3R – 449

Q2 2011 GWMR

05/06/2011

Animas Environmental Services, LLC
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505-564-2281
Durango, Colorado
970-403-3274

September 4, 2012

Glenn von Gonten
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: 2nd Quarter 2012 Groundwater Monitoring Report
Williams Four Corners, LLC
Sammons #2 Pipeline December 2009 Release
Flora Vista, San Juan County, New Mexico

Dear Mr. von Gonten:

Animas Environmental Services, LLC (AES), on behalf of Williams Four Corners, LLC, has prepared this *2nd Quarter 2012 Groundwater Monitoring Report* for the Sammons #2 Pipeline December 2009 Release in accordance with New Mexico Oil Conservation Division (NMOCD) and New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) regulations. The subject site is located near Flora Vista, San Juan County, New Mexico.

A quarterly groundwater monitoring and sampling event was completed June 1, 2012, in accordance with a workplan previously prepared by AES and dated March 3, 2011. The workplan was submitted to the NMOCD for review prior to implementing the proposed scope of work.

1.0 Site Information

1.1 Site Location

The general project area is located in a rural area approximately 0.1 mile east of County Road 3000 on private property owned by Ms. Helen Clark. The spill location is located approximately 140 feet southeast of a wetland area that is adjacent to the Animas River. The project area is described legally as within the SE¼ NE¼ Section 32, T30N, R12W, in Flora Vista, San Juan County, New Mexico. Longitude and latitude were recorded as being N36.77173 and W108.11515. A topographic site location map is included as Figure 1, and a General Site Plan is presented as Figure 2.

1.2 Spill History

On December 3, 2009, trenching operations during routine pipeline replacement activities uncovered petroleum hydrocarbon contaminated soils. Williams was in the process of replacing an in-service 2-inch diameter natural gas pipeline with a new 4-inch diameter natural gas pipeline. The pipeline connects the Sammons 2 well locations, which are owned by Conoco Phillips. The volume of natural gas condensate released into the surrounding environment and the length of time that the 2-inch diameter pipeline was leaking are unknown.

Initial remedial activities were completed between December 7 and 17, 2009, and included excavation of approximately 1,884 cubic yards of petroleum contaminated soil (PCS) and removal of 1,122 barrels (bbls) of petroleum contaminated groundwater. Petroleum contaminated soil and groundwater were transported to Industrial Ecosystems, Inc. (IEI) on Crouch Mesa, San Juan County, for disposal. Soil excavation and removal activities were documented in the *Remedial Activities Report for Sammons #2 Pipeline 2009 Spill*, prepared by AES and dated January 11, 2010.

Six 1-inch diameter groundwater monitoring wells were installed and sampled at the site in April 2010. Analytical results from groundwater samples collected during the April 2010 sampling event showed benzene concentrations exceeded the New Mexico Water Quality Control Commission (WQCC) standard of 10 µg/L in one well, MW-1 (11 µg/L). The remaining wells had benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations either below laboratory detection limits or well below applicable WQCC standards.

Diesel and motor oil range organics were below laboratory detection limits for all wells sampled. Low level gasoline range organics (GRO) were detected in MW-2, MW-4, MW-5, and MW-6. Based on the laboratory results, AES recommended continued quarterly groundwater monitoring at the site for at least a year.

Groundwater investigation details are included within the *Site Investigation Report* prepared by AES and dated May 5, 2010. Subsequent quarterly groundwater monitoring events were conducted in July and October 2010, January, April, August and November 2011, and February 2012. Groundwater monitor reports were prepared and submitted in August and November 2010, February, May, August, and December 2011, and April 2012.

2.0 Groundwater Monitoring and Sampling - June 2012

On June 1, 2012, groundwater monitoring and sampling were conducted in MW-2 and MW-6 by AES. Note that MW-6 was included in this sampling event because it was frozen during the February 2012 sampling event. MW-1, MW-3, MW-4, and MW-5 were not sampled since eight consecutive quarters of sampling have been completed for the monitor wells. Work was completed in accordance with the workplan prepared by AES and dated March 3, 2011, 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 in MW-2 and MW-6 with a YSI Water Quality Meter. Water quality measurements were recorded and included pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP) for MW-2 and MW-6. Depth to groundwater measurements and water quality data were recorded onto Water Sample Collection forms.

Depths to groundwater varied across the site and were observed to range from 1.19 feet below top of casing (TOC) in MW-5 to 2.99 feet below TOC in MW-1. The groundwater gradient was calculated to be approximately 0.009 ft/ft to the northwest, which is consistent with previous site data. Note that the site is considered to have groundwater under the direct influence (GUDI) of the Animas River.

Following depth to water measurement, MW-2 and MW-6 were purged with a disposable bailer until recorded temperature, pH, conductivity, and DO measurements were stabilized. All data was recorded onto Water Sample Collection Forms. Groundwater temperature ranged from 15.29°C to 15.80°C, and conductivity ranged from 1.727 mS to 1.750 mS. DO concentrations were between 0.29 mg/L in MW-6 and 0.38 mg/L in MW-2, and pH ranged from 6.95 to 6.96. Although DO was recorded during field activities, it should be noted that due to the use of bailers, the accuracy of dissolved oxygen measurements is limited. Depth to groundwater measurements and water quality data are summarized in Table 1, and groundwater elevation contours are presented in Figure 2. Water Sample Collection forms are presented in Appendix A.

2.2 Groundwater Laboratory Analyses

Groundwater samples were collected with new disposable bailers from MW-2 and MW-6 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

Analytical results from groundwater samples collected during the June 2012 sampling event showed that BTEX concentrations were reported below the laboratory detection limits or applicable WQCC regulatory limits in the monitor wells sampled, MW-2 and MW-6. Groundwater analytical results are included in Table 2 and on Figure 3. Groundwater analytical laboratory reports are presented in Appendix A.

3.0 Conclusion and Recommendations

On June 1, 2012, AES personnel conducted groundwater monitoring and sampling at the Sammons #2 Pipeline December 2009 Release location. Depths to groundwater varied across the site and were observed to exist at about 1.19 feet to 2.99 feet below TOC, and groundwater gradient was calculated to be approximately 0.009 ft/ft to the northwest, which is consistent with previous site data.

Groundwater analytical results showed that contaminants of concern (BTEX) were below applicable WQCC standards for the eighth consecutive quarter in MW-2 and MW-6. Dissolved phase benzene concentrations in MW-2 have remained below the WQCC standard for eight consecutive quarters. Monitor well MW-6 has also remained below applicable WQCC standards for eight consecutive quarters (but was not sampled in February 2012 because the water was frozen).

Based on current and past site data, all site monitor wells have remained below applicable WQCC standards for eight consecutive quarters. Therefore, AES recommends NMOCD consider "No Further Action" and subsequent plugging and abandonment of the wells at this site.

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

Sincerely,

Deborah Watson
Project Manager

Elizabeth McNally, P.E.
New Mexico Registration #15799

Attachments:

Tables
Table 1. Groundwater Measurement and Water Quality Data
Table 2. Groundwater Analytical Results

Figures
Figure 1. Topographic Site Location Map
Figure 2. General Site Plan and Groundwater Elevations, June 2012
Figure 3. Groundwater Analytical Results, June 2012

Appendix A
Water Sample Collection Forms
Groundwater Analytical Laboratory Reports (Hall 1206111)

Cc: Matt Webre
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Files:2012/Williams/Sammons#2/Groundwater/Reports/2nd Qtr Investigation Report 090412

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
Williams Four Corners Sammons #2 Pipeline December 2009 Release
Flora Vista, San Juan County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-1	20-Apr-10	2.43	5427.26	5424.83	10.19	4.392	0.43	7.05	35.1
MW-1	20-Jul-10	2.05	5427.26	5425.21	14.75	1.108	1.76	7.14	-89.7
MW-1	28-Oct-10	1.95	5427.26	5425.31	11.84	3.797	0.67	7.03	-71.0
MW-1	25-Jan-11	3.21	5427.26	5424.05	6.45	3.357	2.77	7.40	-13.8
MW-1	27-Apr-11	1.97	5427.26	5425.29	10.16	3.472	3.92	7.12	-6.7
MW-1	11-Aug-11	2.68	5427.26	5424.58	15.31	0.885	0.92	6.98	-111.0
MW-1	08-Nov-11	1.89	5427.26	5425.37	10.66	2.674	2.02	6.78	-102.8
MW-1	20-Feb-12	3.06	5427.26	5424.20	5.74	3.869	1.13	6.81	-79.9
MW-1	01-Jun-12	2.99	5427.26	5424.27	NM	NM	NM	NM	NM
MW-2	20-Apr-10	1.11	5424.98	5423.87	10.37	1.670	0.20	7.39	-132.7
MW-2	20-Jul-10	0.91	5424.98	5424.07	19.09	0.930	1.84	7.26	-99.3
MW-2	28-Oct-10	0.92	5424.98	5424.06	11.52	0.719	0.22	7.45	-103.5
MW-2	25-Jan-11	1.74	5424.98	5423.24	4.55	1.621	2.20	7.59	-66.8
MW-2	27-Apr-11	0.95	5424.98	5424.03	9.69	1.659	1.76	7.31	-102.5
MW-2	11-Aug-11	1.34	5424.98	5423.64	17.21	0.753	0.24	7.05	-144.7
MW-2	08-Nov-11	0.83	5424.98	5424.15	8.61	1.746	0.64	7.36	-115.3
MW-2	20-Feb-12	1.67	5424.98	5423.31	3.16	2.106	0.57	7.15	-65.0
MW-2	01-Jun-12	1.53	5424.98	5423.45	15.29	1.727	0.38	6.96	-90.4
MW-3	20-Apr-10	1.77	5425.44	5423.67	9.73	2.005	0.24	7.21	-69.0
MW-3	20-Jul-10	1.56	5425.44	5423.88	17.89	0.842	1.52	7.22	-85.6
MW-3	28-Oct-10	1.66	5425.44	5423.78	12.61	0.670	0.18	7.43	-108.4
MW-3	25-Jan-11	2.36	5425.44	5423.08	6.13	1.438	1.70	7.63	-63.5
MW-3	27-Apr-11	1.61	5425.44	5423.83	10.70	1.481	1.80	7.34	-111.5
MW-3	11-Aug-11	1.95	5425.44	5423.49	17.42	0.683	0.22	7.03	-127.2
MW-3	08-Nov-11	1.56	5425.44	5423.88	10.66	0.750	0.37	7.46	-156.1
MW-3	20-Feb-12	2.26	5425.44	5423.18	5.14	1.923	0.40	7.10	-110.3

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Flora Vista, San Juan County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-3	01-Jun-12	2.14	5425.44	5423.30	NM	NM	NM	NM	NM
MW-4	20-Apr-10	1.59	5424.38	5422.79	9.60	2.174	0.22	7.29	-88.4
MW-4	20-Jul-10	1.44	5424.38	5422.94	16.39	1.061	1.29	7.17	-87.7
MW-4	28-Oct-10	1.39	5424.38	5422.99	14.48	1.026	0.22	7.28	-111.1
MW-4	25-Jan-11	1.84	5424.38	5422.54	6.88	1.465	2.55	7.52	-56.2
MW-4	27-Apr-11	1.40	5424.38	5422.98	11.21	1.560	1.40	7.35	-136.8
MW-4	11-Aug-11	1.77	5424.38	5422.61	17.12	0.960	0.12	6.96	-135.2
MW-4	08-Nov-11	1.26	5424.38	5423.12	11.93	1.125	0.68	7.26	-145.8
MW-4	20-Feb-12	1.76	5424.38	5422.62	5.31	1.909	0.37	7.03	-113.7
MW-4	01-Jun-12	1.69	5424.38	5422.69	NM	NM	NM	NM	NM
MW-5	20-Apr-10	1.00	5424.17	5423.17	9.88	3.140	0.21	7.37	-102.6
MW-5	20-Jul-10	0.86	5424.17	5423.31	20.50	1.440	1.03	6.98	-93.5
MW-5	28-Oct-10	0.75	5424.17	5423.42	15.62	1.650	0.30	7.09	-91.7
MW-5	25-Jan-11	1.32	5424.17	5422.85	6.15	1.707	2.94	7.49	-53.3
MW-5	27-Apr-11	0.84	5424.17	5423.33	10.69	1.948	0.73	7.22	-111.1
MW-5	11-Aug-11	1.33	5424.17	5422.84	18.48	1.647	0.16	6.75	-127.8
MW-5	08-Nov-11	0.60	5424.17	5423.57	10.51	8.303	0.60	7.14	-98.7
MW-5	20-Feb-12	1.23	5424.17	5422.94	5.19	1.749	0.36	7.06	-109.5
MW-5	01-Jun-12	1.19	5424.17	5422.98	NM	NM	NM	NM	NM
MW-6	20-Apr-10	1.04	5424.91	5423.87	11.09	2.277	0.22	7.28	-113.6
MW-6	20-Jul-10	0.89	5424.91	5424.02	21.57	1.399	1.06	6.93	-82.3
MW-6	28-Oct-10	0.68	5424.91	5424.23	11.93	1.482	0.21	7.12	-89.6
MW-6	25-Jan-11	1.51	5424.91	5423.40	4.67	1.726	6.51	7.47	-30.9
MW-6	27-Apr-11	0.81	5424.91	5424.10	11.76	1.662	2.38	7.20	-96.5
MW-6	11-Aug-11	1.43	5424.91	5423.48	22.41	1.657	0.60	6.70	-121.0

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SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
Williams Four Corners Sammons #2 Pipeline December 2009 Release
Flora Vista, San Juan County, New Mexico

Well ID	*Date Sampled*	*Depth to Water (ft)*	*Surveyed TOC (ft)*	*GW Elev. (ft)*	*Temperature (C)*	*Conductivity (mS)*	*DO (mg/L)*	*pH*	*ORP (mV)*
MW-6	08-Nov-11	0.35	5424.91	5424.56	6.33	6.248	0.67	7.43	-58.9
MW-6	20-Feb-12	NOT SAMPLED/ FROZEN							
MW-6	01-Jun-12	1.41	5424.91	5423.50	15.80	1.750	0.29	6.95	-16.6

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Williams Four Corners Sammons #2 Pipeline December 2009 Release

Flora Vista, San Juan County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	GRO (C6-C10)	DRO (C10-C22)	MRO (C22-C32)
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Analytical Method		8260B/ 8021	8260B/ 8021	8260B/ 8021	8260B/ 8021	8015	8015	8015
WQCC Standard		10	750	750	620	NE	NE	NE
MW-1	20-Apr-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-1	20-Jul-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-1	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	25-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	27-Apr-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-1	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-1	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-1	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-1	20-Feb-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-2	20-Apr-10	**11**	<1.0	2.4	22	1.1	<1.0	<5.0
MW-2	20-Jul-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-2	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	25-Jan-11	2.6	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	27-Apr-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-2	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-2	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-2	20-Feb-12	1.6	<1.0	<1.0	<2.0	NA	NA	NA
MW-2	01-Jun-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-3	20-Apr-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-3	20-Jul-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-3	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	25-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	27-Apr-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-3	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-3	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-3	20-Feb-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-4	20-Apr-10	9.9	<1.0	<1.0	<1.5	0.074	<1.0	<5.0
MW-4	20-Jul-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-4	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	25-Jan-11	2.5	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	27-Apr-11	2.1	<1.0	<1.0	<2.0	NA	NA	NA
MW-4	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-4	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-4	20-Feb-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA

TABLE 2

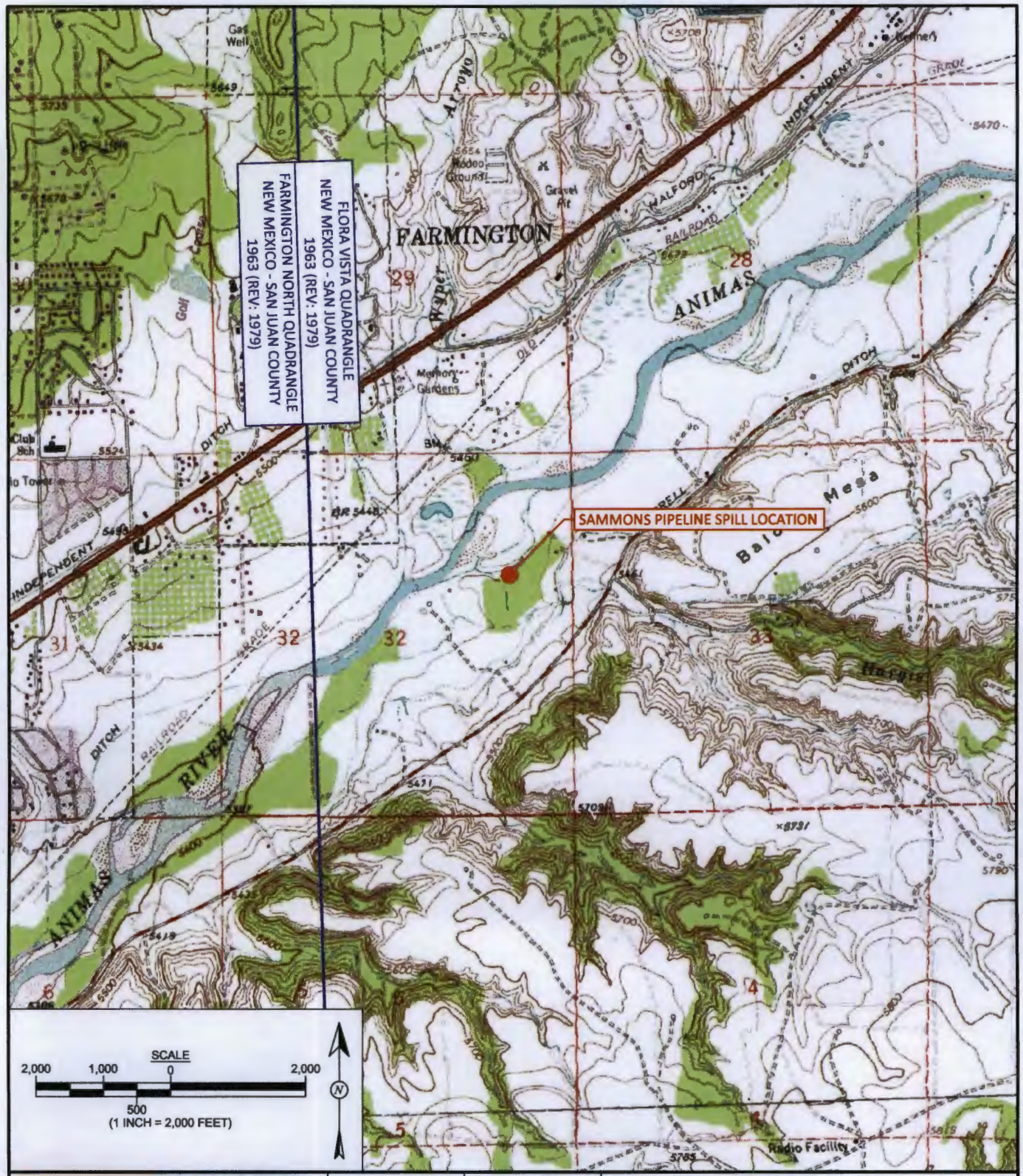
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Williams Four Corners Sammons #2 Pipeline December 2009 Release

Flora Vista, San Juan County, New Mexico

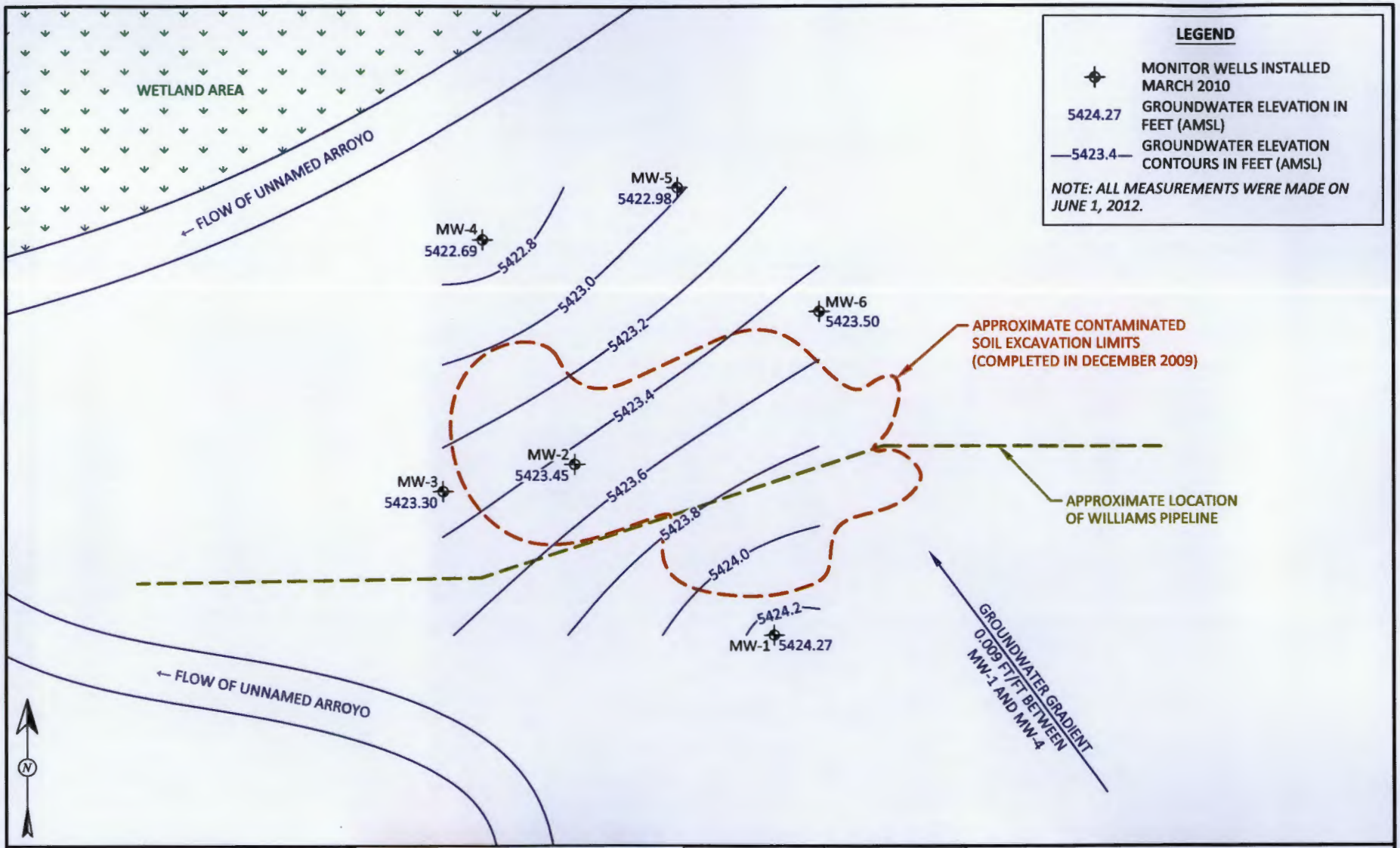
Well ID	Date Sampled	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	GRO (C6-C10)	DRO (C10-C22)	MRO (C22-C32)
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Analytical Method		8260B/ 8021	8260B/ 8021	8260B/ 8021	8260B/ 8021	8015	8015	8015
WQCC Standard		10	750	750	620	NE	NE	NE
MW-5	20-Apr-10	9.7	<1.0	<1.0	<1.5	0.055	<1.0	<5.0
MW-5	20-Jul-10	<1.0	<1.0	<1.0	<1.5	<0.050	<1.0	<5.0
MW-5	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	25-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	27-Apr-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-5	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-5	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-5	20-Feb-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-6	20-Apr-10	4.6	<1.0	11	47	3.2	<1.0	<5.0
MW-6	20-Jul-10	<1.0	<1.0	<1.0	<1.5	0.079	<1.0	<5.0
MW-6	28-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	25-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	27-Apr-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	11-Aug-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-6	08-Nov-11	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
MW-6	20-Feb-12	Not sampled-Groundwater frozen in well						
MW-2	01-Jun-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA
Field Blank	22-Apr-10	<1.0	<1.0	<1.0	<1.5	NA	NA	NA
Field Blank	01-Jun-12	<1.0	<1.0	<1.0	<2.0	NA	NA	NA

Notes: **< - Analyte below laboratory detection limit**
NA - Not Analyzed
NE - Not Established

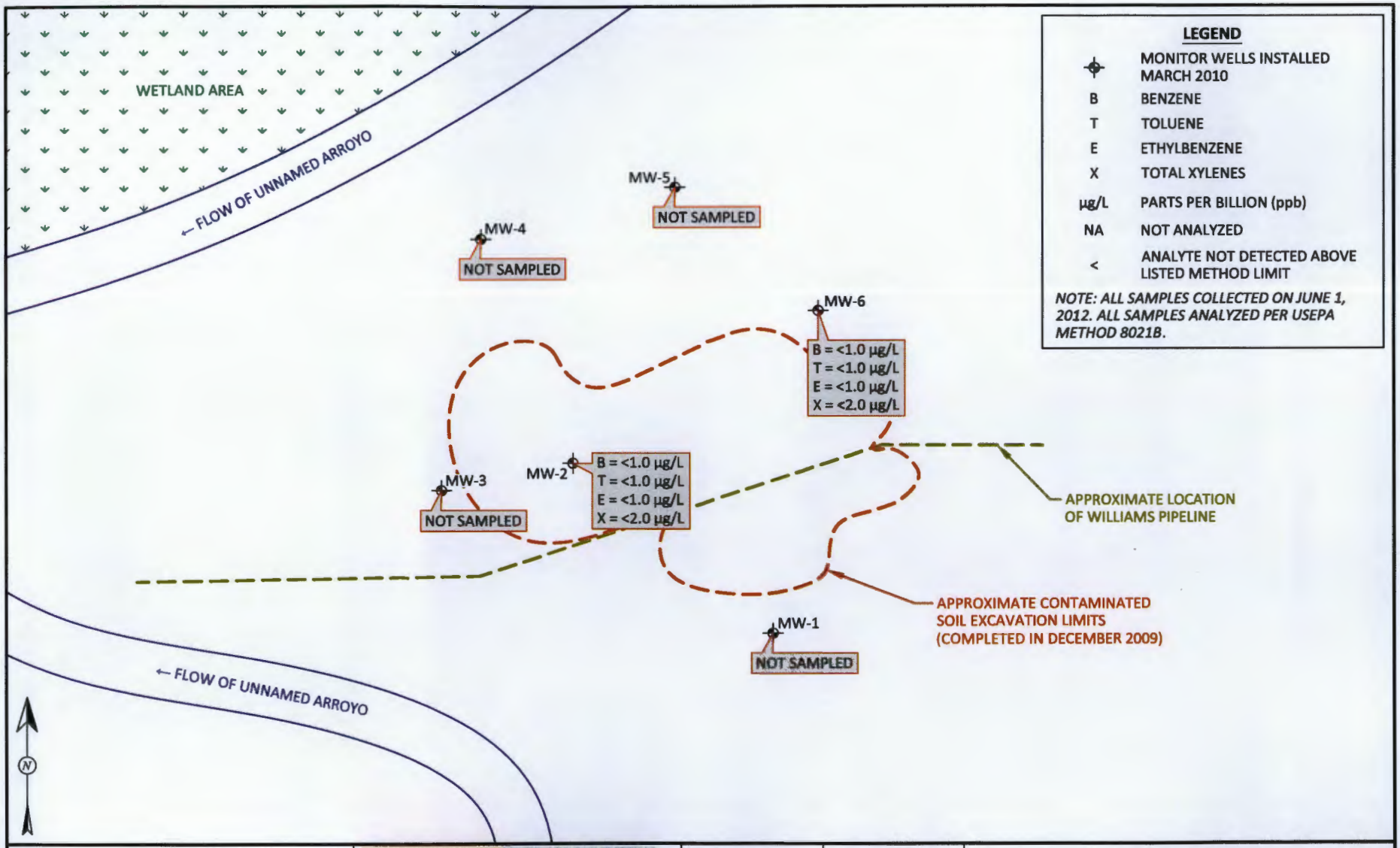


DRAWN BY: C. Lameman	**DATE DRAWN:** December 29, 2009	**FIGURE 1**
REVISIONS BY: C. Lameman	**DATE REVISED:** April 20, 2012	**TOPOGRAPHIC SITE LOCATION MAP**
CHECKED BY: H. Woods	**DATE CHECKED:** June 14, 2012	WILLIAMS FOUR CORNERS, LLC SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE FARMINGTON, SAN JUAN COUNTY, NEW MEXICO N36.77173, W108.11515
APPROVED BY: E. McNally	**DATE APPROVED:** June 14, 2012	

AES
Animas Environmental Services, LLC



DRAWN BY: C. Lameman	**DATE DRAWN:** April 13, 2010	**FIGURE 2**
REVISIONS BY: N. Willis	**DATE REVISED:** June 1, 2012	**GENERAL SITE PLAN AND GROUNDWATER ELEVATION CONTOURS JUNE 2012**
CHECKED BY: H. Woods	**DATE CHECKED:** June 14, 2012	WILLIAMS FOUR CORNERS, LLC
APPROVED BY: E. McNally	**DATE APPROVED:** June 14, 2012	SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE FARMINGTON, SAN JUAN COUNTY, NEW MEXICO N36.77173, W108.11515



SCALE
50 30 0 50
10
(1 INCH = 50 FEET)

Animas Environmental Services, LLC

DRAWN BY: C. Lameman	DATE DRAWN: April 13, 2010
REVISIONS BY: N. Willis	DATE REVISED: June 1, 2012
CHECKED BY: H. Woods	DATE CHECKED: June 14, 2012
APPROVED BY: E. McNally	DATE APPROVED: June 14, 2012

FIGURE 3

GROUNDWATER ANALYTICAL RESULTS JUNE 2012

WILLIAMS FOUR CORNERS, LLC
SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO
N36.77173, W108.11515

DEPTH TO GROUNDWATER MEASUREMENT FORM

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

Project: Groundwater Monitoring
Site: Williams Sammons #2 Pipeline Spill
Location: Flora Vista, San Juan County, New Mexico
Tech: N. Willis

Project No.: AES 091204
Date: 6-1-12
Time: 0903
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	0907	—	2.99	—	
MW-2	0920	—	1.53	—	
MW-3	0954	—	7.14	—	
MW-4	0956	—	1.69	—	
MW-5	0958	—	1.19	—	
MW-6	1006	—	1.41	—	

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

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: Williams Sammons #2 Pipeline Spill
Location: Flora Vista, San Juan County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Wells
Purge / No Purge: Purge
Well Diameter (in): 1

Project No.: AES 091204
Date: 6-1-12
Arrival Time: 0910
Air Temp: 65°F
T.O.C. Elev. (ft): 5424.98
Total Well Depth (ft): 5.96

Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 1.53 **Time:** 0920 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*
If NAPL Present: **D.T.P.:** _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

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
0928	14.52	1.826	0.83	7.08	-81.8	0.125 gal	
0930	15.82	1.779	0.80	7.01	-83.0	0.125	
0932	14.42	1.796	0.57	6.98	-82.0	0.125	
0934	14.85	1.733	0.32	6.94	-86.0	0.125	
0936	15.03	1.726	0.29	6.94	-89.1	0.125	
0938	15.13	1.729	0.29	6.95	-89.9	0.125	
0940	15.16	1.726	0.32	6.95	-90.0	0.125	
0942	15.19	1.731	0.35	6.96	-90.5	0.125	
0944	15.25	1.732	0.35	6.96	-90.9	0.125	
0946	15.29	1.727	0.35	6.96	-90.4	0.125	
0950	----	----	----	----	----	----	Samples Collected

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

BTEX Only per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____
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:

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: Williams Sammons #2 Pipeline Spill
Location: Flora Vista, San Juan County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Wills
Purge / No Purge: Purge
Well Diameter (in): 1
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 1.41 **Time:** 1006 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ D.T.W.: _____ Thickness: _____ Time: _____

Project No.: AES 091204
Date: 6-1-12
Arrival Time: 1003
Air Temp: 63°F
T.O.C. Elev. (ft): 5424.91
Total Well Depth (ft): 6.3

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
1012	19.44	1.537	0.70	7.14	-57.6	0.125 gal.	
1015	22.05	1.788	0.83	7.10	-56.5	0.125	
1017	19.42	1.779	0.32	7.06	-48.0	0.125	
1019	18.09	1.751	0.30	7.03	-43.7	0.125	
1021	17.26	1.726	0.33	7.01	-43.3	0.125	
1023	16.71	1.719	0.37	6.99	-44.0	0.125	
1025	16.41	1.724	0.36	6.98	-45.0	0.125	
1027	16.16	1.734	0.34	6.97	-44.5	0.125	
1029	16.01	1.741	0.31	6.95	-25.9	0.125	
1031	15.80	1.750	0.29	6.95	-16.6	0.125	
1035							Samples collected

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

BTEX Only per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____
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:

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

June 12, 2012

Tami Ross

Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 793-2072
FAX (505) 324-2022

RE: Sammons #2 Pipeline OrderNo.: 1206111

Dear Tami Ross:

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/5/2012 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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1206111**
Date Reported: **6/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-2
Project: Sammons #2 Pipeline
Collection Date: 6/1/2012 9:50:00 AM
Lab ID: 1206111-001
Matrix: AQUEOUS
Received Date: 6/5/2012 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/9/2012 2:32:06 AM
Toluene	ND	1.0		µg/L	1	6/9/2012 2:32:06 AM
Ethylbenzene	ND	1.0		µg/L	1	6/9/2012 2:32:06 AM
Xylenes, Total	ND	2.0		µg/L	1	6/9/2012 2:32:06 AM
Surr: 4-Bromofluorobenzene	84.1	55-140		%REC	1	6/9/2012 2:32:06 AM

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-6
Project: Sammons #2 Pipeline
Collection Date: 6/1/2012 10:35:00 AM
Lab ID: 1206111-002
Matrix: AQUEOUS
Received Date: 6/5/2012 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/9/2012 3:02:35 AM
Toluene	ND	1.0		µg/L	1	6/9/2012 3:02:35 AM
Ethylbenzene	ND	1.0		µg/L	1	6/9/2012 3:02:35 AM
Xylenes, Total	ND	2.0		µg/L	1	6/9/2012 3:02:35 AM
Surr: 4-Bromofluorobenzene	92.1	55-140		%REC	1	6/9/2012 3:02:35 AM

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: Trip Blank
Project: Sammons #2 Pipeline
Collection Date:
Lab ID: 1206111-003 **Matrix:** AQUEOUS **Received Date:** 6/5/2012 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/9/2012 3:33:11 AM
Toluene	ND	1.0		µg/L	1	6/9/2012 3:33:11 AM
Ethylbenzene	ND	1.0		µg/L	1	6/9/2012 3:33:11 AM
Xylenes, Total	ND	2.0		µg/L	1	6/9/2012 3:33:11 AM
Surr: 4-Bromofluorobenzene	79.5	55-140		%REC	1	6/9/2012 3:33:11 AM

Qualifiers:

*/X	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
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#: **1206111**

12-Jun-12

Client: Animas Environmental Services

Project: Sammons #2 Pipeline

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R3317**	RunNo: **3317**
Prep Date:	Analysis Date: **6/8/2012**	SeqNo: **92332** 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	18		20.00		89.6	55	140			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R3317**	RunNo: **3317**
Prep Date:	Analysis Date: **6/8/2012**	SeqNo: **92333** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	104	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		115	55	140			

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD 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
- 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: 1206111

Received by/date: LM 06/05/12

Logged By: Anne Thorne 6/5/2012 9:50:00 AM — Anne Thorne

Completed By: Anne Thorne 6/5/2012 — Anne Thorne

Reviewed By: 06/05/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: Animas Environmental Services	X Standard ☐ Rush
Mailing Address: 624 E Comanche, Farmington, NM 87401	Project Name: Sammons #2 Pipeline
Phone #: 505-564-2281	Project #: AES 091204
email or Fax#: 505-324-2022	Project Manager: Tami Ross
QA/QC Package: X Standard ☐ Level 4 (Full Validation)	Sampler: N. Wills
Accreditation: ☐ NELAP ☐ Other ☐ EDD (Type)	On Ice: X Yes ☐ No; Sample Temperature: 1.7

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1206141	BTEX Only (8021)	Air Bubbles (Y or N)
6/1/12	0950	H_2O	MW-2	3 - 40 mL glass	HCl	-001	X	
6/1/12	1035	H_2O	MW-6	3 - 40 mL glass	HCl	-002	X	
		H_2O	Trip Blank	2 - 40 mL glass	HCl	-003	X	

Date	Time	Relinquished by	Received by	Date	Time
6/4/12	1228			6/4/12	1228
6/4/12	1747			6/05/12	0930

Remarks: BTEX Only

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.