3R – 448

2009 GWMR

08 / 20 / 2009

Animas Environmental Services, LLC

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

August 20, 2009

Brad Jones
Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Dixon Sandoval
Jicarilla Apache Nation
Environmental Protection Office
P.O. Box 507
Dulce, NM 87528

Re: Periodic Progress Report for the Benson-Montin-Greer Highway 537 Truck Receiving Station Llaves Pipeline 2007 Oil Spill, Rio Arriba County, New Mexico

Dear Sirs:

Animas Environmental Services, LLC (AES), on behalf of Benson-Montin-Greer Drilling Corporation (BMG), conducted groundwater sampling of monitor wells at the BMG Highway 537 Truck Receiving Station 2007 Spill Location on July 7, 2009. Work was conducted in accordance with a Sampling and Analysis Plan (SAP) submitted to the Jicarilla Apache Nation Environmental Protection Office (JEPO) and the U.S. Environmental Protection Agency (USEPA) on April 4, 2007.

The release originated in March 2007 on the Schmitz Ranch within the SW¼ NW¼ of Section 18, T25N, R3W (latitude and longitude recorded as N36° 23' 59.781" and W107° 11' 26.450"). Petroleum hydrocarbons flowed into the Los Ojitos Arroyo and then downstream to a livestock pond located on Jicarilla Apache Nation Land within the SE¼ SE¼ of Section 13, T25N, R4W (latitude and longitude recorded as N36° 23' 40.417" and W107° 11' 53.337"), Rio Arriba County, New Mexico. The locations of the release and flow route are shown on Figures 1 and 2.

1.0 Site History

On March 7, 2007, Schmitz Ranch personnel observed oil leaking into the Los Ojitos Canyon Arroyo. BMG personnel discovered that a small corrosion hole in the Llaves Pipeline, which runs parallel to the south side of Highway 537, was the source of the

leaking oil, and the pipeline was removed from service until the pipeline was repaired and clean up action was completed.

Approximately 25,230 cubic yards of petroleum-contaminated soils were excavated from the origin of the oil pipeline leak toward the Los Ojitos Arroyo and within the arroyo during March and April 2007. The soils were then transported off-site to a New Mexico Oil Conservation Division (NMOCD) permitted facility, the Schmitz Ranch Landfarm. Confirmation samples were collected by AES personnel for soil confirmation during excavation activities and surface water at Vigil Pond on April 3, 2007. Excavation and clean up efforts are discussed in detail within the SAP prepared by AES and dated April 5, 2007, which was submitted to the JEPO and USEPA.

On July 16 and 17, 2007, AES installed 11 monitor wells along the route of the release in order to define the lateral and vertical extent of near surface and subsurface soil contamination.

Quarterly groundwater sampling has been conducted throughout 2007, 2008, and early 2009. Analytical results from groundwater samples collected during the April 2009 sampling event showed that benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH) C_6-C_{36} concentrations in all wells sampled remained below laboratory detection limits. During this event MW-8, MW-9, and MW-11 were not sampled. Details of groundwater sampling were presented within the AES *Periodic Progress Report*, dated June 2, 2009.

2.0 Groundwater Monitoring and Sampling, July 2009

AES personnel conducted groundwater monitoring and sampling at the project area on July 7, 2009. Groundwater samples were laboratory analyzed for BTEX and TPH C_6-C_{36} per EPA Methods 8021/8015 at Hall Environmental Analysis Laboratory, Albuquerque, New Mexico.

2.1 Groundwater Measurements and Water Quality Data

During the July 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-7 and MW-10. Monitor wells MW-8, MW-9, and MW-11 were destroyed and therefore were not measured. Groundwater elevations were measured with a Keck water level with accuracy to 0.01 foot and found to range from 7,030.96 feet above mean sea level (amsl) in MW-10 and 7,040.97 feet amsl in MW-4. Groundwater elevations generally increased approximately 0.06 feet across the project area since the last sampling event in April 2009.

Water quality measurements were made with an YSI Water Quality Meter, and temperature ranged from 15.44°C in MW-3 and 21.37°C in MW-10. Groundwater pH measurements ranged from 6.73 to 7.60, and dissolved oxygen concentrations were between 1.20 mg/L in MW-5 and 2.29 mg/L in MW-4. Oxidation reduction potential (ORP) measurements were between -26.8 mV and -9.1 mV, and conductivity readings were between 2.429 mS and 18.17 mS. Depth to groundwater measurements and water quality data are presented in Table 1. Water Sample Collection Forms are included as Appendix A.

2.2 Groundwater Analytical Results

Groundwater samples were collected from MW-1 through MW-7 and MW-10 for laboratory analysis on July 7, 2009. In each of the wells sampled, analytical results for BTEX showed that concentrations remained below laboratory detection limits, and therefore also below applicable New Mexico Water Quality Control Commission (WQCC) standards for BTEX. TPH concentrations were also below laboratory detection limits in each of the wells sampled. Tabulated laboratory analytical results are included in Table 2, and laboratory analytical reports are attached as Appendix B.

3.0 Conclusions and Recommendations

Petroleum hydrocarbon impacts to groundwater have not been detected since the monitor wells were installed in July 2007. Groundwater laboratory analytical results continue to show non-detectable concentrations of BTEX and TPH in July 2009. AES has scheduled the next quarterly sampling event to occur in late September or early October 2009.

If you have any questions about site conditions or this report, please feel free to contact Elizabeth McNally or Ross Kennemer at (505) 564-2281.

Sincerely,

Corwin Lameman
Geologist Intern

Deborah Watson
Project Manager

Attachment: Tables

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

Figures

Figure 1. Topographic Site Location Map
Figure 2. General Site Plan

Appendices

Appendix A. Water Sample Collection Forms
Appendix B. Laboratory Analytical Reports

Cc: Brandon Powell
New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, NM 87410

Mike Dimond
Benson-Montin-Greer Drilling Corp.
4900 College Blvd
Farmington NM 87402

File: 2009\BMG\Hwy. 537 2007Spill\Reports\gc Letter Report 082009

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2007 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-1	10-Aug-07	47.38	7086.81	7039.43	7.36	1.998	3.62	16.61	-121.0
MW-1	27-Mar-08	36.97	7086.81	7049.84	7.78	3.419	5.62	13.48	122.3
MW-1	25-Sep-08	47.12	7086.81	7039.69	7.02	3.859	2.31	16.76	30.0
MW-1	31-Dec-08	47.26	7086.81	7039.55	6.25	3.925	NM	11.43	104.9
MW-1	06-Apr-09	47.21	7086.81	7039.60	7.22	4.063	1.97	12.45	9.4
MW-1	07-Jul-09	47.15	7086.81	7039.66	6.91	3.226	2.21	19.35	-9.1
MW-2	10-Aug-07	36.53	7076.43	7039.90	7.44	2.216	2.34	17.09	-138.0
MW-2	27-Mar-08	36.19	7076.43	7040.24	7.13	4.089	1.16	13.05	76.6
MW-2	25-Sep-08	36.34	7076.43	7040.09	6.88	3.415	6.48	15.05	60.1
MW-2	05-Jan-09	36.43	7076.43	7040.00	NM				
MW-2	06-Apr-09	36.29	7076.43	7040.14	7.37	5.308	2.47	13.74	8.8
MW-2	07-Jul-09	36.29	7076.43	7040.14	6.90	4.025	2.00	16.12	-26.8
MW-3	10-Aug-07	29.35	7069.66	7040.31	7.57	1.797	2.41	16.91	-165.1
MW-3	27-Mar-08	28.94	7069.66	7040.72	7.38	2.735	0.86	13.16	67.6
MW-3	25-Sep-08	NM	7069.66	NM	6.74	2.776	2.61	14.35	50.1
MW-3	05-Jan-09	29.51	7069.66	7040.15	NM				
MW-3	06-Apr-09	29.11	7069.66	7040.55	6.98	3.233	1.63	12.88	10.9
MW-3	07-Jul-09	29.15	7069.66	7040.51	7.12	2.858	1.30	15.44	-24.9
MW-4	10-Aug-07	22.34	7068.11	7045.77	7.49	1.517	2.40	14.47	-164.6
MW-4	27-Mar-08	26.92	7068.11	7041.19	7.46	2.340	1.89	12.40	76.1
MW-4	25-Sep-08	27.21	7068.11	7040.90	6.89	2.434	3.70	14.76	43.1
MW-4	06-Jan-09	27.23	7068.11	7040.88	6.71	2.902	4.36	11.91	230.9
MW-4	06-Apr-09	27.06	7068.11	7041.05	6.92	2.828	2.07	13.62	8.3

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2007 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-4	07-Jul-09	27.14	7068.11	7040.97	7.13	3.301	2.29	17.52	-14.0
MW-5	10-Aug-07	20.44	7059.97	7039.53	7.81	7.155	2.40	15.72	-122.0
MW-5	28-Mar-08	19.80	7059.97	7040.17	NM - LOW YIELD				
MW-5	25-Sep-08	20.26	7059.97	7039.71	6.97	19.17	1.62	16.26	9.9
MW-5	06-Jan-09	20.16	7059.97	7039.81	6.52	23.84	2.22	8.91	231.2
MW-5	06-Apr-09	20.11	7059.97	7039.86	7.01	22.69	2.52	12.10	9.7
MW-5	07-Jul-09	20.07	7059.97	7039.90	7.60	18.17	1.20	15.57	-10.6
MW-6	10-Aug-07	22.32	7061.97	7039.65	7.47	1.842	2.11	17.01	-138.7
MW-6	28-Mar-08	21.61	7061.97	7040.36	7.34	3.261	3.22	14.11	303.9
MW-6	25-Sep-08	22.45	7061.97	7039.52	6.76	3.092	2.92	16.55	32.4
MW-6	06-Jan-09	22.54	7061.97	7039.43	6.94	4.537	2.77	7.77	21.8
MW-6	06-Apr-09	22.24	7061.97	7039.73	7.19	4.246	2.08	12.77	10.6
MW-6	07-Jul-09	22.28	7061.97	7039.69	7.11	2.553	2.09	15.64	-15.2
MW-7	13-Aug-07	13.31	7051.30	7037.99	NM - BENTONITE FOUND IN WELL				
MW-7	28-Mar-08	12.11	7051.30	7039.19	NM - LOW YIELD				
MW-7	25-Sep-08	13.64	7051.30	7037.66	6.98	3.308	3.19	15.65	44.9
MW-7	07-Jan-09	NM	7051.30		NM - WATER IN WELL FROZEN				
MW-7	06-Apr-09	13.32	7051.30	7037.98	6.60	3.191	2.29	10.78	13.1
MW-7	07-Jul-09	13.27	7051.30	7038.03	6.73	2.429	1.61	16.65	-18.4
MW-8	13-Aug-07	13.39	7049.96	7036.57	7.33	1.550	3.02	15.97	-26.6
MW-8	28-Mar-08	11.44	7049.96	7038.52	NM - LOW YIELD				
MW-8	25-Sep-08	13.55	7049.96	7036.41	6.50	2.090	1.56	16.77	17.4

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2007 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-8	06-Jan-09	13.65	7049.96	7036.31	6.48	2.430	2.25	6.78	41.0
MW-8	06-Apr-09		7049.96		NM - OBSTRUCTION IN WELL				
MW-8	07-Jul-09	NM - WELL DESTROYED							
MW-9	13-Aug-07		7045.47	7045.47	NM - WELL DRY				
MW-9	28-Mar-08		7045.47	7063.00	NM - WELL DAMAGED				
MW-9	25-Sep-08	12.74	7045.47	7032.73	6.85	14.65	3.62	16.54	40.5
MW-9	07-Jan-09	NM - WELL DESTROYED							
MW-10	10-Aug-07	5.95	7038.05	7032.10	7.17	2.727	2.17	21.07	-138.0
MW-10	28-Mar-08	5.57	7038.05	7032.48	NM - WELL DAMAGED				
MW-10	25-Sep-08	8.66	7038.05	7029.39	7.17	9.857	2.41	14.83	-5.8
MW-10	07-Jan-09		7038.05		NM - WATER IN WELL FROZEN				
MW-10	06-Apr-09	7.61	7038.05	7030.44	6.74	4.835	1.90	9.44	14.5
MW-10	07-Jul-09	7.09	7038.05	7030.96	7.15	3.255	1.45	21.37	-22.6
MW-11	10-Aug-07	16.78	7042.00	7025.22	7.45	10.34	11.21	22.98	-135.7
MW-11	28-Mar-08	11.59	7042.00	7030.41	7.07	10.14	5.78	10.38	495.8
MW-11	28-Mar-08	11.59	7042.00	7030.41	NM - WELL DESTROYED				
MW-11	07-Jan-09	DRY	7042.00		NM - WELL DRY				
MW-11	06-Apr-09	NM - WELL DESTROYED							

NOTE: NM = NOT MEASURED

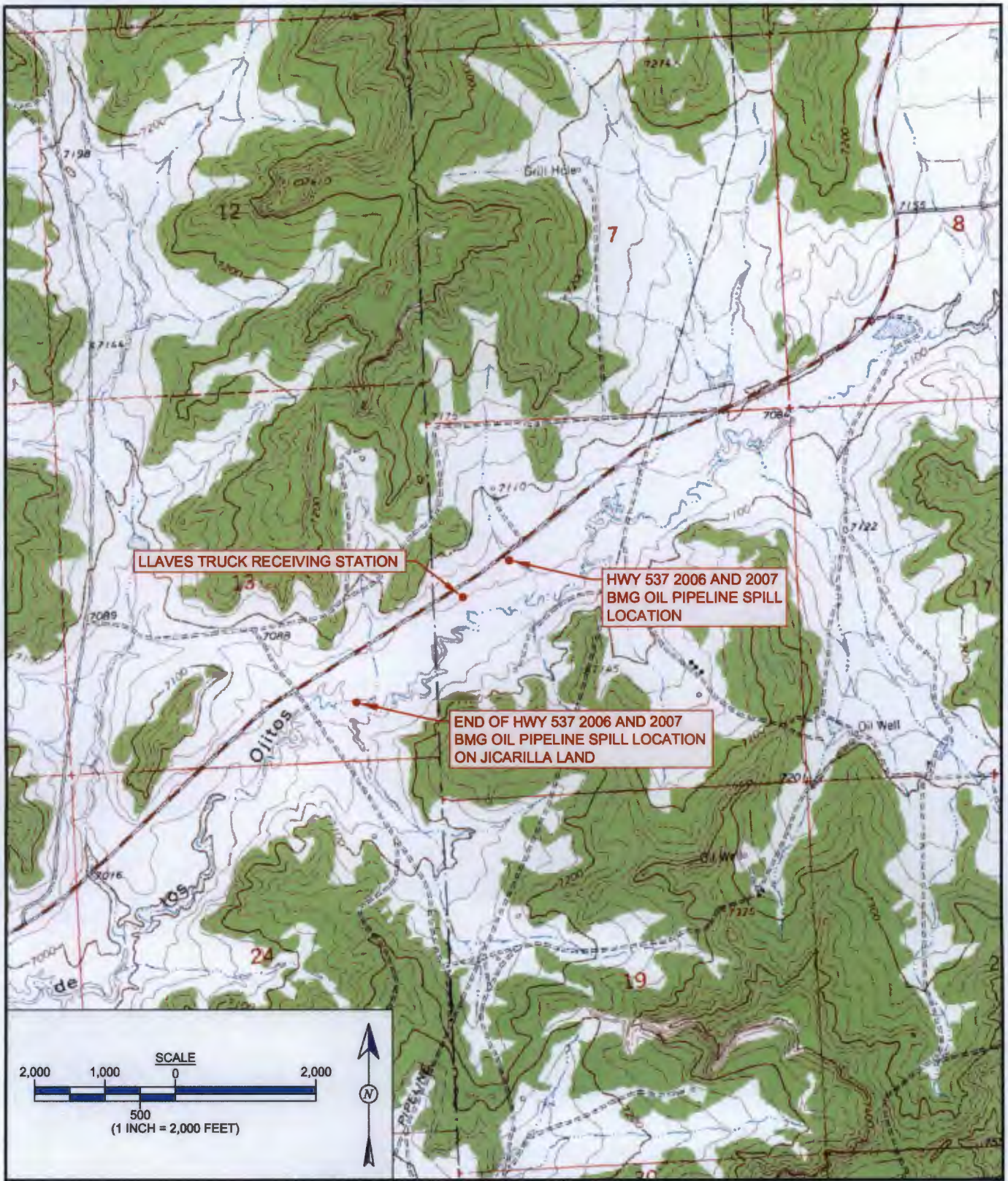
TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2007 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	DRO (mg/L)	GRO (mg/L)
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***
MW-1	10-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-1	27-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-1	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-1	31-Dec-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-1	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-1	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	10-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	27-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	05-Jan-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-2	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	10-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	27-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	05-Jan-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-3	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	10-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	27-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	06-Jan-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-4	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	13-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	28-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	06-Jan-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-5	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-6	13-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-6	28-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2007 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	DRO (mg/L)	GRO (mg/L)
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***
MW-6	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-6	06-Jan-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-6	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-6	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-7	13-Aug-07	NS - Bentonite Found in Well					
MW-7	28-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-7	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-7	07-Jan-09	NS -Water Frozen in Well					
MW-7	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-7	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-8	13-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-8	28-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-8	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-8	06-Jan-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-8	06-Apr-09	NS - Obstruction in Well					
MW-8	07-Jul-09	NS - Well Destroyed					
MW-9	13-Aug-07	NS - Well Dry					
MW-9	28-Mar-08	NS - Well Damaged					
MW-9	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-9	07-Jan-09	NS - Well Destroyed					
MW-10	10-Aug-07	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-10	28-Mar-08	NS - Well Damaged					
MW-10	25-Sep-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-10	07-Jan-09	NS - Water Frozen in Well					
MW-10	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-10	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-11	13-Aug-07	<1.0	<1.0	<1.0	<2.0	1.4	<0.050
MW-11	28-Mar-08	<1.0	<1.0	<1.0	<2.0	<1.0	<0.050
MW-11	25-Sep-08	NS - Well Destroyed					
MW-11	07-Jan-09	NS - Well Dry					
MW-11	06-Apr-09	NS - Well Destroyed					

NOTE: NS = Not Sampled



DRAWN BY: N. Willis	DATE DRAWN: May 5, 2009
REVISIONS BY: N. Willis	DATE REVISED: August 6, 2009
CHECKED BY: E. McNally	DATE CHECKED: August 20, 2009
APPROVED BY: E. McNally	DATE APPROVED: August 20, 2009

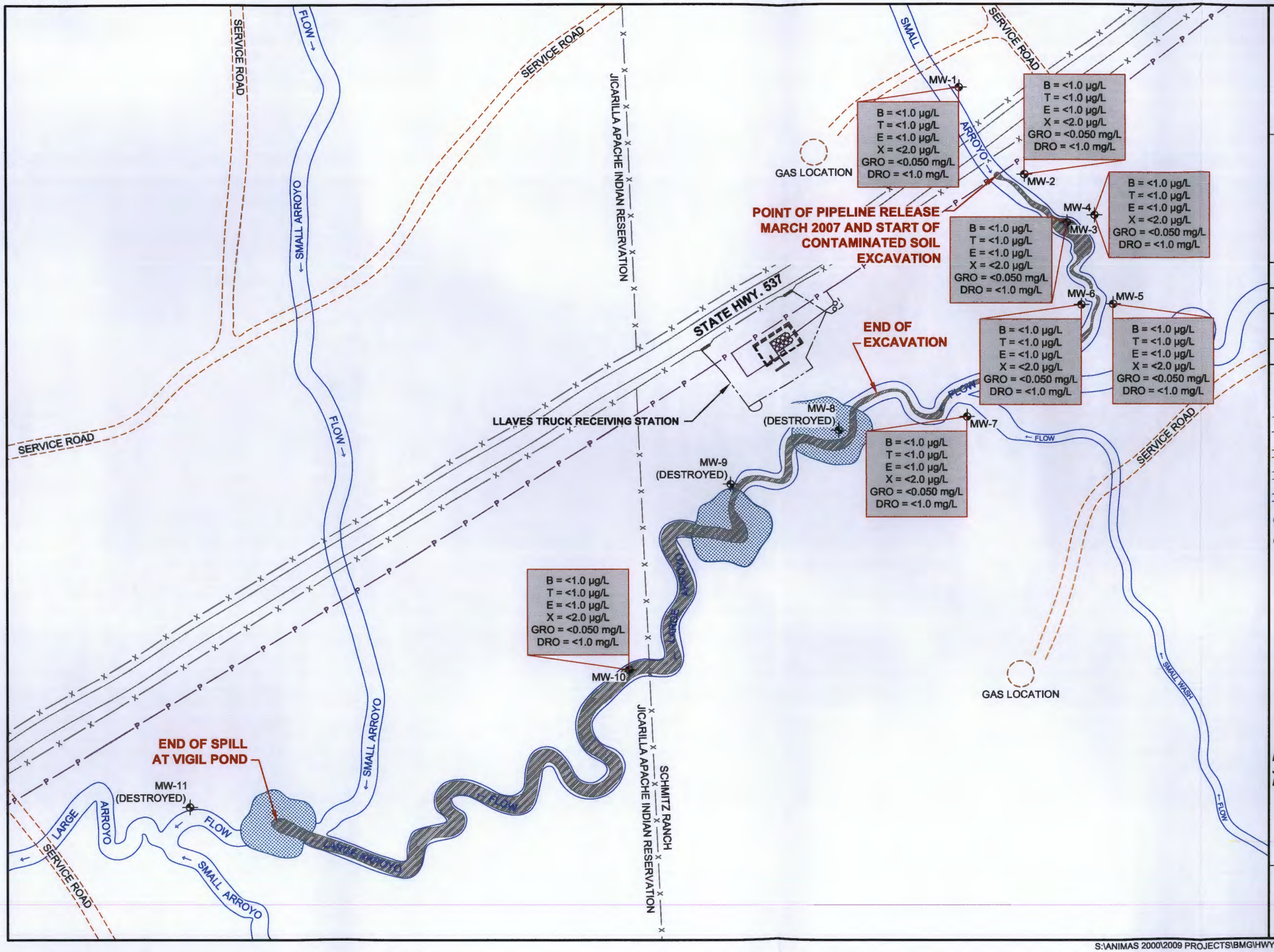
AES
Animas Environmental Services, LLC

FIGURE 1
TOPOGRAPHICAL SITE LOCATION MAP
BMG HIGHWAY 537
TRUCK RECEIVING STATION
LLAVES PIPELINE 2007 OIL SPILL
RIO ARRIBA COUNTY, NEW MEXICO

S:\ANIMAS 2000\2009 PROJECTS\BMG\HWY. 537 2007 SPILL\DRAWINGS\FIGURE 1 TOPOGRAPHICAL SITE LOCATION MAP

FIGURE 2
GENERAL SITE PLAN WITH GROUNDWATER CONTAMINANT CONCENTRATIONS JULY 2009

BMG HIGHWAY 537
TRUCK RECEIVING STATION
LLAVES PIPELINE 2007 OIL SPILL
RIO ARRIBA COUNTY, NEW MEXICO



DRAWN BY: N. Willis	**DATE DRAWN:** March 16, 2009
REVISIONS BY: N. Willis	**DATE REVISED:** August 5, 2009
CHECKED BY: C. Lameman	**DATE CHECKED:** July 29, 2009
APPROVED BY: E. McNally	**DATE APPROVED:** August 20, 2009

LEGEND

- MONITORING WELL LOCATIONS (INSTALLED JULY 2007)
- FENCE
- BMG LLAVES 4 INCH OIL PIPELINE
- DIRT ROAD
- HIGHWAY
- WASHES AND ARROYOS
- FLOOD PLANS AND WET LANDS
- OIL SPILL ROUTE

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENE
GRO	GASOLINE RANGE ORGANICS
DRO	DIESEL RANGE ORGANICS
µg/L	PARTS PER BILLION
mg/L	PARTS PER MILLION
<	ANALYTE NOT DETECTED ABOVE LISTED METHOD LIMIT

NOTE: ALL SAMPLES COLLECTED ON JULY 7, 2009. SAMPLES ANALYZED PER EPA METHOD 8021B AND 8015B.

SCALE
300 200 0 300
100
(1 INCH = 300 FEET)

S:\ANIMAS 2000\2009 PROJECTS\BMG\HWY. 537 2007 SPILL\DRAWINGS\FIGURE 2 GENERAL SITE PLAN

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, July 16, 2009

Ross Kennemer
Animas Environmental Services
624 East Comanche
Farmington, NM 87401

TEL: (505) 564-2281
FAX (505) 324-2022

RE: BMG Highway 537 06-07 Spill

Order No.: 0907136

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 7/9/2009 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.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc. Date: *16-Jul-09*

CLIENT: Animas Environmental Services
Project: BMG Highway 537 06-07 Spill
Lab Order: 0907136

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0907136-02A: pH=6.0 Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0907136-02A: pH=6.0

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TRIP BLANK
Lab Order:	0907136	**Collection Date:**	
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-01	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 12:20:36 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 12:20:36 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 12:20:36 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 12:20:36 AM
Surr: 4-Bromofluorobenzene	84.3	65.9-130		%REC	1	7/11/2009 12:20:36 AM

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
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0907136	**Collection Date:**	7/7/2009 12:57:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	115	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 12:51:00 AM
Surr: BFB	84.6	59.9-122		%REC	1	7/11/2009 12:51:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 12:51:00 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 12:51:00 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 12:51:00 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 12:51:00 AM
Surr: 4-Bromofluorobenzene	87.0	65.9-130		%REC	1	7/11/2009 12:51:00 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0907136	**Collection Date:**	7/7/2009 2:25:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	117	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 1:21:25 AM
Surr: BFB	81.7	59.9-122		%REC	1	7/11/2009 1:21:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 1:21:25 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 1:21:25 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 1:21:25 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 1:21:25 AM
Surr: 4-Bromofluorobenzene	83.5	65.9-130		%REC	1	7/11/2009 1:21:25 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0907136	**Collection Date:**	7/7/2009 2:15:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	112	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 1:51:56 AM
Surr: BFB	79.1	59.9-122		%REC	1	7/11/2009 1:51:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 1:51:56 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 1:51:56 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 1:51:56 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 1:51:56 AM
Surr: 4-Bromofluorobenzene	79.6	65.9-130		%REC	1	7/11/2009 1:51:56 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0907136	**Collection Date:**	7/7/2009 2:06:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	134	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 2:22:13 AM
Surr: BFB	82.0	59.9-122		%REC	1	7/11/2009 2:22:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 2:22:13 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 2:22:13 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 2:22:13 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 2:22:13 AM
Surr: 4-Bromofluorobenzene	84.2	65.9-130		%REC	1	7/11/2009 2:22:13 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-5
Lab Order:	0907136	**Collection Date:**	7/7/2009 1:52:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	120	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 2:52:36 AM
Surr: BFB	78.4	59.9-122		%REC	1	7/11/2009 2:52:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 2:52:36 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 2:52:36 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 2:52:36 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 2:52:36 AM
Surr: 4-Bromofluorobenzene	79.6	65.9-130		%REC	1	7/11/2009 2:52:36 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0907136	**Collection Date:**	7/7/2009 1:39:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	115	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 3:22:55 AM
Surr: BFB	85.9	59.9-122		%REC	1	7/11/2009 3:22:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 3:22:55 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 3:22:55 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 3:22:55 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 3:22:55 AM
Surr: 4-Bromofluorobenzene	89.7	65.9-130		%REC	1	7/11/2009 3:22:55 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0907136	**Collection Date:**	7/7/2009 1:24:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	125	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 8:57:23 AM
Surr: BFB	83.2	59.9-122		%REC	1	7/11/2009 8:57:23 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 8:57:23 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 8:57:23 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 8:57:23 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 8:57:23 AM
Surr: 4-Bromofluorobenzene	85.9	65.9-130		%REC	1	7/11/2009 8:57:23 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-10
Lab Order:	0907136	**Collection Date:**	7/7/2009 12:32:00 PM
Project:	BMG Highway 537 06-07 Spill	**Date Received:**	7/9/2009
Lab ID:	0907136-09	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	117	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 9:27:51 AM
Surr: BFB	80.1	59.9-122		%REC	1	7/11/2009 9:27:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 9:27:51 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 9:27:51 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 9:27:51 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 9:27:51 AM
Surr: 4-Bromofluorobenzene	81.9	65.9-130		%REC	1	7/11/2009 9:27:51 AM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 06-07 Spill **Work Order:** 0907136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19596		*MBLK*			Batch ID:	**19596**	Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19596		*LCS*			Batch ID:	**19596**	Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	6.584	mg/L	1.0	132	74	157			
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCSD-19596		*LCSD*			Batch ID:	**19596**	Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	6.672	mg/L	1.0	133	74	157	1.33	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0907136-06A MSD		*MSD*			Batch ID:	**R34474**	Analysis Date:		7/11/2009 5:24:23 AM
Gasoline Range Organics (GRO)	0.4592	mg/L	0.050	91.8	80	115	3.91	8.39	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R34474**	Analysis Date:		7/10/2009 9:38:44 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: b 29		*MBLK*			Batch ID:	**R34474**	Analysis Date:		7/10/2009 11:50:11 PM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R34474**	Analysis Date:		7/10/2009 7:44:13 PM
Gasoline Range Organics (GRO)	0.4212	mg/L	0.050	84.2	80	115			
Sample ID: 0907136-06A MS		*MS*			Batch ID:	**R34474**	Analysis Date:		7/11/2009 4:53:57 AM
Gasoline Range Organics (GRO)	0.4416	mg/L	0.050	88.3	80	115			

Qualifiers:

E	Estimated value	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	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 06-07 Spill **Work Order:** 0907136

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0907136-03A MSD		*MSD*			Batch ID:	**R34474**	Analysis Date:		7/11/2009 4:23:38 AM
Benzene	18.64	µg/L	1.0	93.2	85.9	113	0.364	27	
Toluene	17.78	µg/L	1.0	88.9	86.4	113	1.82	19	
Ethylbenzene	17.54	µg/L	1.0	87.7	83.5	118	2.58	10	
Xylenes, Total	51.85	µg/L	2.0	86.4	83.4	122	3.60	13	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R34474**	Analysis Date:		7/10/2009 9:38:44 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: b 22		*MBLK*			Batch ID:	**R34474**	Analysis Date:		7/10/2009 8:14:41 PM
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:	**R34474**	Analysis Date:		7/10/2009 7:13:39 PM
Benzene	19.24	µg/L	1.0	96.2	85.9	113			
Toluene	20.29	µg/L	1.0	101	86.4	113			
Ethylbenzene	21.16	µg/L	1.0	106	83.5	118			
Xylenes, Total	64.36	µg/L	2.0	107	83.4	122			
Sample ID: 100NG BTEX LCS-II		*LCS*			Batch ID:	**R34474**	Analysis Date:		7/11/2009 6:25:25 AM
Benzene	20.32	µg/L	1.0	102	85.9	113			
Toluene	19.95	µg/L	1.0	99.8	86.4	113			
Ethylbenzene	19.63	µg/L	1.0	97.9	83.5	118			
Xylenes, Total	57.91	µg/L	2.0	96.5	83.4	122			
Sample ID: 0907136-03A MS		*MS*			Batch ID:	**R34474**	Analysis Date:		7/11/2009 3:53:20 AM
Benzene	18.71	µg/L	1.0	93.6	85.9	113			
Toluene	18.10	µg/L	1.0	90.5	86.4	113			
Ethylbenzene	18.00	µg/L	1.0	90.0	83.5	118			
Xylenes, Total	53.75	µg/L	2.0	89.6	83.4	122			

Qualifiers:

E	Estimated value	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	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **ANIMAS ENVIRONMENTAL** Date Received: **7/9/2009**

Work Order Number **0907136** Received by: **TLS**

Checklist completed by: _____ 7/9/09 Sample ID labels checked by: _____
Signature Date Initials

Matrix: Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**4.6°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

_____

_____

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: Hwy 537 2006 and 2007 Spill
Location: Llaves, Rio Arriba County, New Mexico
Tech:

Project No.: AES 070302
Date:
Time:
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1250		47.15		
MW-2	1418		36.29		
MW-3	1409		29.15		
MW-4	1359		27.14		
MW-5	1343		20.07		
MW-6	1330		~~13.84~~		
MW-7	1316		13.27		
~~MW-8~~					Destroyed
~~MW-9~~					Destroyed
MW-10	1224		7.09		
~~MW-11~~					Destroyed

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: Highway 537 Station Spill '06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW + CP
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 47.15 **Time:** 1250 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): _____ **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 07030
Date: 7-7-09
Arrival Time: 1245
Air Temp: 85°
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

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	19.35	3.22	2.21	6.91	-9.1		
1257						SC	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW & CD
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 36.29 **Time:** 1418 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): _____ **Time:** _____ *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1416
Air Temp: 90°
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

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
1420	16.12	4.025	2.00	6.90	-26.8	—	
1425	—	—	—	—	—	5 C	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: AJL & CD
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 29.15 **Time:** 1409 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1407
Air Temp: @ 90°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1410	15.44	2.858	1.30	7.12	-24.9		
1415						5 C	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW OCD
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 27.14 **Time:** 1359 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1357
Air Temp: 90°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1401	17.52	3.301	2.29	7.13	-14.0	—	
1406	—	—	—	—	—	SC	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW + CD
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 20.07 **Time:** 1343 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1341
Air Temp: 88°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1345	15.57	18.17	1.20	7.60	-10.6		
1352						5 C	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments Samples were fizzy with a high Conductivity

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: MW-6

Site: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW & CD
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 27.28 **Time:** 1330 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: ~~1230~~ 1328
Air Temp: 86°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1332	15.64	2.553	2.09	7.11	-15.2	—	
1339	—	—	—	—	—	SC	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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: Highway 537 Station Spill 06-07
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NW 4CD
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 13.27 **Time:** 1316 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1313
Air Temp: 86°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1317	16.65	2.429	1.61	6.73	-18.4	—	
1324	—	—	—	—	—	5 G	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-10**

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

Site: Highway 537 Station Spill 06-01
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: NL & CD
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 7.09 **Time:** 1224 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 070302
Date: 7-7-09
Arrival Time: 1222
Air Temp: 83°
T.O.C. Elev. (ft):
Total Well Depth (ft):

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
1226	21.37	3.255	1.45	7.15	-22.6		
1232						5 C	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl)
TPH C_6-C_{36} per EPA Method 8015B (40mL Vial no preservative)

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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

Chain-of-Custody Record

Client: Animas Environmental Services LLC

Mailing Address: 624 E Comanche Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-2022

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: HWY 537 '06-07 Spill

Project #: 070302

Project Manager: Ross Kennemer

Sampler: N. Willis

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.0

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. 0907154	Analysis Request: BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	8015B TPH C6-C36			Air Bubbles (Y or N)
		H2O	Trip Blanks	2-40mL glass	HCl	1												X				
~~7/7/09~~ 7/8/09	1257	H2O	MW-1	5-40mL glass	1-NON 4-HCl	2												X	X			
7/7/09	1425		MW-2			3												X	X			
	1415		MW-3			4												X	X			
	1406		MW-4			5												X	X			
	1352		MW-5			6												X	X			
	1339		MW-6			7												X	X			
	1324		MW-7			8												X	X			
7-7-09	1232	H20	MW-10	5-40mL glass	1-NON 4-HCl	9												X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-7-09	1600	Natalie Willis	Debnah Watson	7-7-09	1600
7-8-09	1635	Debnah Watson	[illegible]	7/9/09	855

Remarks: MW-5 samples were fizzy & they had a very high conductivity.

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.