

3R – 449

Q3 2011 GWMR

08 / 30 / 2011

Animas Environmental Services, LLC

624 E. Comanche . Farmington, NM 87401 . TEL 505-564-2281 . FAX 505-324-2022 . www.animasenvironmental.com

August 30, 2011

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

RE: **3rd Quarter 2011 Groundwater Monitoring Report for 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 *3rd Quarter 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 third quarterly groundwater monitoring and sampling event was completed August 11, 2011, 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°46'18.240" and W108°06'54.540". 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 2010, October 2010, and January 2011, with quarterly monitoring reports submitted in August 2010, November 2010, and February 2011 and May 2011.

2.0 Groundwater Monitoring and Sampling August 2011

On August 11, 2011, groundwater monitoring and sampling activities were conducted by AES. 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 Notification

AES notified Carol Cauthen of Williams and Nick Clark, land owner, via telephone before initiating sampling activities. AES also notified NMOCD via electronic mail prior to the scheduled field work. Dwayne Valdez of Williams was contacted on August 10, 2011, and provided access directions to Nathan Willis of AES.

2.2 Groundwater Monitor Well Monitoring and Sampling

AES personnel completed groundwater monitoring and sampling of the wells on August 11, 2011. Groundwater samples were collected with new disposable bailers from a total of six monitor wells and transferred into appropriate sample containers, labeled accordingly, and documented on Water Sample Collection Forms.

Prior to sample collection, water quality measurements were recorded and included depth to groundwater, pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP). Depth to groundwater was measured with a Keck Water Level Indicator, and water quality data was measured with a YSI Water Quality Meter. Samples were shipped in insulated coolers containing ice at less than 6 °C via Greyhound bus to Hall Environmental Analytical Laboratory (Hall) in Albuquerque, New Mexico.

2.2.1 Laboratory Analyses - Groundwater

All groundwater analytical samples were analyzed for BTEX per USEPA Method 8021.

2.2.2 Measurement Data

Depths to groundwater varied across the site and were observed to range from 1.33 feet below top of casing (TOC) in MW-5 to 2.68 feet below TOC in MW-1. The groundwater gradient was calculated to be approximately 0.01 ft/ft to the northwest, which is consistent with previous site data. Note that the site is considered to be groundwater under the direct influence (GUDI) of the Animas River.

Following depth to water measurement, each well was 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 15.31°C to 22.41°C, and conductivity ranged from 0.683 mS to 1.657 mS. DO ranged from 0.12 mg/L in MW-04 to 0.92 mg/L in MW-1, and pH ranged from 6.70 to 7.05. 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.

2.2.3 Groundwater Analytical Results

Analytical results from groundwater samples collected during the August 2011 sampling event showed that BTEX concentrations were reported below the laboratory detection limits and applicable WQCC regulatory limits in all monitor wells (MW-1 through MW-6). Groundwater analytical laboratory reports are presented in Appendix A.

3.0 Conclusion and Recommendations

AES personnel conducted groundwater monitoring and sampling at the location of the Sammons #2 Pipeline December 2009 Release in August 2011. Depths to groundwater varied across the site and were observed to exist at about 1.33 to 2.68 feet below TOC, and groundwater gradient was calculated to be approximately 0.01 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. Dissolved phase benzene concentrations in MW-2 have remained below the WQCC standard for five consecutive quarters. Remaining wells, MW-1, MW-3, MW-4, MW-5, and MW-6 have remained below applicable WQCC standards for six consecutive quarters.

Based on the presented information and in accordance with per the subject workplan, AES will continue quarterly sampling for two additional events for MW-1, MW-3, MW-4, MW-5, and MW-6. This will ensure compliance of having eight consecutive quarters of groundwater contaminant concentrations below WQCC standards. Additionally, MW-2 will be sampled for an additional three quarters to ensure eight consecutive quarters below WQCC standards. The next sampling event is tentatively scheduled for November 2011.

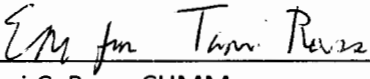
If you have any questions regarding site conditions or this report, please do not hesitate to contact Tami Ross or Elizabeth McNally at (505) 564-2281.

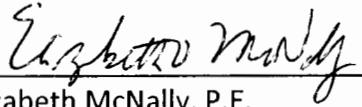
Mr. Glenn von Gonten

August 30, 2011

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Sincerely,


Tami C. Ross, CHMM
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, August 2011
Figure 3. Groundwater Analytical Results, August 2011

Appendix A

Water Sample Collection Forms
Groundwater Analytical Laboratory Reports

cc: Mr. Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Mr. Mark Potochnik
Williams -Midstream
188 CR 4900
Bloomfield, NM 87413

Mr. Nick Clark
719 Otten Street
Aztec, NM 87410

Files:2011/Williams/Sammons#2/Groundwater/Reports/3rd Qtr Investigation Report 083011

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
Williams Four Corners #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-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-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-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

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
Williams Four Corners #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-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-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

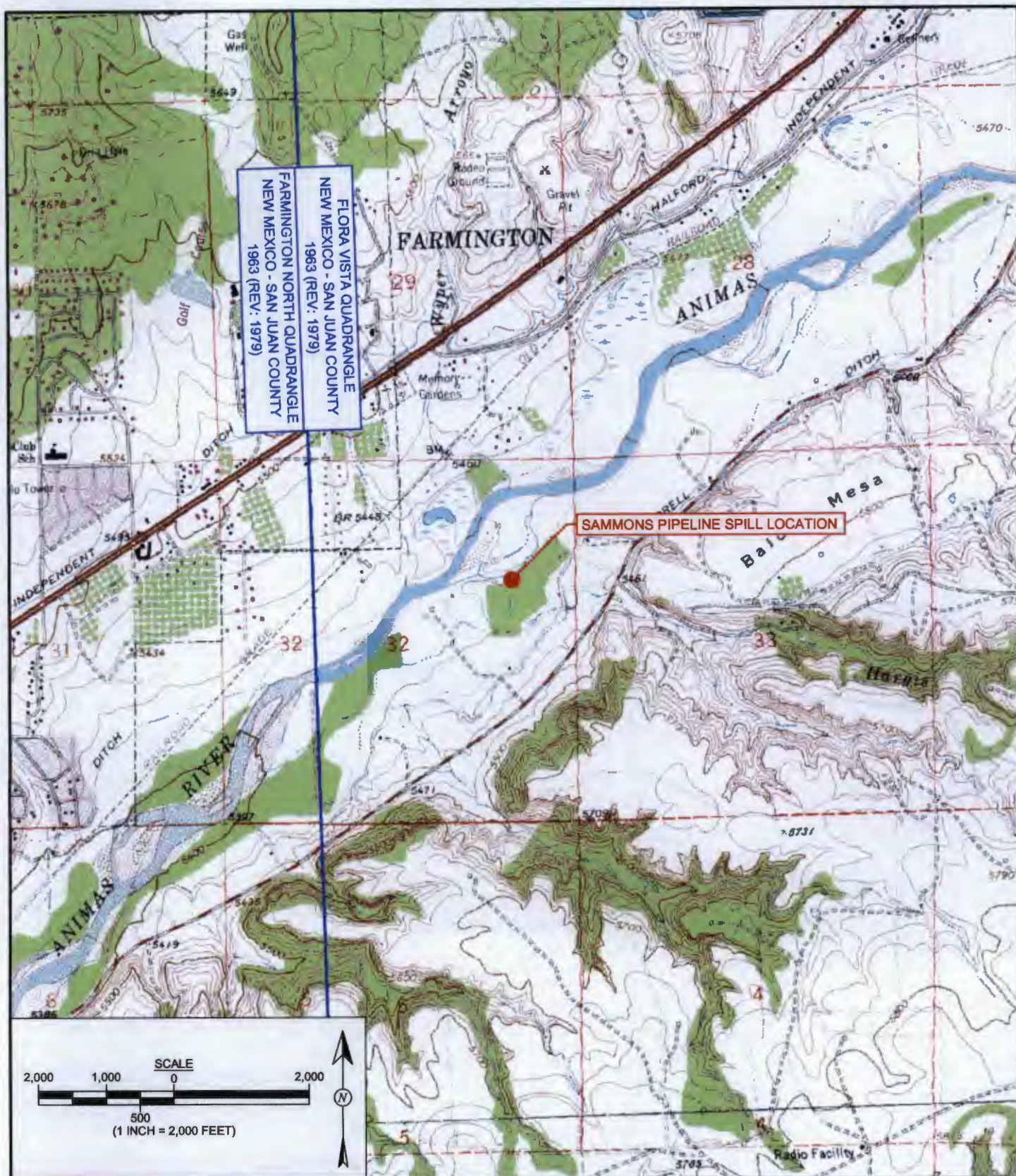
TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Williams Four Corners #2 Pipeline December 2009 Release
Flora Vista, San Juan County, New Mexico

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-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-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-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-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-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

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Williams Four Corners #2 Pipeline December 2009 Release
Flora Vista, San Juan County, New Mexico

<i>Well ID</i>	<i>Date Sampled</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethyl- Benzene</i>	<i>Total Xylenes</i>	<i>GRO (C6-C10)</i>	<i>DRO (C10-C22)</i>	<i>MRO (C22-C32)</i>
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
<i>Analytical Method</i>		8260B/8021	8260B/8021	8260B/8021	8260B/8021	8015	8015	8015
<i>WQCC Standard</i>		10	750	750	620	NE	NE	NE
Field Blank	22-Apr-10	<1.0	<1.0	<1.0	<1.5	NA	NA	NA

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



Animas Environmental Services, LLC

DRAWN BY: C. Lameman	DATE DRAWN: December 29, 2009
REVISIONS BY: C. Lameman	DATE REVISED: August 22, 2011
CHECKED BY: T. Ross	DATE CHECKED: August 22, 2011
APPROVED BY: E. McNally	DATE APPROVED: August 30, 2011

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP

WILLIAMS FOUR CORNERS, LLC
SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO
N36°45'18.240" , W108°06'54.540"

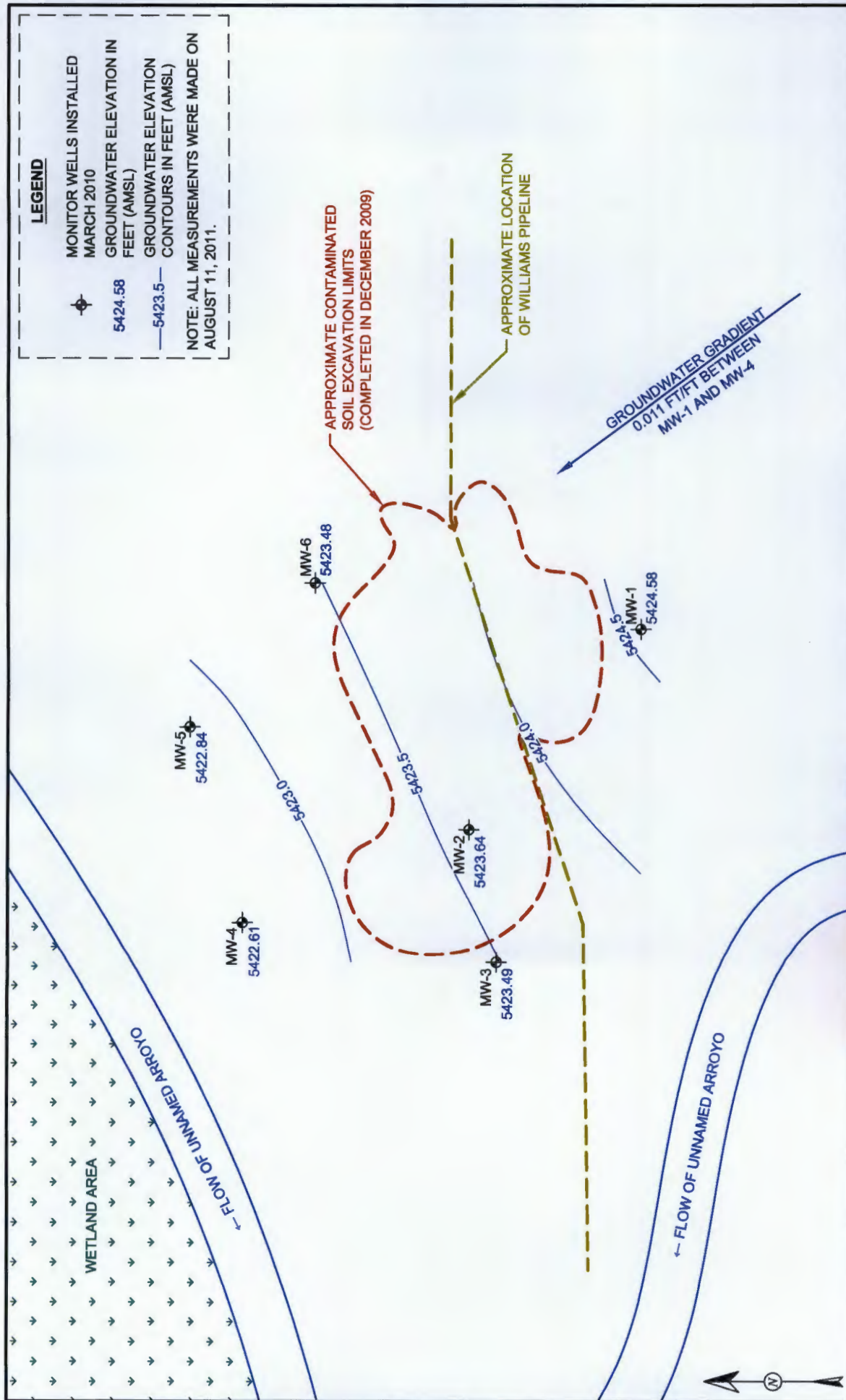


FIGURE 2

GENERAL SITE PLAN AND GROUNDWATER ELEVATION CONTOURS

AUGUST 2011

WILLIAMS FOUR CORNERS, LLC
SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO
N36°46'18.240", W108°06'54.540"



Animas Environmental Services, LLC

DRAWN BY:
C. Laneman

DATE DRAWN:
April 13, 2010

REVISIONS BY:
C. Laneman

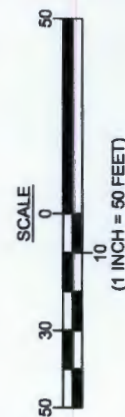
DATE REVISED:
August 22, 2011

CHECKED BY:
D. Watson

DATE CHECKED:
August 22, 2011

APPROVED BY:
E. McNally

DATE APPROVED:
August 22, 2011



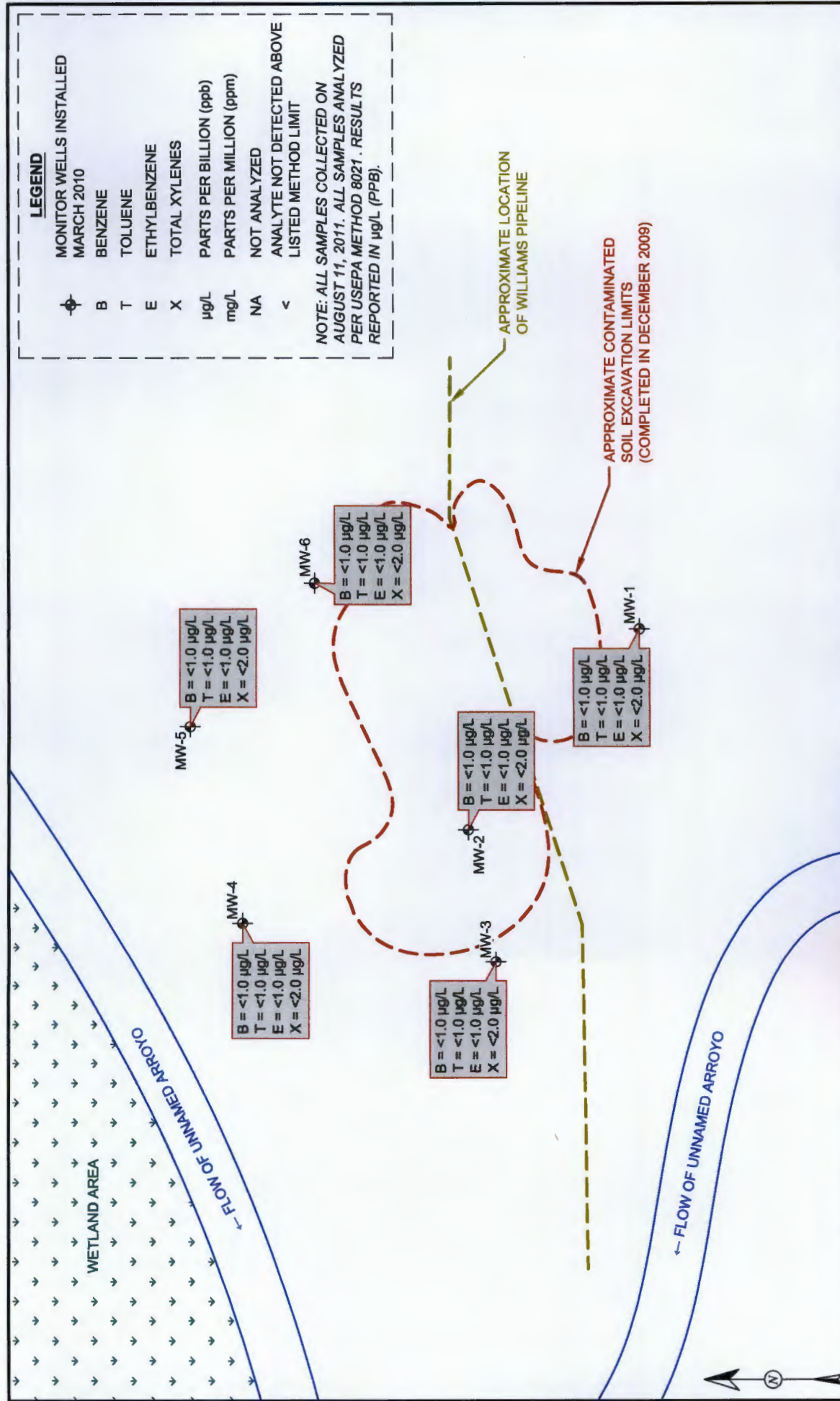


 	 	FIGURE 3	GROUNDWATER ANALYTICAL RESULTS AUGUST 2011
DRAWN BY: C. Larneman	DATE DRAWN: April 13, 2010	<div>WILLIAMS FOUR CORNERS, LLC SAMMONS #2 PIPELINE DECEMBER 2009 RELEASE FARMINGTON, SAN JUAN COUNTY, NEW MEXICO N36°46'18.240", W108°06'54.540"</div>	
REVISIONS BY: C. Larneman	DATE REVISED: August 22, 2011		
CHECKED BY: D. Watson	DATE CHECKED: August 22, 2011		
APPROVED BY: E. McNally	DATE APPROVED: August 22, 2011		
Animas Environmental Services, LLC			

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: MW-2

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. Willis
Purge / No Purge: Purge
Well Diameter (in): 1
Initial D.T.W. (ft): Time:
Confirm D.T.W. (ft): 1.34 Time: 1246
Final D.T.W. (ft): Time:
If NAPL Present: D.T.P.: D.T.W.: Thickness: Time:

Project No.: AES 091204
Date: 8-11-11
Arrival Time: 1242
Air Temp: 85°F
T.O.C. Elev. (ft): 5424.98
Total Well Depth (ft): 5.96
(taken at initial gauging of all wells)
(taken prior to purging well)
(taken after sample collection)

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
1252	17.49	0.753	0.94	7.21	-125.4	0.25	
1255	17.29	0.752	0.56	7.09	-131.4	0.25	
1258	17.32	0.753	0.41	7.09	-136.9	0.25	
1301	17.30	0.753	0.33	7.06	-140.8	0.25	
1304	17.21	0.753	0.24	7.05	-144.7	0.25	
1307							SAMPLES COLLECTED

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

Full VOCs per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water:

Collected Samples Stored on Ice in Cooler:

Chain of Custody Record Complete:

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 Bailor

Notes/Comments:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: MW-3

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

Site: Williams Sammons #2 Pipeline Spill

Project No.: AES 091204

Location: Flora Vista, San Juan County, New Mexico

Date: 8-11-11

Project: Groundwater Monitoring and Sampling

Arrival Time: 1312

Sampling Technician: N. Willis

Air Temp: 85°F

Purge / No Purge: Purge

T.O.C. Elev. (ft): 5425.44

Well Diameter (in): 1

Total Well Depth (ft): 5.9

Initial D.T.W. (ft): _____ Time: _____

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 1.95

Time: 1315

(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 (μ S) (<u>mS</u>)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1319	19.60	0.700	3.68	7.20	-105.9	0.125	
1322	17.79	0.682	1.57	7.10	-118.4	0.25	
1325	17.79	0.682	0.34	7.06	-122.6	0.25	
1328	17.51	0.683	0.24	7.04	-125.4	0.25	
1331	17.42	0.683	0.22	7.03	-127.2	0.25	
1334	_____	_____	_____	_____	_____	_____	Samples Collected

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

Full VOCs per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

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

Animas Environmental Services

Monitor Well No: MW-4

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

Site: Williams Sammons #2 Pipeline Spill Project No.: AES 091204
Location: Flora Vista, San Juan County, New Mexico Date: 8-11-11
Project: Groundwater Monitoring and Sampling Arrival Time: 1341
Sampling Technician: N. Wilks Air Temp: 89°F
Purge / No Purge: Purge T.O.C. Elev. (ft): 5424.38
Well Diameter (in): 1 Total Well Depth (ft): 5.84
Initial D.T.W. (ft): _____ Time: _____ (taken at initial gauging of all wells)
Confirm D.T.W. (ft): 1.77 Time: 1344 (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
1350	21.04	0.967	0.69	7.16	-111.9	0.125	
1353	17.17	0.960	0.23	7.04	-122.8	0.25	
1356	17.19	0.959	0.17	7.00	-127.9	0.25	
1359	17.26	0.959	0.14	6.98	-132.2	0.25	
1402	17.12	0.960	0.12	6.96	-135.2	0.25	
1405							Sample Collected

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

Full VOCs per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

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 Bailor

Notes/Comments:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: MW-5

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

Site: Williams Sammons #2 Pipeline Spill

Project No.: AES 091204

Location: Flora Vista, San Juan County, New Mexico

Date: 8-11-11

Project: Groundwater Monitoring and Sampling

Arrival Time: 1415

Sampling Technician: N. Willis

Air Temp: 89°F

Purge / No Purge: Purge

T.O.C. Elev. (ft): 5424.17

Well Diameter (in): 1

Total Well Depth (ft): 5.91

Initial D.T.W. (ft): _____ Time: _____

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 1.33

Time: 1417

(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) (<u>mS</u>)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1424	19.17	1.665	1.09	6.96	-120.6	0.25	
1427	18.88	1.656	0.32	6.83	-122.1	0.25	
1430	18.87	1.651	0.22	6.77	-124.3	0.25	
1433	18.85	1.650	0.18	6.75	-126.3	0.25	
1436	18.48	1.647	0.16	6.75	-127.8	0.25	
1439							Samples Collected

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

Full VOCs per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

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

Animas Environmental Services

Monitor Well No: MW-6

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

Site: Williams Sammons #2 Pipeline Spill

Project No.: AES 091204

Location: Flora Vista, San Juan County, New Mexico

Date: 8-4-11

Project: Groundwater Monitoring and Sampling

Arrival Time: 1444

Sampling Technician: N. Willis

Air Temp: 89°F

Purge / No Purge: Purge

T.O.C. Elev. (ft): 5424.91

Well Diameter (in): 1

Total Well Depth (ft): 6.3

Initial D.T.W. (ft): _____ Time: _____

(taken at initial gauging of all wells)

Confirm D.T.W. (ft): 1.43 Time: 1449

(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
1456	22.83	1.703	1.12	6.93	-131.3	0.25	
1459	22.48	1.677	0.78	6.79	-127.3	0.25	
1502	22.32	1.670	0.73	6.75	-124.6	0.25	
1505	22.32	1.664	0.68	6.71	-122.8	0.25	
1508	22.26	1.660	0.63	6.70	-121.7	0.25	
1511	22.41	1.657	0.60	6.70	-121.0	0.25	
1514							Samples Collected

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

Full VOCs per EPA Method 8021 (3 - 40 mL Vials w/ HCl preserve)

Disposal of Purged Water: _____

Collected Samples Stored on Ice in Cooler: _____

Chain of Custody Record Complete: _____

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:



COVER LETTER

Friday, August 19, 2011

Tami Ross
Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 564-2281
FAX (505) 324-2022

RE: Williams Sammons #2 Pipeline Spill

Order No.: 1108615

Dear Tami Ross:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 8/16/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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 do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT:	Animas Environmental Services	Client Sample ID:	MW-1
Lab Order:	1108615	Collection Date:	8/11/2011 12:32:00 PM
Project:	Williams Sammons #2 Pipeline Spill	Date Received:	8/16/2011
Lab ID:	1108615-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 4:46:51 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 4:46:51 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 4:46:51 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 4:46:51 PM
Surr: 4-Bromofluorobenzene	87.8	89.6-125	S	%REC	1	8/16/2011 4:46:51 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Estimated value	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Page 1 of 7

Hall Environmental Analysis Laboratory, Inc.Date: 19-Aug-11
Analytical Report**CLIENT:** Animas Environmental Services
Lab Order: 1108615
Project: Williams Sammons #2 Pipeline Spill
Lab ID: 1108615-02**Client Sample ID:** MW-2
Collection Date: 8/11/2011 1:07:00 PM
Date Received: 8/16/2011
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 5:16:51 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 5:16:51 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 5:16:51 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 5:16:51 PM
Surr: 4-Bromofluorobenzene	81.6	89.6-125	S	%REC	1	8/16/2011 5:16:51 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT: Animas Environmental Services
Lab Order: 1108615
Project: Williams Sammons #2 Pipeline Spill
Lab ID: 1108615-03

Client Sample ID: MW-3
Collection Date: 8/11/2011 1:34:00 PM
Date Received: 8/16/2011
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 5:46:57 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 5:46:57 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 5:46:57 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 5:46:57 PM
Surr: 4-Bromofluorobenzene	80.9	89.6-125	S	%REC	1	8/16/2011 5:46:57 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT: Animas Environmental Services
Lab Order: 1108615
Project: Williams Sammons #2 Pipeline Spill
Lab ID: 1108615-04

Client Sample ID: MW-4
Collection Date: 8/11/2011 2:05:00 PM
Date Received: 8/16/2011
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 6:16:56 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 6:16:56 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 6:16:56 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 6:16:56 PM
Surr: 4-Bromofluorobenzene	90.4	89.6-125		%REC	1	8/16/2011 6:16:56 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT: Animas Environmental Services
Lab Order: 1108615
Project: Williams Sammons #2 Pipeline Spill
Lab ID: 1108615-05

Client Sample ID: MW-5
Collection Date: 8/11/2011 2:39:00 PM
Date Received: 8/16/2011
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 6:47:14 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 6:47:14 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 6:47:14 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 6:47:14 PM
Surr: 4-Bromofluorobenzene	84.4	89.6-125	S	%REC	1	8/16/2011 6:47:14 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Page 5 of 7

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT:	Animas Environmental Services	Client Sample ID:	MW-6
Lab Order:	1108615	Collection Date:	8/11/2011 3:14:00 PM
Project:	Williams Sammons #2 Pipeline Spill	Date Received:	8/16/2011
Lab ID:	1108615-06	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/17/2011 12:05:23 PM
Toluene	ND	1.0		µg/L	1	8/17/2011 12:05:23 PM
Ethylbenzene	ND	1.0		µg/L	1	8/17/2011 12:05:23 PM
Xylenes, Total	ND	2.0		µg/L	1	8/17/2011 12:05:23 PM
Surr: 4-Bromofluorobenzene	89.2	89.6-125	S	%REC	1	8/17/2011 12:05:23 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Page 6 of 7

Hall Environmental Analysis Laboratory, Inc.

Date: 19-Aug-11

Analytical Report

CLIENT: Animas Environmental Services Client Sample ID: Trip Blank
Lab Order: 1108615 Collection Date:
Project: Williams Sammons #2 Pipeline Spill Date Received: 8/16/2011
Lab ID: 1108615-07 Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/16/2011 7:47:09 PM
Toluene	ND	1.0		µg/L	1	8/16/2011 7:47:09 PM
Ethylbenzene	ND	1.0		µg/L	1	8/16/2011 7:47:09 PM
Xylenes, Total	ND	2.0		µg/L	1	8/16/2011 7:47:09 PM
Surr: 4-Bromofluorobenzene	84.3	89.6-125	S	%REC	1	8/16/2011 7:47:09 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
 Project: Williams Sammons #2 Pipeline Spill

Work Order: 1108615

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 1108615-01A MSD		MSD					Batch ID: R47192	Analysis Date: 8/16/2011 8:47:14 PM			
Benzene	16.67	µg/L	1.0	20	0.2	82.3	76.6	119	1.95	16.4	
Toluene	16.32	µg/L	1.0	20	0	81.6	77.3	118	0.973	13.9	
Ethylbenzene	16.65	µg/L	1.0	20	0.154	82.5	76.6	114	0.602	13.5	
Xylenes, Total	51.57	µg/L	2.0	60	0	86.0	82	113	1.34	12.9	
Sample ID: 5ML RB		MBLK					Batch ID: R47192	Analysis Date: 8/16/2011 9:35:51 AM			
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 5ML RB		MBLK					Batch ID: R47231	Analysis Date: 8/17/2011 9:35:04 AM			
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		LCS					Batch ID: R47192	Analysis Date: 8/16/2011 9:17:15 PM			
Benzene	19.94	µg/L	1.0	20	0	99.7	80	120			
Toluene	19.72	µg/L	1.0	20	0	98.6	80	120			
Ethylbenzene	19.67	µg/L	1.0	20	0	98.4	80	120			
Xylenes, Total	60.73	µg/L	2.0	60	0	101	80	120			
Sample ID: 1108615-01A MS		MS					Batch ID: R47192	Analysis Date: 8/16/2011 8:17:11 PM			
Benzene	16.35	µg/L	1.0	20	0.2	80.7	76.6	119			
Toluene	16.16	µg/L	1.0	20	0	80.8	77.3	118			
Ethylbenzene	16.55	µg/L	1.0	20	0.154	82.0	76.6	114			
Xylenes, Total	52.27	µg/L	2.0	60	0	87.1	82	113			

Qualifiers:

E Estimated value
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit
 H Holding times for preparation or analysis exceeded
 NC Non-Chlorinated
 R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL

Date Received:

8/16/2011

Work Order Number 1108615

Received by: AT

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/> Not Shipped <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Water - VOA vials have zero headspace?	No VOA vials submitted <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Water - Preservation labels on bottle and cap match?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Container/Temp Blank temperature?	3.8°	<6° C Acceptable If given sufficient time to cool.	

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

