

UIC Compliance Coordinator  
Nevada Division of Environmental Protection  
Bureau of Water Pollution Control  
**Attn: Injection Monitoring Report**  
901 South Stewart Street, Suite 4001  
Carson City, NV 89701-5249

**UIC PERMIT # UNEV94218 – FIRST AND SECOND QUARTERS 2015  
NEVADA ENVIRONMENTAL RESPONSE TRUST SITE, HENDERSON, NEVADA**

Dear UIC Compliance Coordinator:

Date July 27, 2015

The Nevada Environmental Response Trust (NERT or the Trust) maintains Underground Injection Control (UIC) Permit #UNEV94218 for groundwater remediation at the NERT site in Henderson, Nevada. Note that injection of stabilized Lake Mead water was suspended as of September 16, 2010, due to soil removal activities surrounding the recharge trenches. This soil excavation is described in the NDEP Bureau of Corrective Actions-approved RZ-D Excavation Plan for the Tronox Henderson facility dated July 2010, and was completed in November 2011. Resumption of the injection of stabilized Lake Mead water is under evaluation, but currently injection is not occurring.

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On behalf of the Trust, ENVIRON International Corporation (ENVIRON), now known as Ramboll Environ US Corporation (Ramboll Environ), submitted a permit renewal application in March 2013. In June 2015, NDEP Bureau of Water Pollution Control (BWPC) provided a draft of the renewed permit and Ramboll Environ, on behalf of the Trust, provided comments on the draft permit within the 30-day public comment period. On July 20, 2015, the renewed UIC permit was issued by NDEP BWPC. The monitoring requirements of the renewed permit will be implemented beginning 3<sup>rd</sup> quarter 2015 and will be reported in the semi-annual report for 3<sup>rd</sup> and 4<sup>th</sup> quarters 2015 due January 28, 2016, as required.

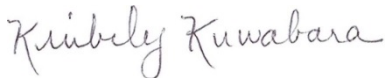
Pursuant to the permit's Part I.A.4 and Table 1 of Attachment A, collection and analysis of samples of Lake Mead water is required on a quarterly basis. Please note that ENVIRON, on behalf of the Trust, submitted a letter to Mr. Russ Land, NDEP BWPC, on March 18, 2013, requesting relief from the quarterly monitoring requirement for stabilized Lake Mead water while not actively injecting. The request was approved by Mr. Land via e-mail dated April 4, 2013. Therefore, collection and analysis of stabilized Lake Mead water samples was not

conducted in 1<sup>st</sup> or 2<sup>nd</sup> quarter 2015. Collection and analysis of stabilized Lake Mead water samples will not be conducted unless injection resumes. In addition, Part I.A.4 and Table 1 of Attachment A of the permit require quarterly groundwater monitoring and collection of groundwater elevations. This information is provided in Attachment 1, together with the UIC Form U230 – Field Sampling and Monitoring Summary. The supporting electronic analytical reports are provided on the CD in Attachment 2. Part I.A.4 and Attachment A require monitoring of the injection and the extraction monthly rate averages. This information is included in Attachment 1. Part I.A.4 and Attachment A also require preparation of a potentiometric surface map each quarter. Maps were prepared for both subject quarters, based upon water levels measured in the respective quarters and are included in Attachment 3.

Analysis of total and hexavalent chromium, perchlorate, and total dissolved solids (TDS) is required in the monitoring wells specified in Table 1 of Attachment A. Well M-84 is listed in Table 1, but has been plugged and abandoned. Analytical data for well M-80 is included in place of M-84; however, hexavalent chromium was not analyzed in well M-80 during 2<sup>nd</sup> quarter 2015. In the future, hexavalent chromium analysis will be performed quarterly in well M-80, as required by the renewed permit.

Should you have any questions concerning this report, please contact Kimberly Kuwabara at (510) 420-2525 or kkuwabara@environcorp.com.

Yours sincerely,



**Kimberly Kuwabara, MS**

Senior Manager

CEM Certification #2353, expires 3/20/17

#### **Attachments**


- Attachment 1: Groundwater Monitoring Reports
- Attachment 2: Supporting Analytical Reports (*on CD*)
- Attachment 3: Potentiometric Surface Maps

cc: James Dotchin, Bureau of Industrial Site Cleanup, NDEP  
Weiquan Dong, Bureau of Industrial Site Cleanup, NDEP  
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Wendy Prescott, Envirogen Technologies, Inc.  
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John Pekala, Ramboll Environ  
Frank Johns, Tetra Tech, Inc.  
Derek Amidon, Tetra Tech, Inc.

**UIC Permit UNEV94218 – 1<sup>st</sup> and 2<sup>nd</sup> Q 2015 DMR  
CEM Certification**

**Responsible Certified Environmental Manager (CEM) for this project**

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 provided 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.

  
\_\_\_\_\_  
**Kimberly Kuwabara**  
**Senior Manager**

  
\_\_\_\_\_  
**Date**

Certified Environmental Manager  
Ramboll Environ US Corporation  
CEM Certification Number: 2353  
CEM Expiration Date: March 20, 2017

**ATTACHMENT 1**  
**GROUNDWATER MONITORING INFORMATION**

**ATTACHMENT A****UNEV 94218: Monitoring Report Requirements**

The Permittee shall submit **quarterly reports** on a continuous basis, **whether actively injecting or not**, which contain the following data (please check all information included in the attached report):

The UIC permit number and Attachment A.

The results of the chemical analyses as required by Table 1.

**Table 1**

<b>PARAMETER</b>	<b>FREQUENCY</b>	<b>LOCATION</b>	<b>LIMITATIONS</b>
VOCs, Total Perchlorate, and Profile I Analysis	Quarterly	Lake Mead Water at Discharge Pipe Prior to Injection	State and Federal Drinking Water Standards. Injectate must not degrade the Groundwater Quality
Total and Hexavalent Chromium	Quarterly	M-11, M-12A, M-36, M-37, M-44, M-84, M- 95, and M-100	Monitor and Report
Total Perchlorate, Including NaClO <sub>4</sub> and NH <sub>4</sub> ClO <sub>4</sub>	Quarterly	M-11, M-12A, M-36, M-37, M-44, M-84, M- 95, and M-100	Monitor and Report
TDS	Quarterly	M-11, M-12A, M-36, M-37, M-44, M-84, M- 95, and M-100	Monitor and Report
Injection Rate into Injection trenches and Total Volume injected	Continuously	Discharge Pipe Prior to Injection	100 gpm monthly average. Must be equivalent or less than total extraction rate and volume
Extraction Rate and Total Volume extracted	Continuously	Extraction Wells located Upgradient of Injection Trenches	Cumulative extraction rate must be equivalent or greater than injection rate and volume
Groundwater Elevation and Depth	Quarterly	M-25, M-38, M-80, M-82, M-86, M-95, M-96, M-98, M-99, M-100, and M-102	Monitor and Report

For each month in the reporting period document injection rate (gpm), volume, date, and time injected of Lake Mead water into two injection trenches.

Water level, contour map illustrating groundwater gradient and flow direction.

Summary narrative report of monitoring activities for that reporting period. The report shall include, but not be limited to, any problems encountered with the injection system, the results of any tests performed during that period, and any changes noted to the groundwater. If no injection has occurred, report the non-injection status and the reason the system is not in operation.

**Table 1. Quarterly Groundwater Elevations**  
 Nevada Environmental Response Trust (NERT) Site  
 UIC Permit UNEV94218 Monitoring Wells

Date	M-25		M-38		M-80		M-79*		M-86		M-95		M-96		M-98		M-99		M-100		M-102	
	TOC: 1759.93		TOC: 1759.73		TOC: 1746.04		TOC: 1742.53		TOC: 1744.23		TOC: 1694.09		TOC: 1693.52		TOC: 1731.90		TOC: 1730.74		TOC: 1730.93		TOC: 1740.24	
	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
Nov-04	32.63	1727.48	30.79	1728.94	29.68	1716.37	28.16	1714.37	27.34	1716.89			11.62	1681.90	33.02	1698.88	30.53	1700.21	28.83	1702.100	39.18	1701.06
Feb-05	31.96	1727.97	30.41	1729.32	27.16	1718.89	27.04	1715.49	25.39	1718.84			10.20	1683.32	32.97	1698.93	29.96	1700.78	27.98	1702.95	37.73	1702.51
May-05	32.73	1727.20	30.77	1728.96	27.62	1718.43	27.73	1714.80	28.73	1715.50			10.89	1682.63	32.98	1698.92	30.09	1700.65	28.47	1702.46	39.44	1700.80
Aug-05	30.24	1729.69	30.11	1729.62	27.38	1718.67	26.53	1716.00	26.18	1718.05			9.79	1683.73	30.81	1701.09	28.74	1702.00	26.71	1704.22	36.51	1703.73
Nov-05	31.09	1728.84	30.28	1729.45	25.51	1720.54	26.10	1716.43	27.98	1716.25			9.75	1683.77	30.40	1701.50	28.30	1702.44	26.22	1704.71	36.14	1704.10
Feb-06	30.93	1729.00	30.35	1729.38	25.33	1720.72	25.48	1717.05	29.23	1715.00			10.10	1683.42	29.95	1701.95	27.97	1702.77	26.00	1704.93	36.48	1703.76
May-06	31.15	1728.78	30.51	1729.22	24.61	1721.44	25.13	1717.40	29.34	1714.89			10.03	1683.49	28.66	1703.24	27.85	1702.89	25.98	1704.95	36.91	1703.33
Aug-06	32.06	1727.87	31.65	1728.08	24.97	1721.08	26.12	1716.41	29.24	1714.99			10.10	1683.42	29.90	1702.00	27.89	1702.85	26.02	1704.91	37.33	1702.91
Nov-06	32.18	1727.75	31.01	1728.72	25.84	1720.21	26.09	1716.44	29.89	1714.34			9.93	1683.59	30.00	1701.90	27.97	1702.77	26.27	1704.66	37.66	1702.58
Feb-07	32.56	1727.37	31.03	1728.70	27.31	1718.74	26.75	1715.78	30.00	1714.23			10.25	1683.27	29.93	1701.97	28.07	1702.67	26.21	1704.72	37.76	1702.48
May-07	32.97	1726.96	31.13	1728.60	29.06	1716.99	27.59	1714.94	31.09	1713.14			10.20	1683.32	30.11	1701.79	28.32	1702.42	26.77	1704.16	38.05	1702.19
Aug-07	33.44	1726.49	31.43	1728.30	31.46	1714.59	29.42	1713.11	32.51	1711.72			10.47	1683.05	28.71	1703.19	29.57	1701.17	28.66	1702.27	39.38	1700.86
Nov-07	33.97	1725.96	31.54	1728.19	31.90	1714.15	30.05	1712.48	34.13	1710.10			10.37	1683.15	33.13	1698.77	31.34	1699.40	30.47	1700.46	40.67	1699.57
Feb-08	33.82	1726.11	31.52	1728.21	32.92	1713.13	30.63	1711.90	35.19	1709.04			11.32	1682.20	33.29	1698.61	32.68	1698.06	33.72	1697.21	41.99	1698.25
May-08	33.82	1726.11	31.46	1728.27	24.91	1721.14	25.66	1716.87	32.33	1711.90			11.86	1681.66	33.19	1698.71	33.60	1697.14	32.72	1698.21	42.05	1698.19
Aug-08	33.64	1726.29	31.37	1728.36	25.15	1720.90	23.45	1719.08	damaged	-			10.46	1683.06	33.38	1698.52	31.92	1698.82	30.77	1700.16	43.31	1696.93
Nov-08	33.68	1726.25	31.37	1728.36	28.35	1717.70	24.96	1717.57	plugged & abandoned	-	12.62	1681.47	12.68	1680.84	33.10	1698.80	31.17	1699.57	30.42	1700.51	43.23	1697.01
Feb-09	33.61	1726.32	31.30	1728.43	29.77	1716.28	26.50	1716.03	"	-	12.63	1681.46	12.76	1680.76	dry	-	31.58	1699.16	30.81	1700.12	43.11	1697.13
May-09	33.58	1726.35	31.37	1728.36	31.58	1714.47	28.33	1714.20	"	-	12.75	1681.34	12.85	1680.67	"	-	31.90	1698.84	31.27	1699.66	43.21	1697.03
Aug-09	33.52	1726.41	31.19	1728.54	28.98	1717.07	26.73	1715.80	"	-	damaged	-	13.02	1680.50	"	-	32.66	1698.08	32.79	1698.14	43.45	1696.79
Nov-09	33.27	1726.66	30.97	1728.76	26.14	1719.91	23.96	1718.57	"	-	13.29	1680.80	13.35	1680.17	"	-	31.44	1699.30	30.23	1700.70	43.51	1696.73
Feb-10	33.28	1726.65	30.94	1728.79	24.31	1721.74	23.00	1719.53	"	-	12.91	1681.18	12.99	1680.53	"	-	30.31	1700.43	29.21	1701.72	43.31	1696.93
May-10	32.48	1727.45	30.92	1728.81	23.28	1722.77	21.78	1720.75	"	-	12.22	1681.87	12.35	1681.17	"	-	29.32	1701.42	27.72	1703.21	43.12	1697.12
Aug-10	32.98	1726.95	31.05	1728.68	23.94	1722.11	21.94	1720.59	"	-	12.19	1681.90	12.41	1681.11	"	-	28.68	1702.06	26.93	1704.00	42.46	1697.78
Nov-10	33.00	1726.93	31.96	1727.77	32.64	1713.41	32.64	1709.89	"	-	12.14	1681.95	13.30	1680.22	"	-	28.97	1701.77	27.84	1703.09	damaged	-
Feb-11	33.41	1726.52	31.28	1728.45	35.52	1710.53	30.66	1711.87	"	-	12.23	1681.86	12.47	1681.05	"	-	30.71	1700.03	inaccessible	-	plugged & abandoned	-
May-11	33.56	1726.37	31.32	1728.41	35.84	1710.21	32.39	1710.14	"	-	12.83	1681.26	12.91	1680.61	"	-	34.69	1696.05	33.30	1697.63	"	-
Aug-11	33.62	1726.31	31.48	1728.25	35.98	1710.07	31.53	1711.00	"	-	13.49	1680.60	13.52	1680.00	"	-	34.80	1695.94	dry	-	"	-
Nov-11	32.04	1727.89	31.29	1728.44	36.07	1709.98	31.53	1711.00	"	-	14.01	1680.08	14.04	1679.48	"	-	34.78	1695.96	"	-	"	-
Feb-12	33.68	1726.25	31.45	1728.28	36.22	1709.83	31.65	1710.88	"	-	14.63	1679.46	14.84	1678.68	"	-	dry	-	"	-	"	-
May-12	33.75	1726.18	31.53	1728.20	36.22	1709.83	31.75	1710.78	"	-	15.45	1678.64	15.38	1678.14	"	-	"	-	"	-	"	-
Aug-12	33.69	1726.24	31.48	1728.25	36.16	1709.89	31.64	1710.89	"	-	15.81	1678.28	15.76	1677.76	"	-	"	-	"	-	"	-
Nov-12	30.82	1729.11	29.55	1730.18	33.50	1712.55	30.27	1712.26	"	-	16.40	1677.69	15.80	1677.72	"	-	"	-	"	-	"	-
Feb-13	31.12	1728.81	31.14	1728.59	35.56	1710.49	29.25	1713.28	"	-	16.20	1677.89	16.10	1677.42	"	-	"	-	"	-	"	-
May-13	30.70	1729.23	29.96	1729.77	35.19	1710.86	29.19	1713.34	"	-	18.24	1675.85	dry	-	"	-	33.09	1697.65	"	-	"	-
Aug-13	30.28	1729.65	29.91	1729.82	35.28	1710.76	29.45	1713.08	"	-	16.47	1677.62	"	-	"	-	33.28	1697.46	"	-	"	-
Nov-13	30.32	1729.61	29.96	1729.77	35.42	1710.62	29.88	1712.65	"	-	16.57	1677.52	"	-	"	-	33.55	1697.19	"	-	"	-
Feb-14	31.01	1728.92	30.32	1729.41	35.47	1710.57	30.04	1712.49	"	-	16.72	1677.37	"	-	"	-	33.04	1697.7	"	-	"	-
May-14	32.07	1727.86	30.84	1728.89	35.69	1710.35	30.59	1711.94	"	-	16.92	1677.17	"	-	"	-	33.24	1697.5	"	-	"	-
Aug-14	33.31	1726.62	31.19	1728.54	35.93	1710.11	31.14	1711.39	"	-	17.12	1676.97	"	-	"	-	33.38	1697.36	"	-	"	-
Dec-14	33.50	1726.43	31.32	1728.41	36.03	1710.01	31.48	1711.05	"	-	17.54	1676.55	"	-	"	-	33.56	1697.18	"	-	"	-
Feb-15	33.54	1726.39	31.36	1728.37	36.20	1709.84	31.43	1711.10	"	-	17.93	1676.16	"	-	"	-	33.70	1697.04	"	-	"	-
May-15	33.79	1726.14	31.62	1728.11	36.07	1709.97	31.73	1710.80	"	-	18.08	1676.01	"	-	"	-	33.63	1697.11	"	-	"	-

Notes:  
 M-82 is plugged and abandoned.  
 M-79 replaced M-86 (plugged and abandoned)  
 DTW = Depth to water measurement in feet below ground surface (bgs)  
 ELEV = Groundwater elevation in feet above mean sea level (amsl)

**Table 2. Monitoring Well Analytical Summary**  
Nevada Environmental Response Trust (NERT) Site  
UIC Permit UNEV94218 Monitoring Wells

<u>Sample Date</u>	<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>SQL</u>	<u>Units</u>	<u>Method</u>
01/30/2015	M-11	Chromium (total)	1.2	mg/l	0.0025	mg/l	E200.7
02/26/2015	M-11	Chromium (total)	1.2	mg/l	0.013	mg/l	E200.7
01/30/2015	M-11	Chromium VI	1,200 J	ug/l	25	ug/l	E218.6
02/26/2015	M-11	Chromium VI	1,100	ug/l	25	ug/l	E218.6
01/30/2015	M-11	Dissolved Solids (total)	2,400,000	ug/l	10000	ug/l	SM2540C
02/26/2015	M-11	Dissolved Solids (total)	2,300	mg/l	10	mg/l	SM2540C
01/30/2015	M-11	Perchlorate	16,000	ug/l	500	ug/l	E314.0
02/26/2015	M-11	Perchlorate	18,000	ug/l	500	ug/l	E314.0
02/26/2015	M-11	pH	8.01	s.u.	0.100	s.u.	SM4500-H+
01/20/2015	M-12A	Chromium (total)	11	mg/l	0.0025	mg/l	E200.7
02/26/2015	M-12A	Chromium (total)	11	mg/l	0.013	mg/l	E200.7
01/20/2015	M-12A	Chromium VI	11,000	ug/l	250	ug/l	E218.6
02/26/2015	M-12A	Chromium VI	11,000	ug/l	250	ug/l	E218.6
01/20/2015	M-12A	Dissolved Solids (total)	7,300,000	ug/l	50000	ug/l	SM2540C
02/26/2015	M-12A	Dissolved Solids (total)	7,300	mg/l	50	mg/l	SM2540C
01/20/2015	M-12A	Perchlorate	240,000	ug/l	9500	ug/l	E314.0
02/26/2015	M-12A	Perchlorate	240,000	ug/l	5000	ug/l	E314.0
02/26/2015	M-12A	pH	8.22	s.u.	0.100	s.u.	SM4500-H+
01/29/2015	M-37	Chromium (total)	0.034	mg/l	0.0025	mg/l	E200.7
02/27/2015	M-37	Chromium (total)	0.032	mg/l	0.013	mg/l	E200.7
01/29/2015	M-37	Chromium VI	8.9 J	ug/l	0.25	ug/l	E218.6
02/27/2015	M-37	Chromium VI	9.3	ug/l	0.25	ug/l	E218.6
01/29/2015	M-37	Dissolved Solids (total)	5,300,000	ug/l	50000	ug/l	SM2540C
02/27/2015	M-37	Dissolved Solids (total)	4,300	mg/l	50	mg/l	SM2540C
01/29/2015	M-37	Perchlorate	1,300,000	ug/l	25000	ug/l	E314.0
02/27/2015	M-37	Perchlorate	1,300,000	ug/l	25000	ug/l	E314.0
02/27/2015	M-37	pH	7.20	s.u.	0.100	s.u.	SM4500-H+
02/27/2015	M-38	Chromium (total)	18	mg/l	0.013	mg/l	E200.7
02/27/2015	M-38	Chromium VI	21,000	ug/l	130	ug/l	E218.6
02/27/2015	M-38	Dissolved Solids (total)	11,000	mg/l	50	mg/l	SM2540C
02/27/2015	M-38	Perchlorate	720,000	ug/l	25000	ug/l	E314.0
02/27/2015	M-38	pH	7.32	s.u.	0.100	s.u.	SM4500-H+
02/24/2015	M-44	Chromium (total)	0.87	mg/l	0.0025	mg/l	E200.7
02/24/2015	M-44	Chromium VI	940	ug/l	25	ug/l	E218.6
02/24/2015	M-44	Dissolved Solids (total)	8,500	mg/l	50	mg/l	SM2540C
02/24/2015	M-44	Perchlorate	700,000	ug/l	5000	ug/l	E314.0
02/24/2015	M-44	pH	7.52	s.u.	0.100	s.u.	SM4500-H+
02/06/2015	M-80	Chromium (total)	1.5	mg/l	0.0025	mg/l	E200.7
02/26/2015	M-80	Chromium (total)	1.4	mg/l	0.013	mg/l	E200.7
02/06/2015	M-80	Chromium VI	1,400 J	ug/l	25	ug/l	E218.6
02/06/2015	M-80	Dissolved Solids (total)	3,000,000	ug/l	25000	ug/l	SM2540C
02/26/2015	M-80	Dissolved Solids (total)	3,400	mg/l	25	mg/l	SM2540C
02/06/2015	M-80	Perchlorate	350,000	ug/l	9500	ug/l	E314.0
02/26/2015	M-80	Perchlorate	370,000	ug/l	5000	ug/l	E314.0
02/26/2015	M-80	pH	7.66	s.u.	0.100	s.u.	SM4500-H+
02/24/2015	M-95	Chromium (total)	0.51	mg/l	0.013	mg/l	E200.7
02/24/2015	M-95	Chromium VI	570	ug/l	25	ug/l	E218.6
02/24/2015	M-95	Dissolved Solids (total)	5,900	mg/l	50	mg/l	SM2540C
02/24/2015	M-95	Perchlorate	340,000	ug/l	5000	ug/l	E314.0
02/24/2015	M-95	pH	7.46	s.u.	0.100	s.u.	SM4500-H+
06/05/2015	M-11	Chromium (total)	1.4	mg/l	0.013	mg/l	E200.7
06/05/2015	M-11	Chromium VI	950	ug/l	50	ug/l	E218.6
06/05/2015	M-11	Dissolved Solids (total)	2,300	mg/l	10	mg/l	SM2540C
06/05/2015	M-11	Perchlorate	15,000	ug/l	500	ug/l	E314.0
06/05/2015	M-11	pH	7.94	s.u.	0.100	s.u.	SM4500-H+
06/05/2015	M-12A	Chromium (total)	9.7	mg/l	0.013	mg/l	E200.7
06/05/2015	M-12A	Chromium VI	10,000	ug/l	130	ug/l	E218.6
06/05/2015	M-12A	Dissolved Solids (total)	7,200	mg/l	50	mg/l	SM2540C
06/05/2015	M-12A	Perchlorate	230,000	ug/l	5000	ug/l	E314.0
06/05/2015	M-12A	pH	8.07	s.u.	0.100	s.u.	SM4500-H+
05/22/2015	M-37	Chromium (total)	0.035	mg/l	0.013	mg/l	E200.7
05/22/2015	M-37	Chromium VI	6.3	ug/l	0.25	ug/l	E218.6
05/22/2015	M-37	Dissolved Solids (total)	4,900	mg/l	50	mg/l	SM2540C
05/22/2015	M-37	Perchlorate	1,100,000	ug/l	25000	ug/l	E314.0
05/22/2015	M-37	pH	7.51	s.u.	0.100	s.u.	SM4500-H+
05/07/2015	M-38	Chromium (total)	19	mg/l	0.0050	mg/l	E200.7
05/07/2015	M-38	Chromium (total)	18	mg/l	0.0050	mg/l	E200.7
05/07/2015	M-38	Chromium VI	17,000	ug/l	250	ug/l	E218.6
05/07/2015	M-38	Chromium VI	17,000	ug/l	250	ug/l	E218.6
05/07/2015	M-38	Dissolved Solids (total)	11,000,000	ug/l	50000	ug/l	SM2540C

**Table 2. Monitoring Well Analytical Summary**  
 Nevada Environmental Response Trust (NERT) Site  
 UIC Permit UNEV94218 Monitoring Wells

<u>Sample Date</u>	<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>SQL</u>	<u>Units</u>	<u>Method</u>
05/07/2015	M-38	Dissolved Solids (total)	11,000,000	ug/l	50000	ug/l	SM2540C
05/07/2015	M-38	Perchlorate	690,000	ug/l	5000	ug/l	E314.0
05/07/2015	M-38	Perchlorate	700,000	ug/l	5000	ug/l	E314.0
05/26/2015	M-44	Chromium (total)	0.94	mg/l	0.013	mg/l	E200.7
05/26/2015	M-44	Chromium VI	860	ug/l	5.0	ug/l	E218.6
05/26/2015	M-44	Dissolved Solids (total)	8,800	mg/l	50	mg/l	SM2540C
05/26/2015	M-44	Perchlorate	750,000	ug/l	5000	ug/l	E314.0
05/26/2015	M-44	pH	7.69	s.u.	0.100	s.u.	SM4500-H+
05/29/2015	M-80	Chromium (total)	1.4	mg/l	0.013	mg/l	E200.7
05/29/2015	M-80	Dissolved Solids (total)	4,100	mg/l	25	mg/l	SM2540C
05/29/2015	M-80	Perchlorate	430,000	ug/l	5000	ug/l	E314.0
05/29/2015	M-80	pH	7.69	s.u.	0.100	s.u.	SM4500-H+
05/26/2015	M-95	Chromium (total)	0.54	mg/l	0.013	mg/l	E200.7
05/26/2015	M-95	Chromium VI	520	ug/l	0.25	ug/l	E218.6
05/26/2015	M-95	Dissolved Solids (total)	6,300	mg/l	50	mg/l	SM2540C
05/26/2015	M-95	Perchlorate	310,000	ug/l	5000	ug/l	E314.0
05/26/2015	M-95	pH	7.70	s.u.	0.100	s.u.	SM4500-H+

mg/l = milligrams per liter  
 ug/l = micrograms per liter

Notes:

M-36 damaged in July 2013; data for M-38 included instead.

M-84 plugged and abandoned; data for M-80 included instead.

M-100 dry since August 2011.

J = Result is less than reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.



**Table 3. Extraction and Injection Rates**

Nevada Environmental Response Trust (NERT) Site  
UIC Permit UNEV94218 Monitoring Wells

MONTH	EXTRACTION RATE from Interceptor Well Field (IWF) (gpm)	INJECTION RATE (gpm)		
	Monthly Average	Monthly Average	Daily High	Daily Low
January 2015	71.4	0	0	0
February 2015	70.1	0	0	0
March 2015	68.4	0	0	0
April 2015	66.1	0	0	0
May 2015	67.1	0	0	0
June 2015	64.7	0	0	0



**UIC Form U230 – Field Sampling & Monitoring Summary**

This form is to be completed in the field for all UIC water samples to document the sampling location facts and events, and submitted with the sample results.

Sample Date: (mm/dd/yy) Q1: 01/20/15 - 02/27/15, Q2: 05/07/15 - 06/05/15

Complete All Applicable Blanks – Water samples can be rejected if information not provided.

FACILITY AND PERMIT INFORMATION	
Well Name & No.: M-11, M-12A, M-38 (replacement for M-36), M-37, M-44, M-80 (replacement for M-84), M-95, (M-100 dry)	UIC Permit No.: UNEV94218
Is there any well name or identification at the wellhead?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no, label should be placed on or near wellhead
Project/Facility Name: Perchlorate Remediation – Nevada Environmental Response Trust, Henderson, NV	
Well Location (Section/TR or Lat/Long) : Section 12 T22S – R62E	
City/Valley: Henderson, NV	County: Clark
Sample for (circle one): NEW WELL <u>ROUTINE REPORTING</u> Other: _____	
Reporting Frequency: <input checked="" type="checkbox"/> Semi-annually <input type="checkbox"/> Annually <input type="checkbox"/> Other _____	
SAMPLE LOCATION or WELL INFORMATION	
Well / Location Type:	Water/Domestic Well <u>Monitoring</u> Geo-Prod Geo-Injection Geo-Observation Discharge Pipe Oil Water Separator Holding Tank Pond Septic Tank Other: _____
(Note: If sample location is not a well (e.g. spring, pond, pipeline, tank), please provide all relevant data on sample location in the space below) <u>Non-well location:</u>	
Completion date of well/tank: 1983 to 1995	
Diameter of casing: 2 to 5 inch	Type of Casing: <u>Steel</u> <u>PVC</u> Other: _____
Total depth of well: 27 to 60 feet below ground surface (bgs)	
Bottom depth of cement for last cemented casing string: NA	
Screened or open hole interval (top/bottom depths): shallowest = 5 to 35 feet bgs; deepest = 40 to 50 feet bgs	
STATUS OF WELL / SAMPLE LOCATION	
Condition or Activity of well during past week/month, prior to sampling: operating normally except wells M-36 (damaged) and M-84 (plugged and abandoned)	
Discuss any field conditions the Division should be aware of with regard to this sample: Quarterly samples were taken during normal operations	
Was the well secured upon arrival?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Was there any problems or damage to the well upon arrival	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Was well in an artesian condition prior to sampling? :	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
WATER LEVEL – WELL GAUGING	
Last date well/sample location (e.g. tank) gauged (mm/dd/yy) : Q1: 2/24 - 2/27/15; Q2: 5/22 - 5/26/15	Depth to water - last event: See below.
Method used to gauge well/location? :	Cap Tube <u>Tape Measure</u> Other: _____
Measured Water Level :	Q1 DTW: M-11 = 44.34', M-12A = 42.61', M-37 = 31.88', M-38 = 31.36', M-44 = 25.06', M-79 = 31.43', M-95 = 17.93', M-100 = dry Q2 DTW: M-11 = 44.64', M-12A = 42.69', M-37 = 32.03', M-38 = 31.62', M-44 = 25.34', M-79 = 31.73', M-95 = 18.08', M-100 = dry



Nevada Division of Environmental Protection  
 Bureau of Water Pollution Control  
 Underground Injection Control Program  
 901 S. Stewart St Ste 4001  
 Carson City Nevada 89701  
 Ph: 775-687-9418 Fx: 775-687-4684



**UIC Form U230 – Field Sampling & Monitoring Summary**

SAMPLING INFORMATION			
Date sample collected (mm/dd/yy) :	Q3 = 01/20/15 to 02/27/15; Q4 = 05/07/15 to 06/05/15	Time Sampled :	Daylight hours
Name of Sampler :	Envirogen Technologies, Inc.		
Location sample taken (be specific) "sample port in pipeline 10 feet from wellhead" :	Monitoring well head		
Type of Sample (circle one) :	<input checked="" type="radio"/> Grab <input type="radio"/> Composite other (specify):		
Collection method (circle one) :	well bailed <input checked="" type="radio"/> water pumped <input type="radio"/> artesian flow <input type="radio"/> air/gas lift		
Collection method/ non-well Describe how sample was taken:			
How much fluid (gallons or well volumes) was discharged / purged before collecting sample? :	~ three casing volumes		
<b>Filtering Note:</b> UIC requirements specify water samples shall not be filtered, unless previously approved. If filtration is approved, sample shall be filtered with a 1.0 micron filter, not 0.45 micron. If approved, document date of approval: _____			
Was the sample filtered? :	<input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO Perchlorate samples analyzed by EPA Method 314.0 are sterile filtered, per NDEP request; other samples not filtered		
Was conductivity measured during discharge to establish stabilized conditions?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
Was decontamination procedures (reference O & M?) followed during sampling of multiple wells	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO NA		
<b>FIELD MEASUREMENTS</b> See attached table			
pH :			
S. Conductivity :			
Temperature :			
What UIC Sample List is required:	UIC List 1	UIC List 2	UIC List 3 Other <sup>***</sup> : Cr, Cr +6, perchlorate, TDS
** Other constituent listed must have prior UIC approval before using			
Were any holding times exceeded?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
In Final sample documentation, ensure all results are reported with appropriate units. If measurements are below detection limits, indicate detection limit value.			
DO NOT REPORT VALUES AS NON-DETECT OR ND, INSTEAD REPORT as <(Detection Limit Value)			
FORM PREPARATION			
Project Manager: Kimberly Kuwabara			
Company: Ramboll Environ US Corporation			
Telephone No.: 510-420-2525	e-mail Address: kkuwabara@environcorp.com		
Signature: <i>Kimberly Kuwabara</i>	Date: 7/23/2015		
Qualified Sample Person: Michele Brown			
Company: Envirogen Technologies, Inc.			
Telephone No.: 702-467-6299	e-mail Address: mbrown2@envirogen.com		
Signature: <i>Michele Brown</i>	Date: 7-22-15		

**ATTACHMENT 2  
SUPPORTING ANALYTICAL REPORTS**



I hereby certify that all laboratory analytical data was generated by a laboratory certified by the NDEP for each constituent and media presented herein, exceptions and corresponding justifications are provided in the tables.

  
\_\_\_\_\_

**Kimberly Kuwabara**

CEM Certification #2353, expires 3-20-17

**ATTACHMENT 3**  
**POTENTIOMETRIC SURFACE MAPS**



821000

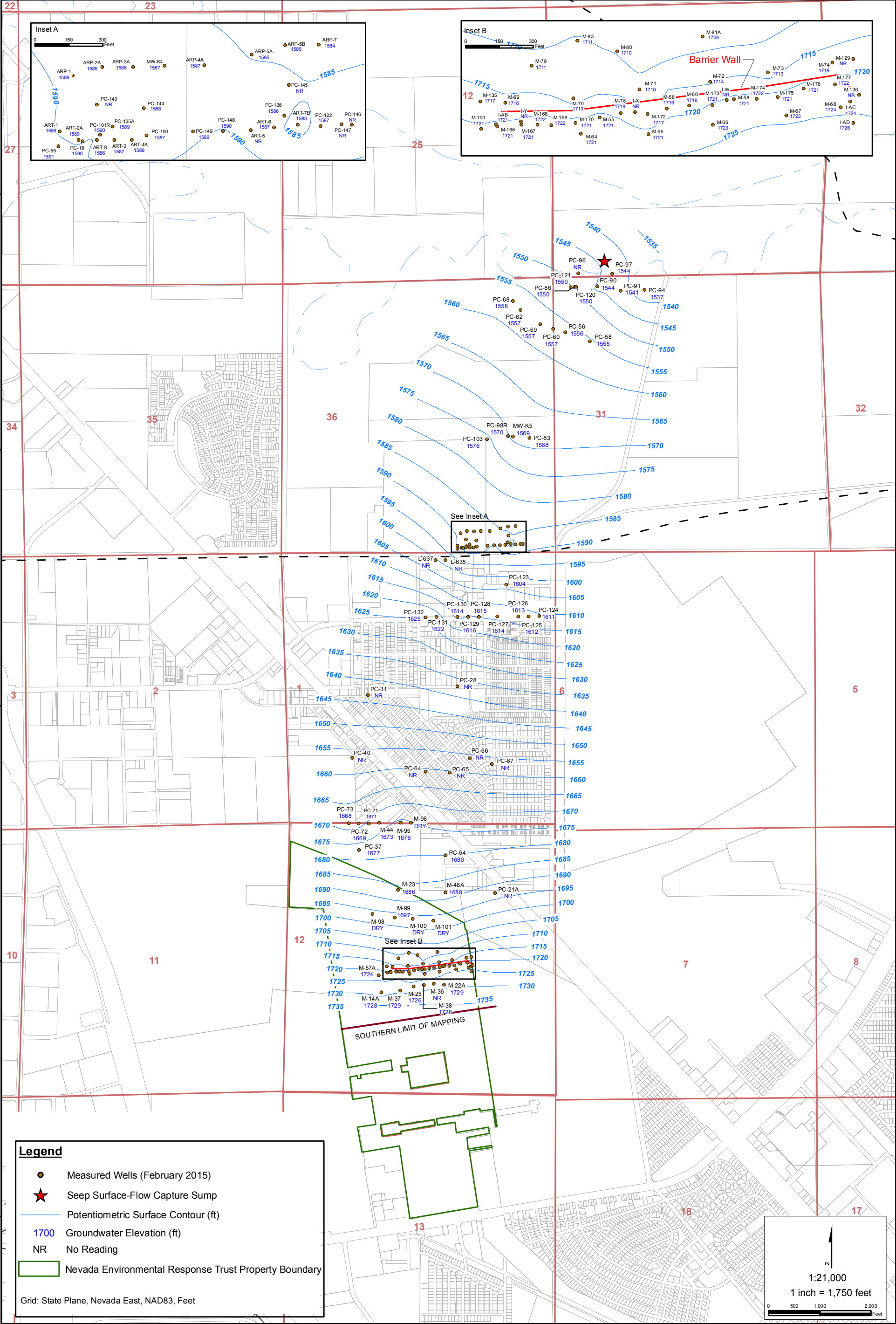
824000

827000

830000

833000

836000



**Legend**

- Measured Wells (February 2015)
- ★ Seep Surface-Flow Capture Sump
- Potentiometric Surface Contour (ft)
- 1700 Groundwater Elevation (ft)
- NR No Reading
- ▭ Nevada Environmental Response Trust Property Boundary

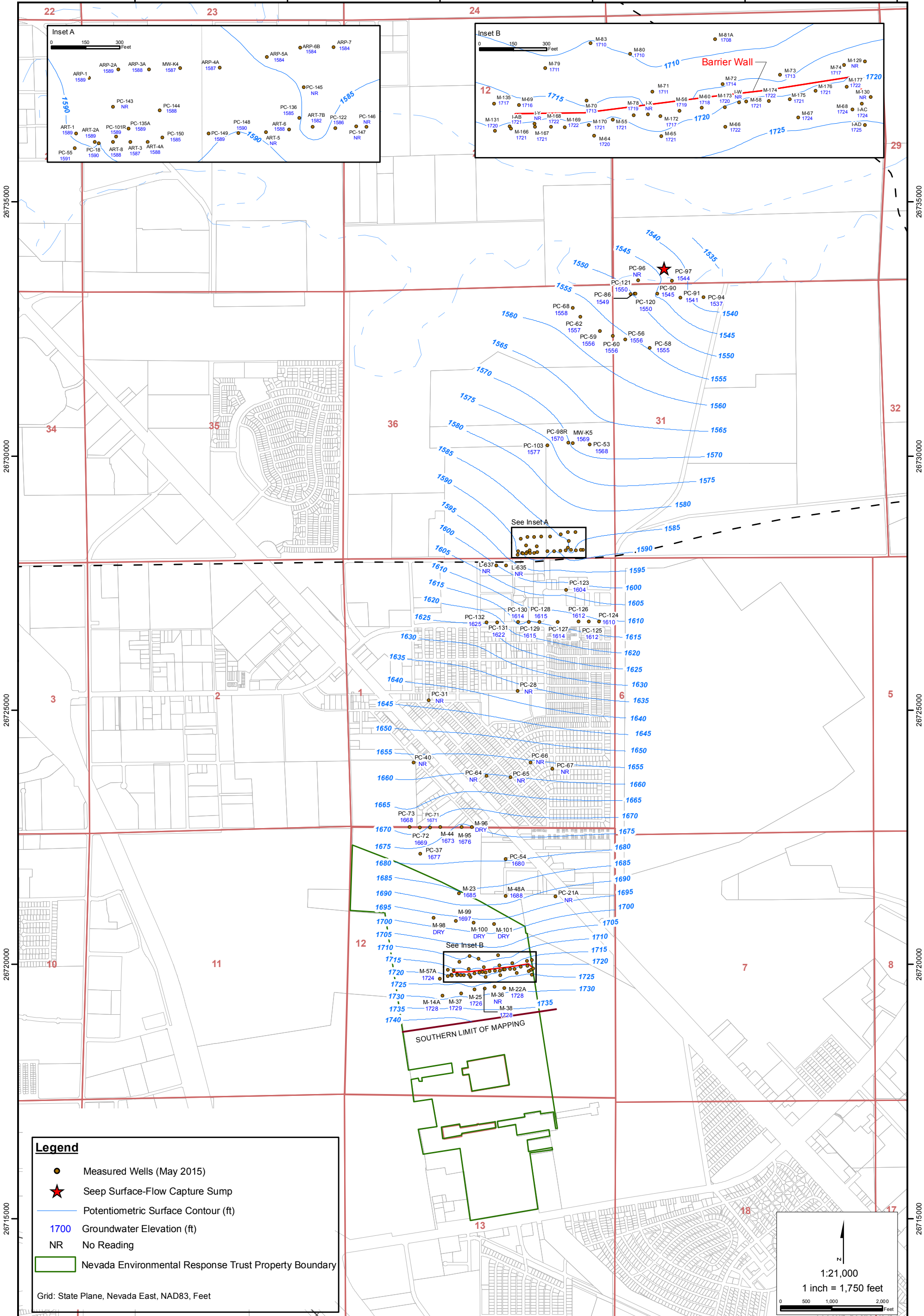
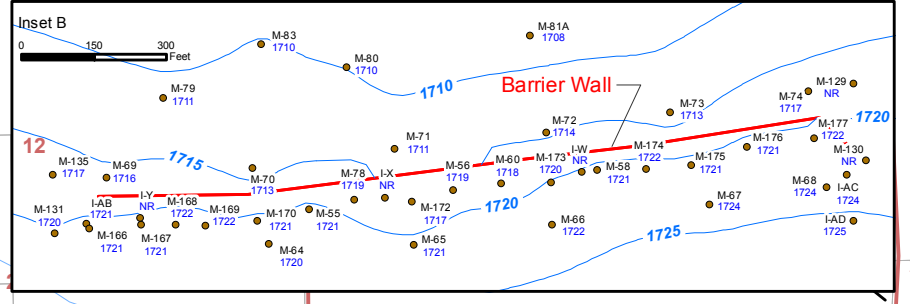
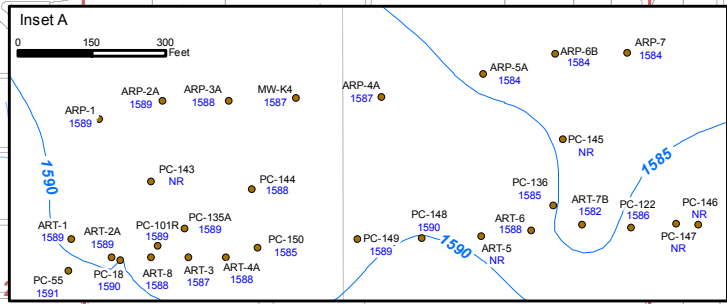
Grid: State Plane, Nevada East, NAD83, Feet

1  
N  
1:21,000  
1 inch = 1,750 feet  
0 500 1,000 2,000 Feet

**POTENTIOMETRIC SURFACE MAP- QUARTERNARY ALLUVIUM AQUIFER (FIRST QUARTER 2015)**  
 UIC Permit #UNEV94218 Report  
 Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

Figure  
**1**

Drafter: AS      Date: 7/20/2015      Contract Number: 21-37300B      Approved by:      Revised: AS



**Legend**

- Measured Wells (May 2015)
- ★ Seep Surface-Flow Capture Sump
- Potentiometric Surface Contour (ft)
- 1700 Groundwater Elevation (ft)
- NR No Reading
- ▭ Nevada Environmental Response Trust Property Boundary

Grid: State Plane, Nevada East, NAD83, Feet

1:21,000  
1 inch = 1,750 feet

**POTENTIOMETRIC SURFACE MAP- QUARTERNARY ALLUVIUM AQUIFER (SECOND QUARTER 2015)**  
 UIC Permit #UNEV94218 Report  
 Nevada Environmental Response Trust (NERT)  
 Henderson, Nevada

Figure  
**2**

Drafter: AS      Date: 7/20/2015      Contract Number: 21-37300B      Approved by:      Revised: AS