	<1.50	1,530,000
U4-MW-11D	9/26/2022	N	EM01	UMCF	97.4 - 107.4	1,350,000	20,700,000	<120,000	<117	<700	118 J-	3,720,000	47,900	751,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	10/11/2022	N	EM02	UMCF	97.4 - 107.4	1,410,000	19,000,000	<240,000	<117	<2,800	42.1 J	4,260,000	55,600	886,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	11/1/2022	N	EM03	UMCF	97.4 - 107.4	1,380,000	18,400,000	<240,000	153 J	<2,800	<33.3	3,850,000	51,800	768,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	12/6/2022	N	EM04	UMCF	97.4 - 107.4	561,000	8,610,000	<240,000 UJ	<117 UJ	<2800 UJ	97.7 J	1,750,000	14,700	482,000 J	279,000	279,000	<8450 UJ	<8450 UJ	<1850 UJ	<103 UJ	<18.0 UJ	107 J	<19.0 UJ	<15.0 UJ	1,200,000
U4-MW-11D	1/12/2023	N	EM05	UMCF	97.4 - 107.4	1,190,000	17,600,000	<240,000	<117	<2,800	<33.3	3,940,000	41,000	740,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	2/14/2023	N	EM06	UMCF	97.4 - 107.4	1,130,000	14,300,000	<240,000	<117	<1400 UJ	<33.3	3,660,000	47,200	746,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	3/16/2023	N	EM07	UMCF	97.4 - 107.4	996,000 J-	13,600,000	<240,000	<117	<1,400	<33.3	3,030,000	29,700	603,000	406,000	406,000	<8,450	<8,450	94.7 J	<5.15	14.6	133	<0.330	<0.750	925,000
U4-MW-11D	4/18/2023	N	EM08	UMCF	97.4 - 107.4	64,300	9,540,000	<240,000	<117	<1400 R	64.3 J	2,330,000	27,400	448,000 J	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	5/17/2023	N	EM09	UMCF	97.4 - 107.4	617,000 J	9,600,000	<240,000	<117	<700 R	50.8 J	2,610,000	27,200	664,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11D	6/16/2023	N	EM10	UMCF	97.4 - 107.4	1,080,000	14,200,000	<240,000	<117	<1,400	46.9 J	3,420,000	27,700 J-	657,000	286,000	286,000	<8,450	<8,450	<56.1	<5.15	11.2 J+	131	0.381 J	<0.750	1,140,000
U4-MW-11I	4/14/2022	N	BL02	UMCF	77.0 - 87.0	98,700	1,550,000	<24000 R	<117	<1,400	210 J+	512,000	7,100	1,080,000	96,300	92,500	<8,450	<8,450	<56.1	<1.03	17.5	24.6	<0.330	<0.150	161,000
U4-MW-11I	9/26/2022	N	EM01	UMCF	77.0 - 87.0	33,000	266,000	54,400	<117	968	739 J	328,000	<48.0	694,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	9/26/2022	FD	EM01	UMCF	77.0 - 87.0	34,400	265,000	53,300	<117	792	35.9 J	328,000	<48.0	694,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	10/10/2022	N	EM02	UMCF	77.0 - 87.0	530	<2,400	66,800	<117	970 J	<33.3 UJ	363,000	<48.0	508,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	10/10/2022	FD	EM02	UMCF	77.0 - 87.0	476	2,400 J	66,100	<117	1,230 J	102 J	362,000	<48.0	509,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	10/31/2022	N	EM03	UMCF	77.0 - 87.0	2,900 J	7,470 J	66,500	<117	1,100 J	<33.3	321,000	<48.0	273,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	10/31/2022	FD	EM03	UMCF	77.0 - 87.0	1,800 J	3,470 J	84,800	<117	1,560 J	<33.3	316,000	<48.0	244,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	12/6/2022	N	EM04	UMCF	77.0 - 87.0	<0.300 UJ	<2400 UJ	<2400 UJ	191 J	1,030 J	59.1 J	386,000	<48.0 UJ	27,000 J	1,320,000	1,320,000	<8450 UJ	<8450 UJ	<18.5 UJ	5.80	112	459	<0.190 UJ	<0.150 UJ	140,000
U4-MW-11I	12/6/2022	FD	EM04	UMCF	77.0 - 87.0	198 J	<2400 UJ	<2400 UJ	178 J	1,340 J	41.8 J	371,000	<48.0 UJ	42,600 J	1,320,000	1,320,000	<8450 UJ	<8450 UJ	<18.5 UJ	3.56 J	96.5	463	<0.190 UJ	<0.150 UJ	140,000
U4-MW-11I	1/12/2023	N	EM05	UMCF	77.0 - 87.0	381	2,380	81.2 J+	124 J	1,160	<33.3	346,000	50.1 J	74,100	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	1/12/2023	FD	EM05	UMCF	77.0 - 87.0	389	2,220	<24.0	120 J	1,050	<33.3	338,000	54.5 J	72,600	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	2/14/2023	N	EM06	UMCF	77.0 - 87.0	213,000	3,030,000	<24,000	572	<140	<33.3	1,000,000	7,230	160,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	2/14/2023	FD	EM06	UMCF	77.0 - 87.0	264,000	3,530,000	<24,000	535	<140	<33.3	1,090,000	8,170	185,000	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	3/16/2023	N	EM07	UMCF	77.0 - 87.0	70.0	<2,400	<2,400	<117 UJ	1,170	50.0 J	298,000	<48.0	979 J	1,720,000	1,720,000	<8,450	<8,450	<56.1	2.20 J	63.1	554 J	<0.330	<0.150	158,000 J
U4-MW-11I	3/16/2023	FD	EM07	UMCF	77.0 - 87.0	87.0	<2,400	<2,400	<117 UJ	1,270	63.6 J	292,000	<48.0	1,060 J	1,750,000	1,750,000	<8,450	<8,450	91.7 J	1.97 J	59.2	375 J	<0.330	<0.150	105,000 J
U4-MW-11I	4/18/2023	N	EM08	UMCF	77.0 - 87.0	1,390	10,400 J	<120	<117	1,850 J	43.3 J	267,000	<48.0	17,300	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	4/18/2023	FD	EM08	UMCF	77.0 - 87.0	1,590	17,100 J	<120	<117	1,130 J	36.6 J	282,000	<48.0	19,700	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	5/19/2023	N	EM09	UMCF	77.0 - 87.0	423	4,830 J	<240 UJ	<117	1,120	44.9 J	262,000	<48.0	7,200	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	5/19/2023	FD	EM09	UMCF	77.0 - 87.0	478	3,070 J	<24.0	<117	1,150	<33.3	263,000	<48.0	7,860	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	6/15/2023	N	EM10	UMCF	77.0 - 87.0	23.4	<120	<120	<117	1,050 J	83.8 J	190,000	<48.0	53,500	1,280,000	1,280,000	<8,450	<8,450	<56.1	<1.03	53.5	449	<0.330	<0.150	133,000
U4-MW-11I	6/15/2023	FD	EM10	UMCF	77.0 - 87.0	28.6	<120	<120	<117	1,460 J	118	190,000	<48.0	52,200	1,290,000	1,290,000	<8,450	<8,450	<56.1	<1.03	51.0	445	<0.330	<0.150	134,000
U4-MW-12D	4/15/2022	N	BL02	UMCF	97.1 - 107.1	1,280,000	14,400,000	<24,000	<11																

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 SW6010B/SW6020																				FIELD TESTS	
						Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Conductivity	Dissolved Oxygen		
						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	mS/cm	mg/L	
U4-E-08D	1/9/2023	N	EM05	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	10.120	58.00			
U4-E-08D	2/13/2023	N	EM06	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16.329	6.82			
U4-E-08D	3/13/2023	N	EM07	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	13.288	2.58			
U4-E-08D	4/19/2023	N	EM08	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	15747.000	0.26			
U4-E-08D	5/17/2023	N	EM09	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	13.979	3.62			
U4-E-08D	6/12/2023	N	EM10	UMCF	94.6 - 109.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	18.024	2.95			
U4-E-09D	4/15/2022	N	BL02	UMCF	94.5 - 109.5	27,200	<0.840	<15.1	18.8 J	<8.49	360,000	23.2	<5.80	<8.16	172 J	46,900	3.01 J	<0.700	1,840,000	<1.21	5.49 J	7.06 J	<30.2	16.373	1.12		
U4-E-09I	4/14/2022	N	BL02	UMCF	74.9 - 89.9	9,660	<0.840	6.53	<18.0	<0.849	91,600	21.6	13.2	2.61	199 J	25,300	2.47	<0.0700	1,100,000	<0.121	9.29	16.8 J	3.75 J	6.980	5.93		
U4-E-10D	4/13/2022	N	BL02	UMCF	94.5 - 109.5	9,680	<0.840	<1.51	<18.0	<0.849	165,000	7.51 J	8.19	20.5	34.0 J	29,700	2.51	<0.0700	1,120,000	<0.121	1.64	6.53 J	<3.02	8.624	0.77		
U4-E-10I	4/13/2022	N	BL02	UMCF	74.2 - 89.2	16,100	<0.840	4.02 J	<18.0	<0.849	133,000	7.93 J	11.6	2.29	<18.3	26,000	2.58	<0.0700	1,410,000	<0.121	10.6	14.5 J	7.05 J	9.367	1.04		
U4-MW-01D	4/19/2022	N	BL02	UMCF	96.7 - 106.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11.556	0.72			
U4-MW-01D	2/16/2023	N	EM06	UMCF	96.7 - 106.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7.060	11.76			
U4-MW-01D	3/20/2023	N	EM07	UMCF	96.7 - 106.7	4,860	<0.840	6.39	<18.0	<0.849	62,300	<0.934	<1.16	<0.816	----	5,630	3.03	<0.0700	165,000	<0.121	3.18	<4.99	<3.02	12.024	5.68		
U4-MW-01D	6/13/2023	N	EM10	UMCF	96.7 - 106.7	19,800	<0.840	<15.1	<18.0	<8.49	240,000 J+	2.25 J	5.02 J+	<8.16	----	26,500	148	<0.700	769,000	<1.21	3.51	6.20 J	<30.2	7.279	5.89		
U4-MW-01DD	4/19/2022	N	BL02	UMCF	119.9 - 129.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.873	0.81			
U4-MW-01DD	4/19/2022	FD	BL02	UMCF	119.9 - 129.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-01DD	3/15/2023	N	EM07	UMCF	119.9 - 129.9	8,120	<0.840	3.13 J	<18.0	<0.849	125,000	11.3 J+	6.64	<0.816	----	21,800	1.92 J	<0.0700	377,000	<0.121	2.59	<4.99	<3.02	6.737	2.84		
U4-MW-01DD	6/13/2023	N	EM10	UMCF	119.9 - 129.9	9,010	<0.840	<15.1	<18.0	<8.49	108,000 J+	3.52 J	3.58 J	<8.16	----	23,300	82.9	<0.700	421,000	<1.21	1.09	<4.99	<30.2	4.786	3.56		
U4-MW-01I	4/19/2022	N	BL02	UMCF	76.7 - 86.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9.209	0.67			
U4-MW-01I	3/20/2023	N	EM07	UMCF	76.7 - 86.7	5,440	<0.840	7.21	<18.0	1.06 J	85,700	4.20 J	<1.16	<0.816	----	7,270	3.38	0.146 J	213,000	0.148 J	3.88	<4.99	<3.02	16.598	7.69		
U4-MW-01I	6/12/2023	N	EM10	UMCF	76.7 - 86.7	19,200	<0.840	4.18 J	<18.0 UJ	<0.849	252,000	1.32 J	5.17	2.49	----	27,400	2.52	<0.0700	779,000	<0.121	3.83	<4.99	11.4 J	7.447	5.80		
U4-MW-01S	4/18/2022	N	BL02	UMCF	54.7 - 64.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4.903	4.81			
U4-MW-01S	3/15/2023	N	EM07	UMCF	54.7 - 64.7	1,290	<0.840	5.26	66.4 J	<0.849	4,240	<0.934	24.4	<0.816	----	17,500	2.64	<0.0700	859,000	<0.121	2.66	66.7	<3.02	4.199	5.90		
U4-MW-01S	6/13/2023	N	EM10	UMCF	54.7 - 64.7	1,530	<0.840	<1.51	43.8 J	<0.849	3,920 J+	82.4	24.6	172	----	18,800	3.01	<0.0700	854,000	<0.121	2.22	67.6	<3.02	4.283	4.21		
U4-MW-02D	4/14/2022	N	BL02	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	47.936	0.74			
U4-MW-02D	10/11/2022	N	EM02	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	82.713	0.99			
U4-MW-02D	11/1/2022	N	EM03	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	61.099	0.93			
U4-MW-02D	12/7/2022	N	EM04	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	41.262	1.18			
U4-MW-02D	1/10/2023	N	EM05	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	28.405	1.73			
U4-MW-02D	2/13/2023	N	EM06	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	25.274	2.04			
U4-MW-02D	3/17/2023	N	EM07	UMCF	95.0 - 110.0	94,700	<0.840	<15.1	<18.0	<8.49	636,000	5.23 J	16.0	<8.16	----	94,100	7.47 J	1.64 J	6,650,000	<1.21	3.50 J	<4.99	<30.2	38.385	2.05		
U4-MW-02D	4/19/2023	N	EM08	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	37.915	0.18			
U4-MW-02D	5/9/2023	N	EM09	UMCF	95.0 - 110.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	35.930	2.52			
U4-MW-02D	6/13/2023	N	EM10	UMCF	95.0 - 110.0	96,900	<4.20	<15.1	<90.0	<8.49	599,000 J+	4.80 J	14.7 J	<8.16	----	82,700	51.6	0.800 J	7,010,000	<1.21	53.6	<25.0	<30.2	35.233	7.26		
U4-MW-02I	4/14/2022	N	BL02	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	8.827	3.75			
U4-MW-02I	10/11/2022	N	EM02	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	20.389	0.98			
U4-MW-02I	11/2/2022	N	EM03	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17.936	0.44			
U4-MW-02I	11/2/2022	FD	EM03	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	12/8/2022	N	EM04	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1.625	1.11			
U4-MW-02I	12/8/2022	FD	EM04	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	1/13/2023	N	EM05	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	1/13/2023	FD	EM05	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	2/15/2023	N	EM06	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	22.789	1.09			
U4-MW-02I	2/15/2023	FD	EM06	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	3/17/2023	N	EM07	UMCF	75.0 - 90.0	61,100	<0.840	<7.55	<18.0	<4.24	294,000	221	23.4	103	----	73,000	6.92 J	<0.350	4,660,000	<0.605	19.3	8.84 J	<15.1	27.205	0.39		
U4-MW-02I	3/17/2023	FD	EM07	UMCF	75.0 - 90.0	61,000	<0.840	<7.55	<18.0	<4.24	289,000	229	23.8	99.2	----	71,300	4.91 J	<0.350	4,660,000	<0.605	18.7	12.3 J	<15.1	----	----		
U4-MW-02I	4/20/2023	N	EM08	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.331	0.04			
U4-MW-02I	4/20/2023	FD	EM08	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	5/9/2023	N	EM09	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.966	1.00			
U4-MW-02I	5/9/2023	FD	EM09	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----		
U4-MW-02I	6/12/2023	N	EM10	UMCF	75.0 - 90.0	515	2.84 J	4.33 J	236 J+	<0.849 UJ	82,700	972	7.65	46.0	----	19,000	0.654 J	<0.0700	836,000	<0.121	60.1	18.9 J	12.9 J	4.378	1.99		
U4-MW-02I	6/12/2023	FD	EM10	UMCF	75.0 - 90.0	491	2.71 J	7.48	214 J+	4.08 J	79,800	943	7.12	46.1	----	18,400	0.552 J	<0.0700	810,000	<0.121	62.5	18.3 J	15.9 J	----	----		
U4-MW-03D	4/20/2022	N	BL02	UMCF	96.6 - 106.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	19.006	2.71			
U4-MW-03D	2/16/2023	N	EM06	UMCF	96.6 - 106.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7.848	5.12			
U4-MW-03D	3/16/2023	N	EM07	UMCF	96.6 - 106.6	28,100	<0.840	<7.55	<18.0	<4.24	369,000	8.20 J	4.49 J	<4.08	----	35,900	1.88 J	<0.350	1,840,000	<0.605	2.41 J	<4.99	<15.1	797.196	3.67		
U4-MW-03D	3/16/2023	FD	EM07	UMCF	96.6 - 106.6	28,200	<0.840	<7.55	<18.0	4.90 J	369,000	2.65 J	5.12	<4.08	----	35,900	3.11 J	<0.350	1,890,000	<0.605	2.52 J	<4.99	<15.1	----	----		
U4-MW-03D	6/15/2023	N	EM10	UMCF	96.6 - 106.6	28,300	<0.840	<																			

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 SW6010B/SW6020																			FIELD TESTS	
						Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Conductivity	Dissolved Oxygen	
						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	mS/cm	mg/L
U4-MW-10D	4/14/2022	N	BL02	UMCF	96.9 - 106.9	5,290	<0.840	<1.51	<18.0	<0.849	134,000	23.5	8.67	<0.816	32.2 J	24,200	2.14	<0.0700	626,000	<0.121	9.13	8.78 J	3.53 J	5.411	0.91	
U4-MW-10D	12/5/2022	N	EM04	UMCF	96.9 - 106.9	3,310	<0.840	<1.51	<18.0	<0.849	87,500	2.32 J	3.34 J	<0.816	---	15,500	2.22	<0.0700	---	<0.121	5.41	7.55 J	<3.02	2.690	3.80	
U4-MW-10D	3/17/2023	N	EM07	UMCF	96.9 - 106.9	196	1.20 J	2.98 J	421	<0.849	184,000	2.160	3.54 J	---	---	18,100	0.811 J	<0.0700	303,000	<0.121	95.1	<4.99	7.73 J	542.825	0.85	
U4-MW-10D	6/14/2023	N	EM10	UMCF	96.9 - 106.9	45.6	0.983 J	<1.51	502	<0.849	164,000	2.470	1.71 J	3.57 J+	---	18,000	0.312 J	<0.0700	300,000	<0.121	25.4	<4.99	<3.02	3.761	0.26	
U4-MW-10I	4/14/2022	N	BL02	UMCF	77.1 - 87.1	5,960	<0.840	2.97 J	27.9 J	<0.849	135,000	25.2	17.8	1.08 J	194 J	31,700	2.88	<0.0700	995,000	0.490 J	6.45	9.70 J	4.88 J	7.650	0.90	
U4-MW-10I	12/5/2022	N	EM04	UMCF	77.1 - 87.1	490	<0.840	<1.51	<18.0	<0.849	87,800	34.4	16.9	<0.816	---	17,000	34.4	2.24	<0.0700	---	<0.121	11.5	16.8 J	<3.02	2.740	0.62
U4-MW-10I	3/17/2023	N	EM07	UMCF	77.1 - 87.1	23.9	1.35 J	<1.51	266	1.14 J	157,000	917	11.2	58.9	---	22,400	0.803 J	<0.0700	586,000	<0.121	0.368 J	10.7 J	10.4 J	735.012	3.48	
U4-MW-10I	6/14/2023	N	EM10	UMCF	77.1 - 87.1	45.1	<0.840	<1.51	1,070	<0.849	119,000	3,120	1.25 J	1.44 J	---	20,200	<0.300	<0.0700	465,000	<0.121	5.72	23.8	<3.02	3.790	0.34	
U4-MW-11D	4/15/2022	N	BL02	UMCF	97.4 - 107.4	92,800	<4.20	<15.1	<90.0	<8.49	652,000	68.0	17.8 J	<8.16	315 J	86,800	6.05 J	<0.700	5,920,000	<1.21	5.93 J	<25.0	<30.2	31.458	0.75	
U4-MW-11D	9/26/2022	N	EM01	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	49.507	1.26
U4-MW-11D	10/11/2022	N	EM02	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	49.047	1.30
U4-MW-11D	11/1/2022	N	EM03	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25.648	1.17
U4-MW-11D	12/6/2022	N	EM04	UMCF	97.4 - 107.4	75,700	<5.96 UJ	35.1 J	<2810 UJ	<84.9 UJ	601,000	<70.4 UJ	<34.8 UJ	<8.16 UJ	---	60,900 J	<30.0 UJ	<7.00 UJ	5,170,000	<12.1 UJ	32.5 J	<66.4 UJ	<302 UJ	5.464	1.37	
U4-MW-11D	1/12/2023	N	EM05	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	25.673	0.68
U4-MW-11D	2/14/2023	N	EM06	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20.311	1.11
U4-MW-11D	3/16/2023	N	EM07	UMCF	97.4 - 107.4	58,900	<0.840	<7.55	25.8 J	<4.24	499,000	88.2	9.80	<4.08	---	62,800	4.91 J	<0.350	4,620,000	<0.605	40.9	<4.99	<15.1	24.191	1.15	
U4-MW-11D	4/18/2023	N	EM08	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	18.366	0.11
U4-MW-11D	5/17/2023	N	EM09	UMCF	97.4 - 107.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	26.832	1.06
U4-MW-11D	6/16/2023	N	EM10	UMCF	97.4 - 107.4	85,700	<8.40	32.6	<18.0	<4.24	596,000	136	11.7	<4.08	---	80,500	5.86 J	0.357 J	5,770,000	0.739 J	37.0	<49.9	29.6 J	13.654	1.92	
U4-MW-11I	4/14/2022	N	BL02	UMCF	77.0 - 87.0	6,040	<0.840	1.60 J	40.5 J	<0.849	47,100	10.4	18.7	1.07 J	202 J	26,900	2.57	<0.0700	924,000	<0.121	3.18	14.2 J	<3.02	7.803	1.01	
U4-MW-11I	9/26/2022	N	EM01	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.582	10.67
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
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
U4-MW-11I	10/31/2022	FD	EM03	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	12/6/2022	N	EM04	UMCF	77.0 - 87.0	77.4	0.243 J	<1.51 UJ	134	<0.849 UJ	89,300	577	2.21 J	3.32	---	22,800	<0.300 UJ	<0.0700 UJ	609,000	<0.121 UJ	37.6	21.7	<3.02 UJ	3.016	2.77	
U4-MW-11I	12/6/2022	FD	EM04	UMCF	77.0 - 87.0	76.1	0.242 J	<1.51 UJ	128	<0.849 UJ	88,400	564	1.46 J	2.79	---	23,200	3.38	<0.0700 UJ	595,000	<0.121 UJ	38.2	21.2	<3.02 UJ	---	---	
U4-MW-11I	1/12/2023	N	EM05	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.038	7.09
U4-MW-11I	1/12/2023	FD	EM05	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	2/14/2023	N	EM06	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.120	0.83
U4-MW-11I	2/14/2023	FD	EM06	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	3/16/2023	N	EM07	UMCF	77.0 - 87.0	54.2 J	<0.840	<1.51	271 J+	<0.849	117,000 J	1,250 J	<1.16	1.86 J	---	23,000 J	0.614 J	<0.0700	602,000 J	<0.121	14.1	19.2 J	<3.02	3.476	0.45	
U4-MW-11I	3/16/2023	FD	EM07	UMCF	77.0 - 87.0	37.1 J	<0.840	<1.51	295 J+	<0.849	78,000 J	831 J	<1.16	1.87 J	---	15,200 J	<0.300	<0.0700	398,000 J	<0.121	13.7	10.2 J	4.87 J	---	---	
U4-MW-11I	4/18/2023	N	EM08	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.218	0.53
U4-MW-11I	4/18/2023	FD	EM08	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	5/19/2023	N	EM09	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.152	0.28
U4-MW-11I	5/19/2023	FD	EM09	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
U4-MW-11I	6/15/2023	N	EM10	UMCF	77.0 - 87.0	40.6	<0.840	<1.51 UJ	607	<0.849	107,000	1,240	2.49 J	1.94 J	---	19,900	0.379 J	<0.0700	495,000	<0.121	9.57	23.2	<3.02	3.350	1.03	
U4-MW-11I	6/15/2023	FD	EM10	UMCF	77.0 - 87.0	40.2	<0.840	11.4 J	629	<0.849	105,000	1,230	1.89 J	1.75 J	---	20,000	<0.300	<0.0700	498,000	<0.121	9.57	22.3	<3.02	---	---	
U4-MW-12D	4/15/2022	N	BL02	UMCF	97.1 - 107.1	72,500	<4.20	<15.1	<92.3 J	<8.49	501,000	59.4	15.8 J	<8.16	365 J	83,300	6.13 J	<0.700	4,920,000	<1.21	10.8	<4.99	<30.2	32.048	0.90	
U4-MW-12D	9/27/2022	N	EM01	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	17.403	5.30
U4-MW-12D	10/12/2022	N	EM02	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	11.998	2.16
U4-MW-12D	11/2/2022	N	EM03	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.367	1.89
U4-MW-12D	12/7/2022	N	EM04	UMCF	97.1 - 107.1	48,500	<0.298	<7.55	<140	<4.24	300,000	23.4 J	8.18 J	<4.08	---	43,100	3.67 J	<0.350	3,260,000	<0.605	23.3	9.35 J	20.1 J	15.505	2.44	
U4-MW-12D	1/12/2023	N	EM05	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.215	1.80
U4-MW-12D	2/15/2023	N	EM06	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16.607	1.11
U4-MW-12D	3/14/2023	N	EM07	UMCF	97.1 - 107.1	32,900	<0.840	<7.55	29.5 J	<4.24	286,000	37.2	7.27	<4.08	---	44,100	4.79 J	<0.350	2,610,000	<0.605	13.7	8.65 J	<15.1	12.160	1.14	
U4-MW-12D	4/17/2023	N	EM08	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	18.271	10.22
U4-MW-12D	5/17/2023	N	EM09	UMCF	97.1 - 107.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	27.758	1.10
U4-MW-12D	6/16/2023	N	EM10	UMCF	97.1 - 107.1	37,600	<0.840	18.2 J	<18.0	<4.24	334,000	79.3	8.08	<4.08	---	49,400	3.24 J	<0.350	2,850,000	<0.605	13.4	<49.9	19.1 J	14.311	0.66	
U4-MW-12I	4/14/2022	N	BL02	UMCF	76.8 - 86.8	17,200	<0.840	3.24 J	18.3 J	2.29	126,000	44.1	17.6	4.10 J	122 J	35,700	5.65 J	0.454 J	1,720,000	2.39	9.47	9.09 J	<3.02	11.234	1.32	
U4-MW-12I	4/14/2022	FD	BL02	UMCF	76.8 - 86.8	16,700																				

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 SW6010B/SW6020																				FIELD TESTS	
						Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Conductivity	Dissolved Oxygen		
						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	mS/cm	mg/L	
U4-MW-13I	1/12/2023	N	EM05	UMCF	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.079	1.19			
U4-MW-13I	2/14/2023	N	EM06	UMCF	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3.065	0.61			
U4-MW-13I	3/16/2023	N	EM07	UMCF	77.1 - 87.1	255	<0.840	<1.51	52.5 J	<0.849	44,100	228	5.96	2.33	----	13,800	<0.300	<0.0700	655,000	<0.121	19.8	<4.99	<3.02	1.654	0.98		
U4-MW-13I	4/19/2023	N	EM08	UMCF	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2.452	0.02			
U4-MW-13I	5/17/2023	N	EM09	UMCF	77.1 - 87.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4.125	0.52			
U4-MW-13I	6/15/2023	N	EM10	UMCF	77.1 - 87.1	151	<0.840	<1.51	500	<0.849	54,900	381	12.0 J+	3.27	----	15,300	<0.300	<0.0700	606,000	<0.121	27.5	12.0 J	<3.02	3,300	0.32		
U4-MW-14D	4/13/2022	N	BL02	UMCF	97.3 - 107.3	308	<0.840	3.44 J	<18.0	<0.849	152,000	79.2	41.2	9.04	<18.3	25,400	3.31	<0.0700	673,000	<0.121	18.5	22.2	<3.02	5,770	0.87		
U4-MW-14D	12/6/2022	N	EM04	UMCF	97.3 - 107.3	6,790	<0.0596 UJ	<1.51 UJ	40.3 J	1.09 J	128,000	21.5	5.90	<0.816 UJ	----	19,100	2.46	<0.0700 UJ	469,000	0.156 J	8.22	14.1	<3.02 UJ	4,415	2.55		
U4-MW-14D	3/16/2023	N	EM07	UMCF	97.3 - 107.3	4,500	<0.840	3.77 J	65.8 J	<0.849	71,500	14.2 J+	3.16 J	<0.816	----	14,500	1.69 J	<0.0700	373,000	<0.121	8.52	9.49 J	6.57 J	181.910	1.08		
U4-MW-14D	6/15/2023	N	EM10	UMCF	97.3 - 107.3	4,270	<0.840	<1.51	<18.0	<0.849	85,000	17.7	4.70 J	<0.816	----	16,800	1.85 J	<0.0700	420,000	<0.121	23.0	<4.99	<3.02	4,035	0.82		
U4-MW-14I	4/14/2022	N	BL02	UMCF	77.3 - 87.3	2,150	<0.840	<1.51	<18.0	<0.849	52,400	19.0	16.2	1.09 J	191 J	25,400	2.53	<0.0700	596,000	<0.121	4.68	13.3 J	<3.02	5,720	0.77		
U4-MW-14I	12/6/2022	N	EM04	UMCF	77.3 - 87.3	4,710	0.0650 J	<1.51 UJ	<28.1 UJ	<0.849 UJ	139,000	32.4	9.57	1.12 J	----	22,000	2.86	<0.0700 UJ	518,000	0.243 J	15.3	14.3	<3.02 UJ	4,279	2.18		
U4-MW-14I	3/16/2023	N	EM07	UMCF	77.3 - 87.3	4,510	<0.840	<1.51	<18.0	<0.849	79,600	11.1 J+	5.22	<0.816	----	16,700	1.98 J	<0.0700	413,000	<0.121	11.3	13.6 J	<3.02	213.617	0.55		
U4-MW-14I	6/15/2023	N	EM10	UMCF	77.3 - 87.3	700	<0.840	1.54 J	<18.0	<0.849	115,000	214	7.41 J+	8.26	----	21,000	1.67 J	<0.0700	553,000	<0.121	36.8	12.4 J	<3.02	4,589	0.61		
U4-MW-15D	4/13/2022	N	BL02	UMCF	96.0 - 106.0	4,940	<0.840	<1.51	21.8 J	<0.849	157,000	26.1	9.77	0.944 J	<18.3	25,500	2.38	<0.0700	646,000	0.186 J	13.6	8.06 J	<3.02	5,015	1.02		
U4-MW-15D	12/5/2022	N	EM04	UMCF	96.0 - 106.0	3,170	<0.840	<1.51	<18.0	<0.849	92,400	10.3	6.33	<0.816	----	18,700	2.23	<0.0700	436,000	<0.121	11.6	7.40 J	<3.02	2,298	15.40		
U4-MW-15D	3/20/2023	N	EM07	UMCF	96.0 - 106.0	3,210	<0.840	2.97 J	<18.0	<0.849	80,100	5.33 J	6.57	<0.816	----	15,400	2.33	<0.0700	318,000	<0.121	6.45	8.42 J	<3.02	2,799	0.93		
U4-MW-15D	6/14/2023	N	EM10	UMCF	96.0 - 106.0	3,870	<0.840	<1.51	<18.0	<0.849	99,200	25.2	7.40	<0.816	----	20,900	2.44	<0.0700	415,000	<0.121	10.1	11.3 J	<3.02	5,069	0.61		
U4-MW-15DD	4/13/2022	N	BL02	UMCF	120.3 - 130.3	64.4	<0.840	2.23 J	162	<0.849	15,400	10.4	10.4	2.78	<18.3	6,830	2.15	<0.0700	159,000	<0.121	4.23	17.9 J	<3.02	0,999	2.14		
U4-MW-15DD	12/5/2022	N	EM04	UMCF	120.3 - 130.3	16.3	<0.840	<1.51	<18.0	<0.849	16,800	5.61 J	7.88	31.6	----	6,430	1.91 J	<0.0700	----	<0.121	3.37	12.9 J	<3.02	0,666	2.14		
U4-MW-15DD	3/15/2023	N	EM07	UMCF	120.3 - 130.3	13.8	<0.840	1.53 J	45.7 J	4.52 J+	17,300	7.24 J	8.41	44.8	----	6,510	1.89 J	<0.0700	137,000	<0.121	3.10	11.8 J	<3.02	0,888	1.96		
U4-MW-15DD	6/13/2023	N	EM10	UMCF	120.3 - 130.3	7.06 J	<0.840	<1.51	29.4 J	<0.849	17,000 J+	14.9 J+	12.7 J+	57.6	----	6,460 J+	2.25	<0.0700	138,000	<0.121	2.81	6.34 J	<3.02	1,027	0.94		
U4-MW-15I	4/12/2022	N	BL02	UMCF	76.8 - 86.8	5,510	<0.840	<1.51	24.4 J	<0.849	56,500	14.9	17.8	<0.816	25.2 J	22,300	2.64	<0.0700	897,000	<0.121	6.59	18.7 J	<3.02	5,348	1.45		
U4-MW-15I	12/5/2022	N	EM04	UMCF	76.8 - 86.8	5,040	<0.840	<1.51	<18.0	<0.849	73,800	61.8	11.5	2.11	----	22,500	2.82	0.105 J	976,000	0.663 J	52.3	14.2 J	<3.02	2,972	1.05		
U4-MW-15I	3/17/2023	N	EM07	UMCF	76.8 - 86.8	108	<0.840	<1.51	7,360	<0.849	137,000	4,380	<1.16	2.63	----	16,200	<0.300	<0.0700	387,000	<0.121	69.9	65.7	6.91 J	473.418	0.66		
U4-MW-15I	6/14/2023	N	EM10	UMCF	76.8 - 86.8	89.2	1.25 J	<1.51	5,050	<0.849	136,000	3,610	<1.16	2.53 J+	----	18,700	<0.300	<0.0700	448,000	<0.121	5.30	31.2	5.29 J	3,653	0.38		
U4-MW-15S	4/13/2022	N	BL02	UMCF	54.8 - 64.8	268 J	<0.840	<1.51	95.9 J	<0.849	50,100 J	2.61 J	19.2	<0.816	50.3 J	15,200 J	2.71	<0.0700	387,000 J	<0.121	4.94	23.5	<3.02	2,466	5.73		
U4-MW-15S	12/5/2022	N	EM04	UMCF	54.8 - 64.8	16.9	<0.840	<1.51	3,440	<0.849	61,300	465	1.18 J	2.37	----	33,300	0.690 J	<0.0700	277,000	<0.121	6.64	21.0	<3.02	1,328	0.91		
U4-MW-15S	3/13/2023	N	EM07	UMCF	54.8 - 64.8	9.67 J	1.30 J	<7.55	<18.0	<0.849	56,900	267	<1.16	<4.08	----	18,700	<0.300	<0.0700	299,000	<0.121	1.92	14.4 J	<15.1	1,687	1.02		
U4-MW-15S	6/13/2023	N	EM10	UMCF	54.8 - 64.8	9.11 J	<0.840	<1.51	154 J+	<0.849	69,600 J+	354	<1.16	1.34 J	----	20,100	<0.300	0.0721 J	421,000	0.259 J	2.57	8.42 J	<3.02	2,659	0.19		
U4-MW-16D	4/11/2022	N	BL02	UMCF	96.8 - 106.8	12,600	<0.840	<15.1	<18.0	<8.49	240,000	12.4	4.62 J	<8.16	<18.3	30,600	5.89 J	<0.700	1,210,000	<1.21	6.64 J	<4.99	44.4 J	27,119	4.03		
U4-MW-16D	12/5/2022	N	EM04	UMCF	96.8 - 106.8	27,600	<0.840	<1.51	<18.0	<0.849	318,000	25.7	11.8	<0.816 UJ	----	8,140	0.707 J	<0.0700	522,000	<0.121	5.45	<4.99	<3.02	14,259	2.61		
U4-MW-16D	3/14/2023	N	EM07	UMCF	96.8 - 106.8	16,800	<0.840	<7.55	<18.0	<4.24	326,000	114	5.53	<4.08	----	39,200	5.22 J	<0.350	1,750,000	<0.605	18.7	6.38 J	<15.1	9,893	2.42		
U4-MW-16D	6/13/2023	N	EM10	UMCF	96.8 - 106.8	39,300	<0.840	<15.1	<18.0	<8.49	502,000 J+	286	7.04 J+	<8.16	----	52,500	3.17 J	<0.700	2,970,000	<1.21	35.6	5.43 J	<30.2	23,075	1.17		
U4-MW-16DD	4/12/2022	N	BL02	UMCF	120.8 - 130.8	922	<0.840	2.29 J	25.5 J	<0.849	48,200	11.0	13.8	0.870 J	<18.3	12,500	3.05	<0.0700	390,000	<0.121	7.68	18.9 J	5.37 J	2,380	1.10		
U4-MW-16DD	12/5/2022	N	EM04	UMCF	120.8 - 130.8	203	<0.840	<1.51	<18.0	<0.849	36,000	7.25 J	12.6	<0.816	----	10,300	2.31	<0.0700	----	<0.121	7.92	14.0 J	<3.02	1,722	1.93		
U4-MW-16DD	3/15/2023	N	EM07	UMCF	120.8 - 130.8	167	<0.840	2.22 J	<18.0	<0.849	33,400	4.46 J	10.4	2.13	----	9,810	1.97 J	<0.0700	246,000	<0.121	7.16	15.9 J	3.04 J	1,622	2.67		
U4-MW-16DD	6/13/2023	N	EM10	UMCF	120.8 - 130.8	192	<0.840	3.20 J	<18.0	<0.849	28,800 J+	2.70 J	12.0 J+	<0.816	----	10,000 J+	2.26	<0.0700	227,000	<0.121	6.69	21.9	<3.02	1,625	0.95		
U4-MW-16I	4/11/2022	N	BL02	UMCF	77.0 - 87.0	8,620	<0.840	<1.51	<18.0	<0.849	76,200	2.20 J	13.7	<0.816	<18.3	30,800	2.58	<0.0700	968,000	<0.121	2.26	<4.99	3.91 J	6,673	8.63		
U4-MW-16I	12/5/2022	N	EM04	UMCF	77.0 - 87.0	10.9	<0.840	<1.51	33.5 J	<0.849	85,400	629	5.24	7.02	----	25,600	<0.300	<0.0700	----	<0.121	65.4	7.90 J	6.02 J	2,618	1.36		
U4-MW-16I	12/5/2022																										

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	SW9060A/SM5310B	Volatile Organic Compounds by SW8260B							
						Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature	Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	Total Organic Carbon	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene	
						mg/L	mV	SU	mL/min	mg/L	C	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
U4-E-08D	1/9/2023	N	EM05	UMCF	94.6 - 109.6	----	94.3	7.21	----	----	21.7	0.0	----	----	----	14,100,000	52,500	2,610 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.285 J	0.335 J	
U4-E-08D	2/13/2023	N	EM06	UMCF	94.6 - 109.6	----	139.4	7.51	----	----	21.7	11.6	----	----	----	15,800,000	51,000	2,770	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-E-08D	3/13/2023	N	EM07	UMCF	94.6 - 109.6	----	188.9	6.86	----	----	24.5	72.7	----	----	----	16,100,000	47,800	3,510 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-E-08D	4/19/2023	N	EM08	UMCF	94.6 - 109.6	----	52.0	6.45	----	----	24.2	2.4	----	----	----	17,200,000	42,700	3,960	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	
U4-E-08D	5/17/2023	N	EM09	UMCF	94.6 - 109.6	----	138.5	7.13	----	----	33.3	149.7	----	----	----	18,900,000	37,700	5,820 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-E-08D	6/12/2023	N	EM10	UMCF	94.6 - 109.6	----	271.2	6.93	----	----	27.4	10.9	----	----	----	16,600,000	36,800	3,530	<0.147	<0.149	<0.133	<0.158	<0.100	0.250 J	0.284 J	
U4-E-09D	4/15/2022	N	BL02	UMCF	94.5 - 109.5	0.0 U	131.3	7.20	100	0.0 U	26.7	5.2	<4.07	<4.26	<2.91	7,500,000	26,400 J-	875 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-E-09I	4/14/2022	N	BL02	UMCF	74.9 - 89.9	0.0 U	42.3	7.51	100	0.0 U	25.0	53.8	<4.07	<4.26	<2.91	5,550,000	13,000	1,280 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.401 J	<0.142	
U4-E-10D	4/13/2022	N	BL02	UMCF	94.5 - 109.5	0.0 U	200.4	8.07	100	0.0 U	23.0	13.1	<4.07	<4.26	<2.91	3,940,000	9,360	766 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.398 J	<0.142	
U4-E-10I	4/13/2022	N	BL02	UMCF	74.2 - 89.2	0.0 U	223.7	7.20	100	0.0 U	21.6	17.0	<4.07	<4.26	<2.91	3,690,000	17,000	1,790 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01D	4/19/2022	N	BL02	UMCF	96.7 - 106.7	0.0 U	130.5	7.14	130	0.0 U	30.0	7.9	----	----	----	7,230,000	16,500 J-	952 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01D	2/16/2023	N	EM06	UMCF	96.7 - 106.7	----	190.0	7.35	60	----	22.9	55.9	----	----	----	----	31,700	----	----	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42
U4-MW-01D	3/20/2023	N	EM07	UMCF	96.7 - 106.7	0.0 U	164.9	7.53	80	0.0 U	22.7	543.3	<4.07	<4.26	<2.91	11,300,000	26,300	768 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01D	6/13/2023	N	EM10	UMCF	96.7 - 106.7	0.0 U	217.9	7.51	<4.07	360	0.0 U	26.1	437.1	<4.07	<4.26	<2.91	7,810,000	19,500	742 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-01DD	4/19/2022	N	BL02	UMCF	119.9 - 129.9	0.0 U	70.8	7.75	100	0.0 U	33.3	27.7	----	----	----	1,040,000	477 J	1,120 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01DD	4/19/2022	FD	BL02	UMCF	119.9 - 129.9	----	----	----	----	----	----	----	----	----	----	1,020,000	458 J	1,080 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01DD	3/15/2023	N	EM07	UMCF	119.9 - 129.9	0.0 U	61.8	7.33	100	0.0 U	24.7	56.4	<4.07	<4.26	<2.91	3,960,000	11,400	1,100 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01DD	6/13/2023	N	EM10	UMCF	119.9 - 129.9	0.0 U	171.6	7.59	320	0.0 U	31.4	73.2	<4.07	<4.26	<2.91	4,250,000	9,380	1,010 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01I	4/19/2022	N	BL02	UMCF	76.7 - 86.7	0.0 U	103.3	6.70	220	0.0 U	27.3	60.1	<15.00	<15.00	<2.91	3,790,000	<150 UJ	1,160 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01I	3/20/2023	N	EM07	UMCF	76.7 - 86.7	0.0 U	137.9	7.59	110	0.0 U	23.5	2768.5	<4.07	<4.26	11.4	12,700,000	26,500	751 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01I	6/12/2023	N	EM10	UMCF	76.7 - 86.7	0.0 U	159.7	7.60	480	0.0 U	27.3	515.2	<4.07	<4.26	<2.91	7,010,000	18,000	706 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01S	4/18/2022	N	BL02	UMCF	54.7 - 64.7	0.0 U	99.5	8.75	220	0.0 U	27.6	1501.7	----	----	----	3,130,000	1,770 J-	972 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01S	3/15/2023	N	EM07	UMCF	54.7 - 64.7	0.0 U	-4.5	8.44	100	0.0 U	24.7	147.1	<4.07	<4.26	<2.91	2,670,000	1,330	1,420 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-01S	6/13/2023	N	EM10	UMCF	54.7 - 64.7	0.0 U	164.7	8.57	420	0.0 U	28.4	158.0	<4.07	<4.26	<2.91	2,950,000	1,440	803 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-02D	4/14/2022	N	BL02	UMCF	95.0 - 110.0	0.0 U	206.4	7.25	100	0.0 U	26.4	5.4	----	----	----	63,700,000	95,800	1,570 J	<0.147	<0.149	<0.133	<0.158	0.135 J	0.735 J	<0.142	
U4-MW-02D	10/11/2022	N	EM02	UMCF	95.0 - 110.0	----	202.1	7.14	280	----	26.1	2.9	----	----	----	75,100,000 J-	148,000	787 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.517 J	<0.142	
U4-MW-02D	11/1/2022	N	EM03	UMCF	95.0 - 110.0	----	114.9	7.21	150	----	27.6	1.4	----	----	----	53,300,000	139,000	558 J	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10	
U4-MW-02D	12/7/2022	N	EM04	UMCF	95.0 - 110.0	----	139.7	7.32	100	----	23.6	5.1	----	----	----	29,900,000	152,000 J-	924 J	<0.147	<0.149	<0.133	<0.158	0.165 J	0.832 J	0.619 J	
U4-MW-02D	1/10/2023	N	EM05	UMCF	95.0 - 110.0	----	124.2	7.31	250	----	23.0	3.5	----	----	----	36,600,000	110,000	1,850 J	<0.147	<0.149	<0.133	<0.158	0.118 J	0.763 J	0.566 J	
U4-MW-02D	2/13/2023	N	EM06	UMCF	95.0 - 110.0	----	199.9	7.39	210	----	23.7	11.6	----	----	----	44,500,000	120,000 J-	869 J	<0.147	<0.149	<0.133	<0.158	0.124 J	0.902 J	0.663 J	
U4-MW-02D	3/17/2023	N	EM07	UMCF	95.0 - 110.0	0.0 U	178.4	7.26	100	0.0 U	24.8	8.9	<4.07	<4.26	<2.91	51,200,000	106,000	1,830 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-02D	4/19/2023	N	EM08	UMCF	95.0 - 110.0	0.0 U	42.5	7.15	120	0.0 U	26.0	9.4	----	----	----	41,000,000	122,000	1,620	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	
U4-MW-02D	5/9/2023	N	EM09	UMCF	95.0 - 110.0	0.0 U	94.9	7.25	120	0.0 U	25.5	12.2	----	----	----	26,900,000 J	107,000 J-	1,930 J+	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	
U4-MW-02D	6/13/2023	N	EM10	UMCF	95.0 - 110.0	0.0 U	154.1	7.28	100	0.0 U	28.1	3.4	<4.07	<4.26	<2.91	42,700,000	95,500	1,140 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.382 J	0.188 J	
U4-MW-02I	4/14/2022	N	BL02	UMCF	75.0 - 90.0	0.0 U	159.8	8.09	100	0.0 U	28.4	15.2	----	----	----	6,660,000	12,800	1,100 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.431 J	<0.142	
U4-MW-02I	10/11/2022	N	EM02	UMCF	75.0 - 90.0	----	172.7	7.07	280	----	25.3	56.9	----	----	----	11,000,000	33,900	8,510	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-02I	11/2/2022	N	EM03	UMCF	75.0 - 90.0	----	148.7	6.86	200	----	25.0	36.2	----	----	----	15,700,000	48,200	88,500	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	11/2/2022	FD	EM03	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	20,400,000	46,600	75,900	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	12/8/2022	N	EM04	UMCF	75.0 - 90.0	----	168.4	6.91	100	----	14.5	5.0	----	----	----	1,860,000 J	3,720 J-	31,600 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-02I	12/8/2022	FD	EM04	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	3,300,000 J	3,620	161,000 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-02I	1/13/2023	N	EM05	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	8,500,000	21,700	76,100	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	1/13/2023	FD	EM05	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	8,640,000	21,900	74,900 J-	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	2/15/2023	N	EM06	UMCF	75.0 - 90.0	----	232.8	6.61	100	----	23.4	115.7	----	----	----	26,500,000	69,100 J-	10,700	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	2/15/2023	FD	EM06	UMCF	75.0 - 90.0	----	----	----	----	----	----	----	----	----	----	24,800,000	69,400 J-	13,300	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42	
U4-MW-02I	3/17/2023	N	EM07	UMCF	75.0 - 90.0	0.0 U	129.0	6.43	105																	

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	SW9060A/SM5310B	Volatile Organic Compounds by SW8260B							
						Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature	Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	Total Organic Carbon	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene	
						mg/L	mV	SU	mL/min	mg/L	C	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
U4-MW-05D	2/14/2023	N	EM06	UMCF	98.2 - 108.2	----	190.5	7.55	80	----	15.4	268.7	----	----	----	9,200,000	31,800	1,090	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-05D	3/16/2023	N	EM07	UMCF	98.2 - 108.2	0.0 U	57.4	7.45	100	0.0 U	24.8	331.6	<4.07	<4.26	55.6 J+	11,400,000	28,200	1,370 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-05D	4/20/2023	N	EM08	UMCF	98.2 - 108.2	0.0 U	36.1	7.31	100	0.0 U	27.4	130.7	----	----	----	6,160,000	18,900	4,520	<0.147	<0.149	<0.133	<0.158	<0.100	<18.8	0.187 J	
U4-MW-05D	5/10/2023	N	EM09	UMCF	98.2 - 108.2	0.0 U	133.6	5.83	150	0.0 U	28.4	22.4	----	----	----	3,790,000	10,400	94,100	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	0.197 J	
U4-MW-05D	6/15/2023	N	EM10	UMCF	98.2 - 108.2	0.0 U	133.4	6.48	90	0.0 U	34.4	127.1	<4.07	<4.26	1,860	6,880,000	5,460	129,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-05I	4/15/2022	N	BL02	UMCF	76.6 - 86.6	0.0 U	140.1	7.54	100	0.0 U	23.2	12,900,000	----	----	----	12,900,000	42,800 J-	1,460 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.359 J	0.311 J	
U4-MW-05I	10/13/2022	N	EM02	UMCF	76.6 - 86.6	----	205.5	7.04	280	----	25.6	1860.6	----	----	----	29,100,000	70,800	1,180 J	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-05I	11/3/2022	N	EM03	UMCF	76.6 - 86.6	----	130.9	7.57	240	----	24.1	90637.6	----	----	----	22,800,000	61,900 J-	1,370 J+	<0.147	<0.149	<0.133	<0.158	<0.154 J	0.448 J	0.557 J	
U4-MW-05I	12/8/2022	N	EM04	UMCF	76.6 - 86.6	----	132.0	7.34	100	----	23.3	1119.7	----	----	----	19,400,000 J	49,600	1,630 J+	<0.147	<0.149	<0.133	<0.158	0.135 J	0.345 J	<0.142	
U4-MW-05I	1/11/2023	N	EM05	UMCF	76.6 - 86.6	----	192.5	7.29	250	----	23.1	7501.5	----	----	----	10,300,000	45,300	1,400 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.289 J	0.462 J	
U4-MW-05I	2/14/2023	N	EM06	UMCF	76.6 - 86.6	----	179.4	7.53	80	----	22.3	9,860,000	----	----	----	9,860,000	36,900	1,260 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-05I	3/14/2023	N	EM07	UMCF	76.6 - 86.6	0.5	77.0	7.65	100	0.0 U	24.0	6501.9	<4.07	<4.26	<2.91	9,700,000	30,400	1,990 J+	<14.7	<14.9	<13.3	<15.8	<10.0	<18.8	<14.2	
U4-MW-05I	4/21/2023	N	EM08	UMCF	76.6 - 86.6	0.0 U	-3.0	7.08	130	0.0 U	26.2	62.0	----	----	----	3,810,000	5,170	379,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-05I	5/10/2023	N	EM09	UMCF	76.6 - 86.6	0.0 U	-31.5	5.71	150	0.0 U	26.6	61.6	----	----	----	4,590,000	1.83	531,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-05I	6/15/2023	N	EM10	UMCF	76.6 - 86.6	0.5	-156.7	6.57	60	0.2	34.2	28.6	<4.07	<4.26	1,350	3,650,000	4.86	485,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-06D	4/19/2022	N	BL02	UMCF	97.1 - 107.1	0.0 U	----	----	----	0.0 U	----	----	----	----	----	43,400,000	73,100 J-	1,350 J+	<0.147	<0.149	<0.133	<0.158	0.134 J	0.315 J	<0.142	
U4-MW-06D	2/15/2023	N	EM06	UMCF	97.1 - 107.1	----	198.6	7.34	80	----	21.3	76.0	----	----	----	----	36,900 J-	----	----	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10
U4-MW-06D	3/21/2023	N	EM07	UMCF	97.1 - 107.1	0.0 U	196.2	7.10	120	0.0 U	21.2	55.0	<4.07	<4.26	<2.91	16,000,000	36,500	919 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-06D	6/16/2023	N	EM10	UMCF	97.1 - 107.1	0.0 U	140.6	7.26	90	0.0 U	20.3	12,500,000	<4.07	<4.26	<2.91	12,500,000	29,300	863 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-06I	4/19/2022	N	BL02	UMCF	76.5 - 86.5	0.0 U	132.2	8.14	100	0.0 U	27.5	171.5	----	----	----	3,420,000	3,070 J-	1,190 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-06I	3/14/2023	N	EM07	UMCF	76.5 - 86.5	0.0 U	120.3	7.90	0	0.0 U	18.2	204.9	<4.07	<4.26	<2.91	17,100,000	42,800	1,660 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-06I	6/16/2023	N	EM10	UMCF	76.5 - 86.5	0.0 U	94.8	8.27	50	0.0 U	22.3	12,600,000	<4.07	<4.26	110	12,600,000	29,000	4,040	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	4/15/2022	N	BL02	UMCF	96.8 - 106.5	0.0 U	182.2	7.48	100	0.0 U	26.7	52.5	----	----	----	5,820,000	23,900 J+	631 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	10/12/2022	N	EM02	UMCF	96.8 - 106.5	----	93.5	7.79	50	----	28.7	9.7	----	----	----	1,310,000 J-	2,080	1,630 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	10/12/2022	FD	EM02	UMCF	96.8 - 106.5	----	----	----	----	----	----	----	----	----	----	1,330,000	2,120	1,490 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	11/3/2022	N	EM03	UMCF	96.8 - 106.5	----	111.1	7.85	200	----	23.9	97.4	----	----	----	1,220,000 J+	1,610 J-	1,680 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	12/7/2022	N	EM04	UMCF	96.8 - 106.5	----	106.4	7.83	100	----	23.8	14.1	----	----	----	1,050,000	1,080 J-	1,580 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	1/11/2023	N	EM05	UMCF	96.8 - 106.5	----	105.0	7.74	120	----	24.3	22.8	----	----	----	1,260,000	1,380 J-	1,480 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	2/14/2023	N	EM06	UMCF	96.8 - 106.5	----	161.8	7.79	90	----	22.3	73.4	----	----	----	1,070,000	1,250 J-	1,320	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	3/16/2023	N	EM07	UMCF	96.8 - 106.5	0.0 U	140.8	7.92	100	0.0 U	28.6	1,070,000	<4.07	<4.26	53.0 J+	1,070,000	922	1,930 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	4/21/2023	N	EM08	UMCF	96.8 - 106.5	0.0 U	-393.7	6.15	120	0.0 U	26.2	106.9	----	----	----	3,630,000	5,020	416,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	5/11/2023	N	EM09	UMCF	96.8 - 106.5	0.0 U	47.7	5.85	150	0.0 U	27.5	34.4	----	----	----	3,170,000	692	1,390 J+	<0.147 UJ	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07D	6/13/2023	N	EM10	UMCF	96.8 - 106.5	0.0 U	108.0	6.37	60	0.0 U	32.9	8.8	<4.07	<4.26	18,000	3,280,000	1,160 J-	392,000 J-	<0.147 UJ	<0.149 UJ	<0.133 UJ	<0.158 UJ	<0.100 UJ	<0.188 UJ	<0.142 UJ	
U4-MW-07I	4/15/2022	N	BL02	UMCF	76.8 - 86.8	0.0 U	158.2	7.86	100	0.0 U	25.6	10.7	----	----	----	1,670,000	4,810 J+	2,760 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	10/12/2022	N	EM02	UMCF	76.8 - 86.8	----	135.0	7.86	50	----	26.9	119.0	----	----	----	1,350,000 J	2,720	1,370 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	11/3/2022	N	EM03	UMCF	76.8 - 86.8	----	141.5	7.93	180	----	23.9	1667.5	----	----	----	1,340,000	1,650 J-	1,530 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	12/7/2022	N	EM04	UMCF	76.8 - 86.8	----	96.7	7.97	100	----	24.0	210.3	----	----	----	1,220,000	1,360 J-	1,630 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	1/11/2023	N	EM05	UMCF	76.8 - 86.8	----	104.4	7.82	150	----	24.3	73.4	----	----	----	1,440,000	1,810 J-	1,420 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	2/15/2023	N	EM06	UMCF	76.8 - 86.8	----	124.7	7.66	80	----	22.3	134.0	----	----	----	1,520,000	2,640 J-	1,250	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	3/16/2023	N	EM07	UMCF	76.8 - 86.8	0.0 U	83.7	7.72	100	0.2	24.3	259.7	<4.07	<4.26	54.8 J+	1,630,000 J	2,670 J-	25,900 J-	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	
U4-MW-07I	4/21/2023	N	EM08	UMCF	76.8 - 86.8	0.0 U	-161.7	6.53	130	0.0 U	26.1	277.9	----	----	----	2,670,000	4,860	113,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	5/11/2023	N	EM09	UMCF	76.8 - 86.8	1.0	-80.3	6.08	150	0.0 U	26.1	156.9	----	----	----	2,820,000	0.158 J	352,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142	
U4-MW-07I	6/14/2023	N	EM10	UMCF	76.8 - 86.8	1.0	-262.2	6.78	60	0.4	29.9	105.6	<4.07	<4.26	376	3,030,000	<15.0	171,000	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710	
U4-MW-08D	4/13/2022	N	BL02	UMCF	98.6 - 108.6	0.0 U	166.4	6.92	100	0.0 U	24.7	98.8 E	<4.07	<4.26	<2.91	48,000,000	106,000	3,420 J	<0.147							

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	SW9060A/SM5310B	Volatile Organic Compounds by SW8260B						
						Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature	Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	Total Organic Carbon	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene
						mg/L	mV	SU	mL/min	mg/L	C	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
U4-MW-10D	4/14/2022	N	BL02	UMCF	96.9 - 106.9	0.0 U	206.3	7.33	100	0.0 U	22.6	52.9	<4.07	<4.26	<2.91	4,840,000	5,450	1,020 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10D	12/5/2022	N	EM04	UMCF	96.9 - 106.9	0.0 U	70.0	7.73	100	0.0 U	22.9	43.2	<4.07	<4.26	257	2,400,000	3,640 J-	868 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10D	3/17/2023	N	EM07	UMCF	96.9 - 106.9	0.5	-107.9	6.38	100	0.0 U	22.4	-399.7	<4.07	<4.26	29,800	3,170,000	1.22	225,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10D	6/14/2023	N	EM10	UMCF	96.9 - 106.9	1.0	-202.3	6.59	200	0.1	27.1	14.9	<4.07	<4.26	26,700	2,340,000	0.228 J	234,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10I	4/14/2022	N	BL02	UMCF	77.1 - 87.1	0.0 U	183.9	7.68	100	0.0 U	23.9	72915.5	<4.07	<4.26	<2.91	5,670,000	6,160	1,200 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.373 J	<0.142
U4-MW-10I	12/5/2022	N	EM04	UMCF	77.1 - 87.1	0.0 U	9.6	48.5	100	0.0 U	23.2	6.6	<4.07	<4.26	50.1	1,870,000	566 J-	3,630 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10I	3/17/2023	N	EM07	UMCF	77.1 - 87.1	0.0 U	25.5	6.62	100	0.0 U	23.1	-345.3	<4.07	<4.26	20,300	3,110,000	1.11	11,400	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-10I	6/14/2023	N	EM10	UMCF	77.1 - 87.1	3.0	-173.2	6.54	200	0.6	25.7	22.8	<4.07	<4.26	21,500	2,240,000	0.333 J	257,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11D	4/15/2022	N	BL02	UMCF	97.4 - 107.4	0.0 U	194.9	7.12	100	0.0 U	23.3	218.4	<4.07	<4.26	<2.91	34,200,000	90,100 J+	3,440 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.543 J	0.380 J
U4-MW-11D	9/26/2022	N	EM01	UMCF	97.4 - 107.4	0.0 U	49.2	7.38	100	0.0 U	31.6	74.6	---	---	---	34,600,000	93,300	20,200 J+	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10
U4-MW-11D	10/11/2022	N	EM02	UMCF	97.4 - 107.4	0.0 U	5.2	7.07	250	0.0 U	23.7	155.4	---	---	---	40,200,000	96,300	1,360 J+	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42
U4-MW-11D	11/1/2022	N	EM03	UMCF	97.4 - 107.4	0.0 U	-20.2	7.07	150	0.0 U	22.8	53.4	---	---	---	38,300,000	91,100	1,820 J+	<7.35	<7.45	<6.65	<7.90	<5.00	<9.40	<7.10
U4-MW-11D	12/6/2022	N	EM04	UMCF	97.4 - 107.4	0.0 U	156.0	6.76	0	0.0 U	16.9	21.4	<4.07 UJ	<4.26 UJ	215	27,000,000	32,300 J-	33,300	<3.68 UJ	<3.73 UJ	<3.33 UJ	<3.95 UJ	<2.50 UJ	<4.70 UJ	<3.55 UJ
U4-MW-11D	1/12/2023	N	EM05	UMCF	97.4 - 107.4	0.0 U	87.9	6.46	120	0.0 U	21.5	254.4	---	---	---	24,800,000	74,400	5,100	<29.4	<29.8	<26.6	<31.6	<20.0	<37.6	<28.4
U4-MW-11D	2/14/2023	N	EM06	UMCF	97.4 - 107.4	0.0 U	120.7	6.27	200	0.0 U	21.3	55.2	---	---	---	25,800,000	76,700	6,540	<29.4	<29.8	<26.6	<31.6	<20.0	<37.6	<28.4
U4-MW-11D	3/16/2023	N	EM07	UMCF	97.4 - 107.4	0.0 U	46.8	6.50	100	0.0 U	20.0	303.2	<4.07	<4.26	19,400	22,900,000	55,600 J-	5,970 J-	<29.4	<29.8	<26.6	<31.6	<20.0	<37.6	<28.4
U4-MW-11D	4/18/2023	N	EM08	UMCF	97.4 - 107.4	0.0 U	42.3	6.36	100	0.0 U	25.2	154.0	---	---	---	23,800,000	45,700	8,540	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710
U4-MW-11D	5/17/2023	N	EM09	UMCF	97.4 - 107.4	0.0 U	155.6	5.79	140	0.0 U	24.2	83.1	---	---	---	647,000	47,300	3,860	<2.94 UJ	<2.98 UJ	<2.66 UJ	<3.16 UJ	<2.00 UJ	<3.76 UJ	<2.84 UJ
U4-MW-11D	6/16/2023	N	EM10	UMCF	97.4 - 107.4	0.0 U	54.6	6.71	100	0.0 U	22.1	4.2	<4.07	<4.26	29,300	25,900,000	71,900	5,300	<0.147	<0.149	<0.133	<0.158	<0.100	0.456 J	<0.142
U4-MW-11I	4/14/2022	N	BL02	UMCF	77.0 - 87.0	0.0 U	123.8	7.72	110	0.0 U	26.3	99.8	<4.07	<4.26	<2.91	2,730,000	6,370	1,040 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.385 J	<0.142
U4-MW-11I	9/26/2022	N	EM01	UMCF	77.0 - 87.0	0.0 U	-17.7	6.92	100	0.0 U	27.0	384.2	---	---	---	2,470,000	1,320 J	208,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	9/26/2022	FD	EM01	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	2,690,000	1,330 J	201,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	10/10/2022	N	EM02	UMCF	77.0 - 87.0	0.0 U	-117.1	6.58	250	0.0 U	24.4	170.6	---	---	---	2,200,000	0.753 J-	61,800 J	<1.47	<1.49	<1.33	<1.58	<1.00	<1.88	<1.42
U4-MW-11I	10/10/2022	FD	EM02	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	2,450,000	0.886	306,000 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	10/31/2022	N	EM03	UMCF	77.0 - 87.0	0.0 U	-266.8	6.57	180	0.6	23.3	36.5	---	---	---	2,390,000	1.95	364,000	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710
U4-MW-11I	10/31/2022	FD	EM03	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	2,340,000	2.25	370,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	12/6/2022	N	EM04	UMCF	77.0 - 87.0	0.5	-294.3	7.16	0	0.6	23.8	41.5	<4.07 UJ	<4.26 UJ	5,160	2,550,000	1.79 J	55,800 J	<0.147 UJ	<0.149 UJ	<0.133 UJ	<0.158 UJ	<0.100 UJ	<0.188 UJ	<0.142 UJ
U4-MW-11I	12/6/2022	FD	EM04	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	<4.07 UJ	<4.26 UJ	5,360	2,610,000	0.403 J	276,000 J	<0.147 UJ	<0.149 UJ	<0.133 UJ	<0.158 UJ	<0.100 UJ	<0.188 UJ	<0.142 UJ
U4-MW-11I	1/12/2023	N	EM05	UMCF	77.0 - 87.0	0.0 U	-240.4	7.70	150	0.0 U	23.3	169.3	---	---	---	1,610,000	0.800	189,000 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	1/12/2023	FD	EM05	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	1,750,000	0.556	195,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	2/14/2023	N	EM06	UMCF	77.0 - 87.0	0.0 U	-236.7	6.75	200	0.0 U	20.1	50.9	---	---	---	8,560,000	<0.150	165,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	2/14/2023	FD	EM06	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	7,900,000	0.324 J	186,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	3/16/2023	N	EM07	UMCF	77.0 - 87.0	0.0 U	-241.6	6.86	100	0.8	20.3	130.6	<4.07	<4.26	23,600	2,020,000	<0.150 UJ	188,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	3/16/2023	FD	EM07	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	<4.07	<4.26	21,400	2,030,000	<0.150 UJ	197,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	4/18/2023	N	EM08	UMCF	77.0 - 87.0	0.0 U	-141.1	6.69	120	0.5	24.3	377.3	---	---	---	1,950,000	<0.150	146,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	4/18/2023	FD	EM08	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	2,070,000	0.158 J	147,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	5/19/2023	N	EM09	UMCF	77.0 - 87.0	0.0 U	-267.3	6.73	200	0.0 U	26.7	1679.2	---	---	---	2,390,000	<0.150 R	89,600 J	<0.147 UJ	<0.149 UJ	<0.133 UJ	<0.158 UJ	<0.100 UJ	<0.188 UJ	<0.142 UJ
U4-MW-11I	5/19/2023	FD	EM09	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	---	---	---	2,430,000	<0.150 R	89,600 J-	<0.147 UJ	<0.149 UJ	<0.133 UJ	<0.158 UJ	<0.100 UJ	<0.188 UJ	<0.142 UJ
U4-MW-11I	6/15/2023	N	EM10	UMCF	77.0 - 87.0	1.0	-79.7	6.70	100	2.0	32.3	63.7	<4.07	<4.26	23,000	1,960,000	<0.150	103,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-11I	6/15/2023	FD	EM10	UMCF	77.0 - 87.0	---	---	---	---	---	---	---	<4.07	<4.26	24,000	1,910,000	<0.150	103,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-12D	4/15/2022	N	BL02	UMCF	97.1 - 107.1	0.0 U	90.8	6.98	100	0.0 U	26.2	40.3	<4.07	<4.26	<2.91	29,700,000	63,700 J-	1,440 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.417 J	0.374 J
U4-MW-12D	9/27/2022	N	EM01	UMCF	97.1 - 107.1	0.0 U	183.7	7.31	100	0.0 U	27.2	97.6	---	---	---	14,900,000	41,900	903 J	<2.94	<2.98	<2.66	<3.16	<2.00	<3.76	<2.84
U4-MW-12D	10/12/2022	N	EM02	UMCF	97.1 - 107.1	0.0 U	193.7	7.02	250	0.0 U	23.4	141.7	---	---	---	19,300,000 J-	50,700	1,020 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.326 J	0.350 J
U4-MW-12D	11/2/2022	N	EM03	UMCF	97.1 - 107.1	0.0 U	145.9	7.12																	

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	SW9060A/SM5 310B	Volatile Organic Compounds by SW8260B						
						Ferrous Iron	Oxidation-Reduction Potential	pH	Purge Rate	Sulfide	Temperature	Turbidity	Ethane	Ethene	Methane	Total Dissolved Solids	Chromium, Hexavalent	Total Organic Carbon	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene
						mg/L	mV	SU	mL/min	mg/L	C	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
U4-MW-13I	1/12/2023	N	EM05	UMCF	77.1 - 87.1	0.0 U	-245.9	7.13	250	0.0 U	20.1	118.8	----	----	----	1,960,000	4.48	67,800	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-13I	2/14/2023	N	EM06	UMCF	77.1 - 87.1	0.0 U	-309.2	7.19	200	0.0 U	20.7	552.4	----	----	----	3,420,000	0.250 J	43,400	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710
U4-MW-13I	3/16/2023	N	EM07	UMCF	77.1 - 87.1	0.0 U	-313.7	7.44	0	0.0 U	19.2	114.6	<4.07	<4.26	20,300	1,550,000	1.05 J	43,900	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-13I	4/19/2023	N	EM08	UMCF	77.1 - 87.1	0.0 U	-303.7	7.07	130	0.4	23.5	23.1	----	----	----	1,690,000	0.606	25,800 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-13I	5/17/2023	N	EM09	UMCF	77.1 - 87.1	0.0 U	-123.7	6.73	160	0.4	29.7	55.5	----	----	----	1,970,000	0.178 J	19,800	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-13I	6/15/2023	N	EM10	UMCF	77.1 - 87.1	0.0 U	-73.9	7.04	180	0.0 U	27.5	10.7	<4.07	<4.26	23,600	1,680,000	0.559	21,100	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-14D	4/13/2022	N	BL02	UMCF	97.3 - 107.3	0.0 U	161.5	7.20	100	0.0 U	26.5	50.4	<4.07	<4.26	<2.91	2,550,000	239	1,220 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.409 J	<0.142
U4-MW-14D	12/6/2022	N	EM04	UMCF	97.3 - 107.3	0.0 U	75.3	7.39	80	0.0 U	20.7	58.1	<4.07 UJ	<4.26 UJ	<2.91 UJ	4,530,000	5,860	570 J	<0.735 UJ	<0.745 UJ	<0.665 UJ	<0.790 UJ	<0.500 UJ	<0.940 UJ	<0.710 UJ
U4-MW-14D	3/16/2023	N	EM07	UMCF	97.3 - 107.3	0.0 U	143.2	7.47	100	0.0 U	21.8	115.4	<4.07	<4.26	15.0 J+	2,650,000	4,450	1,010 J+	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710
U4-MW-14D	6/15/2023	N	EM10	UMCF	97.3 - 107.3	0.0 U	119.7	7.08	180	0.0 U	30.3	59.1	<4.07	<4.26	619	2,750,000	3,980	1,710 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-14I	4/14/2022	N	BL02	UMCF	77.3 - 87.3	0.0 U	110.5	8.07	150	0.0 U	22.8	57.4	<4.07	<4.26	<2.91	3,220,000	2,270	1,090 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-14I	12/6/2022	N	EM04	UMCF	77.3 - 87.3	0.0 U	63.8	7.41	80	0.0 U	16.8	23.4	<4.07 UJ	<4.26 UJ	29.8	5,260,000	4,360 J-	786 J	<0.735 UJ	<0.745 UJ	<0.665 UJ	<0.790 UJ	<0.500 UJ	<0.940 UJ	<0.710 UJ
U4-MW-14I	3/16/2023	N	EM07	UMCF	77.3 - 87.3	0.0 U	166.5	7.45	130	0.0 U	21.5	-48.0	<4.07	<4.26	123 J+	3,130,000	4,560	1,030 J+	<0.735	<0.745	<0.665	<0.790	<0.500	<0.940	<0.710
U4-MW-14I	6/15/2023	N	EM10	UMCF	77.3 - 87.3	0.0 U	174.8	7.01	200	0.0 U	26.9	11.4	<4.07	<4.26	<0.147	3,260,000	782	2,29 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15D	4/13/2022	N	BL02	UMCF	96.0 - 106.0	0.0 U	209.2	7.09	100	0.0 U	20.7	76.6	<4.07	<4.26	<2.91	3,490,000	5,240	1,240 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15D	12/5/2022	N	EM04	UMCF	96.0 - 106.0	0.0 U	168.4	7.52	200	0.0 U	22.3	435.5	<4.07	<4.26	<2.91	2,880,000	3,380 J-	922 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15D	3/20/2023	N	EM07	UMCF	96.0 - 106.0	0.0 U	127.9	7.39	200	0.0 U	20.8	20.3	<4.07	<4.26	324	3,030,000	3,630	362 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15D	6/14/2023	N	EM10	UMCF	96.0 - 106.0	0.0 U	36.2	7.16	180	0.0 U	26.4	119.9	<4.07	<4.26	8,050	3,680,000	4,490	818 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15DD	4/13/2022	N	BL02	UMCF	120.3 - 130.3	0.0 U	123.8	8.36	100	0.0 U	18.6	82.3	<4.07	<4.26	<2.91	677,000	67.5	532 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15DD	12/5/2022	N	EM04	UMCF	120.3 - 130.3	0.0 U	-139.8	8.59	250	0.0 U	21.5	51.1	<4.07	<4.26	<2.91	553,000	14.5	505 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15DD	3/15/2023	N	EM07	UMCF	120.3 - 130.3	0.0 U	104.0	9.13	100	0.0 U	22.2	99.0	<4.07	<4.26	<2.91	548,000	12.5 J-	224 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15DD	6/13/2023	N	EM10	UMCF	120.3 - 130.3	0.0 U	20.5	7.90	180	0.0 U	28.2	8.36	<4.07	<4.26	<2.91	589,000	2,29 J	337 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15I	4/12/2022	N	BL02	UMCF	76.8 - 86.8	0.0 U	125.1	7.95	150	0.0 U	22.6	20895.7 E	<4.07	<4.26	<2.91	4,080,000	5,010	1,440 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.367 J	<0.142
U4-MW-15I	12/5/2022	N	EM04	UMCF	76.8 - 86.8	0.0 U	161.9	6.87	250	0.0 U	23.0	137.7	<4.07	<4.26	3,490	3,130,000	4,730 J-	60,700	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15I	3/17/2023	N	EM07	UMCF	76.8 - 86.8	0.4	-173.7	6.17	120	6.0	21.6	-223.4	<4.07	<4.26	10,900	3,730,000	2.22	565,000	<2.94	<2.98	<2.66	<3.16	<2.00	<3.76	<2.84
U4-MW-15I	6/14/2023	N	EM10	UMCF	76.8 - 86.8	5.5	-124.6	6.30	180	0.0 U	24.3	30.1	<4.07	<4.26	21,400	2,280,000	<0.750	306,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15S	4/13/2022	N	BL02	UMCF	54.8 - 64.8	0.0 U	165.2	8.11	200	0.0 U	21.5	71.7	<4.07	<4.26	<2.91	1,450,000	262	848 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15S	12/5/2022	N	EM04	UMCF	54.8 - 64.8	0.0 U	-309.1	5.99	250	0.0 U	22.0	32.2	<4.07	<4.26	20,200	1,850,000	0.995	499,000	<3.68	<3.73	<3.33	<3.95	<2.50	<4.70	<3.55
U4-MW-15S	3/13/2023	N	EM07	UMCF	54.8 - 64.8	0.0 U	-307.8	7.07	0	0.0 U	20.4	38.9	<4.07	<4.26	24,500	1,250,000	<0.150	116,000 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-15S	6/13/2023	N	EM10	UMCF	54.8 - 64.8	0.0 U	-211.4	6.94	200	0.0 U	32.8	2.4	<4.07	<4.26	34,800	1,600,000	<15.0	95,700 J-	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16D	4/11/2022	N	BL02	UMCF	96.8 - 106.8	0.0 U	165.2	7.15	100	0.0 U	23.7	84.8 E	<4.07	<4.26	<2.91	30,500,000	61,300	1,340 J	<0.147	<0.149	<0.133	<0.158	<0.100	0.237 J	<0.142
U4-MW-16D	12/5/2022	N	EM04	UMCF	96.8 - 106.8	0.0 U	63.9	7.13	80	0.0 U	21.8	84.8	<4.07	<4.26	374	13,400,000	21,900	3,980 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16D	3/14/2023	N	EM07	UMCF	96.8 - 106.8	0.0 U	134.5	6.47	100	0.0 U	17.8	12.1	<4.07	<4.26	6,230	10,300,000	13,800	25,100	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16D	6/13/2023	N	EM10	UMCF	96.8 - 106.8	0.0 U	212.9	6.65	180	0.0 U	25.2	34.1	<4.07	<4.26	11,800	28,600,000	38,700	10,500 J+	<0.147	<0.149	<0.133	<0.158	<0.100	0.189 J	0.196 J
U4-MW-16DD	4/12/2022	N	BL02	UMCF	120.8 - 130.8	0.0 U	121.7	7.62	100	0.0 U	18.3	35.4	<4.07	<4.26	<2.91	1,940,000	682	827 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16DD	12/5/2022	N	EM04	UMCF	120.8 - 130.8	0.0 U	43.7	7.71	100	0.0 U	21.7	18.9	<4.07	<4.26	<2.91	1,220,000	215 J-	852 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16DD	3/15/2023	N	EM07	UMCF	120.8 - 130.8	0.0 U	-32.6	7.56	100	0.0 U	18.6	11.4	<4.07	<4.26	<2.91	1,160,000	149 J-	1,350 J+	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16DD	6/13/2023	N	EM10	UMCF	120.8 - 130.8	0.0 U	44.0	7.78	180	0.0 U	27.3	12.0	<4.07	<4.26	55.6	1,130,000	183	825 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16I	4/11/2022	N	BL02	UMCF	77.0 - 87.0	0.0 U	129.8	8.36	200	0.0 U	23.5	-449448.0 E	<4.07	<4.26	<2.91	5,220,000	9,350	950 J	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16I	12/5/2022	N	EM04	UMCF	77.0 - 87.0	0.0 U	-277.0	7.32	60	0.5	22.2	5.3	<4.07	<4.26	2,930	2,120,000	0.467 J	515,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16I	12/5/2022	FD	EM04	UMCF	77.0 - 87.0	----	----	----	----	----	----	----	<4.07	<4.26	3,090	2,000,000	0.735	515,000	<0.147	<0.149	<0.133	<0.158	<0.100	<0.188	<0.142
U4-MW-16I	3/13/2023	N	EM07	UMCF	77.0 - 87.0	----	-54.8	7.33	100	----	20.6	5.3	<4.07	<4.26	28,900	2,930,000	<0								

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																			
						1,2,3-Trichloro-benzene	1,2,3-Trichloro-propane	1,2,4-Trichloro-benzene	1,2,4-Trimethyl-benzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3,5-Trimethyl-benzene (Mesitylene)	1,3-Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone
						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	<0.230	0.428 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.346 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	10/13/2022	N	EM02	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	11/2/2022	N	EM03	UMCF	92.5 - 102.5	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<11.3	
M-251-100	12/8/2022	N	EM04	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	1/11/2023	N	EM05	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	2/13/2023	N	EM06	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	1.46 J	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	3/17/2023	N	EM07	UMCF	92.5 - 102.5	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	
M-251-100	4/21/2023	N	EM08	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.142 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	5/9/2023	N	EM09	UMCF	92.5 - 102.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.171 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-100	6/14/2023	N	EM10	UMCF	92.5 - 102.5	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	
M-251-60	4/18/2022	N	BL02	UMCF	52.3 - 62.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-60	3/15/2023	N	EM07	UMCF	52.3 - 62.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-251-60	6/14/2023	N	EM10	UMCF	52.3 - 62.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
M-252	4/21/2022	N	BL02	UMCF	132.3 - 142.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	7.60 J	<0.106	<0.787	<0.114	<0.478	<11.3
M-252	3/15/2023	N	EM07	UMCF	132.3 - 142.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
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	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-E-01D	3/14/2023	N	EM07	UMCF	94.7 - 109.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-01I	4/19/2022	N	BL02	UMCF	74.6 - 89.6	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	3.29 J	<0.106	<0.787	<0.114	<0.478	11.7 J
U4-E-01I	4/19/2022	FD	BL02	UMCF	74.6 - 89.6	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	3.45 J	<0.106	0.848 J	<0.114	<0.478	11.7 J
U4-E-01I	3/14/2023	N	EM07	UMCF	74.6 - 89.6	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.0909 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-01I	4/20/2023	N	EM08	UMCF	74.6 - 89.6	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-01I	5/10/2023	N	EM09	UMCF	74.6 - 89.6	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	5.34 J	<0.106	<0.787	<0.114	<0.478	44.5 J
U4-E-01I	6/12/2023	N	EM10	UMCF	74.6 - 89.6	<0.230 UJ	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	19.7	<0.106	<0.787 UJ	<0.114	<0.478	84.3 J+
U4-E-02D	4/20/2022	N	BL02	UMCF	94.4 - 109.4	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-02D	3/14/2023	N	EM07	UMCF	94.4 - 109.4	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-02I	4/18/2022	N	BL02	UMCF	74.4 - 89.4	<0.230	<0.237	<0.481	<0.322 UJ	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104 R	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-02I	3/14/2023	N	EM07	UMCF	74.4 - 89.4	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-02I	4/20/2023	N	EM08	UMCF	74.4 - 89.4	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	5.27 J	<0.106	<0.787	<0.114	<0.478	17.6 J
U4-E-02I	5/11/2023	N	EM09	UMCF	74.4 - 89.4	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	12.3	<0.106	<0.787	<0.114	<0.478	52.8
U4-E-02I	6/12/2023	N	EM10	UMCF	74.4 - 89.4	<0.230 UJ	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	31.6	<0.106	<0.787 UJ	<0.114	<0.478	31.2 J
U4-E-03D	4/19/2022	N	BL02	UMCF	95.1 - 110.1	<0.230	0.293 J	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-03D	10/13/2022	N	EM02	UMCF	95.1 - 110.1	<46.0	<47.4	<96.2	<64.4	<55.2	<25.2	<21.4	<16.4	<29.8	<20.8	<22.0	<22.0	<24.0	<32.2	<238	<21.2	<157	<22.8	<95.6	<2,260
U4-E-03D	11/3/2022	N	EM03	UMCF	95.1 - 110.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-03D	12/6/2022	N	EM04	UMCF	95.1 - 110.1	<4.60 UJ	<4.74 UJ	<9.62 UJ	<6.44 UJ	<5.52 UJ	<2.52 UJ	<2.14 UJ	<1.64 UJ	<2.98 UJ	<2.08 UJ	<2.20 UJ	<2.20 UJ	<2.40 UJ	<3.22 UJ	<23.8 UJ	<2.12 UJ	<15.7 UJ	<2.28 UJ	<9.56 UJ	<226 UJ
U4-E-03D	1/9/2023	N	EM05	UMCF	95.1 - 110.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-03D	2/13/2023	N	EM06	UMCF	95.1 - 110.1	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<119	<10.6	<78.7	<11.4	<47.8	<1,130
U4-E-03D	3/13/2023	N	EM07	UMCF	95.1 - 110.1	<23.0	<23.7	&																	

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																			
						1,2,3-Trichloro-benzene	1,2,3-Trichloro-propane	1,2,4-Trichloro-benzene	1,2,4-Trimethyl-benzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3,5-Trimethyl-benzene (Mesitylene)	1,3-Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone
						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-E-08D	1/9/2023	N	EM05	UMCF	94.6 - 109.6	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.131 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	2.81 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-08D	2/13/2023	N	EM06	UMCF	94.6 - 109.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.9	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-E-08D	3/13/2023	N	EM07	UMCF	94.6 - 109.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.9	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-E-08D	4/19/2023	N	EM08	UMCF	94.6 - 109.6	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-E-08D	5/17/2023	N	EM09	UMCF	94.6 - 109.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.9	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-E-08D	6/12/2023	N	EM10	UMCF	94.6 - 109.6	<0.230 UJ	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787 UJ	<0.114	<0.478	<11.3
U4-E-09D	4/15/2022	N	BL02	UMCF	94.5 - 109.5	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-09I	4/14/2022	N	BL02	UMCF	74.9 - 89.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.118 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	1.24 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-10D	4/13/2022	N	BL02	UMCF	94.5 - 109.5	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.132 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-E-10I	4/13/2022	N	BL02	UMCF	74.2 - 89.2	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.120 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01D	4/19/2022	N	BL02	UMCF	96.7 - 106.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	3.67 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01D	2/16/2023	N	EM06	UMCF	96.7 - 106.7	<2.30	<2.37	<4.81	<3.22 UJ	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113
U4-MW-01D	3/20/2023	N	EM07	UMCF	96.7 - 106.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	1.37 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01D	6/13/2023	N	EM10	UMCF	96.7 - 106.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01DD	4/19/2022	N	BL02	UMCF	119.9 - 129.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	5.15 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01DD	4/19/2022	FD	BL02	UMCF	119.9 - 129.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	5.81 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01DD	3/15/2023	N	EM07	UMCF	119.9 - 129.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01DD	6/13/2023	N	EM10	UMCF	119.9 - 129.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	2.36 J	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01I	4/19/2022	N	BL02	UMCF	76.7 - 86.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01I	3/20/2023	N	EM07	UMCF	76.7 - 86.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01I	6/12/2023	N	EM10	UMCF	76.7 - 86.7	<0.230 UJ	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787 UJ	<0.114	<0.478	<11.3
U4-MW-01S	4/18/2022	N	BL02	UMCF	54.7 - 64.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01S	3/15/2023	N	EM07	UMCF	54.7 - 64.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-01S	6/13/2023	N	EM10	UMCF	54.7 - 64.7	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02D	4/14/2022	N	BL02	UMCF	95.0 - 110.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.322 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02D	10/11/2022	N	EM02	UMCF	95.0 - 110.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02D	11/1/2022	N	EM03	UMCF	95.0 - 110.0	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20	<5.50	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565
U4-MW-02D	12/7/2022	N	EM04	UMCF	95.0 - 110.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.360 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02D	1/10/2023	N	EM05	UMCF	95.0 - 110.0	<0.230 UJ	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	0.872 J	<11.30
U4-MW-02D	2/13/2023	N	EM06	UMCF	95.0 - 110.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02D	3/17/2023	N	EM07	UMCF	95.0 - 110.0	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.9	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-02D	4/19/2023	N	EM08	UMCF	95.0 - 110.0	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-02D	5/9/2023	N	EM09	UMCF	95.0 - 110.0	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	0.515 J	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-02D	6/13/2023	N	EM10	UMCF	95.0 - 110.0	<0.230	0.266 J	<0.481	<0.322	<0.276	<0.126	<0.107	0.199 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02I	4/14/2022	N	BL02	UMCF	75.0 - 90.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.102 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-02I	10/11/2022	N	EM02	UMCF	75.0 - 90.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	11.9 J
U4-MW-02I	11/2/2022	N	EM03	UMCF	75.0 - 90.0	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113
U4-MW-02I	11/2/2022	FD	EM03	UMCF	75.0 - 90.0	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.04	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113
U4-MW-02I	12/8/2022	N	EM04	UMCF	75.0 - 90.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0												

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																			
						1,2,3-Trichloro-benzene	1,2,3-Trichloro-propane	1,2,4-Trichloro-benzene	1,2,4-Trimethyl-benzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3,5-Trimethyl-benzene (Mesitylene)	1,3-Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone
						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-05D	2/14/2023	N	EM06	UMCF	98.2 - 108.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05D	3/16/2023	N	EM07	UMCF	98.2 - 108.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05D	4/20/2023	N	EM08	UMCF	98.2 - 108.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05D	5/10/2023	N	EM09	UMCF	98.2 - 108.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	35.3	<10.6	<78.7	<11.4	<47.8	80.9
U4-MW-05D	6/15/2023	N	EM10	UMCF	98.2 - 108.2	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	103
U4-MW-05I	4/15/2022	N	BL02	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1 UJ	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-05I	10/13/2022	N	EM02	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05I	11/3/2022	N	EM03	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-05I	12/8/2022	N	EM04	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	0.531 J	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-05I	1/11/2023	N	EM05	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-05I	2/14/2023	N	EM06	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05I	3/14/2023	N	EM07	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.30
U4-MW-05I	4/21/2023	N	EM08	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	14.3	<10.6	<78.7	<11.4	<47.8	23.4 J
U4-MW-05I	5/10/2023	N	EM09	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	89.2	<10.6	<78.7	<11.4	<47.8	44.0 J
U4-MW-05I	6/15/2023	N	EM10	UMCF	76.6 - 86.6	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	78.9	<10.6	<78.7	<11.4	<47.8	76.6
U4-MW-06D	4/19/2022	N	BL02	UMCF	97.1 - 107.1	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	0.785 J	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	4.05 J	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-06D	2/15/2023	N	EM06	UMCF	97.1 - 107.1	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20	<5.50	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565
U4-MW-06D	3/21/2023	N	EM07	UMCF	97.1 - 107.1	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-06D	6/16/2023	N	EM10	UMCF	97.1 - 107.1	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-06I	4/19/2022	N	BL02	UMCF	76.5 - 86.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-06I	3/14/2023	N	EM07	UMCF	76.5 - 86.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	0.117 J	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-06I	6/16/2023	N	EM10	UMCF	76.5 - 86.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	4/15/2022	N	BL02	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1 UJ	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	10/12/2022	N	EM02	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	1.20 J	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	10/12/2022	FD	EM02	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	11/3/2022	N	EM03	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	12/7/2022	N	EM04	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	1/11/2023	N	EM05	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	2/14/2023	N	EM06	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	3/16/2023	N	EM07	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07D	4/21/2023	N	EM08	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	18.5	<10.6	<78.7	<11.4	<47.8	23.4 J
U4-MW-07D	5/11/2023	N	EM09	UMCF	96.8 - 106.5	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	142	<10.6	<78.7	<11.4	<47.8	314
U4-MW-07D	6/13/2023	N	EM10	UMCF	96.8 - 106.5	<23.0 UJ	<23.7 UJ	<48.1 UJ	<32.2 UJ	<27.6 UJ	<12.6 UJ	<10.7 UJ	<8.19 UJ	<14.9 UJ	<10.4 UJ	<11.0 UJ	<11.0 UJ	<12.0 UJ	<16.1 UJ	85.0 J	<10.6 UJ	<78.7 UJ	<11.4 UJ	<47.8 UJ	176 J
U4-MW-07I	4/15/2022	N	BL02	UMCF	76.8 - 86.8	<23.0	<23.7	<48.1 UJ	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	10/12/2022	N	EM02	UMCF	76.8 - 86.8	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	11/3/2022	N	EM03	UMCF	76.8 - 86.8	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	12/7/2022	N	EM04	UMCF	76.8 - 86.8	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	1/11/2023	N	EM05	UMCF	76.8 - 86.8	<23.0	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	2/15/2023	N	EM06	UMCF	76.8 - 86.8	<23.0 UJ	<23.7	<48.1	<32.2	<27.6	<12.6	<10.7	<8.19	<14.9	<10.4	<11.0	<11.0	<12.0	<16.1	<11.9	<10.6	<78.7	<11.4	<47.8	<11.3
U4-MW-07I	3/16/2023	N	EM07	UMCF	76.8 - 86.8	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-07I	4/21/2023	N	EM08	UMCF	76.8 - 86.8	<23.0	<23.7</																		

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																			
						1,2,3-Trichloro-benzene	1,2,3-Trichloro-propane	1,2,4-Trichloro-benzene	1,2,4-Trimethyl-benzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3,5-Trimethyl-benzene (Mesitylene)	1,3-Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone
						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-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-10D	12/5/2022	N	EM04	UMCf	96.9 - 106.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-10D	3/17/2023	N	EM07	UMCf	96.9 - 106.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	45.7 J
U4-MW-10D	6/14/2023	N	EM10	UMCf	96.9 - 106.9	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.5	<0.106	<0.787	<0.114	<0.478	74.4 J+
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.115 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-10I	12/5/2022	N	EM04	UMCf	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-10I	3/17/2023	N	EM07	UMCf	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-10I	6/14/2023	N	EM10	UMCf	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	61.6	<0.106	<0.787	<0.114	<0.478	90.1 J+
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<0.230	0.334 J	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<4.09	<7.45	<5.20	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.10	<1.10	<1.20	<1.61	<11.9	<1.06	<7.87	<1.14	<4.78	<113	
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<11.5	<11.9	<24.1	<16.1	<13.8	<6.30	<5.35	<4.09	<7.45	<5.20	<5.50	<6.00	<8.05	<59.5	<5.30	<39.4	<5.70	<23.9	<565	
U4-MW-11D	12/6/2022	N	EM04	UMCf	97.4 - 107.4	<5.75 UJ	<5.93 UJ	<12.0 UJ	<8.05 UJ	<6.90 UJ	<3.15 UJ	<2.68 UJ	<2.05 UJ	<3.73 UJ	<2.60 UJ	<2.75 UJ	<2.75 UJ	<3.00 UJ	<4.03 UJ	88.4 J	<2.65 UJ	<19.7 UJ	<2.85 UJ	<12.0 UJ	<282 UJ
U4-MW-11D	1/12/2023	N	EM05	UMCf	97.4 - 107.4	<46.0	<47.4	<96.2	<64.4	<55.2	<25.2	<21.4	<16.4	<29.8	<22.0	<22.0	<24.0	<32.2	<238	<21.2	<157	<22.8	<95.6	<2,260	
U4-MW-11D	2/14/2023	N	EM06	UMCf	97.4 - 107.4	<46.0	<47.4	<96.2	<64.4	<55.2	<25.2	<21.4	<16.4	<29.8	<22.0	<22.0	<24.0	<32.2	<238	<21.2	<157	<22.8	<95.6	<2,260	
U4-MW-11D	3/16/2023	N	EM07	UMCf	97.4 - 107.4	<46.0	<47.4	<96.2	<64.4	<55.2	<25.2	<21.4	<16.4	<29.8	<22.0	<22.0	<24.0	<32.2	<238	<21.2	<157	<22.8	<95.6	<2,260	
U4-MW-11D	4/18/2023	N	EM08	UMCf	97.4 - 107.4	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5	
U4-MW-11D	5/17/2023	N	EM09	UMCf	97.4 - 107.4	<4.60 UJ	<4.74 UJ	<9.62 UJ	<6.44 UJ	<5.52 UJ	<2.52 UJ	<2.14 UJ	<1.64 UJ	<2.98 UJ	<2.08 UJ	<2.20 UJ	<2.20 UJ	<2.40 UJ	<3.22 UJ	<23.8 UJ	<2.12 UJ	<15.7 UJ	<2.28 UJ	<9.56 UJ	<226 UJ
U4-MW-11D	6/16/2023	N	EM10	UMCf	97.4 - 107.4	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.0940 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<0.106	<0.787	<0.114	<0.478	16.9 J	
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104 UJ	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.1	<0.106	<0.787	<0.114	<0.478	184
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.5	<0.106	<0.787	<0.114	<0.478	176
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<2.30	<2.37	<4.81	<3.22	<2.76	<1.26	<1.07	<0.819	<1.49	<1.10	<1.10	<1.20	<1.61	16.0 J	<1.06	<7.87	<1.14	<4.78	<113	
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	24.1	<0.106	<0.787	<0.114	<0.478	18.3 J
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<1.15	<1.19	<2.41 UJ	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.600	<0.805	62.2	<0.530	<3.94	<0.570	<2.39	<56.5	
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481 UJ	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	70.6	<0.106	<0.787	<0.114	<0.478	44.2 J
U4-MW-11I	12/6/2022	N	EM04	UMCf	77.0 - 87.0	<0.230 UJ	<0.237 UJ	<0.481 UJ	<0.322 UJ	<0.276 UJ	<0.126 UJ	<0.107 UJ	<0.0819 UJ	<0.149 UJ	<0.104 UJ	<0.110 UJ	<0.110 UJ	<0.120 UJ	<0.161 UJ	57.4 J+	<0.106 UJ	<0.787 UJ	<0.114 UJ	<0.478 UJ	57.7 J+
U4-MW-11I	12/6/2022	FD	EM04	UMCf	77.0 - 87.0	<0.230 UJ	<0.237 UJ	<0.481 UJ	<0.322 UJ	<0.276 UJ	<0.126 UJ	<0.107 UJ	<0.0819 UJ	<0.149 UJ	<0.104 UJ	<0.110 UJ	<0.110 UJ	<0.120 UJ	<0.161 UJ	57.2 J+	<0.106 UJ	<0.787 UJ	<0.114 UJ	<0.478 UJ	57.8 J+
U4-MW-11I	1/12/2023	N	EM05	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	44.0	<0.106	<0.787	<0.114	<0.478	54.7 J+
U4-MW-11I	1/12/2023	FD	EM05	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	43.9	<0.106	<0.787	<0.114	<0.478	52.3 J+
U4-MW-11I	2/14/2023	N	EM06	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.8 J+	<0.106	<0.787	<0.114	<0.478	22.1 J
U4-MW-11I	2/14/2023	FD	EM06	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	19.3 J+	<0.106	<0.787	<0.114	<0.478	20.6 J
U4-MW-11I	3/16/2023	N	EM07	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	44.6	<0.106	<0.787	<0.114	<0.478	44.6 J
U4-MW-11I	3/16/2023	FD	EM07	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	42.2	<0.106	<0.787	<0.114	<0.478	43.6 J
U4-MW-11I	4/18/2023	N	EM08	UMCf	77.0 - 87.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	34.4	<0.106	<0.787	<0.114	<0.478	45.3 J
U4-MW-11I	4/1																								

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																			
						1,2,3-Trichloro-benzene	1,2,3-Trichloro-propane	1,2,4-Trichloro-benzene	1,2,4-Trimethyl-benzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3,5-Trimethyl-benzene (Mesitylene)	1,3-Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone (MEK)	2-Chlorotoluene	2-Hexanone	4-Chlorotoluene	4-Methyl-2-Pentanone	Acetone
						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-13I	1/12/2023	N	EM05	UMCF	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.5 J+	<0.106	<0.787	<0.114	<0.478	16.9 J
U4-MW-13I	2/14/2023	N	EM06	UMCF	77.1 - 87.1	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520	<0.550	<0.550	<0.600	<0.805	17.5 J	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-13I	3/16/2023	N	EM07	UMCF	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	25.9	<0.106	<0.787	<0.114	<0.478	11.3 J
U4-MW-13I	4/19/2023	N	EM08	UMCF	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	25.2	<0.106	<0.787	<0.114	<0.478	16.5 J
U4-MW-13I	5/17/2023	N	EM09	UMCF	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	18.3 J
U4-MW-13I	6/15/2023	N	EM10	UMCF	77.1 - 87.1	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-14D	4/13/2022	N	BL02	UMCF	97.3 - 107.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	0.134 J	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-14D	12/6/2022	N	EM04	UMCF	97.3 - 107.3	<1.15 UJ	<1.19 UJ	<2.41 UJ	<1.61 UJ	<1.38 UJ	<0.630 UJ	<0.535 UJ	<0.409 UJ	<0.745 UJ	<0.520 UJ	<0.550 UJ	<0.550 UJ	<0.600 UJ	<0.805 UJ	<5.95 UJ	<0.530 UJ	<3.94 UJ	<0.570 UJ	<2.39 UJ	<56.5 UJ
U4-MW-14D	3/16/2023	N	EM07	UMCF	97.3 - 107.3	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520 UJ	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-14D	6/15/2023	N	EM10	UMCF	97.3 - 107.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-14I	4/14/2022	N	BL02	UMCF	77.3 - 87.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-14I	12/6/2022	N	EM04	UMCF	77.3 - 87.3	<1.15 UJ	<1.19 UJ	<2.41 UJ	<1.61 UJ	<1.38 UJ	<0.630 UJ	<0.535 UJ	<0.409 UJ	<0.745 UJ	<0.520 UJ	<0.550 UJ	<0.550 UJ	<0.600 UJ	<0.805 UJ	<5.95 UJ	<0.530 UJ	<3.94 UJ	<0.570 UJ	<2.39 UJ	<56.5 UJ
U4-MW-14I	3/16/2023	N	EM07	UMCF	77.3 - 87.3	<1.15	<1.19	<2.41	<1.61	<1.38	<0.630	<0.535	<0.409	<0.745	<0.520 UJ	<0.550	<0.550	<0.600	<0.805	<5.95	<0.530	<3.94	<0.570	<2.39	<56.5
U4-MW-14I	6/15/2023	N	EM10	UMCF	77.3 - 87.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15D	4/13/2022	N	BL02	UMCF	96.0 - 106.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15D	12/5/2022	N	EM04	UMCF	96.0 - 106.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15D	3/20/2023	N	EM07	UMCF	96.0 - 106.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15D	6/14/2023	N	EM10	UMCF	96.0 - 106.0	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15DD	4/13/2022	N	BL02	UMCF	120.3 - 130.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15DD	12/5/2022	N	EM04	UMCF	120.3 - 130.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	14.4 J
U4-MW-15DD	3/15/2023	N	EM07	UMCF	120.3 - 130.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15DD	6/13/2023	N	EM10	UMCF	120.3 - 130.3	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15I	4/12/2022	N	BL02	UMCF	76.8 - 86.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15I	12/5/2022	N	EM04	UMCF	76.8 - 86.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	20.3 J+	<0.106	<0.787	<0.114	<0.478	37.2 J
U4-MW-15I	3/17/2023	N	EM07	UMCF	76.8 - 86.8	<4.60	<4.74	<2.14	<6.44	<5.52	<2.52	<2.14	<1.64	<2.98	<2.20	<2.20	<2.40	<3.22	<2.20	<23.8	<2.12	<15.7	<2.28	<9.56	<226
U4-MW-15I	6/14/2023	N	EM10	UMCF	76.8 - 86.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	51.5	<0.106	<0.787	<0.114	<0.478	103 J+
U4-MW-15S	4/13/2022	N	BL02	UMCF	54.8 - 64.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-15S	12/5/2022	N	EM04	UMCF	54.8 - 64.8	<5.75	<5.93	<12.0	<8.05	<6.90	<3.15	<2.68	<2.05	<3.73	<2.60	<2.75	<2.75	<3.00	<4.03	<29.8	<2.65	<19.7	<2.85	<12.0	<282
U4-MW-15S	3/13/2023	N	EM07	UMCF	54.8 - 64.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	14.5	<0.106	<0.787	<0.114	<0.478	22.3 J
U4-MW-15S	6/13/2023	N	EM10	UMCF	54.8 - 64.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	19.5	<0.106	<0.787	<0.114	<0.478	32.1 J
U4-MW-16D	4/11/2022	N	BL02	UMCF	96.8 - 106.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16D	12/5/2022	N	EM04	UMCF	96.8 - 106.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16D	3/14/2023	N	EM07	UMCF	96.8 - 106.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	31.3	<0.106	<0.787	<0.114	<0.478	644
U4-MW-16D	6/13/2023	N	EM10	UMCF	96.8 - 106.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16DD	4/12/2022	N	BL02	UMCF	120.8 - 130.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16DD	12/5/2022	N	EM04	UMCF	120.8 - 130.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16DD	3/15/2023	N	EM07	UMCF	120.8 - 130.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	<1.19	<0.106	<0.787	<0.114	<0.478	<11.3
U4-MW-16DD	6/13/2023	N	EM10	UMCF	120.8 - 130.8	<0.230	<0.237	<0.481	<0.322	<0.276	<0.126	<0.107	<0.0819	<0.149	<0.104	<0.110	<0.110	<0.120	<0.161	1.54 J	<0.106	<0.787	<0.114	<0.478	<

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																			
						Benzene	Bromobenzene	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromochloro-methane	Dibromo-methane	Dichlorodi-fluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert-Butyl Ether (ETBE)	Ethylbenzene	Hexachloro-butadiene
						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-E-08D	1/9/2023	N	EM05	UMCf	94.6 - 109.6	<0.0941	<0.118	<0.128	1.99	0.639 J	<0.605	1.73	<0.116	<0.192	4.300	<0.960	<0.126	<0.111	0.743 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-E-08D	2/13/2023	N	EM06	UMCf	94.6 - 109.6	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	3.920	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-E-08D	3/13/2023	N	EM07	UMCf	94.6 - 109.6	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	3.480	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7	
U4-E-08D	4/19/2023	N	EM08	UMCf	94.6 - 109.6	<0.471	<0.590	<0.640	1.92 J	<0.645	<3.03	1.54 J	<0.580	<0.960	3.410 J+	<4.80	<0.630	<0.555	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-E-08D	5/17/2023	N	EM09	UMCf	94.6 - 109.6	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	2.880	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-E-08D	6/12/2023	N	EM10	UMCf	94.6 - 109.6	<0.0941	<0.118	<0.128	1.54	0.321 J	<0.605	1.44	<0.116	<0.192	2.820	<0.960	<0.126	<0.111	0.399 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	<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	0.209 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-E-09D	4/14/2022	N	BL02	UMCf	74.9 - 89.9	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	0.576 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	<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	0.612 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	<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	0.441 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	<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	0.274 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01D	2/16/2023	N	EM06	UMCf	96.7 - 106.7	<0.941	<1.18	<1.28	<1.36	<1.29	<6.05	<1.28	<1.16	<1.92	857	<9.60	<1.26	<1.11	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37
U4-MW-01D	3/20/2023	N	EM07	UMCf	96.7 - 106.7	<0.0941	<0.118	<0.128	2.14	0.356 J	<0.605	0.863 J	<0.116	<0.192	1.100	<0.960	<0.126	<0.111	1.08	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01D	6/13/2023	N	EM10	UMCf	96.7 - 106.7	<0.0941	<0.118	<0.128	1.89	0.216 J	<0.605	0.652 J	<0.116	<0.192	871	<0.960	<0.126	<0.111	0.948 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	<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	0.190 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01DD	3/15/2023	N	EM07	UMCf	119.9 - 129.9	<0.0941	<0.118	<0.128	0.644 J	<0.129	<0.605	0.471 J	<0.116	<0.192	363 J+	<0.960	<0.126	<0.111	0.307 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01DD	6/13/2023	N	EM10	UMCf	119.9 - 129.9	<0.0941	<0.118	<0.128	1.48	0.166 J	<0.605	0.178 J	<0.116	<0.192	374	<0.960	<0.126	<0.111	0.722 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	<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	0.259 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01I	3/20/2023	N	EM07	UMCf	76.7 - 86.7	<0.0941	<0.118	<0.128	1.99	0.431 J	<0.605	0.789 J	<0.116	<0.192	1,060	<0.960	<0.126	<0.111	1.10	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01I	6/12/2023	N	EM10	UMCf	76.7 - 86.7	<0.0941	<0.118	<0.128	2.08	0.203 J	<0.605	0.793 J	<0.116	<0.192	908	<0.960	<0.126	<0.111	0.777 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01S	3/15/2023	N	EM07	UMCf	54.7 - 64.7	<0.0941	<0.118	<0.128	0.346 J	<0.129	<0.605	0.227 J	<0.116	<0.192	32.5 J+	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-01S	6/13/2023	N	EM10	UMCf	54.7 - 64.7	<0.0941	<0.118	<0.128	0.294 J	<0.129	<0.605	<0.128	<0.116	<0.192	31.2	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	<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	3.00	0.473 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	<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	4.51	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	<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	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9
U4-MW-02D	12/7/2022	N	EM04	UMCf	95.0 - 110.0	<0.0941	<0.118	<0.128	12.1	5.74	<0.605	<0.128	<0.116	<0.192	11,200	<0.960	<0.126	<0.111	4.53	0.149 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02D	1/10/2023	N	EM05	UMCf	95.0 - 110.0	<0.0941	<0.118	<0.128	9.38	4.64	<0.605	<0.128	<0.116	<0.192	7,970	<0.960	<0.126	<0.111	3.70	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02D	2/13/2023	N	EM06	UMCf	95.0 - 110.0	<9.41	<0.118	<0.128	10.7	3.75	<0.605	4.15	<0.116	<0.192	7,230	<0.960	<0.126	<0.111	3.77	0.157 J	<0.374	<0.105	<0.101	<0.137	<0.337 UJ
U4-MW-02D	3/17/2023	N	EM07	UMCf	95.0 - 110.0	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	9,500	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-02D	4/19/2023	N	EM08	UMCf	95.0 - 110.0	<0.471	<0.590	<0.640	9.38	3.77 J	<3.03	2.96 J	<0.580	<0.960	10,100 J+	<4.80	<0.630	<0.555	3.33 J	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-02D	5/9/2023	N	EM09	UMCf	95.0 - 110.0	<0.471	<0.590	<0.640	9.24	3.51 J	<3.03	8.04	<0.580	<0.960	10,300	<4.80	<0.630	<0.555	3.44 J	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-02D	6/13/2023	N	EM10	UMCf	95.0 - 110.0	<0.0941	<0.118	<0.128	7.28	3.82	<0.605	2.24	<0.116	<0.192	<0.111	<0.960	<0.126	<0.111	2.86	0.148 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	<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	1.22	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	<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	1.94	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	<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	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	<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	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37
U4-MW-02I	12/8/2022	N	EM04	UMCf	75.0 - 90.0	<0.0941	<0.118	<0.128	0.766 J	0.454 J	<0.605	0.173 J	<0.116	<0.192	474	<0.960	<0.126	<0.111	0.184 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-02I	12/8/2022	FD	EM04	UMCf	75.0 - 90.0	<0.0941	<0.11																		

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																			
						Benzene	Bromobenzene	Bromochloro- methane	Bromodichloro- methane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2- Dichloro- ethene	cis-1,3- Dichloro- propene	Dibromochloro- methane	Dibromo- methane	Dichlorodi- fluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert- Butyl Ether (ETBE)	Ethylbenzene	Hexachloro- butadiene
						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-05D	2/14/2023	N	EM06	UMCf	98.2 - 108.2	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	2,590	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-05D	3/16/2023	N	EM07	UMCf	98.2 - 108.2	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	2,710 J+	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-05D	4/20/2023	N	EM08	UMCf	98.2 - 108.2	<0.0941	<0.118	<0.128	5.26	1.92	<0.605	0.960 J	<0.116	<0.192	1,950	<0.960	<0.126	<0.111	2.41	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05D	5/10/2023	N	EM09	UMCf	98.2 - 108.2	<0.0941	<0.118	<0.128	4.76	1.58	<0.605	<0.128	<0.116	<0.192	1,630	<0.960	<0.126	<0.111	1.81	0.311 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05D	6/15/2023	N	EM10	UMCf	98.2 - 108.2	<0.0941	<0.118	<0.128	2.36	0.972 J	<0.605	<0.128	<0.116	<0.192	1,510 J+	<0.960	<0.126	<0.111	1.13	<0.122 UJ	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	4/15/2022	N	BL02	UMCf	76.6 - 86.6	<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	4.75	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	10/13/2022	N	EM02	UMCf	76.6 - 86.6	<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	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-05I	11/3/2022	N	EM03	UMCf	76.6 - 86.6	<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	74.0	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	12/8/2022	N	EM04	UMCf	76.6 - 86.6	<0.0941	<0.118	<0.128	14.5	8.16	<0.605	3.07	<0.116	<0.192	3,970	<0.960	<0.126	<0.111	6.57	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	1/11/2023	N	EM05	UMCf	76.6 - 86.6	<0.0941	<0.118	<0.128	12.4	6.41	<0.605	2.70	<0.116	<0.192	4,040	<96.0	<0.126	<0.111	6.99	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	2/14/2023	N	EM06	UMCf	76.6 - 86.6	<9.41	<11.8	<12.8	<13.6	<12.9	<60.5	<12.8	<11.6	<19.2	3,270	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-05I	3/14/2023	N	EM07	UMCf	76.6 - 86.6	<9.41	<11.8	<12.8	20.3 J	<12.9	<60.5	<12.8	<11.6	<19.2	6,720	<96.0	<12.6	<11.1	<14.0	<12.2	<37.4	<10.5	<10.1	<13.7	<33.7
U4-MW-05I	4/21/2023	N	EM08	UMCf	76.6 - 86.6	<0.0941	<0.118	<0.128	2.29	0.809 J	<0.605	0.368 J	<0.116	<0.192	646 J+	<0.960	<0.126	<0.111	0.942 J	0.197 J	<0.374	<0.105	<0.101	<0.137 UJ	<0.337
U4-MW-05I	5/10/2023	N	EM09	UMCf	76.6 - 86.6	<0.0941	<0.118	<0.128	0.375 J	<0.129	<0.605	<0.128	<0.116	<0.192	531	<0.960	<0.126	<0.111	<0.140	0.447 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-05I	6/15/2023	N	EM10	UMCf	76.6 - 86.6	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	415 J+	<0.960	<0.126	<0.111	<0.140	<0.122 UJ	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06D	4/19/2022	N	BL02	UMCf	97.1 - 107.1	<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	3.82	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06D	2/15/2023	N	EM06	UMCf	97.1 - 107.1	<4.71	<5.90	<6.40	<6.80	<6.45	<30.3	<6.40	<5.80	<9.60	2,110	<48.0	<6.30	<5.55	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9
U4-MW-06D	3/21/2023	N	EM07	UMCf	97.1 - 107.1	<0.0941	<0.118	<0.128	6.74	1.89	<0.605	<0.128	<0.116	<0.192	2,440 J+	<0.960	<0.126	<0.111	2.77	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06D	6/16/2023	N	EM10	UMCf	97.1 - 107.1	<0.0941	<0.118	<0.128	4.96	1.48	<0.605	1.13	<0.116	<0.192	1,920	<0.960	<0.126	<0.111	2.12	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06I	4/19/2022	N	BL02	UMCf	76.5 - 86.5	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	0.273 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06I	3/14/2023	N	EM07	UMCf	76.5 - 86.5	<0.0941	<0.118	<0.128	7.41	4.03	<0.605	1.67	<0.116	<0.192	3,220	<0.960	<0.126	<0.111	3.44	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-06I	6/16/2023	N	EM10	UMCf	76.5 - 86.5	<0.0941	<0.118	<0.128	6.36	2.39	<0.605	1.75	<0.116	<0.192	2,420	<0.960	<0.126	<0.111	2.69	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	4/15/2022	N	BL02	UMCf	96.8 - 106.5	<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	0.410 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	10/12/2022	N	EM02	UMCf	96.8 - 106.5	<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	2.38	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	10/12/2022	FD	EM02	UMCf	96.8 - 106.5	<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	1.83	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	11/3/2022	N	EM03	UMCf	96.8 - 106.5	<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	2.53 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	12/7/2022	N	EM04	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	3.77	0.338 J	<0.605	<0.128	<0.116	<0.192	101	<0.960	<0.126	<0.111	2.25	0.240 J	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	1/11/2023	N	EM05	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	2.84	<0.129	<0.605	<0.128	<0.116	<0.192	119	<0.960	<0.126	<0.111	1.21	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	2/14/2023	N	EM06	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	1.38	<0.129	<0.605	<0.128	<0.116	<0.192	92.3	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	3/16/2023	N	EM07	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	1.21	<0.129	<0.605	<0.128	<0.116	<0.192	75.1	<0.960	<0.126	<0.111	0.211 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07D	4/21/2023	N	EM08	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	0.461 J	<0.129	<0.605	<0.128	<0.116	<0.192	267 J+	<0.960	<0.126	<0.111	0.146 J	0.125 J	<0.374	<0.105	<0.101	<0.137 UJ	<0.337
U4-MW-07D	5/11/2023	N	EM09	UMCf	96.8 - 106.5	<0.0941	<0.118	<0.128	0.361 J	<0.136	<0.605	<0.128	<0.116	<0.192	98.3	<0.960	<0.126	<0.111	<0.140 UJ	<0.122 UJ	<0.374	<0.105	1.69	<0.137	<0.337
U4-MW-07D	6/13/2023	N	EM10	UMCf	96.8 - 106.5	<0.0941 UJ	<0.118 UJ	<0.128 UJ	0.363 J	0.563 J	<0.605 UJ	<0.128 UJ	<0.116 UJ	<0.192 UJ	205 J	<0.960 UJ	<0.126 UJ	<0.111 UJ	<0.295 J	<0.122 UJ	<0.374 UJ	<0.105 UJ	<0.101 UJ	<0.137 UJ	<0.337 UJ
U4-MW-07I	4/15/2022	N	BL02	UMCf	76.8 - 86.8	<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	0.189 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<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	3.22	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07I	11/3/2022	N	EM03	UMCf	76.8 - 86.8	<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	2.52 J+	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07I	12/7/2022	N	EM04	UMCf	76.8 - 86.8	<0.0941	<0.118	<0.128	4.08	0.353 J	<0.605	<0.128	<0.116	<0.192	129	<0.960	<0.126	<0.111	2.47	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07I	1/11/2023	N	EM05	UMCf	76.8 - 86.8	<0.0941	<0.118	<0.128	2.79	0.162 J	<0.605	<0.128	<0.116	<0.192	154	<4.80	<0.126	<0.111	1.11	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-07I	2/15/2023	N	EM06	UMCf	76.8 - 86.8	<0.0941	<0.118	<0.128	1.57	0.149 J	<0.605	<0.128	<0.116	<0.192	180	<0.960	<0.126	<0.111	0.700 J	<0.122	<0.374	<0.105	<0.101	<0.	

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																			
						Benzene	Bromobenzene	Bromochloro- methane	Bromodichloro- methane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2- Dichloro- ethene	cis-1,3- Dichloro- propene	Dibromochloro- methane	Dibromo- methane	Dichlorodi- fluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert- Butyl Ether (ETBE)	Ethylbenzene	Hexachloro- butadiene
						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-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<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	0.400 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10D	12/5/2022	N	EM04	UMCf	96.9 - 106.9	<0.0941	<0.118	<0.128	0.138 J	<0.129	<0.605	<0.128	<0.116	<0.192	153	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10D	3/17/2023	N	EM07	UMCf	96.9 - 106.9	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	46.5	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	1.61	<0.137	<0.337
U4-MW-10D	6/14/2023	N	EM10	UMCf	96.9 - 106.9	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.843 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<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	0.460 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10I	12/5/2022	N	EM04	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	0.387 J	<0.129	<0.605	<0.128	<0.116	<0.192	33.1	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10I	3/17/2023	N	EM07	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	180	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-10I	6/14/2023	N	EM10	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	18.0	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<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	0.584 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<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	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<0.941	<1.18	<1.28	1.68 J	<1.29	<6.05	6.48 J	<1.16	<1.92	6,480	<9.60	<3.74	<1.26	<1.11	<1.40	<1.22	<1.05	<1.01	<1.37	<3.37
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<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	<7.00	<6.10	<18.7	<5.25	<5.05	<6.85	<16.9
U4-MW-11D	12/6/2022	N	EM04	UMCf	97.4 - 107.4	<2.35 UJ	<2.95 UJ	<3.20 UJ	<3.40 UJ	<3.22 UJ	<15.1 UJ	7.62 J	<2.90 UJ	<4.80 UJ	5,290	<24.0 UJ	<3.15 UJ	<2.78 UJ	<3.50 UJ	<3.05 UJ	<9.35 UJ	<2.63 UJ	<2.53 UJ	<3.43 UJ	<8.43 UJ
U4-MW-11D	1/12/2023	N	EM05	UMCf	97.4 - 107.4	<18.8	<23.6	<25.6	<27.2	<25.8	<121	<25.6	<23.2	<38.4	6,580	<24.2	<22.2	<28.0	<24.4	<74.8	<21.0	<20.2	<27.4	<67.4	<67.4
U4-MW-11D	2/14/2023	N	EM06	UMCf	97.4 - 107.4	<18.8	<23.6	<25.6	<27.2	<25.8	<121	<25.6	<23.2	<38.4	7,100	<192	<25.2	<22.2	<28.0	<24.4	<74.8	<21.0	<20.2	<27.4	<67.4
U4-MW-11D	3/16/2023	N	EM07	UMCf	97.4 - 107.4	<18.8	<23.6	<25.6	<27.2	<25.8	<121	<25.6	<23.2	<38.4	5,710 J+	<192	<25.2	<22.2	<28.0	<24.4	<74.8	<21.0	<20.2	<27.4	<67.4
U4-MW-11D	4/18/2023	N	EM08	UMCf	97.4 - 107.4	<0.471	<0.590	<0.640	1.39 J	<0.645	<3.03	1.30 J	<0.580	<0.960	3,870	<4.80	<0.630	<0.555	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-11D	5/17/2023	N	EM09	UMCf	97.4 - 107.4	<1.88 UJ	<2.36 UJ	<2.56 UJ	<2.72 UJ	<2.58 UJ	<12.1 UJ	<2.56 UJ	<2.32 UJ	<3.84 UJ	4,000 J-	<19.2 UJ	<2.52 UJ	<2.22 UJ	<2.80 UJ	<2.44 UJ	<7.48 UJ	<2.10 UJ	<2.02 UJ	<2.74 UJ	<6.74 UJ
U4-MW-11D	6/16/2023	N	EM10	UMCf	97.4 - 107.4	<0.0941	<0.118	<0.128	2.37	0.836 J	<0.605	5.26	<0.116	<0.192	6,060	<0.960	<0.126	<0.111	0.685 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<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	0.462 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<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	<0.140	<0.122	<0.374	<0.105	4.90	<0.137	<0.337
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<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	<0.140	<0.122	<0.374	<0.105	5.43	<0.137	<0.337
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<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	<1.40	<1.22	<3.74	<1.05	<1.01	<1.37	<3.37
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<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	<0.140	<0.122	<0.374	<0.105	3.02	<0.137	<0.337
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<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	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	12/6/2022	N	EM04	UMCf	77.0 - 87.0	<0.0941 UJ	<0.118 UJ	<0.128 UJ	<0.136 UJ	<0.129 UJ	<0.605 UJ	<0.128 UJ	<0.116 UJ	<0.192 UJ	145	<0.960 UJ	<0.126 UJ	<0.111 UJ	<0.140 UJ	<0.122 UJ	<0.374 UJ	<0.105 UJ	<0.101 UJ	<0.137 UJ	<0.337 UJ
U4-MW-11I	12/6/2022	FD	EM04	UMCf	77.0 - 87.0	<0.0941 UJ	<0.118 UJ	<0.128 UJ	<0.136 UJ	<0.129 UJ	<0.605 UJ	<0.128 UJ	<0.116 UJ	<0.192 UJ	150	<0.960 UJ	<0.126 UJ	<0.111 UJ	<0.140 UJ	<0.122 UJ	<0.374 UJ	<0.105 UJ	<0.101 UJ	<0.137 UJ	<0.337 UJ
U4-MW-11I	1/12/2023	N	EM05	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	27.9	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	1/12/2023	FD	EM05	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	27.3	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	2/14/2023	N	EM06	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	0.752 J	0.309 J	<0.605	0.919 J	<0.116	<0.192	1,630	<0.960	<0.126	<0.111	0.217 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	2/14/2023	FD	EM06	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	0.915 J	0.348 J	<0.605	0.717 J	<0.116	<0.192	1,850	<0.960	<0.126	<0.111	0.214 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	3/16/2023	N	EM07	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.831 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	3/16/2023	FD	EM07	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.889 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	4/18/2023	N	EM08	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	11.5	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	4/18/2023	FD	EM08	UMCf	77.0 - 87.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	11.7	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-11I	5/19/2023	N	EM09	UMCf	77.0 - 87.0	<0.0941 UJ	<0.118 UJ	<0.128 UJ	<0.136 UJ	<0.129 UJ	<0.605 UJ	<0.128 UJ	<0.116 UJ	<0.192 UJ	16.3 J-	<0.960 UJ	<0.126 UJ	<0.111 UJ	<0.140 UJ	<0.122 UJ	<0.374 UJ	<0.105 UJ	<0.101 UJ	<0.137 UJ	<0.337 UJ
U4-MW-11I	5/19/2023	FD	EM09	UMCf	77.0 - 87.0	<0.0941 UJ	<0.118 UJ	<0.128 UJ	<0.136 UJ	<0.129 UJ	<0.605 UJ	<0.128 UJ	<0.116 UJ	<0.192 UJ	16.4 J-	<0.960 UJ	<0.126 UJ	<0.111 UJ	<0.140 UJ	<0.122 UJ	<0.374 UJ	<0.105 UJ	<0.101 UJ	<0.137 UJ	<0.337 UJ

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																			
						Benzene	Bromobenzene	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromochloro-methane	Dibromo-methane	Dichlorodi-fluoromethane	Diisopropyl Ether (DIPE)	Ethyl Tert-Butyl Ether (ETBE)	Ethylbenzene	Hexachloro-butadiene
						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-131	1/12/2023	N	EM05	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	236	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-131	2/14/2023	N	EM06	UMCf	77.1 - 87.1	0.558 J	<0.590	<0.640	<0.680	<0.645	<3.03	<0.640	<0.580	<0.960	373	<4.80	<0.630	<0.555	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-131	3/16/2023	N	EM07	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	133	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-131	4/19/2023	N	EM08	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	34.8 J+	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-131	5/17/2023	N	EM09	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	38.0	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-131	6/15/2023	N	EM10	UMCf	77.1 - 87.1	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	46.7	<0.960	<0.126	<0.111	<0.140	<0.122 UJ	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	<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	0.561 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-14D	12/6/2022	N	EM04	UMCf	97.3 - 107.3	<0.471 UJ	<0.590 UJ	<0.640 UJ	1.17 J	<0.645 UJ	<3.03 UJ	1.27 J	<0.580 UJ	<0.960 UJ	287	<4.80 UJ	<0.630 UJ	<0.555 UJ	0.751 J	<0.610 UJ	<1.87 UJ	<0.525 UJ	<0.505 UJ	<0.685 UJ	<1.69 UJ
U4-MW-14D	3/16/2023	N	EM07	UMCf	97.3 - 107.3	<0.471	<0.590	<0.640	<0.680	<0.645	<3.03	<0.640	<0.580	<0.960	217 J+	<4.80	<0.630	<0.555	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-14D	6/15/2023	N	EM10	UMCf	97.3 - 107.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	147	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	<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	0.471 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-14I	12/6/2022	N	EM04	UMCf	77.3 - 87.3	<0.471 UJ	<0.590 UJ	<0.640 UJ	<0.680 UJ	<0.645 UJ	<3.03 UJ	1.27 J	<0.580 UJ	<0.960 UJ	212	<4.80 UJ	<0.630 UJ	<0.555 UJ	<0.700 UJ	<0.610 UJ	<1.87 UJ	<0.525 UJ	<0.505 UJ	<0.685 UJ	<1.69 UJ
U4-MW-14I	3/16/2023	N	EM07	UMCf	77.3 - 87.3	<0.471	<0.590	<0.640	<0.680	<0.645	<3.03	<0.640	<0.580	<0.960	229 J+	<4.80	<0.630	<0.555	<0.700	<0.610	<1.87	<0.525	<0.505	<0.685	<1.69
U4-MW-14I	6/15/2023	N	EM10	UMCf	77.3 - 87.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	133	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15D	12/5/2022	N	EM04	UMCf	96.0 - 106.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	165	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15D	3/20/2023	N	EM07	UMCf	96.0 - 106.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	114	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15D	6/14/2023	N	EM10	UMCf	96.0 - 106.0	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	298	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15DD	12/5/2022	N	EM04	UMCf	120.3 - 130.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.237 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15DD	3/15/2023	N	EM07	UMCf	120.3 - 130.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.232 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15DD	6/13/2023	N	EM10	UMCf	120.3 - 130.3	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.336 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	<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	0.447 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15I	12/5/2022	N	EM04	UMCf	76.8 - 86.8	<0.0941	<0.118	<0.128	0.582 J	<0.129	<0.605	0.371 J	<0.116	<0.192	758	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15I	3/17/2023	N	EM07	UMCf	76.8 - 86.8	<1.88	<2.36	<2.56	<2.72	<2.58	<12.1	<2.56	<2.32	<3.84	47.6 J	<19.2	<2.52	<2.22	<2.80	<2.44	<7.48	<2.10	<2.02	<2.74	<6.74
U4-MW-15I	6/14/2023	N	EM10	UMCf	76.8 - 86.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	4.51 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-15S	12/5/2022	N	EM04	UMCf	54.8 - 64.8	<2.35	<2.95	<3.20	<3.40	<3.22	<15.1	<3.20	<2.90	<4.80	8.04 J	<24.0	<3.15	<2.78	<3.50	<3.05	<9.35	<2.63	<2.53	<3.43	<8.43
U4-MW-15S	3/13/2023	N	EM07	UMCf	54.8 - 64.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.111	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	0.321 J	<0.337
U4-MW-15S	6/13/2023	N	EM10	UMCf	54.8 - 64.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	0.191 J	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	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	0.533 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16D	12/5/2022	N	EM04	UMCf	96.8 - 106.8	<0.0941	<0.118	<0.128	0.840 J	0.281 J	<0.605	0.646 J	<0.116	<0.192	2.020	<0.960	<0.126	<0.111	0.216 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16D	3/14/2023	N	EM07	UMCf	96.8 - 106.8	<0.0941	<0.118	<0.128	0.443 J	<0.129	<0.605	<0.128	<0.116	<0.192	1.290	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16D	6/13/2023	N	EM10	UMCf	96.8 - 106.8	<0.0941	<0.118	<0.128	1.36	0.366 J	<0.605	<0.128	<0.116	<0.192	3.560	<0.960	<0.126	<0.111	0.315 J	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	<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	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16DD	12/5/2022	N	EM04	UMCf	120.8 - 130.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	43.7	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16DD	3/15/2023	N	EM07	UMCf	120.8 - 130.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	34.8 J+	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16DD	6/13/2023	N	EM10	UMCf	120.8 - 130.8	<0.0941	<0.118	<0.128	<0.136	<0.129	<0.605	<0.128	<0.116	<0.192	26.8	<0.960	<0.126	<0.111	<0.140	<0.122	<0.374	<0.105	<0.101	<0.137	<0.337
U4-MW-16I	4/11/2022	N	BL02	UMCf																					

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																			
						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	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane
						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	<0.105	<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	<0.149	<0.118	0.907 J	<0.160
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	<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	<0.149	<0.118	0.557 J	<0.160
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	<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	<1.49	<1.18	<1.90	<1.60
M-251-100	12/8/2022	N	EM04	UMCf	92.5 - 102.5	<0.105	<0.430	0.576 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	<0.149	<0.118	0.528 J	<0.160
M-251-100	1/11/2023	N	EM05	UMCf	92.5 - 102.5	<0.105	<0.430	0.536 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	<0.149	<0.118	0.462 J	<0.160
M-251-100	2/13/2023	N	EM06	UMCf	92.5 - 102.5	<0.105	<0.430	0.475 J	<1.00	<0.157 UJ	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.241 J	<0.160
M-251-100	3/17/2023	N	EM07	UMCf	92.5 - 102.5	<5.25	<21.5	<21.5	<50.0 UJ	<7.85	<4.97	<8.70	<6.00	<6.25	<5.90	<9.75	<203	<5.05	<6.35	<15.0	<13.9	<7.45	<5.90	<9.50	<8.00
M-251-100	4/21/2023	N	EM08	UMCf	92.5 - 102.5	<0.105	<0.430	0.506 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.351 J	<0.160
M-251-100	5/9/2023	N	EM09	UMCf	92.5 - 102.5	<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	<0.149	<0.118	0.356 J	<0.160
M-251-100	6/14/2023	N	EM10	UMCf	92.5 - 102.5	<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	<7.45	<5.90	<9.50	<8.00
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	<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	<0.149	<0.118	<0.190	<0.160
M-251-60	3/15/2023	N	EM07	UMCf	52.3 - 62.3	<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	<0.149	<0.118	<0.190	<0.160
M-251-60	6/14/2023	N	EM10	UMCf	52.3 - 62.3	<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	<0.149	<0.118	<0.190	<0.160
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	<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	<0.149	<0.118	<0.190	<0.160
M-252	3/15/2023	N	EM07	UMCf	132.3 - 142.3	<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	<0.149	<0.118	<0.190	<0.160
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	<0.525	<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	<0.745	<0.590	<0.950	<0.800
U4-E-01D	3/14/2023	N	EM07	UMCf	94.7 - 109.7	<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	<0.149	<0.118	<0.190	<0.160
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	<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	<0.149	<0.118	<0.190	<0.160
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	<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	<0.149	<0.118	<0.190	<0.160
U4-E-01I	3/14/2023	N	EM07	UMCf	74.6 - 89.6	<0.105	<0.430	0.461 J	<20.0	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-01I	4/20/2023	N	EM08	UMCf	74.6 - 89.6	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-01I	5/10/2023	N	EM09	UMCf	74.6 - 89.6	<0.105	<0.430	0.999 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-01I	6/12/2023	N	EM10	UMCf	74.6 - 89.6	<0.105	<0.430	2.63 J	<25.0	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.307 J	<0.160
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	<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	<0.149	<0.118	<0.190	<0.160
U4-E-02D	3/14/2023	N	EM07	UMCf	94.4 - 109.4	<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	<0.149	<0.118	<0.190	<0.160
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	<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	<0.149	<0.118	0.260 J	<0.160
U4-E-02I	3/14/2023	N	EM07	UMCf	74.4 - 89.4	<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	<0.149	<0.118	<0.190	<0.160
U4-E-02I	4/20/2023	N	EM08	UMCf	74.4 - 89.4	<0.105	<0.430	<0.430	<1.00 UJ	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-02I	5/11/2023	N	EM09	UMCf	74.4 - 89.4	<0.105	<0.430	0.970 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-02I	6/12/2023	N	EM10	UMCf	74.4 - 89.4	<0.105	<0.430	6.89	<10.0	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	<0.105	<0.430	0.797 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	0.333 J	<0.149	<0.118	0.609 J	<0.160
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	<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	<29.8	<23.6	<38.0	<32.0
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	<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	<0.149	<0.118	0.753 J	<0.160
U4-E-03D	12/6/2022	N	EM04	UMCf	95.1 - 110.1	<2.10 UJ	<8.60 UJ	<8.60 UJ	<20.0 UJ	<3.14 UJ	<1.99 UJ	<3.48 UJ	<2.40 UJ	<2.50 UJ	<2.36 UJ	<3.90 UJ	<81.2 UJ	<2.02 UJ	<2.54 UJ	<6.00 UJ	<5.56 UJ	<2.98 UJ	<2.36 UJ	<3.80 UJ	<3.20 UJ
U4-E-03D	1/9/2023	N	EM05	UMCf	95.1 - 110.1	<0.105	<0.430	0.516 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.342 J	<0.278	<0.149	<0.118	0.602 J	<0.160
U4-E-03D	2/13/2023	N	EM06	UMCf	95.1 - 110.1	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-E-03D	3/13/2023	N	EM07	UMCf	95.1 - 110																				

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																			
						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	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane
						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-E-08D	1/9/2023	N	EM05	UMCF	94.6 - 109.6	<0.105	<0.430	1.08 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	<0.149	<0.118	0.706 J	<0.160
U4-E-08D	2/13/2023	N	EM06	UMCF	94.6 - 109.6	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-E-08D	3/13/2023	N	EM07	UMCF	94.6 - 109.6	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-E-08D	4/19/2023	N	EM08	UMCF	94.6 - 109.6	<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	<0.745	<0.590	<0.950	<0.800
U4-E-08D	5/17/2023	N	EM09	UMCF	94.6 - 109.6	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-E-08D	6/12/2023	N	EM10	UMCF	94.6 - 109.6	<0.105	<0.430	1.40 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	58.3 J+	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.522 J	<0.160
U4-E-09D	4/15/2022	N	BL02	UMCF	94.5 - 109.5	<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	<0.149	<0.118	0.211 J	<0.160
U4-E-09I	4/14/2022	N	BL02	UMCF	74.9 - 89.9	<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	<0.149	<0.118	0.223 J	<0.160
U4-E-10D	4/13/2022	N	BL02	UMCF	94.5 - 109.5	<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	<0.149	<0.118	0.235 J	<0.160
U4-E-10I	4/13/2022	N	BL02	UMCF	74.2 - 89.2	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01D	4/19/2022	N	BL02	UMCF	96.7 - 106.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01D	2/16/2023	N	EM06	UMCF	96.7 - 106.7	<1.05	<4.30	<4.30	<10.0	<1.57	<0.993 UJ	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.01	<1.27	<3.00	<2.78	<1.49	<1.18	<1.90	<1.60
U4-MW-01D	3/20/2023	N	EM07	UMCF	96.7 - 106.7	<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	<0.149	<0.118	0.204 J	<0.160
U4-MW-01D	6/13/2023	N	EM10	UMCF	96.7 - 106.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01DD	4/19/2022	N	BL02	UMCF	119.9 - 129.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01DD	4/19/2022	FD	BL02	UMCF	119.9 - 129.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01DD	3/15/2023	N	EM07	UMCF	119.9 - 129.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01DD	6/13/2023	N	EM10	UMCF	119.9 - 129.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01I	4/19/2022	N	BL02	UMCF	76.7 - 86.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01I	3/20/2023	N	EM07	UMCF	76.7 - 86.7	<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	<0.149	<0.118	0.192 J	<0.160
U4-MW-01I	6/12/2023	N	EM10	UMCF	76.7 - 86.7	<0.105	<0.430	<0.430	<25.0	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	38.4 J+	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-01S	4/18/2022	N	BL02	UMCF	54.7 - 64.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01S	3/15/2023	N	EM07	UMCF	54.7 - 64.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-01S	6/13/2023	N	EM10	UMCF	54.7 - 64.7	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-02D	4/14/2022	N	BL02	UMCF	95.0 - 110.0	<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	<0.149	<0.118	0.883 J	<0.160
U4-MW-02D	10/11/2022	N	EM02	UMCF	95.0 - 110.0	<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	<0.149	<0.118	1.23	<0.160
U4-MW-02D	11/1/2022	N	EM03	UMCF	95.0 - 110.0	<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	<7.45	<5.90	<95.0	<8.00
U4-MW-02D	12/7/2022	N	EM04	UMCF	95.0 - 110.0	<0.105	<0.430	1.73 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	14.9	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	1.28	<0.160
U4-MW-02D	1/10/2023	N	EM05	UMCF	95.0 - 110.0	<0.105	<0.430	1.33 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.93	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	1.07	<0.160
U4-MW-02D	2/13/2023	N	EM06	UMCF	95.0 - 110.0	<0.105	<0.430	1.36 J	<1.00	<0.157 UJ	<9.93	<17.4	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.320 J	<0.278	<0.149	<0.118	1.30	<0.160
U4-MW-02D	3/17/2023	N	EM07	UMCF	95.0 - 110.0	<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	<14.9	<11.8	<19.0	<16.0
U4-MW-02D	4/19/2023	N	EM08	UMCF	95.0 - 110.0	<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	<0.745	<0.590	<0.950	<0.800
U4-MW-02D	5/9/2023	N	EM09	UMCF	95.0 - 110.0	<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	1.21 J	<1.39	<0.745	<0.590	1.21 J	<0.800
U4-MW-02D	6/13/2023	N	EM10	UMCF	95.0 - 110.0	<0.105	<0.430	0.831 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	<0.149	<0.118	0.767 J	<0.160
U4-MW-02I	4/14/2022	N	BL02	UMCF	75.0 - 90.0	<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	<0.149	<0.118	0.222 J	<0.160
U4-MW-02I	10/11/2022	N	EM02	UMCF	75.0 - 90.0	<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	0.414 J	<0.278	<0.149	<0.118	0.414 J	<0.160
U4-MW-02I	11/2/2022	N	EM03	UMCF	75.0 - 90.0	<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	<1.49	<1.18	<1.90	<1.60
U4-MW-02I	11/2/2022	FD	EM03	UMCF	75.0 - 90.0	<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	<1.49	<1.18	<1.90	<1.60
U4-MW-02I	12/8/2022	N	EM04	UMCF	75.0 - 90.0	0.335 J	<0.430	3.23 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	<				

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																			
						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	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane
						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-05D	2/14/2023	N	EM06	UMCF	98.2 - 108.2	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-MW-05D	3/16/2023	N	EM07	UMCF	98.2 - 108.2	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-MW-05D	4/20/2023	N	EM08	UMCF	98.2 - 108.2	<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	<0.149	<0.118	0.241 J	<0.160
U4-MW-05D	5/10/2023	N	EM09	UMCF	98.2 - 108.2	<0.105	<0.430	4.02 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.216 J	<0.160
U4-MW-05D	6/15/2023	N	EM10	UMCF	98.2 - 108.2	<0.105	<0.430	7.82	<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	<0.149	<0.118 UJ	<0.190	<0.160
U4-MW-05I	4/15/2022	N	BL02	UMCF	76.6 - 86.6	<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	<0.149	<0.118	0.500 J	<0.160
U4-MW-05I	10/13/2022	N	EM02	UMCF	76.6 - 86.6	<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	<14.9	<11.8	<19.0	<16.0
U4-MW-05I	11/3/2022	N	EM03	UMCF	76.6 - 86.6	<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	<0.149	<0.118	0.797 J	<0.160
U4-MW-05I	12/8/2022	N	EM04	UMCF	76.6 - 86.6	<0.105	<0.430	0.635 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	<0.149	<0.118	0.693 J	<0.160
U4-MW-05I	1/11/2023	N	EM05	UMCF	76.6 - 86.6	<0.105	<0.430	0.474 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	0.331 J	<0.278	<0.149	<0.118	0.592 J	<0.160
U4-MW-05I	2/14/2023	N	EM06	UMCF	76.6 - 86.6	<10.5	<43.0	<43.0	<100	<15.7	<9.93 UJ	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-MW-05I	3/14/2023	N	EM07	UMCF	76.6 - 86.6	<10.5	<43.0	<43.0	<100	<15.7	<9.93	<17.4	<12.0	<12.5	<11.8	<19.5	<406	<10.1	<12.7	<30.0	<27.8	<14.9	<11.8	<19.0	<16.0
U4-MW-05I	4/21/2023	N	EM08	UMCF	76.6 - 86.6	<0.105	<0.430	0.722 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-05I	5/10/2023	N	EM09	UMCF	76.6 - 86.6	<0.105	<0.430	32.9	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-05I	6/15/2023	N	EM10	UMCF	76.6 - 86.6	<0.105	<0.430	17.1	<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	<0.149	<0.118 UJ	<0.190	<0.160
U4-MW-06D	4/19/2022	N	BL02	UMCF	97.1 - 107.1	<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	<0.149	<0.118	0.524 J	<0.160
U4-MW-06D	2/15/2023	N	EM06	UMCF	97.1 - 107.1	<5.25	<21.5	<8.70	<50.0 UJ	<7.85	<4.97	<8.70	<6.00	<6.25	<5.90	<9.75 UJ	<203	<5.05	<6.35	<15.0	<13.9	<7.45	<5.90	<9.50	<8.00
U4-MW-06D	3/21/2023	N	EM07	UMCF	97.1 - 107.1	<0.105	<0.430	0.567 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	<0.149	<0.118	<0.190	<0.160
U4-MW-06D	6/16/2023	N	EM10	UMCF	97.1 - 107.1	<0.105	<0.430	0.542 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	<0.149	<0.118	<0.190	<0.160
U4-MW-06I	4/19/2022	N	BL02	UMCF	76.5 - 86.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-06I	3/14/2023	N	EM07	UMCF	76.5 - 86.5	<0.105	<0.430	0.560 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	5.95 J+	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.369 J	<0.160
U4-MW-06I	6/16/2023	N	EM10	UMCF	76.5 - 86.5	<0.105	<0.430	1.28 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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	4/15/2022	N	BL02	UMCF	96.8 - 106.5	<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	<0.149	<0.118	0.191 J	<0.160
U4-MW-07D	10/12/2022	N	EM02	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	10/12/2022	FD	EM02	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	11/3/2022	N	EM03	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	12/7/2022	N	EM04	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	1/11/2023	N	EM05	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	2/14/2023	N	EM06	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	3/16/2023	N	EM07	UMCF	96.8 - 106.5	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	4/21/2023	N	EM08	UMCF	96.8 - 106.5	<0.105	<0.430	1.37 J	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	5/11/2023	N	EM09	UMCF	96.8 - 106.5	<0.105	<0.430	11.0	<1.00	<0.157	<0.0993	<0.174 UJ	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-07D	6/13/2023	N	EM10	UMCF	96.8 - 106.5	<0.105 UJ	<0.430 UJ	2.86 J	<1.00 UJ	<0.157 UJ	<0.0993 UJ	<0.174 UJ	<0.120 UJ	<0.125 UJ	<0.118 UJ	<0.195 UJ	<4.06 UJ	<0.101 UJ	<0.127 UJ	<0.300 UJ	<0.278 UJ	<0.149 UJ	<0.118 UJ	<0.190 UJ	<0.160 UJ
U4-MW-07I	4/15/2022	N	BL02	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07I	10/12/2022	N	EM02	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07I	11/3/2022	N	EM03	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07I	12/7/2022	N	EM04	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07I	1/11/2023	N	EM05	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-07I	2/15/2023	N	EM06	UMCF	76.8 - 86.8	<0.105	<0.430	<0.430	<1.00	<0.157															

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																			
						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	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane
						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-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-10D	12/5/2022	N	EM04	UMCf	96.9 - 106.9	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-10D	3/17/2023	N	EM07	UMCf	96.9 - 106.9	<0.105	<0.430	1.73 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	<0.149	<0.118	<0.190	<0.160
U4-MW-10D	6/14/2023	N	EM10	UMCf	96.9 - 106.9	<0.105	<0.430	0.683 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	<0.149	<0.118	<0.190	<0.160
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-10I	12/5/2022	N	EM04	UMCf	77.1 - 87.1	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-10I	3/17/2023	N	EM07	UMCf	77.1 - 87.1	<0.105	<0.430	4.66 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	<0.149	<0.118	<0.190	<0.160
U4-MW-10I	6/14/2023	N	EM10	UMCf	77.1 - 87.1	<0.105	<0.430	0.757 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	<0.149	<0.118	<0.190	<0.160
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<0.105	<0.430	0.565 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	<0.149	<0.118	0.873 J	<0.160
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<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	<7.45	<5.90	<9.50	<8.00
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<1.05	<4.30	<1.74	<50.0	<1.57	<0.993	<1.74	<1.20	<1.25	<1.18	<1.95	<40.6	<1.27	<3.00	<2.78	<1.49	<1.18	<1.90	<1.60	<1.60
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<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	<7.45	<5.90	<9.50	<8.00
U4-MW-11D	12/6/2022	N	EM04	UMCf	97.4 - 107.4	<2.63 UJ	<10.7 UJ	<10.7 UJ	<25.0 UJ	<3.93 UJ	<2.48 UJ	<4.35 UJ	<3.00 UJ	<3.13 UJ	<2.95 UJ	<4.88 UJ	<102 UJ	<2.53 UJ	<3.18 UJ	<7.50 UJ	<6.95 UJ	<3.73 UJ	<2.95 UJ	<4.75 UJ	<4.00 UJ
U4-MW-11D	1/12/2023	N	EM05	UMCf	97.4 - 107.4	<21.0	<86.0	<86.0	<200	<31.4	<19.9	<34.8	<24.0	<25.0	<23.6	<39.0	<812	<20.2	<25.4	<60.0	<55.6	<29.8	<23.6	<38.0	<32.0
U4-MW-11D	2/14/2023	N	EM06	UMCf	97.4 - 107.4	<21.0	<86.0	<86.0	<200	<31.4	<19.9	<34.8	<24.0	<25.0	<23.6	<39.0	<812	<20.2	<25.4	<60.0	<55.6	<29.8	<23.6	<38.0	<32.0
U4-MW-11D	3/16/2023	N	EM07	UMCf	97.4 - 107.4	<21.0	<86.0	<86.0	<200	<31.4	<19.9	<34.8	<24.0	<25.0	<23.6	<39.0	<812	<20.2	<25.4	<60.0	<55.6	<29.8	<23.6	<38.0	<32.0
U4-MW-11D	4/18/2023	N	EM08	UMCf	97.4 - 107.4	<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	<0.745	<0.590	<0.950	<0.800
U4-MW-11D	5/17/2023	N	EM09	UMCf	97.4 - 107.4	<2.10 UJ	<8.60 UJ	<8.60 UJ	<20.0 UJ	<3.14 UJ	<1.99 UJ	<3.48 UJ	<2.40 UJ	<2.50 UJ	<2.36 UJ	<3.90 UJ	<81.2 UJ	<2.02 UJ	<2.54 UJ	<6.00 UJ	<5.56 UJ	<2.98 UJ	<2.36 UJ	<3.80 UJ	<3.20 UJ
U4-MW-11D	6/16/2023	N	EM10	UMCf	97.4 - 107.4	<0.105	<0.430	1.39 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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<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	<0.149	<0.118	0.194 J	<0.160
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<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	<1.49	<1.18	<1.90	<1.60
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<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	<0.149	<0.118	0.631 J	<0.160
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<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	<0.745	<0.590	<0.950	<0.800
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	12/6/2022	N	EM04	UMCf	77.0 - 87.0	<0.105 UJ	<0.430 UJ	5.79 J+	<1.00 UJ	<0.157 UJ	<0.0993 UJ	<0.174 UJ	<0.120 UJ	<0.125 UJ	<0.118 UJ	<0.195 UJ	<4.06 UJ	<0.101 UJ	<0.127 UJ	<0.300 UJ	<0.278 UJ	<0.149 UJ	<0.118 UJ	<0.190 UJ	<0.160 UJ
U4-MW-11I	12/6/2022	FD	EM04	UMCf	77.0 - 87.0	<0.105 UJ	<0.430 UJ	6.35	<1.00 UJ	<0.157 UJ	<0.0993 UJ	<0.174 UJ	<0.120 UJ	<0.125 UJ	<0.118 UJ	<0.195 UJ	<4.06 UJ	<0.101 UJ	<0.127 UJ	<0.300 UJ	<0.278 UJ	<0.149 UJ	<0.118 UJ	<0.190 UJ	<0.160 UJ
U4-MW-11I	1/12/2023	N	EM05	UMCf	77.0 - 87.0	<0.105	<0.430	0.544 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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	1/12/2023	FD	EM05	UMCf	77.0 - 87.0	<0.105	<0.430	0.510 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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	2/14/2023	N	EM06	UMCf	77.0 - 87.0	<0.105	<0.430	1.58 J	<1.00	<0.157	<0.0993 UJ	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.472 J	<0.160
U4-MW-11I	2/14/2023	FD	EM06	UMCf	77.0 - 87.0	<0.105	<0.430	1.64 J	<1.00	<0.157	<0.0993 UJ	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	0.478 J	<0.160
U4-MW-11I	3/16/2023	N	EM07	UMCf	77.0 - 87.0	<0.105	<0.430	2.13 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	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	3/16/2023	FD	EM07	UMCf	77.0 - 87.0	<0.105	<0.430	2.47 J	<1.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-11I	4/18/2023	N	EM08	UMCf	77.0 - 87.0	<0.105	<0.430	8.45	<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	<0.149	<0.118	<0.190	

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																			
						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	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene (TCE)	Trichlorofluoromethane
						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-13I	1/12/2023	N	EM05	UMCF	77.1 - 87.1	<0.105	<0.430	1.03 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	<0.149	<0.118	<0.190	<0.160
U4-MW-13I	2/14/2023	N	EM06	UMCF	77.1 - 87.1	<0.525	<2.15	<2.15	<5.00	<0.785	<0.497 UJ	<0.870	<0.600	<0.625	<0.590	<0.975	<20.3	<0.505	<0.635	<1.50	<1.39	<0.745	<0.590	<0.950	<0.800
U4-MW-13I	3/16/2023	N	EM07	UMCF	77.1 - 87.1	<0.105	<0.430	0.861 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	<0.149	<0.118	<0.190	<0.160
U4-MW-13I	4/19/2023	N	EM08	UMCF	77.1 - 87.1	<0.105	<0.430	0.905 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	<0.149	<0.118	<0.190	<0.160
U4-MW-13I	5/17/2023	N	EM09	UMCF	77.1 - 87.1	<0.105	<0.430	0.645 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	<0.149	<0.118	<0.190	<0.160
U4-MW-13I	6/15/2023	N	EM10	UMCF	77.1 - 87.1	<0.105	<0.430	0.433 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	<0.149	<0.118 UJ	<0.190	<0.160
U4-MW-14D	4/13/2022	N	BL02	UMCF	97.3 - 107.3	<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	<0.149	<0.118	0.295 J	<0.160
U4-MW-14D	12/6/2022	N	EM04	UMCF	97.3 - 107.3	<0.525 UJ	<2.15 UJ	<2.15 UJ	<5.00 UJ	<0.785 UJ	<0.497 UJ	<0.870 UJ	<0.600 UJ	<0.625 UJ	<0.590 UJ	<0.975 UJ	<20.3 UJ	<0.505 UJ	<0.635 UJ	<1.50 UJ	<1.39 UJ	<0.745 UJ	<0.590 UJ	<0.950 UJ	<0.800 UJ
U4-MW-14D	3/16/2023	N	EM07	UMCF	97.3 - 107.3	<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	<0.745	<0.590	<0.950	<0.800
U4-MW-14D	6/15/2023	N	EM10	UMCF	97.3 - 107.3	<0.105	<0.430	0.531 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	<0.149	<0.118	<0.190	<0.160
U4-MW-14I	4/14/2022	N	BL02	UMCF	77.3 - 87.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-14I	12/6/2022	N	EM04	UMCF	77.3 - 87.3	<0.525 UJ	<2.15 UJ	<2.15 UJ	<5.00 UJ	<0.785 UJ	<0.497 UJ	<0.870 UJ	<0.600 UJ	<0.625 UJ	<0.590 UJ	<0.975 UJ	<20.3 UJ	<0.505 UJ	<0.635 UJ	<1.50 UJ	<1.39 UJ	<0.745 UJ	<0.590 UJ	<0.950 UJ	<0.800 UJ
U4-MW-14I	3/16/2023	N	EM07	UMCF	77.3 - 87.3	<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	<0.745	<0.590	<0.950	<0.800
U4-MW-14I	6/15/2023	N	EM10	UMCF	77.3 - 87.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15D	4/13/2022	N	BL02	UMCF	96.0 - 106.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15D	12/5/2022	N	EM04	UMCF	96.0 - 106.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15D	3/20/2023	N	EM07	UMCF	96.0 - 106.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15D	6/14/2023	N	EM10	UMCF	96.0 - 106.0	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15DD	4/13/2022	N	BL02	UMCF	120.3 - 130.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15DD	12/5/2022	N	EM04	UMCF	120.3 - 130.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15DD	3/15/2023	N	EM07	UMCF	120.3 - 130.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15DD	6/13/2023	N	EM10	UMCF	120.3 - 130.3	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15I	4/12/2022	N	BL02	UMCF	76.8 - 86.8	<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	<0.149	<0.118	0.215 J	<0.160
U4-MW-15I	12/5/2022	N	EM04	UMCF	76.8 - 86.8	<0.105	<0.430	1.81 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	<0.149	<0.118	<0.190	<0.160
U4-MW-15I	3/17/2023	N	EM07	UMCF	76.8 - 86.8	<2.10	<8.60	<8.60	<20.0 UJ	<3.14	<1.99	<3.48	<2.40	<2.50	<3.90	<81.2	<2.02	<2.54	<6.00	<5.56	<2.98	<2.36	<3.80	<3.20	<3.20
U4-MW-15I	6/14/2023	N	EM10	UMCF	76.8 - 86.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15S	4/13/2022	N	BL02	UMCF	54.8 - 64.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15S	12/5/2022	N	EM04	UMCF	54.8 - 64.8	<2.63	<10.7	<10.7	<25.0	<3.93	<2.48	<4.35	<3.00	<3.13	<2.95	<4.88	<102	<2.53	<3.18	<7.50	<6.95	<3.73	<2.95	<4.75	<4.00
U4-MW-15S	3/13/2023	N	EM07	UMCF	54.8 - 64.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-15S	6/13/2023	N	EM10	UMCF	54.8 - 64.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-16D	4/11/2022	N	BL02	UMCF	96.8 - 106.8	<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	<0.149	<0.118	0.534 J	<0.160
U4-MW-16D	12/5/2022	N	EM04	UMCF	96.8 - 106.8	<0.105	<0.430	1.30 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	<0.149	<0.118	0.260 J	<0.160
U4-MW-16D	3/14/2023	N	EM07	UMCF	96.8 - 106.8	<0.105	<0.430	0.576 J	<2.00	<0.157	<0.0993	<0.174	<0.120	<0.125	<0.118	<0.195	<4.06	<0.101	<0.127	<0.300	<0.278	<0.149	<0.118	<0.190	<0.160
U4-MW-16D	6/13/2023	N	EM10	UMCF	96.8 - 106.8	<0.105	<0.430	0.627 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	<0.149	<0.118	0.418 J	<0.160
U4-MW-16DD	4/12/2022	N	BL02	UMCF	120.8 - 130.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-16DD	12/5/2022	N	EM04	UMCF	120.8 - 130.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-16DD	3/15/2023	N	EM07	UMCF	120.8 - 130.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-16DD	6/13/2023	N	EM10	UMCF	120.8 - 130.8	<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	<0.149	<0.118	<0.190	<0.160
U4-MW-1																									

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		Volatile Fatty Acids by AM23G										
						Vinyl Chloride	Xylenes, Total	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	mg/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	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	10/13/2022	N	EM02	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	11/2/2022	N	EM03	UMCf	92.5 - 102.5	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
M-251-100	12/8/2022	N	EM04	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	1/11/2023	N	EM05	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	2/13/2023	N	EM06	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	3/17/2023	N	EM07	UMCf	92.5 - 102.5	<11.7	<8.70	<6.1 UJ	28 J	<5.8 UJ	630 J	<5.8 UJ	<5.6 UJ	<5.3 UJ	<5.6 UJ	5.6 J	<6.0 UJ	----
M-251-100	4/21/2023	N	EM08	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	5/9/2023	N	EM09	UMCf	92.5 - 102.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-100	6/14/2023	N	EM10	UMCf	92.5 - 102.5	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
M-251-60	4/18/2022	N	BL02	UMCf	52.3 - 62.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-60	3/15/2023	N	EM07	UMCf	52.3 - 62.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-251-60	6/14/2023	N	EM10	UMCf	52.3 - 62.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-252	4/21/2022	N	BL02	UMCf	132.3 - 142.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
M-252	3/15/2023	N	EM07	UMCf	132.3 - 142.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
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	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-E-01D	3/14/2023	N	EM07	UMCf	94.7 - 109.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	N	BL02	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/19/2022	FD	BL02	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	3/14/2023	N	EM07	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	4/20/2023	N	EM08	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	5/10/2023	N	EM09	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-01I	6/12/2023	N	EM10	UMCf	74.6 - 89.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	4/20/2022	N	BL02	UMCf	94.4 - 109.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02D	3/14/2023	N	EM07	UMCf	94.4 - 109.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	4/18/2022	N	BL02	UMCf	74.4 - 89.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	3/14/2023	N	EM07	UMCf	74.4 - 89.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	4/20/2023	N	EM08	UMCf	74.4 - 89.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	5/11/2023	N	EM09	UMCf	74.4 - 89.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-02I	6/12/2023	N	EM10	UMCf	74.4 - 89.4	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	4/19/2022	N	BL02	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	10/13/2022	N	EM02	UMCf	95.1 - 110.1	<46.8	<34.8	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	11/3/2022	N	EM03	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	12/6/2022	N	EM04	UMCf	95.1 - 110.1	<4.68 UJ	<3.48 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	1/9/2023	N	EM05	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	2/13/2023	N	EM06	UMCf	95.1 - 110.1	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	3/13/2023	N	EM07	UMCf	95.1 - 110.1	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	3/14/2023	N	EM07	UMCf	95.1 - 110.1	<46.8	<34.8	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	4/19/2023	N	EM08	UMCf	95.1 - 110.1	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	5/11/2023	N	EM09	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-03D	6/12/2023	N	EM10	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-04D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-04D	3/14/2023	N	EM07	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-04I	4/18/2022	N	BL02	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-04I	3/14/2023	N	EM07	UMCf	75.0 - 90.0	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
U4-E-05D	4/19/2022	N	BL02	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-05D	3/16/2023	N	EM07	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-05I	4/19/2022	N	BL02	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-05I	3/15/2023	N	EM07	UMCf	75.0 - 90.0	<0.234 UJ	<0.174 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-E-06D	4/11/2022	N	BL02	UMCf	95.1 - 110.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	4/11/2022	N	BL02	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	4/11/2022	FD	BL02	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	10/12/2022	N	EM02	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	11/3/2022	N	EM03	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	12/6/2022	N	EM04	UMCf	73.2 - 88.2	<2.34 UJ	<1.74 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	1/9/2023	N	EM05	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	2/13/2023	N	EM06	UMCf	73.2 - 88.2	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	3/13/2023	N	EM07	UMCf	73.2 - 88.2	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	4/17/2023	N	EM08	UMCf	73.2 - 88.2	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	5/15/2023	N	EM09	UMCf	73.2 - 88.2	<5.85	<4.35	----	----	----	----	----	----	----	----	----	----	----
U4-E-06I	6/12/2023	N	EM10	UMCf	73.2 - 88.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-07D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	4/12/2022	N	BL02	UMCf	74.7 - 89.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	10/11/2022	N	EM02	UMCf	74.7 - 89.7	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	11/3/2022	N	EM03	UMCf	74.7 - 89.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	12/6/2022	N	EM04	UMCf	74.7 - 89.7	<5.85 UJ	<4.35 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	1/9/2023	N	EM05	UMCf	74.7 - 89.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	2/13/2023	N	EM06	UMCf	74.7 - 89.7	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	3/13/2023	N	EM07	UMCf	74.7 - 89.7	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	4/19/2023	N	EM08	UMCf	74.7 - 89.7	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	5/15/2023	N	EM09	UMCf	74.7 - 89.7	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-07I	6/12/2023	N	EM10	UMCf	74.7 - 89.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	4/12/2022	N	BL02	UMCf	94.6 - 109.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	10/11/2022	N	EM02	UMCf	94.6 - 109.6	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	11/3/2022	N	EM03	UMCf	94.6 - 109.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	12/6/2022	N	EM04	UMCf	94.6 - 109.6	<5.85 UJ	<4.35 UJ	----	----	----	----	----	----	----	----	----	----	----

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		Volatile Fatty Acids by AM23G										
						Vinyl Chloride	Xylenes, Total	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	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
U4-E-08D	1/9/2023	N	EM05	UMCf	94.6 - 109.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	2/13/2023	N	EM06	UMCf	94.6 - 109.6	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	3/13/2023	N	EM07	UMCf	94.6 - 109.6	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	4/19/2023	N	EM08	UMCf	94.6 - 109.6	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	5/17/2023	N	EM09	UMCf	94.6 - 109.6	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-E-08D	6/12/2023	N	EM10	UMCf	94.6 - 109.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-09D	4/15/2022	N	BL02	UMCf	94.5 - 109.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-09I	4/14/2022	N	BL02	UMCf	74.9 - 89.9	<0.234	0.220 J	----	----	----	----	----	----	----	----	----	----	----
U4-E-10D	4/13/2022	N	BL02	UMCf	94.5 - 109.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-E-10I	4/13/2022	N	BL02	UMCf	74.2 - 89.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01D	4/19/2022	N	BL02	UMCf	96.7 - 106.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01D	2/16/2023	N	EM06	UMCf	96.7 - 106.7	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01D	3/20/2023	N	EM07	UMCf	96.7 - 106.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01D	6/13/2023	N	EM10	UMCf	96.7 - 106.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	N	BL02	UMCf	119.9 - 129.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	4/19/2022	FD	BL02	UMCf	119.9 - 129.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	3/15/2023	N	EM07	UMCf	119.9 - 129.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01DD	6/13/2023	N	EM10	UMCf	119.9 - 129.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	4/19/2022	N	BL02	UMCf	76.7 - 86.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	3/20/2023	N	EM07	UMCf	76.7 - 86.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01I	6/12/2023	N	EM10	UMCf	76.7 - 86.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01S	4/18/2022	N	BL02	UMCf	54.7 - 64.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01S	3/15/2023	N	EM07	UMCf	54.7 - 64.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-01S	6/13/2023	N	EM10	UMCf	54.7 - 64.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	4/14/2022	N	BL02	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	10/11/2022	N	EM02	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	11/1/2022	N	EM03	UMCf	95.0 - 110.0	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	12/7/2022	N	EM04	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	1/10/2023	N	EM05	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	2/13/2023	N	EM06	UMCf	95.0 - 110.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	3/17/2023	N	EM07	UMCf	95.0 - 110.0	<23.4	<17.4	<12 UJ	49 J	<12 UJ	1,200 J	<12 UJ	<11 UJ	<11 UJ	<11 UJ	<11 UJ	<11 UJ	<12 UJ
U4-MW-02D	4/19/2023	N	EM08	UMCf	95.0 - 110.0	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	5/9/2023	N	EM09	UMCf	95.0 - 110.0	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02D	6/13/2023	N	EM10	UMCf	95.0 - 110.0	<0.234	<0.174	<12	34 J	<12	1,100 J+	<12	<11	<11	<11	12 J	<12	<12
U4-MW-02I	4/14/2022	N	BL02	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	10/11/2022	N	EM02	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	N	EM03	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	11/2/2022	FD	EM03	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	12/8/2022	N	EM04	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	12/8/2022	FD	EM04	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	1/13/2023	N	EM05	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	1/13/2023	FD	EM05	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	2/15/2023	N	EM06	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	2/15/2023	FD	EM06	UMCf	75.0 - 90.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	3/17/2023	N	EM07	UMCf	75.0 - 90.0	<46.8	<34.8	<12 UJ	60 J	<12 UJ	1,200 J	<12 UJ	<11 UJ	<11 UJ	<11 UJ	18 J	<12 UJ	<12 UJ
U4-MW-02I	3/17/2023	FD	EM07	UMCf	75.0 - 90.0	<46.8	<34.8	<12 UJ	61 J	<12 UJ	1,200 J	<12 UJ	<11 UJ	<11 UJ	<11 UJ	17 J	<12 UJ	<12 UJ
U4-MW-02I	4/20/2023	N	EM08	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	4/20/2023	FD	EM08	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	5/9/2023	N	EM09	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	5/9/2023	FD	EM09	UMCf	75.0 - 90.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-02I	6/12/2023	N	EM10	UMCf	75.0 - 90.0	<0.234	<0.174	<1.2	200	48	94	<1.2	<1.1	8.0 J	1.3 J	30	1.8 J	<1.2
U4-MW-02I	6/12/2023	FD	EM10	UMCf	75.0 - 90.0	<0.234	<0.174	<1.2	190	46	98	<1.2	<1.1	8.2 J	<1.1	30	<1.2	<1.2
U4-MW-03D	4/20/2022	N	BL02	UMCf	96.6 - 106.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	2/16/2023	N	EM06	UMCf	96.6 - 106.6	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	3/16/2023	N	EM07	UMCf	96.6 - 106.6	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	3/16/2023	FD	EM07	UMCf	96.6 - 106.6	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03D	6/15/2023	N	EM10	UMCf	96.6 - 106.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03DD	4/20/2022	N	BL02	UMCf	119.7 - 129.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03DD	3/15/2023	N	EM07	UMCf	119.7 - 129.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03DD	6/15/2023	N	EM10	UMCf	119.7 - 129.7	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	4/19/2022	N	BL02	UMCf	76.6 - 86.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	3/15/2023	N	EM07	UMCf	76.6 - 86.6	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	6/14/2023	N	EM10	UMCf	76.6 - 86.6	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03I	6/14/2023	FD	EM10	UMCf	76.6 - 86.6	<5.85	<4.35	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	N	BL02	UMCf	54.5 - 64.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	4/18/2022	FD	BL02	UMCf	54.5 - 64.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	3/15/2023	N	EM07	UMCf	54.5 - 64.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-03S	6/15/2023	N	EM10	UMCf	54.5 - 64.5	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	4/19/2022	N	BL02	UMCf	97.0 - 107.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	2/16/2023	N	EM06	UMCf	97.0 - 107.0	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	3/21/2023	N	EM07	UMCf	97.0 - 107.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04D	6/14/2023	N	EM10	UMCf	97.0 - 107.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04I	4/19/2022	N	BL02	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04I	3/20/2023	N	EM07	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-04I	6/14/2023	N	EM10	UMCf	76.8 - 86.8	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	4/15/2022	N	BL02	UMCf	98.2 - 108.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	10/13/2022	N	EM02	UMCf	98.2 - 108.2	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-05D	12/7/2022	N	EM04	UMCf	98.2 - 108.2	0.238 J	<0.174	----										

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		Volatile Fatty Acids by AM23G										
						Vinyl Chloride	Xylenes, Total	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	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
U4-MW-10D	4/14/2022	N	BL02	UMCf	96.9 - 106.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10D	12/5/2022	N	EM04	UMCf	96.9 - 106.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10D	3/17/2023	N	EM07	UMCf	96.9 - 106.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10D	6/14/2023	N	EM10	UMCf	96.9 - 106.9	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10I	4/14/2022	N	BL02	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10I	12/5/2022	N	EM04	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10I	3/17/2023	N	EM07	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-10I	6/14/2023	N	EM10	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	4/15/2022	N	BL02	UMCf	97.4 - 107.4	<0.234	<0.174	<6.1	25 J	<5.8	460	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0	<6.0
U4-MW-11D	9/26/2022	N	EM01	UMCf	97.4 - 107.4	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	10/11/2022	N	EM02	UMCf	97.4 - 107.4	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	11/1/2022	N	EM03	UMCf	97.4 - 107.4	<11.7	<8.70	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	12/6/2022	N	EM04	UMCf	97.4 - 107.4	<5.85 UJ	<4.35 UJ	<3.0	27 J+	4.1 J	320 J+	<2.9	<2.8	6.7 J	<2.8	3.4 J	<3.0	<3.0
U4-MW-11D	1/12/2023	N	EM05	UMCf	97.4 - 107.4	<46.8	<34.8	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	2/14/2023	N	EM06	UMCf	97.4 - 107.4	<46.8	<34.8	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	3/16/2023	N	EM07	UMCf	97.4 - 107.4	<46.8	<34.8	<12	<25	<12	670 J+	<12	<11	<11	<11	<11	<12	<12
U4-MW-11D	4/18/2023	N	EM08	UMCf	97.4 - 107.4	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	5/17/2023	N	EM09	UMCf	97.4 - 107.4	<4.68 UJ	<3.48 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11D	6/16/2023	N	EM10	UMCf	97.4 - 107.4	<0.234	<0.174	<12	36 J	<12	1,100	<12	<11	<11	<11	16 J	<12	<12
U4-MW-11I	4/14/2022	N	BL02	UMCf	77.0 - 87.0	<0.234	<0.174	<1.2	3.6 J	<1.2	91	<1.2	<1.1	<1.1	<1.1	<1.1	<1.2	<1.2
U4-MW-11I	9/26/2022	N	EM01	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	9/26/2022	FD	EM01	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	N	EM02	UMCf	77.0 - 87.0	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/10/2022	FD	EM02	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	N	EM03	UMCf	77.0 - 87.0	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	10/31/2022	FD	EM03	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	12/6/2022	N	EM04	UMCf	77.0 - 87.0	<0.234 UJ	<0.174 UJ	<6.1 UJ	480 J-	11 J	21 J	<5.8 UJ	<5.6 UJ	8.7 J	<5.6 UJ	21 J	<6.0 UJ	<6.0 UJ
U4-MW-11I	12/6/2022	FD	EM04	UMCf	77.0 - 87.0	<0.234 UJ	<0.174 UJ	<6.1 UJ	490 J-	15 J	53 J	<5.8 UJ	<5.6 UJ	10 J	<5.6 UJ	26 J	<6.0 UJ	<6.0 UJ
U4-MW-11I	1/12/2023	N	EM05	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	1/12/2023	FD	EM05	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	2/14/2023	N	EM06	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	2/14/2023	FD	EM06	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	3/16/2023	N	EM07	UMCf	77.0 - 87.0	<0.234	<0.174	<3.0	270	<2.9	59 J+	<2.9	<2.8	4.4 J	<2.8	92	<3.0	<3.0
U4-MW-11I	3/16/2023	FD	EM07	UMCf	77.0 - 87.0	<0.234	<0.174	<3.0	290	<2.9	58 J+	<2.9	<2.8	3.7 J	<2.8	94	<3.0	<3.0
U4-MW-11I	4/18/2023	N	EM08	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	4/18/2023	FD	EM08	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	5/19/2023	N	EM09	UMCf	77.0 - 87.0	<0.234 UJ	<0.174 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	5/19/2023	FD	EM09	UMCf	77.0 - 87.0	<0.234 UJ	<0.174 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-MW-11I	6/15/2023	N	EM10	UMCf	77.0 - 87.0	<0.234	<0.174	1.3 J	90	<0.58	63	0.63 J	<0.56	7.6	<0.56	46	1.9 J	1.9 J
U4-MW-11I	6/15/2023	FD	EM10	UMCf	77.0 - 87.0	<0.234	<0.174	0.96 J	95	<0.58	61	<0.58	<0.56	7.8	<0.56	48	1.4 J	1.4 J
U4-MW-12D	4/15/2022	N	BL02	UMCf	97.1 - 107.1	<0.234	<0.174	<6.1	26 J	<5.8	460	<5.8	43 J	<5.3	<5.6	<5.3	<6.0	<6.0
U4-MW-12D	9/27/2022	N	EM01	UMCf	97.1 - 107.1	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	10/12/2022	N	EM02	UMCf	97.1 - 107.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	11/2/2022	N	EM03	UMCf	97.1 - 107.1	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	12/7/2022	N	EM04	UMCf	97.1 - 107.1	<0.234	<0.174	<6.1 R	49 J	<5.8 R	<5.5 R	6.9 J	<5.6 R	9.4 J	<5.6 R	1,500 J-	<6.0 R	<6.0 R
U4-MW-12D	1/12/2023	N	EM05	UMCf	97.1 - 107.1	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	2/15/2023	N	EM06	UMCf	97.1 - 107.1	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	3/14/2023	N	EM07	UMCf	97.1 - 107.1	<11.7	<8.70	<6.1	65	<5.8	260	<5.8	<5.6	<5.3	<5.6	10 J	<6.0	<6.0
U4-MW-12D	4/17/2023	N	EM08	UMCf	97.1 - 107.1	<1.17 UJ	<0.870 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	5/17/2023	N	EM09	UMCf	97.1 - 107.1	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12D	6/16/2023	N	EM10	UMCf	97.1 - 107.1	<0.234	<0.174	<12	28 J	<12	1,200	<12	<11	<11	<11	11 J	<12	<12
U4-MW-12I	4/14/2022	N	BL02	UMCf	76.8 - 86.8	<0.234	<0.174	<6.1	<12	<5.8	240	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0	<6.0
U4-MW-12I	4/14/2022	FD	BL02	UMCf	76.8 - 86.8	<0.234	<0.174	<6.1	<12	<5.8	220	<5.8	<5.6	<5.3	<5.6	<5.3	<6.0	<6.0
U4-MW-12I	9/27/2022	N	EM01	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	10/12/2022	N	EM02	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	11/2/2022	N	EM03	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	12/7/2022	N	EM04	UMCf	76.8 - 86.8	<0.234	<0.174	<1.2 R	170 J-	<1.2 R	110 J-	2.1 J	<1.1 R	6.9 J	<1.1 R	6.1 J	<1.2 R	<1.2 R
U4-MW-12I	12/7/2022	FD	EM04	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	1/13/2023	N	EM05	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	2/15/2023	N	EM06	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	3/13/2023	N	EM07	UMCf	76.8 - 86.8	<0.234	<0.174	<6.1	590	26 J	54	<5.8	<5.6	15 J	<5.6	150	<6.0	<6.0
U4-MW-12I	4/17/2023	N	EM08	UMCf	76.8 - 86.8	<0.234 UJ	<0.174 UJ	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	5/17/2023	N	EM09	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-12I	6/16/2023	N	EM10	UMCf	76.8 - 86.8	<0.234	<0.174	<3.0	170	<2.9	290	<2.9	<2.8	<2.7	<2.8	82	<3.0	<3.0
U4-MW-13D	4/14/2022	N	BL02	UMCf	98.2 - 108.2	<0.234	<0.174	<12	27 J	<12	490	<12	<11	<11	<11	<11	<12	<12
U4-MW-13D	9/28/2022	N	EM01	UMCf	98.2 - 108.2	<2.34	<1.74	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	10/11/2022	N	EM02	UMCf	98.2 - 108.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	11/3/2022	N	EM03	UMCf	98.2 - 108.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	12/7/2022	N	EM04	UMCf	98.2 - 108.2	<0.234	<0.174	<3.0 R	18 J	<2.9 R	<2.7 R	<2.9 R	<2.8 R	6.6 J	<2.8 R	300 J-	<3.0 R	<3.0 R
U4-MW-13D	1/12/2023	N	EM05	UMCf	98.2 - 108.2	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	2/15/2023	N	EM06	UMCf	98.2 - 108.2	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----	----
U4-MW-13D	3/17/2023	N	EM07	UMCf	98.2 - 108.2	<4.68	<3.48	<1.2 UJ	5.2 J	<1.2 UJ	130 J	<1.2 UJ	<1.1 UJ	<1.1 UJ	<1.1 UJ	<1.1 UJ	<1.2 UJ	<1.2 UJ
U4-MW-13D	4/18/2023	N	EM08	UMCf	98.2 - 108.2	<0.234	<											

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		Volatile Fatty Acids by AM23G									
						Vinyl Chloride	Xylenes, Total	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	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
U4-MW-13I	1/12/2023	N	EM05	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	2/14/2023	N	EM06	UMCf	77.1 - 87.1	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	3/16/2023	N	EM07	UMCf	77.1 - 87.1	<0.234	<0.174	<0.61	56	<0.58	58 J+	<0.58	<0.56	<0.53	<0.56	4.2 J	<0.60
U4-MW-13I	4/19/2023	N	EM08	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	5/17/2023	N	EM09	UMCf	77.1 - 87.1	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-13I	6/15/2023	N	EM10	UMCf	77.1 - 87.1	<0.234	<0.174	<0.61	4.2 J	<0.58	58	<0.58	<0.56	12	<0.56	0.86 J	<0.60
U4-MW-14D	4/13/2022	N	BL02	UMCf	97.3 - 107.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-14D	12/6/2022	N	EM04	UMCf	97.3 - 107.3	<1.17 UJ	<0.870 UJ	----	----	----	----	----	----	----	----	----	----
U4-MW-14D	3/16/2023	N	EM07	UMCf	97.3 - 107.3	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----
U4-MW-14D	6/15/2023	N	EM10	UMCf	97.3 - 107.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-14I	4/14/2022	N	BL02	UMCf	77.3 - 87.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-14I	12/6/2022	N	EM04	UMCf	77.3 - 87.3	<1.17 UJ	<0.870 UJ	----	----	----	----	----	----	----	----	----	----
U4-MW-14I	3/16/2023	N	EM07	UMCf	77.3 - 87.3	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----
U4-MW-14I	6/15/2023	N	EM10	UMCf	77.3 - 87.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15D	4/13/2022	N	BL02	UMCf	96.0 - 106.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15D	12/5/2022	N	EM04	UMCf	96.0 - 106.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15D	3/20/2023	N	EM07	UMCf	96.0 - 106.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15D	6/14/2023	N	EM10	UMCf	96.0 - 106.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15DD	4/13/2022	N	BL02	UMCf	120.3 - 130.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15DD	12/5/2022	N	EM04	UMCf	120.3 - 130.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15DD	3/15/2023	N	EM07	UMCf	120.3 - 130.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15DD	6/13/2023	N	EM10	UMCf	120.3 - 130.3	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15I	4/12/2022	N	BL02	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15I	12/5/2022	N	EM04	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15I	3/17/2023	N	EM07	UMCf	76.8 - 86.8	<4.68	<3.48	----	----	----	----	----	----	----	----	----	----
U4-MW-15I	6/14/2023	N	EM10	UMCf	76.8 - 86.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15S	4/13/2022	N	BL02	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15S	12/5/2022	N	EM04	UMCf	54.8 - 64.8	<5.85	<4.35	----	----	----	----	----	----	----	----	----	----
U4-MW-15S	3/13/2023	N	EM07	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-15S	6/13/2023	N	EM10	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16D	4/11/2022	N	BL02	UMCf	96.8 - 106.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16D	12/5/2022	N	EM04	UMCf	96.8 - 106.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16D	3/14/2023	N	EM07	UMCf	96.8 - 106.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16D	6/13/2023	N	EM10	UMCf	96.8 - 106.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16DD	4/12/2022	N	BL02	UMCf	120.8 - 130.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16DD	12/5/2022	N	EM04	UMCf	120.8 - 130.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16DD	3/15/2023	N	EM07	UMCf	120.8 - 130.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16DD	6/13/2023	N	EM10	UMCf	120.8 - 130.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	4/11/2022	N	BL02	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	12/5/2022	N	EM04	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	12/5/2022	FD	EM04	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	3/13/2023	N	EM07	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	3/13/2023	FD	EM07	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	6/12/2023	N	EM10	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16I	6/12/2023	FD	EM10	UMCf	77.0 - 87.0	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	4/12/2022	N	BL02	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	4/12/2022	FD	BL02	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	12/6/2022	N	EM04	UMCf	54.8 - 64.8	<0.234 UJ	<0.174 UJ	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	3/15/2023	N	EM07	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-MW-16S	6/13/2023	N	EM10	UMCf	54.8 - 64.8	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-SLMW	11/10/2022	N	EM03		-	<1.17	<0.870	----	----	----	----	----	----	----	----	----	----
U4-T3	10/13/2022	N	EM02		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-T3	11/3/2022	N	EM03		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-T3	12/6/2022	N	EM04		-	<4.68 UJ	<3.48 UJ	----	----	----	----	----	----	----	----	----	----
U4-T3	1/9/2023	N	EM05		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-T3	2/13/2023	N	EM06		-	<23.4	<17.4	----	----	----	----	----	----	----	----	----	----
U4-T3	3/13/2023	N	EM07		-	<5.85	<4.35	----	----	----	----	----	----	----	----	----	----
U4-T3	4/19/2023	N	EM08		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-T3	5/18/2023	N	EM09		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----
U4-T3	6/12/2023	N	EM10		-	<0.234	<0.174	----	----	----	----	----	----	----	----	----	----

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.

N/A - Not Applicable

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.

M-252 damaged/obstructed when checked on June 14, 2023 for EM10.