

# TECHNICAL MEMORANDUM

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**To:** Nevada Environmental Response Trust

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

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**From:** Dana Grady

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**Date:** November 20, 2020

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**Subject:** Las Vegas Wash Bioremediation Pilot Study Monthly Progress Report

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At the direction of the Nevada Environmental Response Trust (NERT or Trust), Tetra Tech, Inc. (Tetra Tech) has prepared this memorandum which summarizes Tetra Tech's progress during October 2020 toward successfully implementing the Las Vegas Wash Bioremediation Pilot Study.

## Task Progress Update: October 2020

### Task M19 – Las Vegas Wash Pilot Study

- Current Status
  - Field Activities
    - Drilling began on February 10, 2020 and was completed on September 22, 2020. Well development activities were completed on October 3, 2020. This drilling effort included the installation and development of 190 injection, monitoring, and extraction wells. A final layout map and construction details of all injection, monitoring, and extraction wells are provided as Figures 1 through 4 and Table 1.
    - Baseline groundwater sampling of all Phase 1 monitoring wells and all newly installed Phase 2 injection, extraction, and monitoring wells began on September 28, 2020 and was completed on October 9, 2020. Groundwater analytical results from the baseline sampling will be provided in the November monthly progress report when all data are available.
    - Surface water sampling was performed on October 16, 2020 and October 29, 2020. Surface water analytical results will be provided in the November monthly progress report when all data are available.
    - Aquifer testing (both slug testing and borehole dilution testing) on Phase 2 extraction and monitoring wells was performed in June and October 2020. Aquifer testing results will be provided in future monthly progress reports once all data has been analyzed and processed.

- Access and Permitting
  - The Water Appropriations Permit was issued on September 28, 2020. This permit approves the extraction of groundwater from five newly installed extraction wells and one existing monitoring well for the Phase 2 pilot study activities.
  - The Underground Injection Control (UIC) Permit was issued by the Bureau of Water Pollution Control (BWPC) on October 16, 2020. This permit approves all requested injection wells, injectates and associated quantities, and injection pressures for the Phase 2 pilot study activities.
  - The access request with the City of Henderson for the use of a portion of their landfill as a staging area was approved on October 21, 2020.
- The final injectate quantities and plans for the upcoming first injection event were presented to NDEP on October 29, 2020.
- Schedule and Progress Updates
  - Injections are scheduled to begin on November 30, 2020 and are expected to be completed by the end of the year.
- Health and Safety
  - There were no safety incidents related to Task M19 during October 2020.
  - Safety measures continue to be implemented to minimize potential exposure to COVID-19, including the use of face coverings, gloves, and hand sanitizer, as well as protocols for monitoring temperatures, minimizing the number of people on site at one time, and evaluating tasks to increase physical distance between personnel.

## CERTIFICATION

### Las Vegas Wash Bioremediation Pilot Study Monthly Progress Report

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

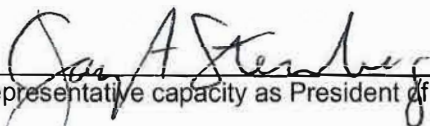
**Nevada Environmental Response Trust (NERT) Representative Certification**

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

Office of the Nevada Environmental Response Trust

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

**Signature:** \_\_\_\_\_



Not Individually, but Solely  
as President of the Trust

\_\_\_\_\_, 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:** \_\_\_\_\_

11/20/2020

## CERTIFICATION

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

**Description of Services Provided:** Las Vegas Wash Bioremediation Pilot Study Monthly Progress Report, Nevada Environmental Response Trust Site, Henderson, Nevada.



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

November 20, 2020

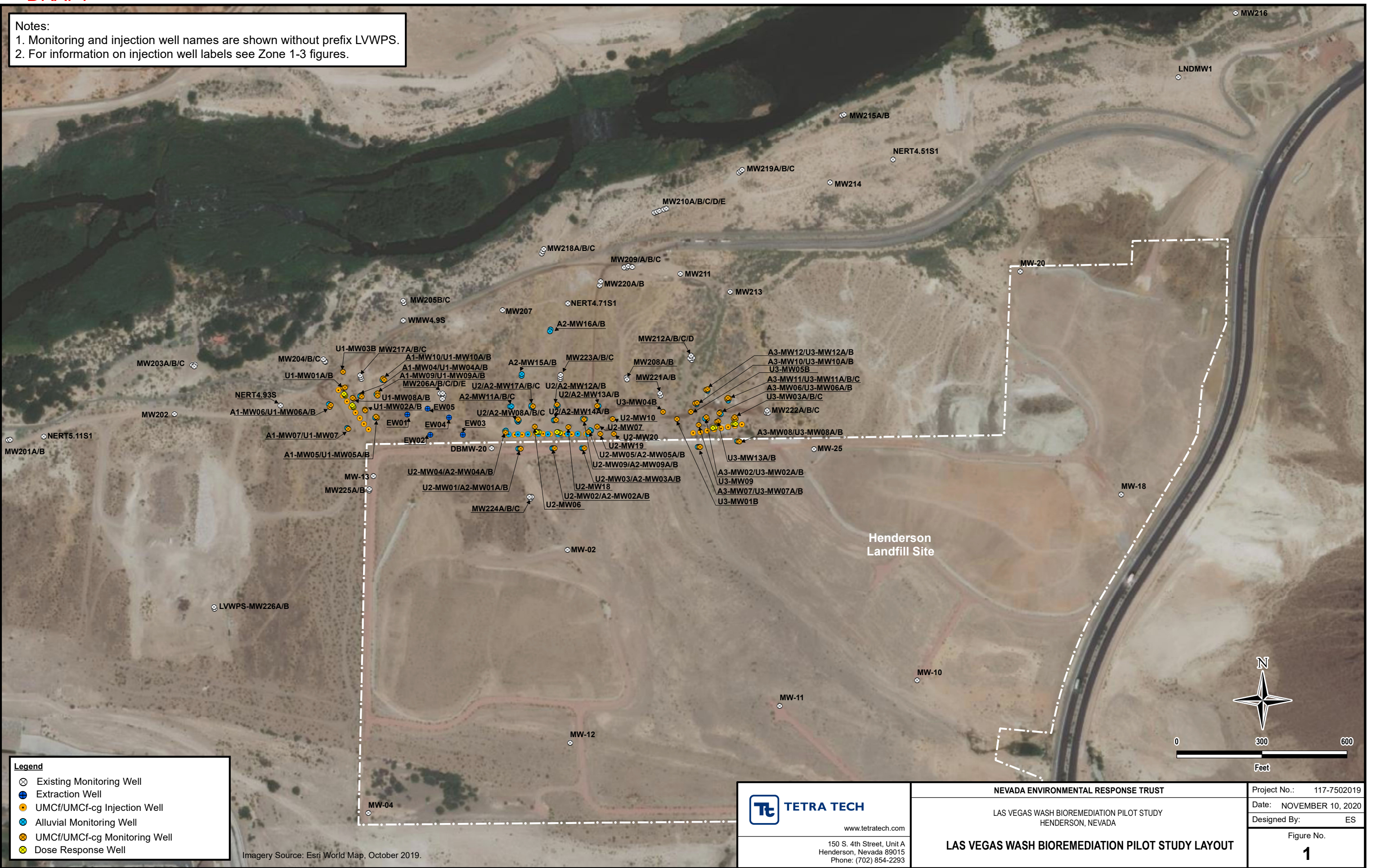
Date

Nevada CEM Certificate Number: 2167  
Nevada CEM Expiration Date: September 18, 2022

## Figures

Notes:  
 1. Monitoring and injection well names are shown without prefix LVWPS.  
 2. For information on injection well labels see Zone 1-3 figures.

C:\USERS\ELLYN.SWENSON\LVW MONITORING WELL INSTALLATION FIGURES\B04 GROUNDWATER CONTOUR SIZE OVERVIEW\_11102020.MXD



Imagery Source: Esri World Map, October 2019.

**Legend**

- ⊗ Existing Monitoring Well
- ⊕ Extraction Well
- ⊙ UMCf/UMCf-cg Injection Well
- ⊕ Alluvial Monitoring Well
- ⊙ UMCf/UMCf-cg Monitoring Well
- ⊙ Dose Response Well

**Tetra Tech**  
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**NEVADA ENVIRONMENTAL RESPONSE TRUST**  
 LAS VEGAS WASH BIOREMEDIATION PILOT STUDY  
 HENDERSON, NEVADA  
**LAS VEGAS WASH BIOREMEDIATION PILOT STUDY LAYOUT**

Project No.: 117-7502019  
 Date: NOVEMBER 10, 2020  
 Designed By: ES  
 Figure No.  
**1**

- Legend**
- ⊕ Extraction Well
  - ⊙ Dual-Nested UMCf Injection Well
  - ⊗ Alluvial Monitoring Well
  - ⊗ UMCf Monitoring Well
  - ⊗ UMCf (Semi-consolidated) Monitoring Well
  - ⊗ Dose Response Well



Note:  
Monitoring and injection well names are shown without prefix LVWPS.

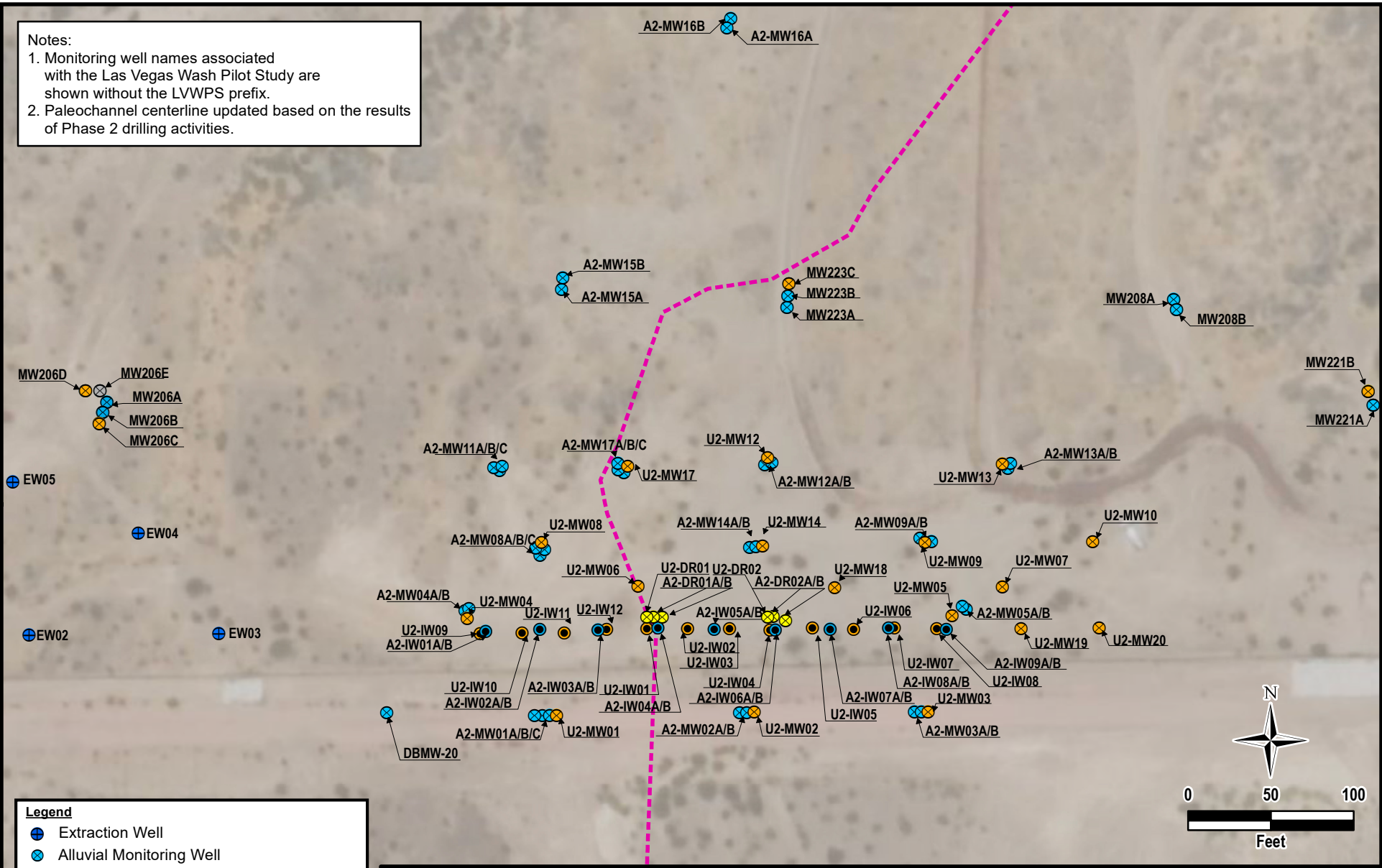
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**NEVADA ENVIRONMENTAL RESPONSE TRUST**  
LAS VEGAS WASH BIOREMEDIATION PILOT STUDY  
HENDERSON, NEVADA

**WELL LAYOUT FOR ZONE 1 STUDY AREA**

PROJECT NO.:	117-7502019
DATE:	NOVEMBER 10, 2020
DESIGNED BY:	ES
Figure No.	<b>2</b>

Notes:  
 1. Monitoring well names associated with the Las Vegas Wash Pilot Study are shown without the LVWPS prefix.  
 2. Paleochannel centerline updated based on the results of Phase 2 drilling activities.



**Legend**

- Extraction Well
- Alluvial Monitoring Well
- Alluvial Injection Well
- UMCf Monitoring Well
- UMCf (Semi-consolidated) Monitoring Well
- UMCf Injection Well
- Dose Response Well
- Paleochannel Centerline

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**NEVADA ENVIRONMENTAL RESPONSE TRUST**  
 LAS VEGAS WASH BIOREMEDIATION PILOT STUDY  
 HENDERSON, NEVADA

**WELL LAYOUT FOR ZONE 2 STUDY AREA**

PROJECT NO.: 117-7502019  
 DATE: NOVEMBER 10, 2020  
 DESIGNED BY: ES

Figure No.  
**3**

C:\Users\ELLYN.SWENSON\LVW Monitoring Well Installation Figures\BL04 Groundwater Contours\Zone2\_Conbours\_ShallowestQal\_1110.mxd



**Legend**

- ⊗ Alluvial Monitoring Well
- ⊗ Dose-Response Well
- ⊗ UMCf/UMCf-cg Injection Well
- ⊗ UMCf/UMCf-cg Monitoring Well



Note:  
Monitoring and injection well names are shown without prefix LVWPS.

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**NEVADA ENVIRONMENTAL RESPONSE TRUST**  
LAS VEGAS WASH BIOREMEDIATION PILOT STUDY  
HENDERSON, NEVADA

**WELL LAYOUT FOR ZONE 3 STUDY AREA**

PROJECT NO.: 117-7502019  
DATE: NOVEMBER 10, 2020  
DESIGNED BY: ES

Figure No.  
**4**

C:\Users\ELLYN.SWENSON\L\W\Monitoring Well Installation Figures\BL04 Groundwater Contours\Zone3\_Conbours\_UMCF\_1110.mxd

## Tables

**Table 1**  
**Phase 2 Well Construction Details**  
 Las Vegas Wash Bioremediation Pilot Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Construction Type	Construction 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	feet bTOC			inches		inches	feet bgs	inches	feet	feet bgs	feet bgs	feet bgs
<b>Zone 1 Study Area</b>																	
LVWPS-A1-DR01	Alluvium	26735024.80	838207.19	1524.18	1523.98	29.38	Single	Schedule 40 PVC	0.020	#3	6	83.5	2	20	83	82.5	62.8
LVWPS-A1-DR02	Alluvium	26734983.35	838236.38	1524.57	1524.20	29.54	Single	Schedule 40 PVC	0.020	#3	6	79.0	2	20	78.5	78	58.3
LVWPS-A1-MW04	Alluvium	26735022.91	838259.32	1529.32	1529.30	34.87	Single	Schedule 40 PVC	0.020	#3	6	92.5	2	20	89.5	89	69.3
LVWPS-A1-MW05	Alluvium	26734946.32	838312.17	1530.88	1530.55	36.10	Single	Schedule 40 PVC	0.020	#3	6	95.0	2	20	89.5	89	69.3
LVWPS-A1-MW06	Alluvium	26734994.26	838149.70	1523.90	1523.76	28.80	Single	Schedule 40 PVC	0.020	#3	6	85.0	2	20	79.5	79	59.3
LVWPS-A1-MW07	Alluvium	26734911.17	838213.86	1525.06	1524.99	30.15	Single	Schedule 40 PVC	0.020	#3	6	80.0	2	20	78.5	78	58.3
LVWPS-A1-MW09	Alluvium	26735029.71	838317.19	1529.61	1529.43	35.62	Single	Schedule 40 PVC	0.020	#3	6	107.0	2	20	106	105.5	85.8
LVWPS-A1-MW10	Alluvium	26735080.18	838337.96	1527.26	1527.07	33.55	Single	Schedule 40 PVC	0.020	#3	6	91.5	2	20	91	90.5	70.8
LVWPS-U1-DR01A	UMCf	26735027.64	838205.37	1524.09	1524.00	29.15	Single	Schedule 40 PVC	0.010	#2/16	6	116.5	2	25	115.5	115	90.3
LVWPS-U1-DR01B	UMCf	26735030.53	838203.16	1524.07	1523.94	28.89	Single	Schedule 80 PVC	0.010	#2/16	6	152.5	2	30	151.5	151	121.3
LVWPS-U1-DR02A	UMCf	26734986.83	838234.68	1524.02	1523.92	29.15	Single	Schedule 40 PVC	0.010	#2/16	6	117.5	2	30	117	116.5	86.8
LVWPS-U1-DR02B	UMCf	26734991.38	838232.08	1523.92	1523.71	28.63	Single	Schedule 80 PVC	0.010	#2/16	6	153.5	2	30	153	152.5	122.8
LVWPS-U1-IW01A	UMCf	26735044.59	838183.29	1523.67	1523.72	28.91	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	155.0	2	25	114	113.5	88.8
LVWPS-U1-IW01B	UMCf	26735044.44	838182.98	1523.67	1523.65	28.76		Schedule 40 PVC	0.010	#2/16			2	25	145.5	145	120.3
LVWPS-U1-IW02A	UMCf	26735024.11	838198.37	1524.46	1524.39	29.41	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	155.0	2	25	115.5	115	90.3
LVWPS-U1-IW02B	UMCf	26735023.96	838198.03	1524.46	1524.43	29.42		Schedule 40 PVC	0.010	#2/16			2	30	151.5	151	121.3
LVWPS-U1-IW03A	UMCf	26735004.66	838213.18	1523.88	1523.55	28.59	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	155.0	2	25	119	118.5	93.8
LVWPS-U1-IW03B	UMCf	26735004.34	838213.12	1523.88	1523.53	28.40		Schedule 40 PVC	0.010	#2/16			2	25	150.5	150	125.3
LVWPS-U1-IW04A	UMCf	26734984.96	838228.48	1523.90	1523.65	28.89	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	155.0	2	30	117	116.5	86.8
LVWPS-U1-IW04B	UMCf	26734984.86	838228.18	1523.90	1523.59	28.49		Schedule 40 PVC	0.010	#2/16			2	30	153	152.5	122.8
LVWPS-U1-IW05A	UMCf	26734965.08	838243.71	1524.36	1524.25	29.45	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	155.0	2	25	114	113.5	88.8
LVWPS-U1-IW05B	UMCf	26734965.09	838243.38	1524.36	1524.23	29.21		Schedule 40 PVC	0.010	#2/16			2	25	145.5	145	120.3
LVWPS-U1-IW06A	UMCf	26734945.21	838258.76	1524.91	1525.12	30.40	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	157.5	2	25	113	112.5	87.8
LVWPS-U1-IW06B	UMCf	26734945.02	838258.36	1524.91	1525.07	30.06		Schedule 40 PVC	0.010	#2/16			2	30	149.5	149	119.3
LVWPS-U1-IW07A	UMCf	26734925.20	838273.28	1529.08	1528.30	33.50	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	160.0	2	25	121	120.5	95.8
LVWPS-U1-IW07B	UMCf	26734925.28	838272.95	1529.08	1528.66	33.46		Schedule 40 PVC	0.010	#2/16			2	25	152.5	152	127.3
LVWPS-U1-IW08A	UMCf	26734905.81	838289.00	1529.69	1530.71	35.85	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	170.0	2	30	125.5	125	95.3
LVWPS-U1-IW08B	UMCf	26734905.38	838288.84	1529.69	1530.83	35.70		Schedule 40 PVC	0.010	#2/16			2	25	157	156.5	131.8
LVWPS-U1-MW01A	UMCf	26735054.25	838206.27	1526.30	1526.15	31.60	Single	Schedule 40 PVC	0.010	#2/16	6	116.0	2	25	115.5	115	90.3
LVWPS-U1-MW01B	UMCf	26735052.48	838200.84	1525.78	1525.85	30.95	Single	Schedule 80 PVC	0.010	#2/16	8	157.5	4	20	153.5	153	133.5
LVWPS-U1-MW02A	UMCf	26734972.90	838277.36	1529.90	1529.61	35.00	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	25	119.5	119	94.3
LVWPS-U1-MW02B	UMCf	26734976.53	838276.51	1529.75	1529.63	34.81	Single	Schedule 80 PVC	0.010	#2/16	8	165.0	4	25	162	161.5	136.9
LVWPS-U1-MW03B	UMCf	26735108.31	838199.29	1527.13	1527.06	32.32	Single	Schedule 80 PVC	0.010	#2/16	8	165.0	4	20	154.5	154	134.5
LVWPS-U1-MW04A	UMCf	26735021.39	838264.46	1529.55	1529.35	34.82	Single	Schedule 40 PVC	0.010	#2/16	6	126.5	2	25	124.5	124	99.3
LVWPS-U1-MW04B	UMCf	26735026.82	838262.94	1529.47	1529.33	34.59	Single	Schedule 80 PVC	0.010	#2/16	8	175.0	4	25	165	164.5	139.9
LVWPS-U1-MW05A	UMCf	26734947.22	838319.22	1530.32	1529.93	35.52	Single	Schedule 40 PVC	0.010	#2/16	6	122.0	2	25	121	120.5	95.8
LVWPS-U1-MW05B	UMCf	26734951.22	838315.42	1530.45	1530.30	35.40	Single	Schedule 80 PVC	0.010	#2/16	8	172.5	4	25	162	161.5	136.9
LVWPS-U1-MW06A	UMCf	26734986.21	838153.16	1523.81	1523.70	28.56	Single	Schedule 40 PVC	0.010	#2/16	6	106.5	2	20	105.5	105	85.3
LVWPS-U1-MW06B	UMCf	26734991.82	838156.18	1524.09	1523.73	28.51	Single	Schedule 40 PVC	0.010	#2/16	6	143.0	2	25	134.5	134	109.3
LVWPS-U1-MW07	UMCf	26734907.19	838218.01	1525.17	1524.96	30.16	Single	Schedule 40 PVC	0.010	#2/16	6	140.0	2	25	111.5	111	86.3
LVWPS-U1-MW08A	UMCf	26735014.52	838236.36	1524.11	1523.97	29.20	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	25	119	118.5	93.8
LVWPS-U1-MW08B	UMCf	26735017.13	838233.33	1523.84	1523.74	28.75	Single	Schedule 80 PVC	0.010	#2/16	6	151.0	2	25	150.5	150	125.3
LVWPS-U1-MW09A	UMCf	26735032.96	838320.87	1529.36	1529.11	35.12	Single	Schedule 40 PVC	0.010	#2/16	6	126.0	2	10	125.5	125	115.3
LVWPS-U1-MW09B	UMCf	26735025.78	838320.98	1529.37	1529.08	34.62	Single	Schedule 80 PVC	0.010	#2/16	6	156.0	2	25	155.5	155	130.3
LVWPS-U1-MW10A	UMCf	26735085.42	838340.44	1527.11	1527.02	33.20	Single	Schedule 40 PVC	0.010	#2/16	6	125.0	2	25	124.5	124	99.3
LVWPS-U1-MW10B	UMCf	26735081.08	838344.98	1527.40	1527.21	32.98	Single	Schedule 80 PVC	0.010	#2/16	6	160.0	2	25	155.5	155	130.3

**Table 1**  
**Phase 2 Well Construction Details**  
 Las Vegas Wash Bioremediation Pilot Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Construction Type	Construction 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	feet bTOC			inches		inches	feet bgs		feet	feet bgs	feet bgs	feet bgs
<b>Zone 2 Study Area</b>																	
LWVPS-A2-DR01A	Alluvium	26734896.39	838889.65	1524.78	1524.77	31.90	Single	Schedule 40 PVC	0.020	#3	6	72.0	2	35	71.5	71	36.3
LWVPS-A2-DR01B	Alluvium	26734896.42	838884.23	1524.80	1524.57	31.75	Single	Schedule 40 PVC	0.020	#3	6	113.0	2	35	112.5	112	77.3
LWVPS-A2-DR02A	Alluvium	26734894.17	838964.08	1524.91	1524.65	32.00	Single	Schedule 40 PVC	0.020	#3	6	52.5	2	15	52	51.5	36.8
LWVPS-A2-DR02B	Alluvium	26734896.56	838956.61	1524.91	1524.90	32.09	Single	Schedule 40 PVC	0.020	#3	6	78.5	2	20	78	77.5	57.8
LWVPS-A2-IW01A	Alluvium	26734887.97	838782.98	1530.17	1529.79	36.44	Dual-Nested	Schedule 40 PVC	0.020	#3	10	105.0	2	25	66.5	66	41.3
LWVPS-A2-IW01B	Alluvium	26734888.00	838782.65	1530.17	1529.78	36.64		Schedule 40 PVC	0.020	#3			2	25	98	97.5	72.8
LWVPS-A2-IW02A	Alluvium	26734888.97	838815.84	1529.49	1529.01	35.88	Dual-Nested	Schedule 40 PVC	0.020	#3	10	110.0	2	30	69	68.5	38.8
LWVPS-A2-IW02B	Alluvium	26734889.05	838815.49	1529.49	1529.03	36.22		Schedule 40 PVC	0.020	#3			2	25	100.5	100	75.3
LWVPS-A2-IW03A	Alluvium	26734888.88	838851.00	1527.28	1526.93	33.94	Dual-Nested	Schedule 40 PVC	0.020	#3	10	115.0	2	30	67.5	67	37.3
LWVPS-A2-IW03B	Alluvium	26734889.18	838850.83	1527.28	1526.93	33.94		Schedule 40 PVC	0.020	#3			2	30	104	103.5	73.8
LWVPS-A2-IW04A	Alluvium	26734889.81	838887.08	1524.70	1524.57	31.70	Dual-Nested	Schedule 40 PVC	0.020	#3	10	115.0	2	35	71.5	71	36.3
LWVPS-A2-IW04B	Alluvium	26734890.02	838886.74	1524.70	1524.61	31.80		Schedule 40 PVC	0.020	#3			2	35	112.5	112	77.3
LWVPS-A2-IW05A	Alluvium	26734889.15	838921.04	1524.89	1524.86	32.05	Dual-Nested	Schedule 40 PVC	0.020	#3	10	105.0	2	25	63	62.5	37.8
LWVPS-A2-IW05B	Alluvium	26734889.30	838920.74	1524.89	1524.83	31.94		Schedule 40 PVC	0.020	#3			2	25	94	93.5	68.8
LWVPS-A2-IW06A	Alluvium	26734888.81	838957.92	1524.94	1524.91	32.20	Dual-Nested	Schedule 40 PVC	0.020	#3	10	80.0	2	15	52	51.5	36.8
LWVPS-A2-IW06B	Alluvium	26734888.84	838957.55	1524.94	1524.89	32.10		Schedule 40 PVC	0.020	#3			2	20	78	77.5	57.8
LWVPS-A2-IW07A	Alluvium	26734889.27	838991.11	1524.39	1524.31	31.57	Dual-Nested	Schedule 40 PVC	0.020	#3	10	85.0	2	15	50.5	50	35.3
LWVPS-A2-IW07B	Alluvium	26734889.32	838990.81	1524.39	1524.34	31.57		Schedule 40 PVC	0.020	#3			2	20	76.5	76	56.3
LWVPS-A2-IW08A	Alluvium	26734889.80	839026.35	1524.85	1524.74	32.10	Dual-Nested	Schedule 40 PVC	0.020	#3	10	90.0	2	20	56	55.5	35.8
LWVPS-A2-IW08B	Alluvium	26734889.91	839026.04	1524.85	1524.80	32.15		Schedule 40 PVC	0.020	#3			2	20	82	81.5	61.8
LWVPS-A2-IW09A	Alluvium	26734889.16	839061.18	1525.33	1525.37	32.68	Dual-Nested	Schedule 40 PVC	0.020	#3	10	85.0	2	15	52	51.5	36.8
LWVPS-A2-IW09B	Alluvium	26734889.14	839060.89	1525.33	1525.37	32.69		Schedule 40 PVC	0.020	#3			2	15	74	73.5	58.8
LWVPS-A2-MW01A	Alluvium	26734838.04	838817.08	1526.61	1526.29	33.07	Single	Schedule 40 PVC	0.020	#3	6	61	2	20	60.5	60	40.3
LWVPS-A2-MW01B	Alluvium	26734837.91	838821.64	1526.61	1526.16	33.09	Single	Schedule 40 PVC	0.020	#3	6	91	2	20	90.5	90	70.3
LWVPS-A2-MW02A	Alluvium	26734839.33	838936.61	1527.83	1527.49	34.66	Single	Schedule 40 PVC	0.020	#3	6	61	2	20	60.5	60	40.3
LWVPS-A2-MW02B	Alluvium	26734839.33	838940.48	1527.88	1527.62	34.55	Single	Schedule 40 PVC	0.020	#3	6	91	2	20	90.5	90	70.3
LWVPS-A2-MW03A	Alluvium	26734839.87	839041.77	1528.00	1527.72	34.95	Single	Schedule 40 PVC	0.020	#3	6	60	2	20	58.5	58	38.3
LWVPS-A2-MW03B	Alluvium	26734839.96	839046.05	1528.02	1527.68	34.90	Single	Schedule 40 PVC	0.020	#3	6	85	2	20	84.5	84	64.3
LWVPS-A2-MW04A	Alluvium	26734900.17	838770.49	1527.54	1527.55	34.24	Single	Schedule 40 PVC	0.020	#3	6	64.5	2	20	64	63.5	43.8
LWVPS-A2-MW04B	Alluvium	26734901.60	838772.88	1528.17	1527.86	34.91	Single	Schedule 40 PVC	0.020	#3	6	96.0	2	20	95.5	95	75.3
LWVPS-A2-MW05A	Alluvium	26734901.04	839073.31	1524.49	1524.18	31.50	Single	Schedule 40 PVC	0.020	#3	6	53.0	2	15	52	51.5	36.8
LWVPS-A2-MW05B	Alluvium	26734903.12	839070.97	1524.49	1524.29	31.68	Single	Schedule 40 PVC	0.020	#3	6	75.0	2	15	74	73.5	58.8
LWVPS-A2-MW08A	Alluvium	26734933.48	838815.75	1529.44	1529.35	36.36	Single	Schedule 40 PVC	0.020	#3	6	56.0	2	15	55.5	55	40.3
LWVPS-A2-MW08B	Alluvium	26734937.17	838818.51	1529.20	1528.84	35.90	Single	Schedule 40 PVC	0.020	#3	6	81.3	2	20	80	79.5	59.8
LWVPS-A2-MW08C	Alluvium	26734938.06	838813.32	1529.24	1528.93	36.25	Single	Schedule 40 PVC	0.020	#3	6	110.0	2	20	106.5	106	86.3
LWVPS-A2-MW09A	Alluvium	26734942.12	839052.25	1523.77	1523.56	30.91	Single	Schedule 40 PVC	0.020	#3	6	56.0	2	20	55	54.5	34.8

**Table 1**  
**Phase 2 Well Construction Details**  
 Las Vegas Wash Bioremediation Pilot Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Construction Type	Construction 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	feet bTOC			inches		inches	feet bgs		feet	feet bgs	feet bgs	feet bgs
LWVPS-A2-MW09B	Alluvium	26734943.95	839045.22	1523.85	1523.67	31.31	Single	Schedule 40 PVC	0.020	#3	6	85.0	2	20	79	78.5	58.8
LWVPS-A2-MW11A	Alluvium	26734984.76	838791.31	1528.05	1528.00	35.10	Single	Schedule 40 PVC	0.020	#3	6	61.5	2	20	60.5	60	40.3
LWVPS-A2-MW11B	Alluvium	26734986.77	838787.83	1528.01	1527.79	35.06	Single	Schedule 40 PVC	0.020	#3	6	86.0	2	20	85.5	85	65.3
LWVPS-A2-MW11C	Alluvium	26734987.49	838793.00	1528.09	1527.81	35.36	Single	Schedule 40 PVC	0.020	#3	6	114.0	2	20	110.5	110	90.3
LWVPS-A2-MW12A	Alluvium	26734988.20	838951.66	1523.08	1522.85	30.24	Single	Schedule 40 PVC	0.020	#3	6	46.0	2	10	45	44.5	34.9
LWVPS-A2-MW12B	Alluvium	26734989.46	838955.96	1523.15	1522.94	30.48	Single	Schedule 40 PVC	0.020	#3	6	75.0	2	20	69.5	69	49.3
LWVPS-A2-MW13A	Alluvium	26734986.06	839098.37	1523.62	1523.23	31.00	Single	Schedule 40 PVC	0.020	#3	6	62.0	2	20	61.5	61	41.3
LWVPS-A2-MW13B	Alluvium	26734989.09	839099.95	1523.60	1523.40	31.44	Single	Schedule 40 PVC	0.020	#3	6	90.0	2	20	86.6	86.1	66.4
LWVPS-A2-MW14A	Alluvium	26734938.41	838942.48	1524.15	1523.84	31.16	Single	Schedule 40 PVC	0.020	#3	6	51.5	2	15	51	50.5	35.8
LWVPS-A2-MW14B	Alluvium	26734938.74	838946.20	1524.51	1524.32	31.70	Single	Schedule 40 PVC	0.020	#3	6	80.0	2	20	75	74.5	54.8
LWVPS-A2-MW15A	Alluvium	26735094.04	838828.85	1521.20	1520.95	28.70	Single	Schedule 40 PVC	0.020	#3	6	61.0	2	20	60	59.5	39.8
LWVPS-A2-MW15B	Alluvium	26735101.30	838829.49	1521.68	1521.37	29.34	Single	Schedule 40 PVC	0.020	#3	6	110.0	2	20	90.5	90	70.3
LWVPS-A2-MW16A	Alluvium	26735252.27	838928.69	1520.47	1520.73	29.34	Single	Schedule 40 PVC	0.020	#3	6	56.0	2	20	56	55.5	35.8
LWVPS-A2-MW16B	Alluvium	26735258.00	838931.03	1520.25	1520.51	29.21	Single	Schedule 40 PVC	0.020	#3	6	90.0	2	20	80.5	80	60.3
LWVPS-A2-MW17A	Alluvium	26734983.57	838866.47	1526.43	1526.35	33.65	Single	Schedule 40 PVC	0.020	#3	6	61.5	2	20	60.5	60	40.3
LWVPS-A2-MW17B	Alluvium	26734985.17	838863.03	1526.25	1526.26	33.65	Single	Schedule 40 PVC	0.020	#3	6	86.0	2	20	85.5	85	65.3
LWVPS-A2-MW17C	Alluvium	26734989.37	838862.92	1526.03	1525.81	33.86	Single	Schedule 40 PVC	0.020	#3	6	115.5	2	20	110.5	110	90.3
LWVPS-U2-DR01	UMCf	26734896.14	838880.43	1524.84	1524.74	32.06	Single	Schedule 40 PVC	0.010	#2/16	6	142.0	2	20	141.5	141	121.3
LWVPS-U2-DR02	UMCf	26734896.48	838953.23	1524.85	1524.76	32.25	Single	Schedule 40 PVC	0.010	#2/16	6	109.5	2	25	109	108.5	83.8
LWVPS-U2-IW01	UMCf	26734889.36	838880.42	1524.71	1524.63	32.09	Single	Schedule 40 PVC	0.010	#2/16	6	155.0	2	20	141.5	141	121.2
LWVPS-U2-IW02	UMCf	26734889.50	838905.01	1525.09	1525.07	32.55	Single	Schedule 40 PVC	0.010	#2/16	6	145.0	2	25	141.5	141	116.2
LWVPS-U2-IW03	UMCf	26734889.40	838930.38	1524.99	1524.91	32.25	Single	Schedule 40 PVC	0.010	#2/16	6	125.0	2	25	124.5	124	99.2
LWVPS-U2-IW04	UMCf	26734888.87	838954.79	1524.89	1524.84	32.10	Single	Schedule 40 PVC	0.010	#2/16	6	145.0	2	25	109	108.5	83.7
LWVPS-U2-IW05	UMCf	26734889.80	838980.34	1524.54	1524.54	32.80	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	30	118	117.5	87.7
LWVPS-U2-IW06	UMCf	26734889.08	839005.30	1524.82	1524.70	32.52	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	15	104.5	104	89.2
LWVPS-U2-IW07	UMCf	26734889.76	839029.85	1524.95	1524.98	32.40	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	15	106.5	106	91.2
LWVPS-U2-IW08	UMCf	26734889.41	839055.50	1525.34	1525.29	32.72	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	25	109	108.5	83.7
LWVPS-U2-IW09	UMCf	26734886.72	838779.73	1529.53	1529.26	36.22	Single	Schedule 40 PVC	0.010	#2/16	6	130.0	2	25	128.5	128	103.2
LWVPS-U2-IW10	UMCf	26734887.07	838805.16	1529.51	1529.59	36.72	Single	Schedule 40 PVC	0.010	#2/16	6	135.0	2	20	129.5	129	109.3
LWVPS-U2-IW11	UMCf	26734886.91	838830.51	1528.30	1528.02	35.26	Single	Schedule 40 PVC	0.010	#2/16	6	135.0	2	25	134.2	133.7	108.9
LWVPS-U2-IW12	UMCf	26734889.28	838856.13	1526.66	1526.14	33.53	Single	Schedule 40 PVC	0.010	#2/16	6	139.0	2	25	138	137.5	112.8
LWVPS-U2-MW01	UMCf	26734837.77	838825.83	1526.69	1526.40	33.42	Single	Schedule 40 PVC	0.010	#2/16	6	125	2	20	117.5	117	97.3
LWVPS-U2-MW02	UMCf	26734839.36	838945.11	1527.94	1527.68	35.20	Single	Schedule 40 PVC	0.010	#2/16	6	126	2	25	125.5	125	100.3
LWVPS-U2-MW03	UMCf	26734839.69	839050.30	1527.99	1527.66	34.91	Single	Schedule 40 PVC	0.010	#2/16	6	115	2	20	110.5	110	90.3
LWVPS-U2-MW04	UMCf	26734895.79	838771.90	1528.66	1528.35	35.35	Single	Schedule 40 PVC	0.010	#2/16	6	130.0	2	25	128.5	128	103.2
LWVPS-U2-MW05	UMCf	26734897.24	839064.72	1524.94	1524.76	32.20	Single	Schedule 40 PVC	0.010	#2/16	6	110.0	2	25	108.5	108	83.2
LWVPS-U2-MW06	UMCf	26734914.99	838875.13	1525.48	1524.89	32.40	Single	Schedule 40 PVC	0.010	#2/16	6	142.5	2	20	142	141.5	121.8
LWVPS-U2-MW07	UMCf	26734914.74	839095.07	1524.53	1524.37	31.82	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	20	108.5	108	88.2
LWVPS-U2-MW08	UMCf	26734941.29	838816.82	1529.11	1528.75	36.21	Single	Schedule 40 PVC	0.010	#2/16	6	135.0	2	20	133.5	133	113.2
LWVPS-U2-MW09	UMCf	26734941.56	839048.32	1523.83	1523.62	31.61	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	20	105.2	104.7	84.9
LWVPS-U2-MW10	UMCf	26734942.01	839149.60	1525.67	1525.57	34.12	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	20	110.5	110	90.2
LWVPS-U2-MW12	UMCf	26734992.74	838953.32	1523.09	1522.89	31.20	Single	Schedule 40 PVC	0.010	#2/16	6	110.0	2	25	108.5	108	83.2
LWVPS-U2-MW13	UMCf	26734988.97	839095.12	1523.52	1523.42	31.89	Single	Schedule 40 PVC	0.010	#2/16	6	120.0	2	15	110	109.5	94.7
LWVPS-U2-MW14	UMCf	26734939.25	838950.26	1524.77	1524.30	32.70	Single	Schedule 40 PVC	0.010	#2/16	6	110.0	2	25	108.5	108	83.2
LWVPS-U2-MW17	UMCf	26734987.32	838868.87	1526.17	1525.88	34.19	Single	Schedule 40 PVC	0.010	#2/16	6	137.7	2	20	137	136.5	117
LWVPS-U2-MW18	UMCf	26734914.05	838993.79	1524.16	1524.09	32.53	Single	Schedule 40 PVC	0.010	#2/16	6	114.0	2	25	113.5	113	88.3
LWVPS-U2-MW19	UMCf	26734889.37	839106.34	1525.18	1525.07	32.71	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	20	111.5	111	91.2
LWVPS-U2-MW20	UMCf	26734889.93	839153.61	1525.44	1525.24	32.98	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	20	108.5	108	88.2

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**Phase 2 Well Construction Details**  
 Las Vegas Wash Bioremediation Pilot Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Construction Type	Construction 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	feet bTOC			inches		inches	feet bgs		inches	feet	feet bgs	feet bgs
LVWPS-BH01	---	26734872.28	838780.13	1530.46	---	---	Soil Boring	---	---	---	6	105.0	---	---	---	---	---
<b>Zone 3 Study Area</b>																	
LVWPS-A3-DR01	Alluvium	26734911.52	839503.33	1522.87	1522.71	30.41	Single	Schedule 40 PVC	0.020	#3	6	76.5	2	20	76	75.5	55.8
LVWPS-A3-MW02	Alluvium	26734944.12	839475.20	1522.61	1522.39	30.30	Single	Schedule 40 PVC	0.020	#3	6	85.0	2	20	73	72.5	52.8
LVWPS-A3-MW06	Alluvium	26734960.45	839530.77	1522.32	1521.99	30.03	Single	Schedule 40 PVC	0.020	#3	6	76.0	2	20	75.5	75	55.3
LVWPS-A3-MW07	Alluvium	26734843.39	839449.63	1525.17	1525.06	32.48	Single	Schedule 40 PVC	0.020	#3	6	75	2	20	75	74.5	54.8
LVWPS-A3-MW08	Alluvium	26734864.46	839588.62	1525.58	1525.30	32.90	Single	Schedule 40 PVC	0.020	#3	6	110	2	20	105	104.5	84.8
LVWPS-A3-MW10	Alluvium	26734994.40	839445.10	1521.78	1521.72	30.06	Single	Schedule 40 PVC	0.020	#3	6	77.0	2	20	76.5	76	56.3
LVWPS-A3-MW11	Alluvium	26735007.80	839556.93	1521.33	1521.36	29.41	Single	Schedule 40 PVC	0.020	#3	6	80.0	2	20	74	73.5	53.8
LVWPS-A3-MW12	Alluvium	26735042.88	839483.87	1520.86	1520.75	29.13	Single	Schedule 40 PVC	0.020	#3	6	80.0	2	20	79.5	79	59.3
LVWPS-U3-DR01A	UMCf-cg	26734912.10	839506.61	1522.95	1522.72	30.55	Single	Schedule 40 PVC	0.010	#2/16	6	124.5	2	30	123.5	123	93.3
LVWPS-U3-DR01B	UMCf-cg	26734912.55	839510.18	1522.84	1522.69	30.71	Single	Schedule 80 PVC	0.010	#2/16	6	160.0	2	30	159.5	159	129.3
LVWPS-U3-DR02A	UMCf-cg	26734924.88	839575.78	1523.27	1523.13	30.96	Single	Schedule 40 PVC	0.010	#2/16	6	112.5	2	25	111.5	111	86.3
LVWPS-U3-DR02B	UMCf-cg	26734925.39	839579.10	1523.15	1522.98	31.05	Single	Schedule 40 PVC	0.010	#2/16	6	144.0	2	25	143	142.5	117.8
LVWPS-U3-DR02C	UMCf-cg	26734925.79	839582.56	1523.10	1522.90	31.03	Single	Schedule 80 PVC	0.010	#2/16	6	175.0	2	25	174.5	174	149.3
LVWPS-U3-IW01	UMCf-cg	26734893.19	839433.14	1522.95	1525.61	34.12	Single	Schedule 40 PVC	0.010	#2/16	10	118.0	2	35	115.5	115	80.2
LVWPS-U3-IW02A	UMCf-cg	26734896.96	839458.60	1522.81	1524.20	33.32	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	128.0	2	20	99.5	99	79.3
LVWPS-U3-IW02B	UMCf-cg	26734896.77	839458.31	1522.81	1524.22	32.78		Schedule 40 PVC	0.010	#2/16			2	20	125	124.5	104.8
LVWPS-U3-IW03A	UMCf-cg	26734901.01	839482.33	1522.92	1524.25	32.31	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	144.0	2	25	103	102.5	77.8
LVWPS-U3-IW03B	UMCf-cg	26734901.38	839482.28	1522.92	1524.33	32.61		Schedule 40 PVC	0.010	#2/16			2	30	139.5	139	109.3
LVWPS-U3-IW04A	UMCf-cg	26734905.65	839507.50	1523.09	1522.80	30.46	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	160.0	2	30	123.5	123	93.3
LVWPS-U3-IW04B	UMCf-cg	26734905.89	839507.21	1523.09	1522.81	30.87		Schedule 40 PVC	0.010	#2/16			2	30	159.5	159	129.3
LVWPS-U3-IW05A	UMCf-cg	26734909.80	839531.81	1522.62	1522.80	31.46	Dual-Nested	Schedule 40 PVC	0.010	#2/16	10	175.0	2	35	126.5	126	91.3
LVWPS-U3-IW05B	UMCf-cg	26734909.78	839531.47	1522.62	1522.80	30.58		Schedule 40 PVC	0.010	#2/16			2	35	168	167.5	132.8
LVWPS-U3-IW06A	UMCf-cg	26734914.65	839556.40	1522.79	1522.83	30.52	Triple-Nested	Schedule 40 PVC	0.010	#2/16	10	175.0	2	25	111.5	111	86.3
LVWPS-U3-IW06B	UMCf-cg	26734914.56	839556.00	1522.79	1522.89	30.68		Schedule 40 PVC	0.010	#2/16			2	25	143	142.5	117.8
LVWPS-U3-IW06C	UMCf-cg	26734914.32	839556.27	1522.79	1522.85	31.02		Schedule 40 PVC	0.010	#2/16			2	25	174.5	174	149.3
LVWPS-U3-IW07A	UMCf-cg	26734918.75	839580.97	1523.32	1523.03	30.80	Triple-Nested	Schedule 40 PVC	0.010	#2/16	10	175.0	2	25	111.5	111	86.3
LVWPS-U3-IW07B	UMCf-cg	26734918.38	839580.95	1523.32	1523.03	31.02		Schedule 40 PVC	0.010	#2/16			2	25	143	142.5	117.8
LVWPS-U3-IW07C	UMCf-cg	26734918.60	839580.61	1523.32	1523.03	31.02		Schedule 40 PVC	0.010	#2/16			2	25	174.5	174	149.3
LVWPS-U3-IW08A	UMCf-cg	26734923.35	839605.13	1523.23	1523.11	30.87	Triple-Nested	Schedule 40 PVC	0.010	#2/16	10	175.0	2	25	111.5	111	86.3
LVWPS-U3-IW08B	UMCf-cg	26734923.06	839605.34	1523.23	1523.09	31.08		Schedule 40 PVC	0.010	#2/16			2	25	143	142.5	117.8
LVWPS-U3-IW08C	UMCf-cg	26734923.00	839604.97	1523.23	1523.10	31.05		Schedule 40 PVC	0.010	#2/16			2	25	174.5	174	149.3
LVWPS-U3-MW01B	UMCf-cg	26734942.69	839376.18	1522.54	1522.41	30.90	Single	Schedule 80 PVC	0.010	#2/16	8	107.5	4	20	103.8	103.3	83.8
LVWPS-U3-MW02A	UMCf-cg	26734948.75	839479.60	1522.40	1522.13	30.42	Single	Schedule 40 PVC	0.010	#2/16	6	98.5	2	15	97.5	97	82.3
LVWPS-U3-MW02B	UMCf-cg	26734943.22	839481.31	1522.50	1522.21	30.76	Single	Schedule 80 PVC	0.010	#2/16	8	130.0	4	20	123	122.5	103
LVWPS-U3-MW03A	UMCf-cg	26734944.17	839583.42	1522.80	1522.68	30.60	Single	Schedule 40 PVC	0.010	#2/16	6	112.5	2	25	111.5	111	86.3
LVWPS-U3-MW03B	UMCf-cg	26734944.11	839576.72	1522.86	1522.49	30.68	Single	Schedule 80 PVC	0.010	#2/16	8	179.0	4	25	176.2	175.7	151.1
LVWPS-U3-MW03C	UMCf-cg	26734949.67	839579.79	1522.47	1522.21	30.32	Single	Schedule 40 PVC	0.010	#2/16	6	143.5	2	25	143	142.5	117.8
LVWPS-U3-MW04B	UMCf-cg	26734968.11	839326.96	1522.25	1521.92	30.36	Single	Schedule 80 PVC	0.010	#2/16	8	102.5	4	20	98.2	97.7	78.2
LVWPS-U3-MW05B	UMCf-cg	26734968.70	839425.48	1522.17	1521.98	30.50	Single	Schedule 80 PVC	0.010	#2/16	8	112.5	4	20	105.2	104.7	85.2
LVWPS-U3-MW06A	UMCf-cg	26734962.99	839525.84	1522.04	1521.91	30.10	Single	Schedule 40 PVC	0.010	#2/16	6	116.5	2	25	115.5	115	90.3
LVWPS-U3-MW06B	UMCf-cg	26734965.59	839528.63	1522.18	1521.92	30.20	Single	Schedule 80 PVC	0.010	#2/16	8	152.5	4	25	150.4	149.9	125.3
LVWPS-U3-MW07A	UMCf-cg	26734843.54	839454.21	1525.21	1524.95	32.40	Single	Schedule 40 PVC	0.010	#2/16	6	100	2	15	98	97.5	82.8
LVWPS-U3-MW07B	UMCf-cg	26734843.26	839458.27	1525.26	1524.93	32.87	Single	Schedule 40 PVC	0.010	#2/16	6	126	2	20	125	124.5	104.8
LVWPS-U3-MW08A	UMCf-cg	26734863.82	839592.64	1525.64	1525.45	33.40	Single	Schedule 40 PVC	0.010	#2/16	6	145	2	25	143	142.5	117.8
LVWPS-U3-MW08B	UMCf-cg	26734863.16	839597.03	1525.70	1525.28	33.21	Single	Schedule 80 PVC	0.010	#2/16	6	175	2	25	174.5	174	149.3
LVWPS-U3-MW09	UMCf-cg	26734922.06	839452.86	1522.74	1525.38	34.00	Single	Schedule 40 PVC	0.010	#2/16	6	115.0	2	25	108	107.5	82.8

**Table 1**  
**Phase 2 Well Construction Details**  
 Las Vegas Wash Bioremediation Pilot Study

Well ID	Screened Lithology	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth to Water <sup>1</sup>	Construction Type	Construction 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	feet bTOC			inches		inches	feet bgs		inches	feet	feet bgs	feet bgs
LVWPS-U3-MW10A	UMCf-cg	26734997.78	839440.95	1521.78	1521.47	30.09	Single	Schedule 40 PVC	0.010	#2/16	6	97.0	2	10	95.5	95	85.3
LVWPS-U3-MW10B	UMCf-cg	26734999.52	839447.11	1521.68	1521.55	30.14	Single	Schedule 40 PVC	0.010	#2/16	6	130.0	2	20	121.5	121	101.3
LVWPS-U3-MW11A	UMCf-cg	26735013.48	839552.91	1521.42	1521.39	29.79	Single	Schedule 40 PVC	0.010	#2/16	6	107.5	2	20	106.5	106	86.3
LVWPS-U3-MW11B	UMCf-cg	26735014.90	839559.83	1521.28	1521.35	29.91	Single	Schedule 40 PVC	0.010	#2/16	6	138.0	2	25	137.5	137	112.3
LVWPS-U3-MW11C	UMCf-cg	26735017.93	839555.86	1521.33	1521.20	29.83	Single	Schedule 80 PVC	0.010	#2/16	6	170.0	2	20	163.4	163	143.3
LVWPS-U3-MW12A	UMCf-cg	26735045.73	839479.41	1521.01	1520.83	29.40	Single	Schedule 40 PVC	0.010	#2/16	6	109.5	2	20	108.5	108	88.3
LVWPS-U3-MW12B	UMCf-cg	26735047.74	839484.29	1520.91	1520.74	29.36	Single	Schedule 40 PVC	0.010	#2/16	6	140.0	2	25	138.5	138	113.3
LVWPS-U3-MW13A	UMCf-cg	26734933.25	839516.75	1522.40	1522.24	30.21	Single	Schedule 40 PVC	0.010	#2/16	6	122.5	2	25	121.5	121	96.3
LVWPS-U3-MW13B	UMCf-cg	26734934.09	839522.37	1522.01	1521.91	30.00	Single	Schedule 40 PVC	0.010	#2/16	6	155.0	2	15	148	147.5	132.8
<b>Extraction Wells</b>																	
LVWPS-EW01	Alluvium	26734957.94	838426.21	1530.03	1529.74	35.74	Single	Schedule 40 PVC with Stainless Steel Wire Wrap Screen	0.020	12-20	10	95.0	6	40	85	84.5	44.8
LVWPS-EW02	Alluvium	26734885.98	838507.29	1523.66	1523.25	29.20	Single	Schedule 40 PVC with Stainless Steel Wire Wrap Screen	0.020	12-20	10	61.0	6	30	58.5	58	28.3
LVWPS-EW03	Alluvium	26734886.94	838621.90	1523.14	1522.70	28.95	Single	Schedule 40 PVC with Stainless Steel Wire Wrap Screen	0.020	12-20	10	81.0	6	30	70.5	70	40.3
LVWPS-EW04	Alluvium	26734947.54	838573.33	1522.40	1521.92	28.20	Single	Schedule 40 PVC with Stainless Steel Wire Wrap Screen	0.020	12-20	10	47.0	6	20	46.5	46	26.3
LVWPS-EW05	Alluvium	26734978.54	838497.51	1529.76	1529.42	35.60	Single	Schedule 40 PVC with Stainless Steel Wire Wrap Screen	0.020	12-20	10	81.0	6	30	80.5	80	50.3

**Notes**

amsl - above mean sea level

bgs - below ground surface

bTOC - below top of casing

PVC - polyvinyl chloride

UMCf - Upper Muddy Creek formation

UMCf-cg - Upper Muddy Creek formation - coarse grained facies

UMCf/Horse Springs- Alternating layers of UMCf, semi-consolidated UMCf, and reworked Horse Springs formation.

UMCf (Semi-Cons) - Semi-consolidated Upper Muddy Creek formation

--- Not Applicable

1. Depth to water measurements collected in October 2020.

2. Well names including IW indicate an injection well. Well names including DR indicate a dose response well. Well names including MW indicate a monitoring well. Well names including EW indicate an extraction well.