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Q4 2013 GWMR

Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

April 14, 2014

Return Receipt Requested
7010 0290 0002 7764 0586

Mr. Glenn von Gonten
New Mexico Energy, Minerals & Natural Resources
Department - Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attn: Jim Griswold

Re: 4th Quarter 2013 Groundwater Monitoring Report
Lateral K-31 December 2011 Pipeline Release
NMOCD Order Number: 3RP-440-0
SE¼ SW¼, Section 16, T25N, R6W
Rio Arriba County, New Mexico

Dear Mr. Von Gonten:

Enterprise Field Services, LLC (Enterprise) is submitting the enclosed report entitled: *4th Quarter, 2013 Groundwater Monitoring Report,* dated March 18, 2014. This report documents the results of the fifth groundwater monitoring event conducted at the above-referenced release site during December 2013.

During this quarterly event, a total of nine monitor wells (MW-1 through MW-9) were monitored and sampled at the release site. Dissolved-phase benzene concentrations exceeding applicable Water Quality Control Commission (WQCC) Groundwater Quality Standards were present in eight wells, including MW-1 (42 µg/L), MW-2 (24 µg/L), MW-3 (10 µg/L), MW-4 (42 µg/L), MW-5 (48 µg/L), MW-6 (210 µg/L), MW-7 (30 µg/L), and MW-8 (200 µg/L). Dissolved-phase concentrations of toluene, ethylbenzene, and xylene were below applicable WQCC standards.

Due to the constituent concentration increases in downgradient monitor well MW-8; Enterprise will install additional downgradient monitor wells as necessary to complete delineation of affected groundwater. Groundwater will be monitored quarterly at this time, and if groundwater concentrations of contaminants do not attenuate naturally, Enterprise will implement additional remedial actions.

If you have any questions concerning the enclosed report, please do not hesitate to contact me at (713) 381-2286, or via email at: drsmith@eprod.com.

Sincerely,

David R. Smith, P.G.
Sr. Environmental Scientist

Gregory E. Miller, P.G.
Supervisor, Environmental

/dep

Enclosure – *4th Quarter 2013 Groundwater Monitoring Report - Lateral K-31 December 2011 Pipeline Release*

cc: Brandon Powell, New Mexico Oil Conservation Division, 1000 Rio Brazos Road, Aztec, NM

ec: Melissa Armijo – New Mexico State Land Office , Santa Fe, NM
Heather M. Woods – Animas Environmental Services, Farmington, NM

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March 18, 2014

David Smith
Enterprise Products Operating, LLC
P.O. Box 4324
13th Floor, Remediation Group
Houston, Texas 77210-4324

RE: 4th Quarter 2013 Groundwater Monitoring Report
Enterprise Field Services, LLC
NMOCD Order Number: 3RP-440-0
Lateral K-31 December 2011 Pipeline Release 3R-440
SE¼ SW¼, Section 16, T25N, R6W
Rio Arriba County, New Mexico

Dear Mr. Smith:

Animas Environmental Services, LLC (AES), on behalf of Enterprise Field Services, LLC (Enterprise), has prepared this *4th Quarter 2013 Groundwater Monitoring Report* for the Lateral K-31 December 2011 Pipeline Release in accordance with New Mexico Oil Conservation Division (NMOCD) and New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) regulations.

A release was reported at the location on December 2, 2011, by Enterprise personnel, and on the same date Enterprise personnel were dispatched to locate and isolate the leak in the pipeline. The line repair was also completed on December 2, 2011. The cause of the release was identified as a corrosion hole on the underside of the line.

An initial release assessment was conducted by AES in December 2011, and a site investigation was conducted in March 2012. A groundwater investigation was completed in September 2012 in accordance with a workplan previously prepared by AES and dated July 30, 2012.

1.0 Site Information

1.1 Site Location and NMOCD Ranking

The release area is located on state land under jurisdiction of the New Mexico State Land Office within the SE¼ SW¼, Section 16, T25N, R6W, Rio Arriba County, New Mexico. Latitude and longitude of the release were recorded as N36.39373 and W107.47519,

respectively. A topographic site location map is included as Figure 1, and an aerial map showing the release location is included as Figure 2.

In accordance with NMOCD release protocols, action levels were established per NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993) prior to the initial assessment. The release was given a ranking score of 20 based on the following factors:

- **Depth to Groundwater:** Known depth to groundwater is less than 20 feet below ground surface (bgs). (20 points)
- **Wellhead Protection Area:** The release location is not within a wellhead protection area. (0 points)
- **Distance to Surface Water Body:** The release location is within the floodplain of Largo Canyon wash, which is approximately 1,550 feet to the east. (0 points)

The ranking score 20 dictates that concentrations for impacted soils left in place must be below the NMOCD action levels of 10 mg/kg benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

1.2 Previous Site Activities

1.2.1 Initial Release Assessment – December 2011

In December 2011, four test holes (TP-1 through TP-4) were each excavated to a total depth of 15.5 feet bgs, from which a total of six soil samples were collected for laboratory analysis. A groundwater sample from an existing monitor well labeled MW-4, which is located near the release area, was collected for laboratory analysis. Soil laboratory analytical results for total BTEX and TPH exceeded applicable NMOCD action levels in two of the four test holes. Groundwater was not encountered in the test holes; however, depth to water was measured at 14 feet bgs in the nearby groundwater monitor well. The laboratory analytical results for the groundwater sample collected from this well showed reported BTEX concentrations below laboratory detection limits. Details of the initial release assessment were submitted to Enterprise in a letter report dated January 20, 2012.

1.2.2 Site Investigation – March 2012

In March 2012, AES completed a site investigation in order to delineate the full extent of hydrocarbon impact on subsurface soils and groundwater resulting from the release. The investigation included the installation of 12 soil borings (SB-1 through SB-12) and the collection of soil and groundwater samples. Soil samples collected for laboratory analysis showed that contaminant concentrations exceeded NMOCD action levels for TPH in borings SB-1, SB-9, and SB-11. The highest TPH concentration was reported in SB-9 with 8,700 mg/kg.

Dissolved phase analytical results from the March 2012 site investigation indicated groundwater was impacted above the New Mexico Water Quality Control Commission (WQCC) standard for benzene in SB-1W through SB-4W, SB-7W, SB-9W, SB-11W, and SB-12W. The highest concentration for benzene was reported in SB-11W with 1,400 µg/L. Concentration contours of dissolved phase contaminants indicated that migration of the plume is primarily north along the pipeline corridor and to the northeast (following gradient) towards Largo Canyon. The highest dissolved phase concentrations of BTEX constituents were noted in SB-3W and SB-11W.

1.2.3 Groundwater Investigation – September 2012

In August and September 2012, AES completed a groundwater investigation in order to further delineate the extent of the dissolved phase hydrocarbon contaminants associated with the Lateral K-31 pipeline release. During the site investigation, AES personnel installed nine soil borings which were advanced to a total depth of 25 feet bgs and completed as monitor wells (MW-1 through MW-9).

The local site lithology consisted of alluvium and floodplain material which constitutes the wash of Largo Canyon, and bedrock was not encountered in the soil borings. Soil observed during the investigation consisted primarily of dark gray, fine grained, moist sand in the upper 5 feet, grading to sandy clay with depth, which was brown to dark gray to black, moist to wet, and sometimes exhibiting a strong odor and heavy staining. Brown, fine grained, wet sand with no odor or staining was encountered at depths greater than approximately 15 feet bgs.

Soil and groundwater samples were collected from each soil boring/monitor well. Soil laboratory analytical results indicated benzene, total BTEX, and TPH concentrations were not above NMOCD action levels in any of the soil borings. However, laboratory results confirmed dissolved phase benzene concentrations at or above the WQCC standard of 10 µg/L in four wells, including MW-1 (18 µg/L), MW-5 (10 µg/L), MW-6 (37 µg/L), and MW-8 (20 µg/L). Dissolved phase toluene, ethylbenzene, and xylenes concentrations were below WQCC standards in all monitor wells.

1.2.4 Groundwater Monitoring and Sampling – December 2012

Site monitor wells were monitored and sampled by AES on December 20, 2012. Laboratory results confirmed dissolved phase benzene concentrations at or above the WQCC standard of 10 µg/L in six wells, including MW-1 (11 µg/L), MW-2 (17 µg/L), MW-4 (19 µg/L), MW-5 (10 µg/L), MW-6 (82 µg/L), and MW-8 (25 µg/L). Dissolved phase toluene, ethylbenzene, and xylenes concentrations were below WQCC standards in all monitor wells. Details of the groundwater sampling event were presented in the *Quarterly Groundwater Sampling Report* dated February 22, 2013.

1.2.5 Groundwater Monitoring and Sampling – March 2013

Site monitor wells were monitored and sampled by AES on March 21, 2013, and dissolved phase benzene concentrations were reported above the WQCC standard of 10 µg/L in four wells, including MW-1 (29 µg/L), MW-2 (18 µg/L), MW-6 (130 µg/L), and MW-8 (26 µg/L). Dissolved phase toluene, ethylbenzene, and xylenes concentrations were below WQCC standards in all monitor wells. Details of the groundwater sampling event were included in the *Quarterly Groundwater Sampling Report* dated May 3, 2013.

1.2.6 Groundwater Monitoring and Sampling – September 2013

Site monitor wells were monitored and sampled by AES on September 4, 2013. Groundwater laboratory analytical results showed that dissolved phase benzene concentrations were at or above the WQCC standard of 10 µg /L in three wells, MW-1 (24 µg/L), MW-6 (40 µg/L), and MW-8 (34 µg/L). Concentrations of dissolved phase toluene, ethylbenzene, and xylene were below the applicable WQCC standards. Details of the groundwater sampling event were included in the *Quarterly Groundwater Sampling Report* dated October 30, 2013.

2.0 Groundwater Monitoring and Sampling – December 2013

On December 9, 2013, groundwater monitoring and sampling were conducted by AES in MW-1 through MW-9. Work was completed in accordance with the workplan prepared by AES and dated July 30, 2012, and also in accordance with U.S. Environmental Protection Agency (USEPA) Environmental Response Team's Standard Operating Procedures (SOPs), and applicable American Society of Testing and Materials (ASTM) standards.

2.1 Groundwater Measurements and Water Quality

Prior to sample collection, depth to groundwater in each well was measured with a Keck Water Level Indicator, and water quality data was measured with a YSI Water Quality Meter. Water quality measurements were recorded and included pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP). Depth to groundwater measurements and water quality data were recorded onto Water Sample Collection forms. Groundwater elevations increased by an average of 0.68 feet across the site, and depths to groundwater were observed to range from 15.20 feet below top of casing (TOC) in MW-5 to 18.8 feet below TOC in MW-1. The groundwater gradient was calculated to be approximately 0.005 foot/foot to the north-northwest, and groundwater elevations and gradient contours are included on Figure 3.

Following depth to water measurement, each well was purged with a peristaltic pump until recorded temperature, pH, conductivity, and DO measurements were stabilized. All data was recorded onto Water Sample Collection Forms. Groundwater temperature

ranged from 13.13°C in MW-2 to 16.61°C in MW-8, and conductivity ranged from 12.58 mS in MW-7 to 16.67 mS in MW-4. DO concentrations were between 0.23 mg/L in MW-6 and 3.12 mg/L in MW-9, and pH ranged from 7.47 in MW-9 to 7.99 in MW-5. Depth to groundwater measurements and water quality data are summarized in Table 1. Water Sample Collection forms are presented in the Appendix.

2.2 Groundwater Laboratory Analyses

Groundwater samples were collected using low flow purging techniques with a peristaltic pump from MW-1 through MW-9 and transferred into appropriate sample containers, labeled accordingly, and documented on Water Sample Collection Forms. Samples were shipped in insulated coolers containing ice at less than 6°C to Hall Environmental Analytical Laboratory (Hall) in Albuquerque, New Mexico. All groundwater analytical samples were analyzed for BTEX per USEPA Method 8021B.

2.2.1 Groundwater Analytical Results

Groundwater laboratory analytical results showed that dissolved phase benzene concentrations increased from the previous sampling event and were at or above the WQCC standard of 10 µg /L in eight wells, including MW-1 (42 µg/L), MW-2 (24 µg/L), MW-3 (10 µg/L), MW-4 (42 µg/L), MW-5 (48 µg/L), MW-6 (210 µg/L), MW-7 (30 µg/L), and MW-8 (200 µg/L). Concentrations of dissolved phase toluene, ethylbenzene, and xylene increased from the previous sampling event in September 2013 but remained below applicable WQCC standards in all wells.

Tabulated groundwater analytical results are presented in Table 2 and on Figure 4, and dissolved phase benzene contours are presented on Figure 5. Graphs illustrating groundwater elevations and dissolved phase benzene concentrations for MW-1, MW-3, MW-5, MW-6, MW-8 and MW-9 are included Graphs 1 through 6, respectively. Groundwater laboratory analytical reports are presented in the Appendix.

3.0 Conclusion and Recommendations

A total of nine groundwater monitor wells (MW-1 through MW-9) were monitored and sampled at the Lateral K-31 release location by AES on December 9, 2013, in accordance with the work plan submitted by AES in July 2012. Laboratory analytical results confirmed dissolved phase benzene concentrations have increased and were above the WQCC standard of 10 µg/L in eight wells, with the highest concentration reported in MW-6 (210 µg/L). Dissolved phase toluene, ethylbenzene, and xylenes concentrations also increased from September 2013 but were below WQCC standards in all monitor wells. Increasing contaminant concentrations may be correlated to increased groundwater elevations at the site in December 2013.

Based on laboratory analytical results from the December 2013 sampling event, groundwater continues to be impacted above the WQCC standard for benzene in the vicinity of the December 2011 release. AES recommends the installation of one additional monitor well to the northeast of MW-8 to complete the delineation phase of the investigation, along with continued quarterly monitoring and sampling of site monitor wells. A soil vapor extraction (SVE) pilot study is also recommended in order to aid in the design and implementation of a SVE remediation system to treat impacted soil and groundwater at the release location.

If you have any questions regarding site conditions or this report, please do not hesitate to contact me or Ross Kennemer at (505) 564-2281.

Sincerely,

Heather M. Woods, P.G.
Project Manager

Elizabeth McNally, P.E.

Attachments:

Tables

Table 1. Summary of Groundwater Measurements and Water Quality Data
Table 2. Summary of Groundwater Analytical Results

Figures

Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Map
Figure 3. Groundwater Elevation Contours, December 2013
Figure 4. Groundwater Contaminant Concentrations, December 2013
Figure 5. Dissolved Benzene Concentration Contours, December 2013

Graphs

Graph 1. MW-1 Groundwater Benzene Concentrations Over Time
Graph 2. MW-3 Groundwater Benzene Concentrations Over Time

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Enterprise Field Services, LLC Lateral K-31 December 2011 Pipeline Release
Rio Arriba County, New Mexico

Well ID	*Date*	*Depth to Water (ft)*	*Surveyed TOC (ft)*	*GW Elev. (ft)*	*pH*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*Temp. (ºC)*	*ORP (mV)*
MW-1	05-Sep-12	19.44	6245.24	6225.80	7.40	7.623	0.86	14.52	-90.7
MW-1	20-Dec-12	19.02	6245.24	6226.22	7.48	7.556	0.61	13.75	-59.0
MW-1	21-Mar-13	18.59	6245.24	6226.65	7.32	12.39	0.75	14.06	-93.4
MW-1	04-Sep-13	19.49	6245.24	6225.75	7.32	12.55	0.55	14.70	-120.7
MW-1	09-Dec-13	18.80	6245.24	6226.44	7.57	12.63	0.25	15.86	-114.4
MW-2	05-Sep-12	16.69	6242.58	6225.89	7.39	8.519	1.30	15.35	-48.7
MW-2	20-Dec-12	16.33	6242.58	6226.25	7.43	8.592	0.95	13.42	-21.4
MW-2	21-Mar-13	15.90	6242.58	6226.68	7.30	13.50	1.87	13.45	-70.8
MW-2	04-Sep-13	16.72	6242.58	6225.86	7.25	13.89	1.39	14.63	-99.2
MW-2	09-Dec-13	16.14	6242.58	6226.44	7.55	14.16	1.39	13.13	-66.8
MW-3	05-Sep-12	18.93	6245.48	6226.55	7.42	7.631	0.97	14.93	-63.9
MW-3	20-Dec-12	18.51	6245.48	6226.97	7.23	7.920	0.91	12.81	NM
MW-3	21-Mar-13	18.07	6245.48	6227.41	7.27	12.95	1.23	13.37	-70.6
MW-3	04-Sep-13	18.97	6245.48	6226.51	7.29	12.26	1.20	14.10	-101.5
MW-3	09-Dec-13	18.30	6245.48	6227.18	7.52	13.02	2.92	14.30	-81.1

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Enterprise Field Services, LLC Lateral K-31 December 2011 Pipeline Release
Rio Arriba County, New Mexico

Well ID	*Date*	*Depth to Water (ft)*	*Surveyed TOC (ft)*	*GW Elev. (ft)*	*pH*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*Temp. (ºC)*	*ORP (mV)*
MW-4	05-Sep-12	17.55	6244.08	6226.53	7.42	10.05	1.97	14.61	-46.7
MW-4	20-Dec-12	17.14	6244.08	6226.94	7.45	10.14	0.90	13.92	-16.4
MW-4	21-Mar-13	16.71	6244.08	6227.37	7.32	16.46	1.30	13.62	-61.8
MW-4	04-Sep-13	17.59	6244.08	6226.49	7.33	16.53	1.24	14.82	-72.6
MW-4	09-Dec-13	16.93	6244.08	6227.15	7.62	16.76	1.09	14.90	-69.9
MW-5	05-Sep-12	15.88	6241.41	6225.53	7.61	10.637	2.76	15.74	-105.0
MW-5	20-Dec-12	15.44	6241.41	6225.97	7.70	10.580	0.57	15.51	-106.6
MW-5	21-Mar-13	15.00	6241.41	6226.41	7.54	17.63	1.23	14.18	-126.7
MW-5	04-Sep-13	15.91	6241.41	6225.50	7.53	17.56	0.83	15.89	-151.3
MW-5	09-Dec-13	15.20	6241.41	6226.21	7.99	15.84	1.01	16.27	-143.2
MW-6	05-Sep-12	17.41	6242.91	6225.50	7.38	8.370	0.90	15.48	-48.3
MW-6	20-Dec-12	16.97	6242.91	6225.94	7.47	8.564	1.15	13.50	-33.7
MW-6	21-Mar-13	16.53	6242.91	6226.38	7.29	13.31	1.04	13.01	-74.3
MW-6	04-Sep-13	17.45	6242.91	6225.46	7.23	14.03	0.66	14.44	-101.9
MW-6	09-Dec-13	16.75	6242.91	6226.16	7.55	14.13	0.23	15.76	-97.4

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENTS AND WATER QUALITY DATA
Enterprise Field Services, LLC Lateral K-31 December 2011 Pipeline Release
Rio Arriba County, New Mexico

Well ID	*Date*	*Depth to Water (ft)*	*Surveyed TOC (ft)*	*GW Elev. (ft)*	*pH*	*Conductivity (mS)*	*Dissolved Oxygen (mg/L)*	*Temp. (ºC)*	*ORP (mV)*
MW-7	05-Sep-12	17.61	6243.27	6225.66	7.39	7.542	1.19	15.25	-57.2
MW-7	20-Dec-12	17.18	6243.27	6226.09	7.37	7.567	0.75	14.51	-34.6
MW-7	21-Mar-13	16.74	6243.27	6226.53	7.30	12.30	1.03	14.12	-75.0
MW-7	04-Sep-13	17.65	6243.27	6225.62	7.28	12.15	0.87	15.09	-105.6
MW-7	09-Dec-13	16.96	6243.27	6226.31	7.56	12.58	0.88	15.43	-83.4
MW-8	05-Sep-12	16.55	6242.01	6225.46	7.49	8.827	0.62	15.54	-76.3
MW-8	20-Dec-12	16.09	6242.01	6225.92	7.61	8.963	0.59	14.40	-56.8
MW-8	21-Mar-13	15.65	6242.01	6226.36	7.43	14.90	1.64	14.85	-90.3
MW-8	04-Sep-13	16.57	6242.01	6225.44	7.48	14.76	0.73	15.21	-132.9
MW-8	09-Dec-13	15.86	6242.01	6226.15	7.84	14.64	0.87	16.61	-117.1
MW-9	05-Sep-12	16.33	6241.59	6225.26	7.28	8.183	1.02	14.95	-40.5
MW-9	20-Dec-12	15.84	6241.59	6225.75	7.37	8.072	1.08	14.27	-16.5
MW-9	21-Mar-13	15.39	6241.59	6226.20	7.25	13.28	1.93	14.00	-62.8
MW-9	04-Sep-13	16.32	6241.59	6225.27	7.24	13.10	1.11	14.96	-84.2
MW-9	09-Dec-13	15.61	6241.59	6225.98	7.47	13.68	3.12	13.92	-49.7

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Enterprise Field Services, LLC Lateral K-31 December 2011 Pipeline Release
Rio Arriba County, New Mexico

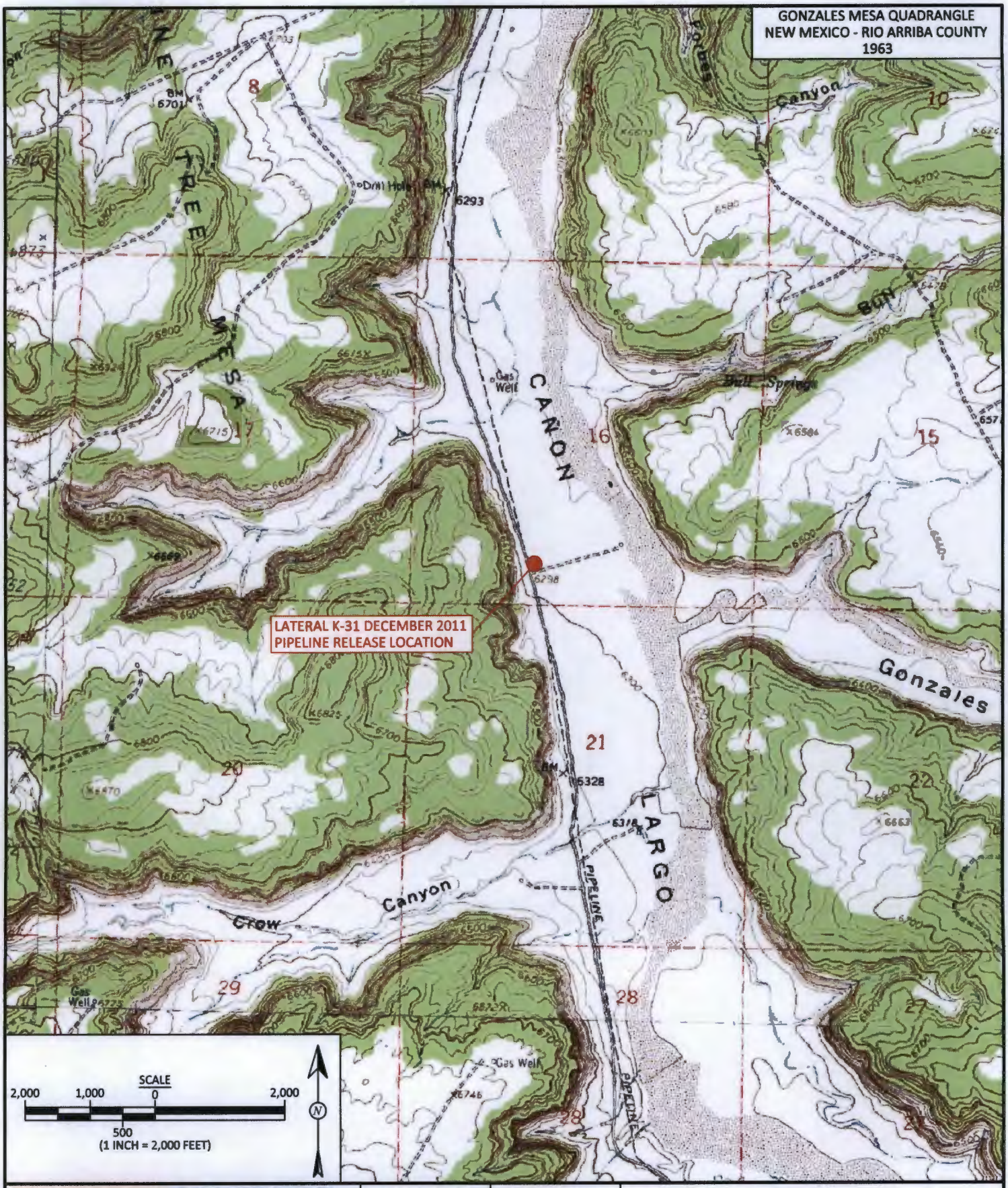
Well ID	Date Sampled	Sample Method	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)
WQCC STANDARD			**10**	**750**	**750**	**620**
MW-1	05-Sep-12	8021	**18**	2.9	3.3	25
MW-1	20-Dec-12	8021	**11**	<2.0	<2.0	5.8
MW-1	21-Mar-13	8021	**29**	14	<2.0	6.8
MW-1	04-Sep-13	8021	**24**	3.0	<2.0	10
MW-1	09-Dec-13	8021	**42**	20	10	45
MW-2	05-Sep-12	8021	9.5	9.2	<2.0	30
MW-2	20-Dec-12	8021	**17**	<2.0	<2.0	41
MW-2	21-Mar-13	8021	**18**	<2.0	<2.0	18
MW-2	04-Sep-13	8021	8.0	<2.0	<2.0	4.2
MW-2	09-Dec-13	8021	**24**	13	11	49
MW-3	05-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
MW-3	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
MW-3	21-Mar-13	8021	<2.0	<2.0	<2.0	<4.0
MW-3	04-Sep-13	8021	5.4	<2.0	<2.0	<4.0
MW-3	09-Dec-13	8021	**10**	15	9.7	37
MW-4	05-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
MW-4	20-Dec-12	8021	**19**	<2.0	<2.0	<4.0
MW-4	21-Mar-13	8021	4.8	<2.0	<2.0	<4.0
MW-4	04-Sep-13	8021	<2.0	<2.0	<2.0	<4.0
MW-4	09-Dec-13	8021	**42**	17	14	54
MW-5	05-Sep-12	8021	**10**	<2.0	<2.0	<4.0
MW-5	20-Dec-12	8021	**10**	<2.0	<2.0	<4.0
MW-5	21-Mar-13	8021	9.0	<2.0	<2.0	<4.0
MW-5	04-Sep-13	8021	9.3	<2.0	<2.0	<4.0
MW-5	09-Dec-13	8021	**48**	9.3	9.7	36

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Enterprise Field Services, LLC Lateral K-31 December 2011 Pipeline Release
Rio Arriba County, New Mexico

Well ID	*Date Sampled*	*Sample Method*	*Benzene (µg/L)*	*Toluene (µg/L)*	*Ethyl-benzene (µg/L)*	*Xylenes (µg/L)*
WQCC STANDARD			***10***	***750***	***750***	***620***
MW-6	05-Sep-12	8021	**37**	8.3	<2.0	14
MW-6	20-Dec-12	8021	**82**	5.8	<2.0	<4.0
MW-6	21-Mar-13	8021	**130**	5.1	<2.0	<4.0
MW-6	04-Sep-13	8021	**40**	22	<2.0	13
MW-6	09-Dec-13	8021	**210**	20	12	51
MW-7	05-Sep-12	8021	3.6	<2.0	<2.0	<4.0
MW-7	20-Dec-12	8021	5.9	<2.0	<2.0	<4.0
MW-7	21-Mar-13	8021	<2.0	<2.0	<2.0	<4.0
MW-7	04-Sep-13	8021	6.2	<2.0	<2.0	<4.0
MW-7	09-Dec-13	8021	**30**	17	14	56
MW-8	05-Sep-12	8021	**20**	<2.0	<2.0	<4.0
MW-8	20-Dec-12	8021	**25**	<2.0	<2.0	<4.0
MW-8	21-Mar-13	8021	**26**	<2.0	<2.0	<4.0
MW-8	04-Sep-13	8021	**34**	<2.0	<2.0	<4.0
MW-8	09-Dec-13	8021	**200**	14	11	46
MW-9	05-Sep-12	8021	<2.0	<2.0	<2.0	<4.0
MW-9	20-Dec-12	8021	<2.0	<2.0	<2.0	<4.0
MW-9	21-Mar-13	8021	<2.0	<2.0	<2.0	<4.0
MW-9	04-Sep-13	8021	<2.0	<2.0	<2.0	<4.0
MW-9	09-Dec-13	8021	4.0	7.1	6.0	24

Notes:

<	**Analyte not detected above listed method limit**
NE	**Not established**
µg/L	**Micrograms per liter (ppb)**



DRAWN BY: C. Lameman	**DATE DRAWN:** September 12, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** January 23, 2014
CHECKED BY: H. Woods	**DATE CHECKED:** January 23, 2014
APPROVED BY: E. McNally	**DATE APPROVED:** January 23, 2014

Animas Environmental Services, LLC

FIGURE 1

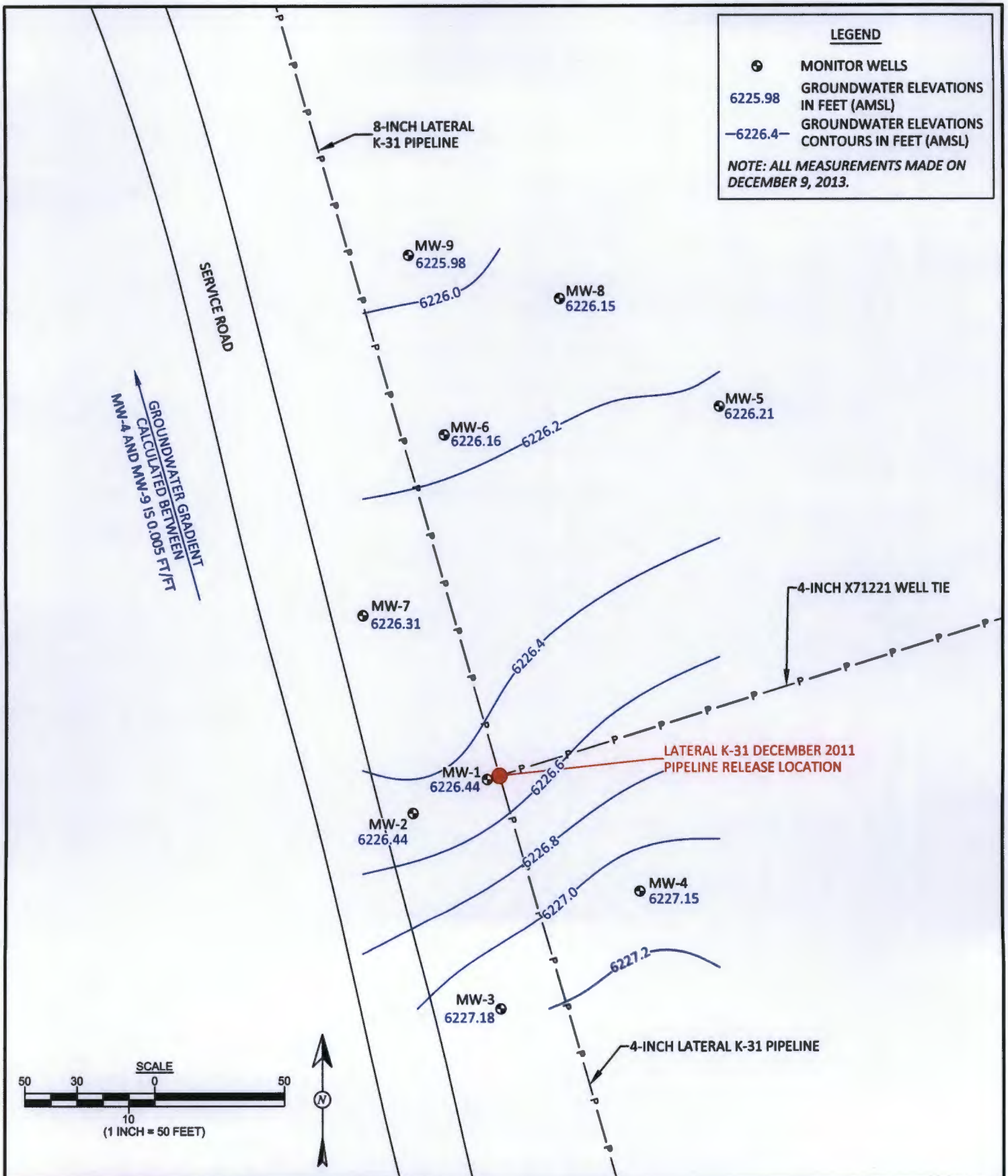
TOPOGRAPHIC SITE LOCATION MAP
ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 DECEMBER 2011 PIPELINE RELEASE
SE¼ SW¼, SECTION 16, T25N, R6W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39373, W107.47519

Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** September 14, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** January 23, 2014
CHECKED BY: H. Woods	**DATE CHECKED:** January 23, 2014
APPROVED BY: E. McNally	**DATE APPROVED:** January 23, 2014

FIGURE 2

AERIAL SITE MAP
ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 DECEMBER 2011 PIPELINE RELEASE
SE¼ SW¼, SECTION 16, T25N, R6W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39373, W107.47519



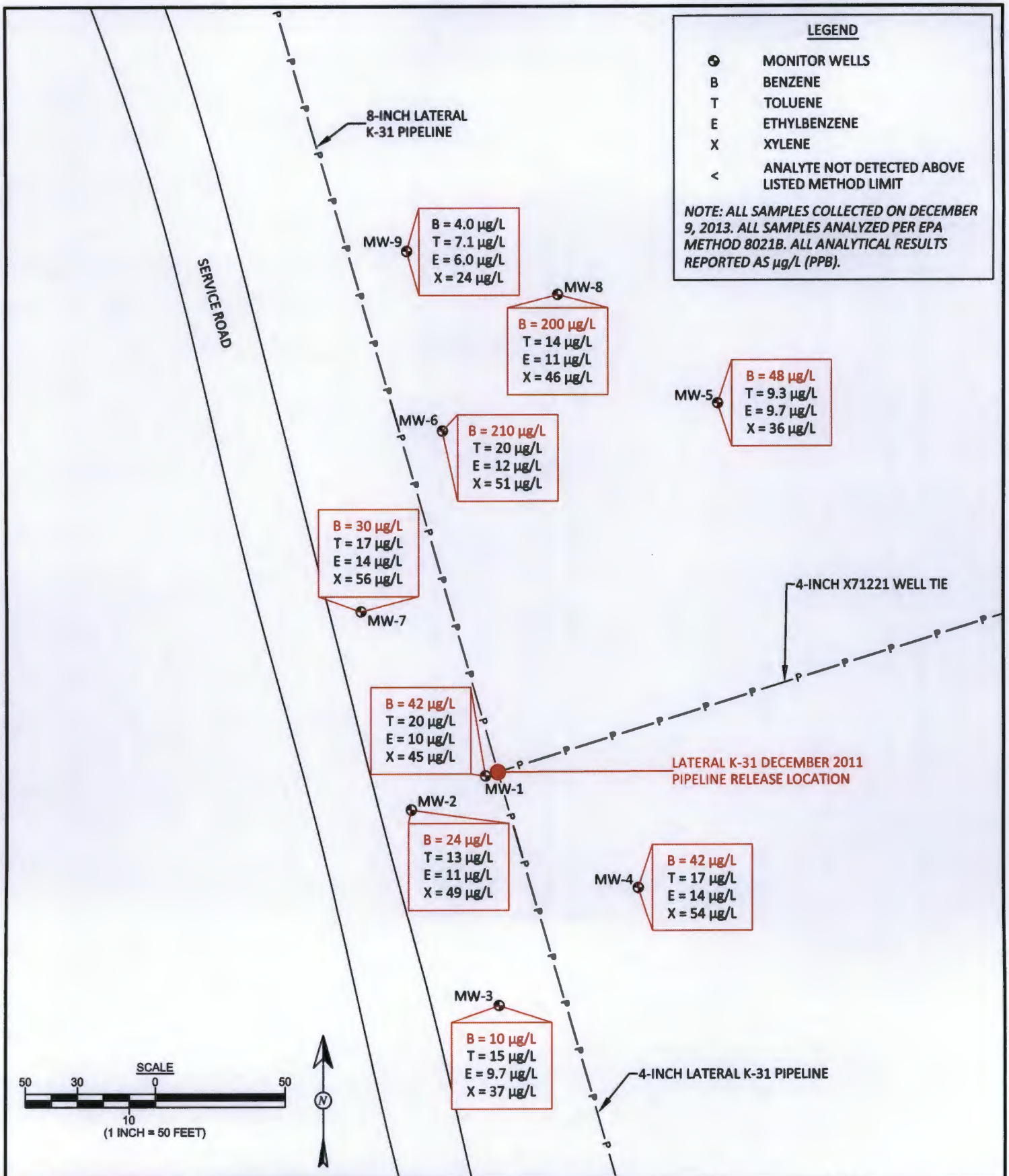
Animas Environmental Services, LLC

DRAWN BY: C. Lameman	DATE DRAWN: September 14, 2013
REVISIONS BY: C. Lameman	DATE REVISED: January 23, 2014
CHECKED BY: H. Woods	DATE CHECKED: January 23, 2014
APPROVED BY: E. McNally	DATE APPROVED: January 23, 2014

FIGURE 3

GROUNDWATER ELEVATION CONTOURS DECEMBER 2013

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 DECEMBER 2011 PIPELINE RELEASE
SE¼ SW¼, SECTION 16, T25N, R6W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39373, W107.47519

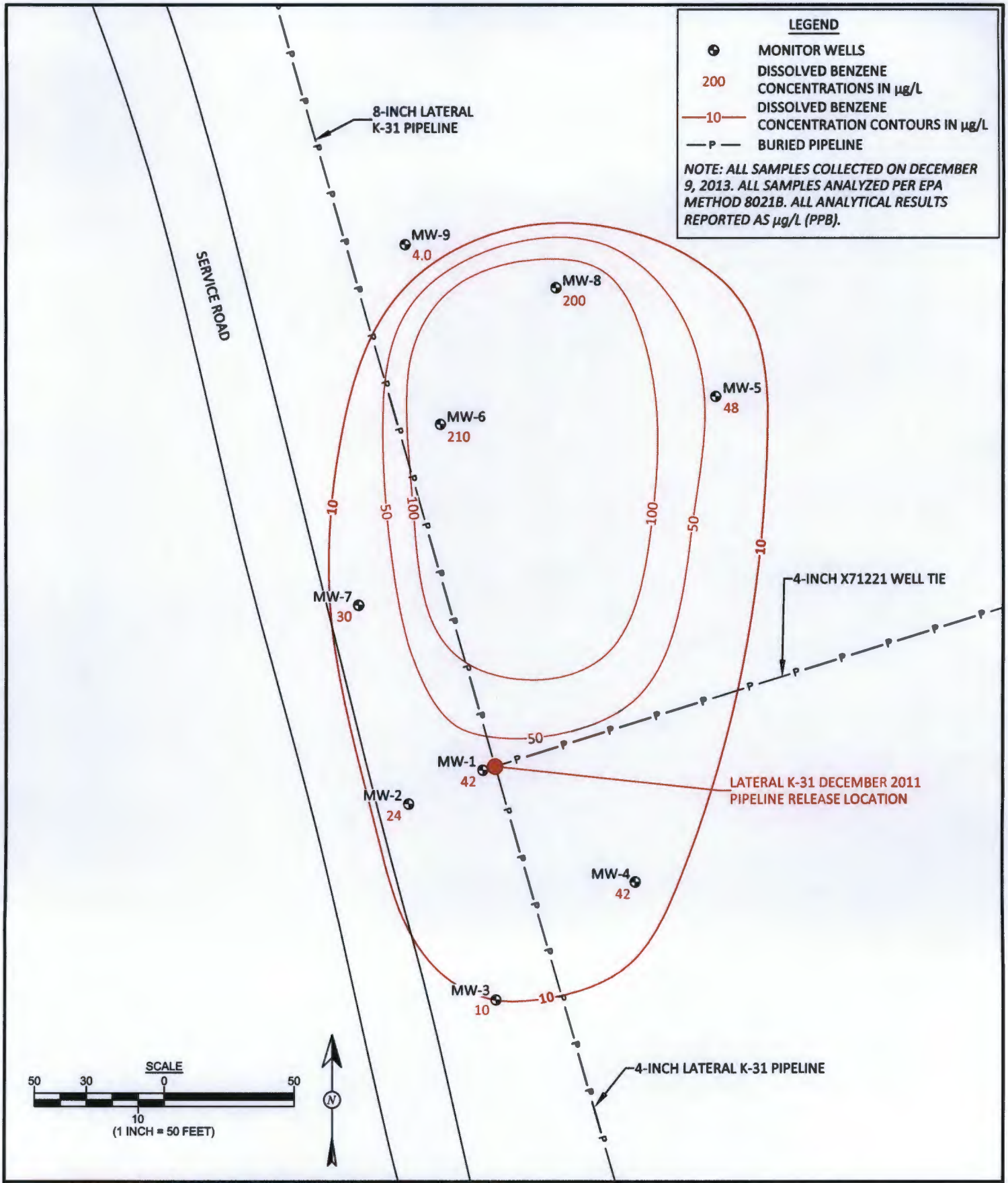


Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** September 14, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** January 24, 2014
CHECKED BY: H. Woods	**DATE CHECKED:** January 24, 2014
APPROVED BY: E. McNally	**DATE APPROVED:** January 24, 2014

FIGURE 4

GROUNDWATER CONTAMINANT CONCENTRATIONS, DECEMBER 2013
ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 DECEMBER 2011 PIPELINE RELEASE
SE¼ SW¼, SECTION 16, T25N, R6W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39373, W107.47519

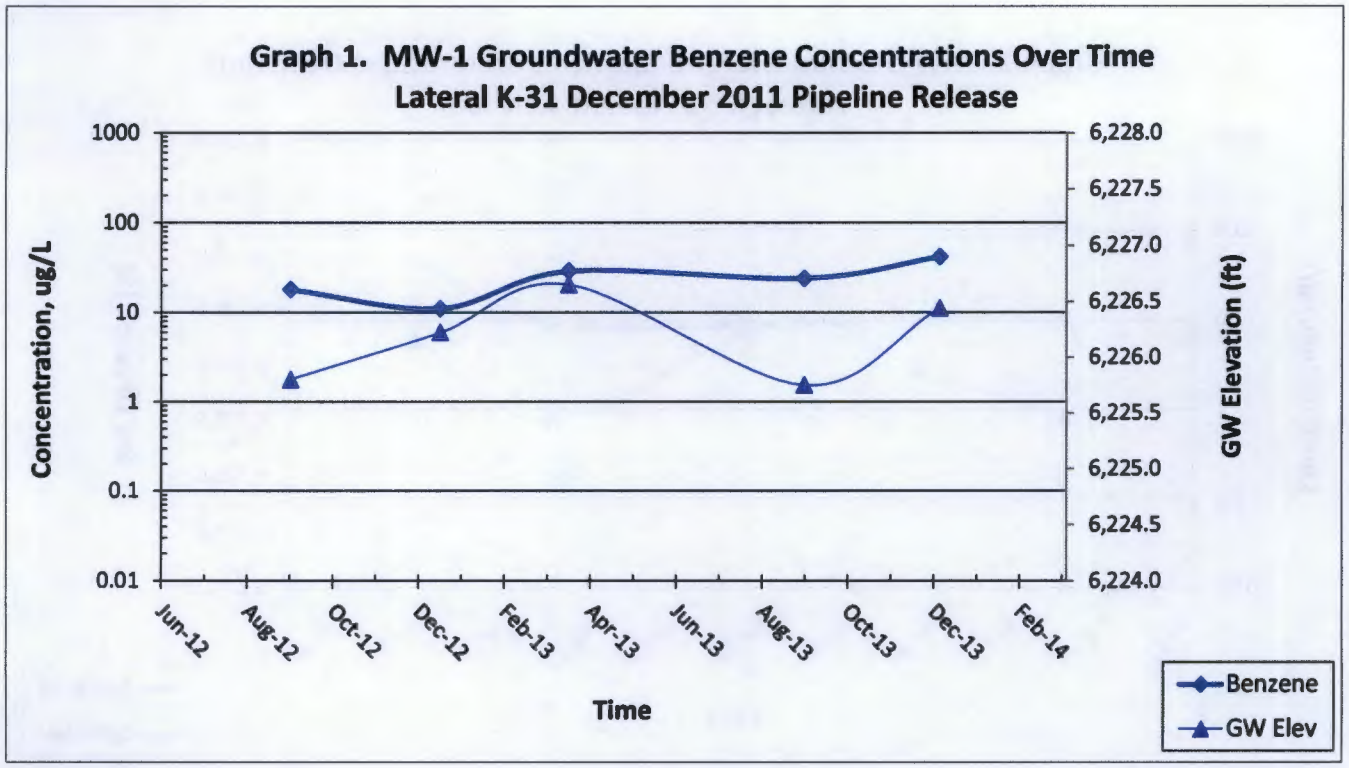


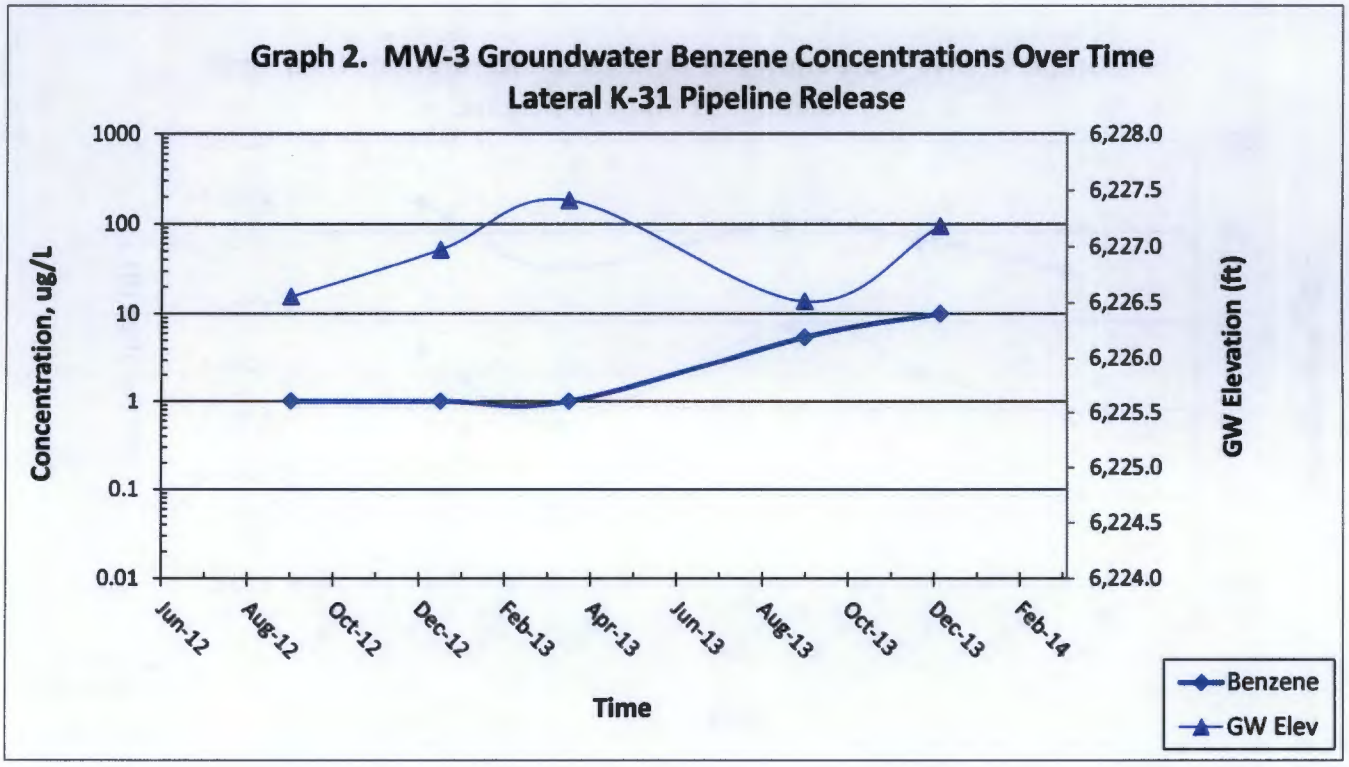
Animas Environmental Services, LLC

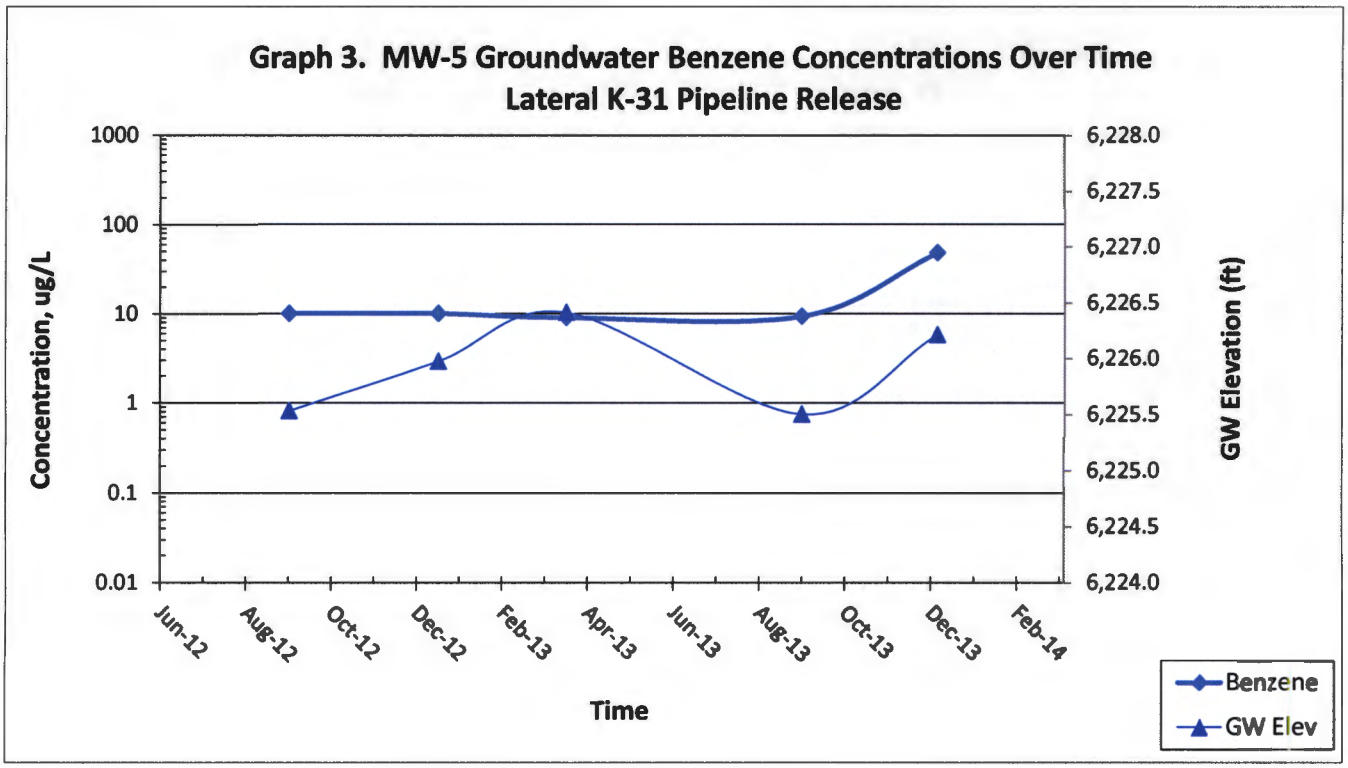
DRAWN BY: C. Lameman	DATE DRAWN: September 14, 2012
REVISIONS BY: C. Lameman	DATE REVISED: January 24, 2014
CHECKED BY: H. Woods	DATE CHECKED: January 24, 2014
APPROVED BY: E. McNally	DATE APPROVED: January 24, 2014

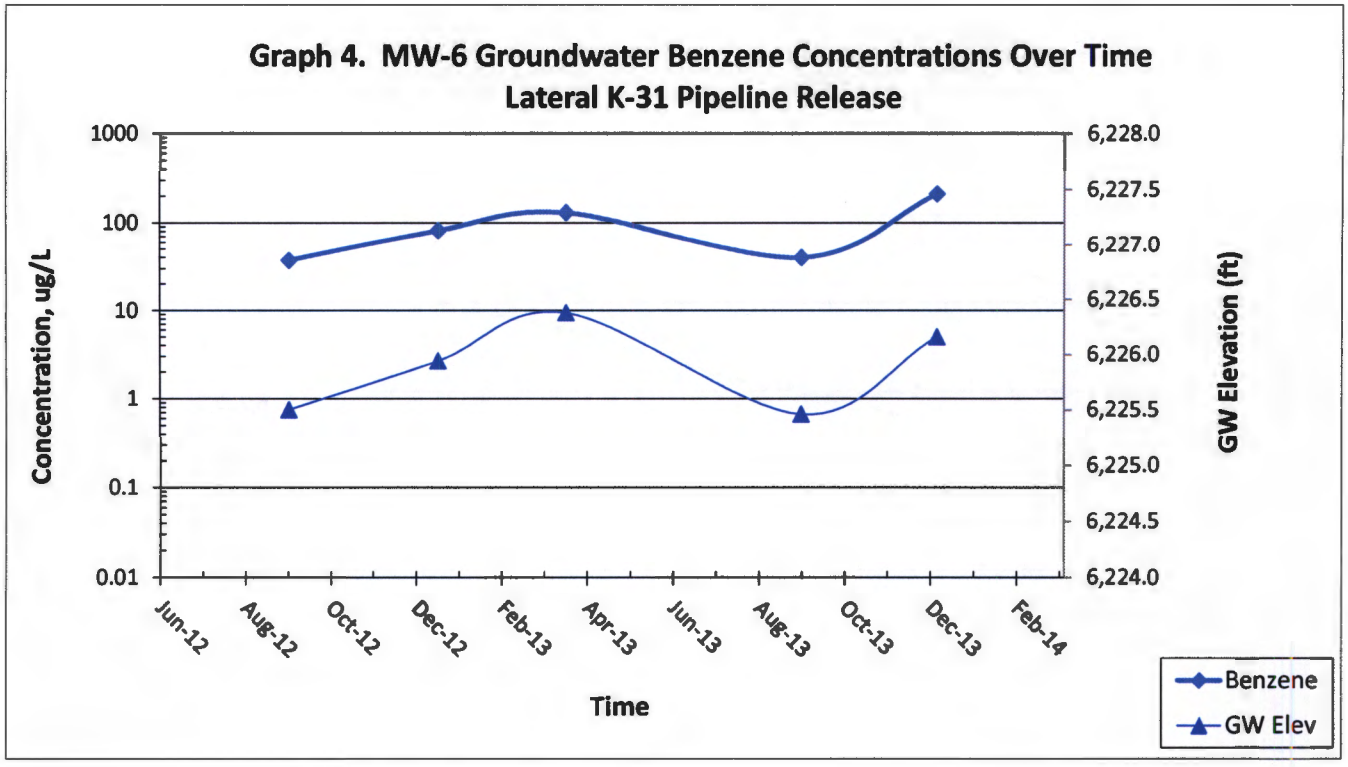
FIGURE 5

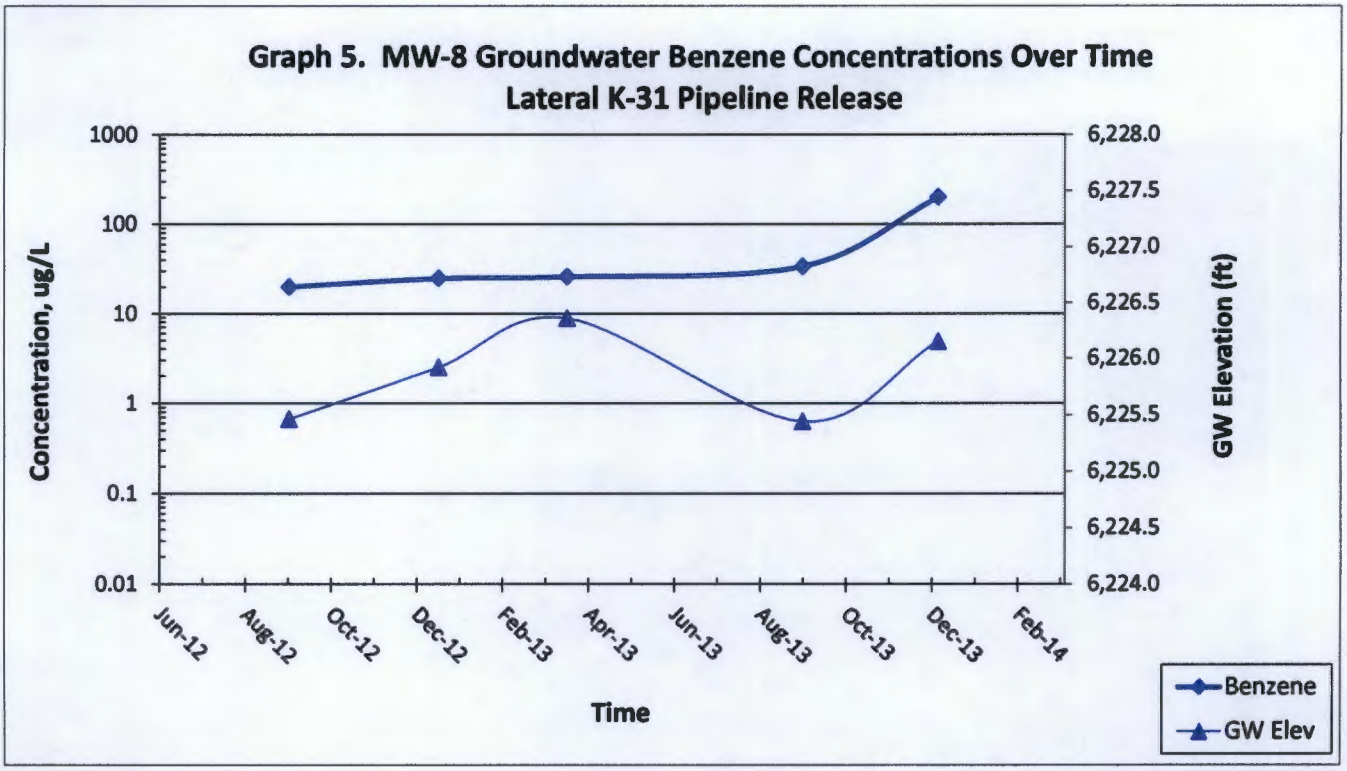
DISSOLVED BENZENE CONCENTRATION CONTOURS, DECEMBER 2013
ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 DECEMBER 2011 PIPELINE RELEASE
SE¼ SW¼, SECTION 16, T25N, R6W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39373, W107.47519

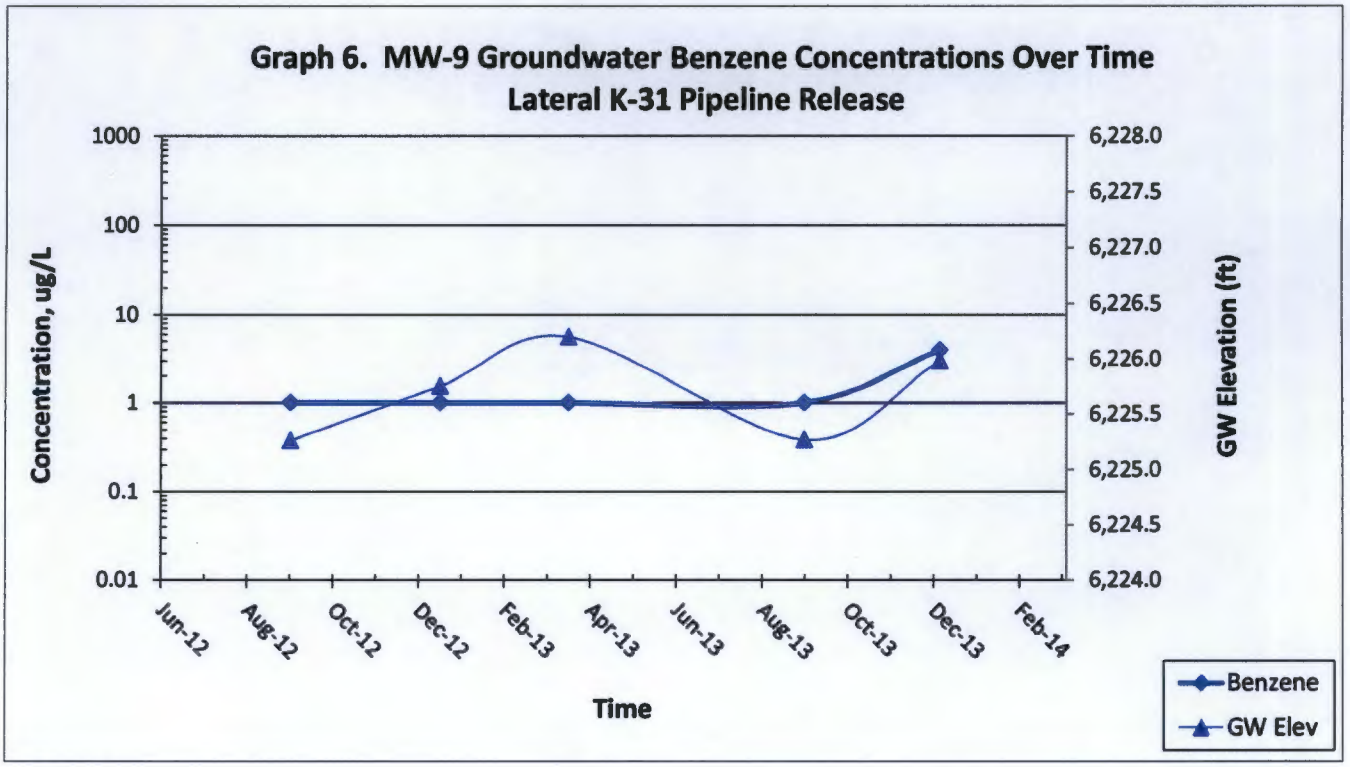

Graph 1. MW-1 Groundwater Benzene Concentrations Over Time
Lateral K-31 December 2011 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
GW Elevation (ft)
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev


Graph 2. MW-3 Groundwater Benzene Concentrations Over Time
Lateral K-31 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
GW Elevation (ft)
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev


Graph 3. MW-5 Groundwater Benzene Concentrations Over Time
Lateral K-31 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
GW Elevation (ft)
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev


Graph 4. MW-6 Groundwater Benzene Concentrations Over Time
Lateral K-31 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
GW Elevation (ft)
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev


Graph 5. MW-8 Groundwater Benzene Concentrations Over Time
Lateral K-31 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
GW Elevation (ft)
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev


Graph 6. MW-9 Groundwater Benzene Concentrations Over Time
Lateral K-31 Pipeline Release
Concentration, ug/L
1000
100
10
1
0.1
0.01
GW Elevation (ft)
6,228.0
6,227.5
6,227.0
6,226.5
6,226.0
6,225.5
6,225.0
6,224.5
6,224.0
Jun-12
Aug-12
Oct-12
Dec-12
Feb-13
Apr-13
Jun-13
Aug-13
Oct-13
Dec-13
Feb-14
Time
Benzene
GW Elev

DEPTH TO GROUNDWATER MEASUREMENT FORM

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Project: Groundwater Sampling
Site: Enterprise Field Services, LLC
Location: Lateral K-31
Tech: Lamone, L.

Project No.: AES 111120
Date: 12-9-2013
Time: 0945
Form: Snow @ 9°(F)

Well I.D.	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	TDW	Notes / Observations
3		18.30		26.04 TDW	
4		16.93		26.93 TDW	
9		15.60'		26.47	
7		16.96		26.05	
5		15.20		25.10	
8		15.86		26.40	"Soot" like organic material (black)
1		18.80		26.62	Upon open well lid, H_2S odor
6		16.75		26.67	
2		16.18'		24.67	

Wells measured with KECK water level or KECK interface tape, decontaminated between each well measurement.

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-1

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Lamone, L.
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 18.80 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 18.80 **Time:** 1514 *(taken prior to purging well)*
Final D.T.W. (ft): 18.76 **Time:** 1530 *(taken after sample collection)*
If NAPL Present: D.T.P.:_____ D.T.W.:_____ Thickness:_____ Time:_____

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1511 (1527 Sample)
Air Temp: 25° F
T.O.C. Elev. (ft): 6245.24
Total Well Depth (ft): 26.62

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1516	14.36	12.77	1.04	7.72	-97.2	1st draw H2O	drak gray H2S odor
1518	15.22	12.71	0.91	7.69	-103.2	1.0 gal.	gray, H2S odor
1521	15.52	12.71	0.51	7.62	-109.3	2.0 gal.	lt gray
1523	15.73	1266	0.33	7.59	-114.1	3.0 gal.	lt gray-clear H2O
1527	15.86	12.63	0.25	7.57	-114.4	4.0 gal.	clear H2O

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:
7.82 H2O column
1.28 H2O Volume
3.83 gal.

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: LAMONE, L.
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 16.13 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 16.14 **Time:** 1238 *(taken prior to purging well)*
Final D.T.W. (ft): 17.40 **Time:** 1258 *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1234 (1258 Sample)
Air Temp: 20° F
T.O.C. Elev. (ft): 6242.58
Total Well Depth (ft): 24.67

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1245	10.75	1392		8.32	-119.9	1st draw of H2O	Tan H2O
1248	13.55	13.84	1.40	7.75	-70.6	1.0 gal.	clear H2O
1251	14.13	13.86	1.24	7.66	-72.2	2.0 gal.	clear H2O
1254	14.00	14.01	1.18	7.61	-70.8	3.0 gal.	clear H2O
1258	13.13	14.16	1.39	7.55	-66.8	4.5 gal.	clear H2O

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to land FARM
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:
8.53 H2O column
x 7.39 H2O volume
4.17 purged gals.

Recharge is good.

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: L. Lamone
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 18.30 **Time:** 0945 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 18.30 **Time:** 1047 *(taken prior to purging well)*
Final D.T.W. (ft): 18.35 **Time:** 1130 *(taken after sample collection)*
If NAPL Present: D.T.P.: **D.T.W.:** **Thickness:** **Time:**

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1045 (1127 Sample)
Air Temp: 15° F
T.O.C. Elev. (ft): 6245.48
Total Well Depth (ft): 26.04

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1114	13.54	12.69	2.64	7.54	-73.8	1st draw	clear H2O
1117	14.26	12.95	1.89	7.47	-77.2	1.0 gal.	clear H2O
1120	14.50	12.98	1.73	7.50	-79.6	2.0 gal	clear H2O
1123	14.31	12.99	2.20	7.52	-82.1	3.0 gal	clear H2O
1127	14.30	13.02	2.92	7.52	-81.1	4.0 gal	clear H2O

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delived to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:
7.74 column H2O
1.26 volume H2O
3.80 gal. purged

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-4

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: L. Lamont
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 16.93 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 16.93 **Time:** 1137 *(taken prior to purging well)*
Final D.T.W. (ft): 17.00 **Time:** 1159 *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1136 (1156 Sample)
Air Temp: 18° F
T.O.C. Elev. (ft): 6244.08
Total Well Depth (ft): 26.93

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1143	11.46	15.62		8.13	-83.1	1st draw of H2O	H2O clear
1145	14.50	16.08	2.20	7.80	-60.5	1.0 gal	clear H2O
1148	14.84	16.42	1.44	7.67	-64.7	2.0 gal.	clear H2O
1150	14.95	16.56	1.35	7.65	-67.3	3.0 gal.	clear H2O
1153	15.00	16.66	1.21	7.62	-68.2	4.0 gal.	clear H2O
1156	14.90	16.76	1.09	7.62	-69.9	5.0 gal.	clear H2O

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. delivered to land farm.
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:
10.00 H2O Column
1.63 H2O Volume
4.89 purged

Recharge is good on MW.

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-5

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Cameron
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 15.20 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 15.20 **Time:** 1345 *(taken prior to purging well)*
Final D.T.W. (ft): 15.25 **Time:** 1406 *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12.9.2013
Arrival Time: 1337 (1404 Sample)
Air Temp: 22° F
T.O.C. Elev. (ft): 6241.41
Total Well Depth (ft): 25.10

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1351	15.25	16.61	1.11	8.18	-158.4		
1353	15.85	16.41	0.78	8.13	-158.3	1.0 gal.	gray H2O
1356	15.96	16.24	0.77	8.11	-156.6	2.0	gray H2O
1358	15.96	16.30	0.79	8.09	156.3	3.0	clear H2O
1400	16.12	16.14	0.92	8.06	-150.5	4.0	Clear H2O
1404	16.27	15.84	1.01	7.99	-143.2	5.0	clear H2O

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drums delivered to landfarm
Collected Samples Stored on Ice in Cooler: YES
Chain of Custody Record Complete: YES
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:

9.91 H2O column
1.62 H2O volume
4.85 gal. purged

Recharge good on well.

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-6

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Lamone, L
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 16.75 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 16.75 **Time:** 1443 *(taken prior to purging well)*
Final D.T.W. (ft): 16.79 **Time:** 1506 *(taken after sample collection)*
If NAPL Present: **D.T.P.:** _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1441 (1503 Sample)
Air Temp: 25°F
T.O.C. Elev. (ft): 6242.91
Total Well Depth (ft): 26.67

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1449	14.81	13.73	0.64	7.71	-98.4	1st draw of H2O	gray H2O
1451	15.30	14.22	0.33	7.66	-102.1	1.0 gal.	gray - clear H2O
1453	15.46	14.24	0.26	7.64	-105	2.0 gal	clear H2O
1456	15.74	14.28	0.22	7.61	-107.2	3.0 gal	clear H2O
1459	15.77	14.20	0.23	7.59	-103.7	4.0 gal	clear H2O
1503	15.76	14.13	0.23	7.55	-97.4	5.0 gal.	

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments:
9.92 H2O column
1.62 H2O volume
4.85 gal. purged

Recharge good on well

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-7

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Lamone, L.
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 16.96 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 16.96 **Time:** 1206 *(taken prior to purging well)*
Final D.T.W. (ft): 17.03 **Time:** 1226 *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12.9.2013
Arrival Time: 1204 (1224 Sample)
Air Temp: 18° F
T.O.C. Elev. (ft): 6243.27
Total Well Depth (ft): 26.05

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1213	11.22	12.60	3.45	8.16	-87.3	1st draw of H2o	gray is in color
1216	14.47	12.50	1.27	7.82	-82.0	1.0 gal.	clear H2o
1218	15.04	12.54	1.00	7.64	-82.4	2.0 gal.	clear H2o
1221	14.56	12.56	1.71	7.60	-81.5	3.0 gal	clear H2o
1224	15.43	12.58	0.88	7.56	-83.4	4.45 gal	clear H2o

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:

9.09 H2O Column
1.48 H2O volume
4.45 purged

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-8

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Lamone, L.
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 15.84 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 15.86 **Time:** 1407 *(taken prior to purging well)*
Final D.T.W. (ft): 15.90 **Time:** 1432 *(taken after sample collection)*
If NAPL Present: D.T.P.:_____ D.T.W.:_____ Thickness:_____ Time:_____

Project No.: AES 111120
Date: 12.9.2013
Arrival Time: ~~1406~~ 1406 (1429 Sample)
Air Temp: 24° F
T.O.C. Elev. (ft): 6242.01
Total Well Depth (ft): 26.40

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1417	15.56	13.32	0.89	8.25	-131.1	1st draw H2o	clear H2o w/ bubbles
1419	16.23	13.96	0.69	8.08	-131.5	1.0 gal.	grayish H2o
1421	16.43	14.27	0.44	7.96	-131.2	2.0 gal	lt gray to clear H2o
1424	16.59	14.47	0.48	7.92	-129.8	3.0 gal	clear H2o
1426	16.72	14.53	0.74	7.88	-123.3	4.0 gal.	clear H2o
1429	16.61	14.64	0.87	7.84	-117.1	5.25 gal	clear H2o

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drums delivered to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:
10.42 H2o Column
1.72 H2o Volume
5.20 gal. purged

revised: 08/10/09

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-9

Animas Environmental Services
624 E. Comanche, Farmington NM 87401
Tel. (505) 564-2281 Fax (505) 324-2022

Site: Groundwater Sampling
Location: Enterprise Field Services, LLC
Project: Lateral K-31
Sampling Technician: Lamone, L.
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 15.60 **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 15.61 **Time:** 1309 *(taken prior to purging well)*
Final D.T.W. (ft): 15.72 **Time:** 1328 *(taken after sample collection)*
If NAPL Present: **D.T.P.:** _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 111120
Date: 12-9-2013
Arrival Time: 1307
Air Temp: 21° F
T.O.C. Elev. (ft): 6241.59
Total Well Depth (ft): 216.47

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1316	11.38	13.65		8.04	-76.5	1st drawn H2o	clear
1318	13.96	13.44	2.21	7.70	-63.9	1.0 gal	clear H2o
1320	14.26	13.42	1.94	7.61	-66.6	2.0 gal	clear H2o
1323	14.53	13.51	1.70	7.56	-68.3	3.0 gal.	clear H2o
1325	14.48	1345	1.62	7.54	-56.3	4.0 gal.	clear H2o
1328	13.92	13.68	3.12	7.47	-49.7	5.5 gal.	clear H2o

Analytical Parameters (include analysis method and number and type of sample containers)

BTEX 8021B (3x40mL VOA w/ HCL)

Disposal of Purged Water: Into 55 gal. drum delivered to landfarm
Collected Samples Stored on Ice in Cooler: Yes
Chain of Custody Record Complete: Yes
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and Peristaltic Pump

Notes/Comments:

10.86 H2o column
1.77 H2o Volume
5.32 gal. Purged

revised: 08/10/09

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 16, 2013

Heather Woods
Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 716-2787
FAX (505) 324-2022

RE: Lateral K-31 OrderNo.: 1312383

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/10/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: Lateral K-31
Lab Order: 1312383

Lab ID: 1312383-001 **Collection Date:** 12/9/2013 3:27:00 PM
Client Sample ID: MW-1 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	42	1.0		µg/L	1	12/13/2013 1:24:02 AM	R1547(
Toluene	20	1.0		µg/L	1	12/13/2013 1:24:02 AM	R1547(
Ethylbenzene	10	1.0		µg/L	1	12/13/2013 1:24:02 AM	R1547(
Xylenes, Total	45	2.0		µg/L	1	12/13/2013 1:24:02 AM	R1547(
Surr: 4-Bromofluorobenzene	106	85-136		%REC	1	12/13/2013 1:24:02 AM	R1547(

Lab ID: 1312383-002 **Collection Date:** 12/9/2013 3:03:00 PM
Client Sample ID: MW-6 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	210	10		µg/L	10	12/13/2013 3:00:59 PM	R15513
Toluene	20	1.0		µg/L	1	12/13/2013 1:54:09 AM	R1547(
Ethylbenzene	12	1.0		µg/L	1	12/13/2013 1:54:09 AM	R1547(
Xylenes, Total	51	2.0		µg/L	1	12/13/2013 1:54:09 AM	R1547(
Surr: 4-Bromofluorobenzene	109	85-136		%REC	1	12/13/2013 1:54:09 AM	R1547(

Lab ID: 1312383-003 **Collection Date:** 12/9/2013 1:28:00 PM
Client Sample ID: MW-9 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	4.0	1.0		µg/L	1	12/13/2013 2:24:09 AM	R1547(
Toluene	7.1	1.0		µg/L	1	12/13/2013 2:24:09 AM	R1547(
Ethylbenzene	6.0	1.0		µg/L	1	12/13/2013 2:24:09 AM	R1547(
Xylenes, Total	24	2.0		µg/L	1	12/13/2013 2:24:09 AM	R1547(
Surr: 4-Bromofluorobenzene	107	85-136		%REC	1	12/13/2013 2:24:09 AM	R1547(

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: Lateral K-31
Lab Order: 1312383

Lab ID: 1312383-004 **Collection Date:** 12/9/2013 11:56:00 AM
Client Sample ID: MW-4 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	42	1.0		µg/L	1	12/13/2013 2:54:12 AM	R1547(
Toluene	17	1.0		µg/L	1	12/13/2013 2:54:12 AM	R1547(
Ethylbenzene	14	1.0		µg/L	1	12/13/2013 2:54:12 AM	R1547(
Xylenes, Total	54	2.0		µg/L	1	12/13/2013 2:54:12 AM	R1547(
Surr: 4-Bromofluorobenzene	106	85-136		%REC	1	12/13/2013 2:54:12 AM	R1547(

Lab ID: 1312383-005 **Collection Date:** 12/9/2013 2:29:00 PM
Client Sample ID: MW-8 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	200	10		µg/L	10	12/13/2013 3:31:12 PM	R15513
Toluene	14	1.0		µg/L	1	12/13/2013 3:24:30 AM	R1547(
Ethylbenzene	11	1.0		µg/L	1	12/13/2013 3:24:30 AM	R1547(
Xylenes, Total	46	2.0		µg/L	1	12/13/2013 3:24:30 AM	R1547(
Surr: 4-Bromofluorobenzene	107	85-136		%REC	1	12/13/2013 3:24:30 AM	R1547(

Lab ID: 1312383-006 **Collection Date:** 12/9/2013 12:24:00 PM
Client Sample ID: MW-7 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	30	1.0		µg/L	1	12/13/2013 3:54:37 AM	R1547(
Toluene	17	1.0		µg/L	1	12/13/2013 3:54:37 AM	R1547(
Ethylbenzene	14	1.0		µg/L	1	12/13/2013 3:54:37 AM	R1547(
Xylenes, Total	56	2.0		µg/L	1	12/13/2013 3:54:37 AM	R1547(
Surr: 4-Bromofluorobenzene	110	85-136		%REC	1	12/13/2013 3:54:37 AM	R1547(

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: Lateral K-31
Lab Order: 1312383

Lab ID: 1312383-007 **Collection Date:** 12/9/2013 11:27:00 AM
Client Sample ID: MW-3 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	10	1.0		µg/L	1	12/13/2013 4:24:48 AM	R1547(
Toluene	15	1.0		µg/L	1	12/13/2013 4:24:48 AM	R1547(
Ethylbenzene	9.7	1.0		µg/L	1	12/13/2013 4:24:48 AM	R1547(
Xylenes, Total	37	2.0		µg/L	1	12/13/2013 4:24:48 AM	R1547(
Surr: 4-Bromofluorobenzene	109	85-136		%REC	1	12/13/2013 4:24:48 AM	R1547(

Lab ID: 1312383-008 **Collection Date:** 12/9/2013 2:04:00 PM
Client Sample ID: MW-5 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	48	1.0		µg/L	1	12/13/2013 5:01:50 PM	R15513
Toluene	9.3	1.0		µg/L	1	12/13/2013 5:01:50 PM	R15513
Ethylbenzene	9.7	1.0		µg/L	1	12/13/2013 5:01:50 PM	R15513
Xylenes, Total	36	2.0		µg/L	1	12/13/2013 5:01:50 PM	R15513
Surr: 4-Bromofluorobenzene	108	85-136		%REC	1	12/13/2013 5:01:50 PM	R15513

Lab ID: 1312383-009 **Collection Date:** 12/9/2013 12:58:00 PM
Client Sample ID: MW-2 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	24	1.0		µg/L	1	12/13/2013 6:32:47 PM	R15513
Toluene	13	1.0		µg/L	1	12/13/2013 6:32:47 PM	R15513
Ethylbenzene	11	1.0		µg/L	1	12/13/2013 6:32:47 PM	R15513
Xylenes, Total	49	2.0		µg/L	1	12/13/2013 6:32:47 PM	R15513
Surr: 4-Bromofluorobenzene	109	85-136		%REC	1	12/13/2013 6:32:47 PM	R15513

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: Lateral K-31
Lab Order: 1312383

Lab ID: 1312383-010 **Collection Date:**
Client Sample ID: TRIP BLANK **Matrix:** TRIP BLANK

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/13/2013 7:02:56 PM	R15513
Benzene	ND	1.0		µg/L	1	12/13/2013 7:02:56 PM	R15513
Toluene	ND	1.0		µg/L	1	12/13/2013 7:02:56 PM	R15513
Ethylbenzene	ND	1.0		µg/L	1	12/13/2013 7:02:56 PM	R15513
Xylenes, Total	ND	2.0		µg/L	1	12/13/2013 7:02:56 PM	R15513
Surr: 4-Bromofluorobenzene	100	85-136		%REC	1	12/13/2013 7:02:56 PM	R15513

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312383**

16-Dec-13

Client: Animas Environmental Services

Project: Lateral K-31

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15470**	RunNo: **15470**
Prep Date:	Analysis Date: **12/12/2013**	SeqNo: **445336** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		97.4	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15470**	RunNo: **15470**
Prep Date:	Analysis Date: **12/12/2013**	SeqNo: **445337** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	65	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		99.6	85	136			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15513**	RunNo: **15513**
Prep Date:	Analysis Date: **12/13/2013**	SeqNo: **446126** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5								
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Surr: 4-Bromofluorobenzene	20		20.00		100	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15513**	RunNo: **15513**
Prep Date:	Analysis Date: **12/13/2013**	SeqNo: **446127** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21	2.5	20.00	0	103	76.8	124			
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	21	1.0	20.00	0	107	80	120			
Ethylbenzene	21	1.0	20.00	0	106	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312383**

16-Dec-13

Client: Animas Environmental Services

Project: Lateral K-31

Sample ID **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSW** Batch ID: **R15513** RunNo: **15513**

Prep Date: Analysis Date: **12/13/2013** SeqNo: **446127** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	64	2.0	60.00	0	107	80	120			
1,2,4-Trimethylbenzene	21	1.0	20.00	0	104	80	120			
1,3,5-Trimethylbenzene	22	1.0	20.00	0	108	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		99.7	85	136			

Sample ID **1312383-008AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **MW-5** Batch ID: **R15513** RunNo: **15513**

Prep Date: Analysis Date: **12/13/2013** SeqNo: **446133** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	22	2.5	20.00	0	108	56.1	130			
Benzene	69	1.0	20.00	48.33	103	73.4	119			
Toluene	33	1.0	20.00	9.344	120	80	120			
Ethylbenzene	33	1.0	20.00	9.692	117	80	120			
Xylenes, Total	100	2.0	60.00	36.09	113	80	120			
1,2,4-Trimethylbenzene	36	1.0	20.00	13.59	112	80	120			
1,3,5-Trimethylbenzene	27	1.0	20.00	4.044	112	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		108	85	136			

Sample ID **1312383-008AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **MW-5** Batch ID: **R15513** RunNo: **15513**

Prep Date: Analysis Date: **12/13/2013** SeqNo: **446134** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	22	2.5	20.00	0	110	56.1	130	1.72	20	
Benzene	70	1.0	20.00	48.33	111	73.4	119	2.05	20	
Toluene	34	1.0	20.00	9.344	123	80	120	1.88	20	S
Ethylbenzene	34	1.0	20.00	9.692	119	80	120	1.01	20	
Xylenes, Total	110	2.0	60.00	36.09	116	80	120	1.73	20	
1,2,4-Trimethylbenzene	36	1.0	20.00	13.59	112	80	120	0.117	20	
1,3,5-Trimethylbenzene	27	1.0	20.00	4.044	113	80	120	0.211	20	
Surr: 4-Bromofluorobenzene	22		20.00		109	85	136	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Animas Environmental Work Order Number: 1312383 RcptNo: 1

Received by/date: 12/10/13

Logged By: Ashley Gallegos 12/10/2013 10:00:00 AM

Completed By: Ashley Gallegos 12/10/2013 12:22:50 PM

Reviewed By: 12/10/13

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✓
2. Is Chain of Custody complete?	Yes ✓	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✓	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✓	No	NA
6. Sample(s) in proper container(s)?	Yes ✓	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✓	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✓	No	
9. Was preservative added to bottles?	Yes	No ✓	NA
10. VOA vials have zero headspace?	Yes ✓	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✓	# of preserved bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✓	No	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ✓	No	
14. Is it clear what analyses were requested?	Yes ✓	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✓	No	Checked by:

Special Handling (If applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✓

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Animas Environmental

Mailing Address: 624 E. Comanche
Farmington, NM 87401

Phone #:

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

☐ Standard ☐ Rush

Project Name: Lateral K-31

Project #:

Project Manager: Heather Woods

Sampler: L. Lamone

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312383	BTEX (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/9/13	1527	H2O	MW-1	3 VOAs	HCl	-001	X															
	1503	H2O	MW-6	3 VOAs	HCl	-002	X															
	1328	H2O	MW-9	3 VOAs		-003	X															
	1156	H2O	MW-4			-004	X															
	1429	H2O	MW-8			-005	X															
	1224	H2O	MW-7			-006	X															
	1127	H2O	MW-3			-007	X															
	1404	H2O	MW-5			-008	X															
	1258	H2O	MW-2			-009	X															
			TRIP BLANK	2 VOA	HCl	-010	X															

12/10/13

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/9/13	1730			12/9/13	1730
2/9/13	1800			12/10/13	1000

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.