3R – 448

2009 GWMR

06 / 02 / 2009

Animas Environmental Services, LLC

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

June 2, 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 April 6, 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 and 2008. Analytical results from groundwater samples collected during the December 2008 and January 2009 sampling event showed that benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH) C_6-C_{36} concentrations in all wells samples remained below laboratory detection limits. During this event MW-7, MW-9, MW-10 and MW-11 were not sampled. Details of groundwater sampling were presented within the AES *Periodic Progress Report*, dated February 11, 2009.

2.0 Groundwater Monitoring and Sampling, April 2009

AES personnel conducted groundwater monitoring and sampling at the project area on April 6, 2009. Groundwater samples were laboratory analyzed for BTEX and TPH C_6-C_{36} per EPA Methods 8021/8015 at Hall Environmental Analysis Laboratory (Hall), Albuquerque, New Mexico.

2.1 Groundwater Measurements and Water Quality Data

During the April 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-7 and MW-10. Due to an obstruction in the well, MW-8 was not measured or sampled. Monitor wells MW-9 and MW-11 have been 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 7,030.44 feet above mean sea level (amsl) in MW-10 up to 7,041.05 feet amsl in MW-4. Groundwater

elevations generally increased approximately 0.19 feet across the project area since the last sampling event in December 2008 and January 2009.

Water quality measurements were made with an YSI Water Quality Meter, and temperature ranged temperature ranged from 9.44°C in MW-10 to 13.74°C in MW-2. Groundwater pH measurements ranged from 6.60 to 7.37, and dissolved oxygen concentrations ranged between 1.63 mg/L in MW-3 and 2.52 mg/L in MW-5. Oxidation reduction potential (ORP) measurements were between 8.3 mV to 14.5 mV, and conductivity readings were between 2.828 mS and 22.69 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 April 6, 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 April 2009. AES has scheduled the next quarterly sampling event to occur in late June or early July 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,

Deborah Watson
Project Manager

Elizabeth D. McNally

Elizabeth McNally, P.E.

Attachment: Figures
Figure 1. Topographic Site Location Map
Figure 2. General Site Plan

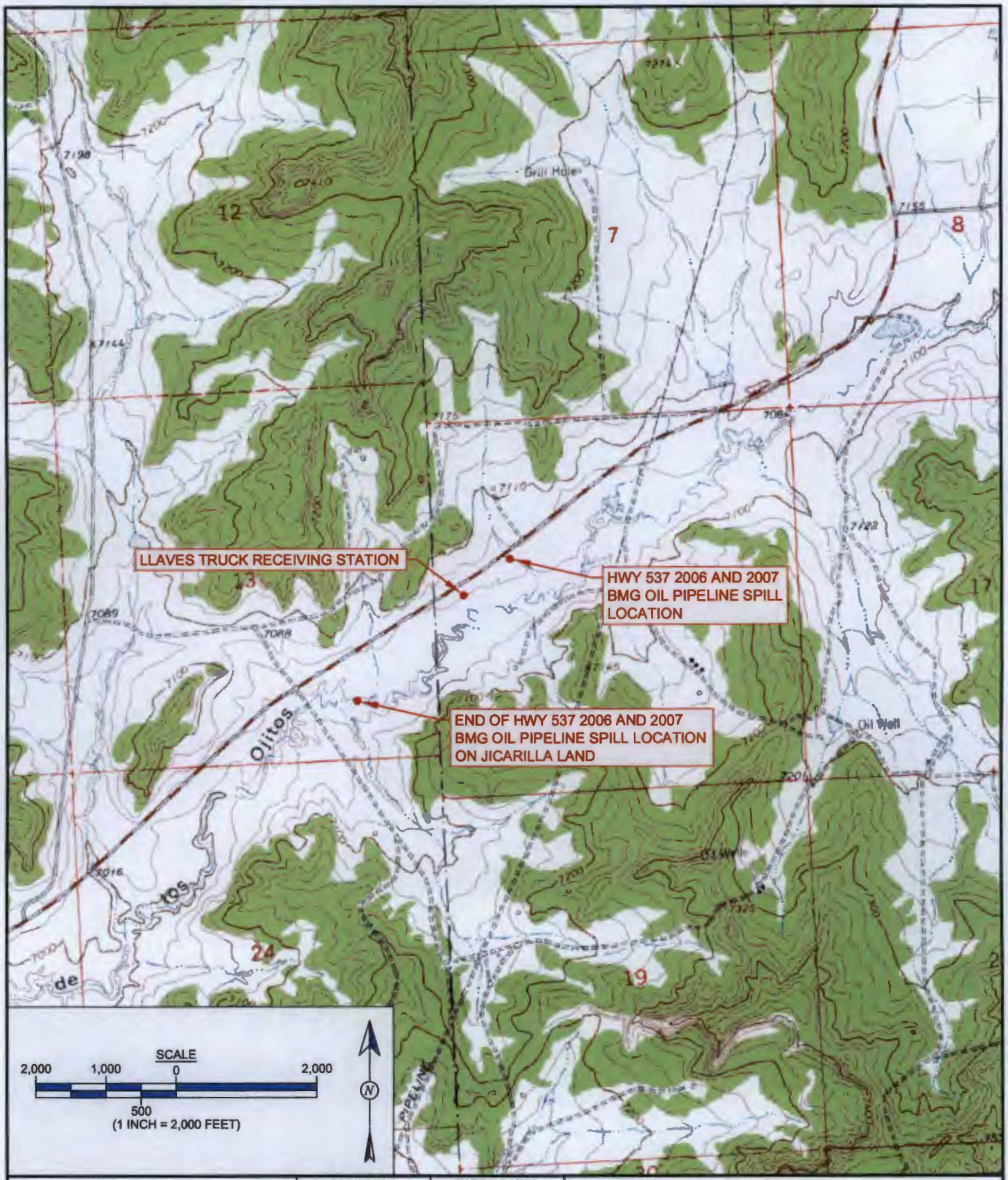
Tables
Table 1. Summary of Groundwater and Water Quality Data
Table 2. Summary of Groundwater Analytical Results

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 060209



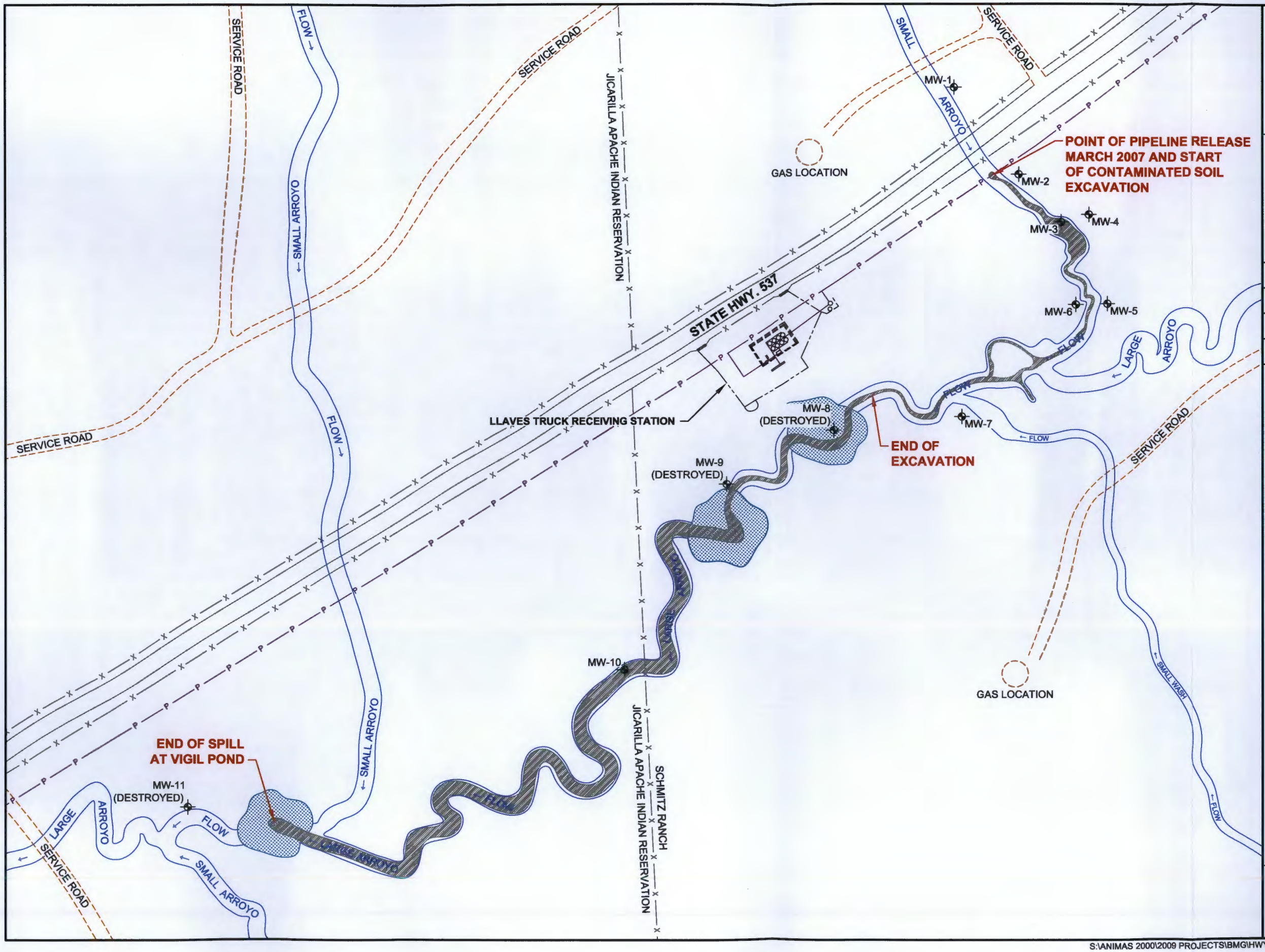
DRAWN BY: N. Willis	DATE DRAWN: May 5, 2009
REVISIONS BY: N. Willis	DATE REVISED: May 5, 2009
CHECKED BY: E. McNally	DATE CHECKED: June 2, 2009
APPROVED BY: E. McNally	DATE APPROVED: June 2, 2009

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



AES
Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
N. Willis	March 16, 2009
REVISIONS BY:	**DATE REVISED:**
N. Willis	May 5, 2009
CHECKED BY:	**DATE CHECKED:**
E. McNally	June 2, 2009
APPROVED BY:	**DATE APPROVED:**
E. McNally	June 2, 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

N

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

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-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-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-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
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				

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-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-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-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-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
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-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							

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-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-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-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-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-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-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-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
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

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-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-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-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-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

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: N. Willis

Project No.: AES 070301
Date: 4-6-09
Time: 1034
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1038	—	47.21	—	
MW-2	1143	—	36.29	—	
MW-3	1202	—	29.11	—	
MW-4	1224	—	27.06	—	
MW-5	1245	—	20.11	—	
MW-6	1305	—	22.24	—	
MW-7	1333	—	13.32	—	
MW-8					
~~MW-9~~					Destroyed
MW-10	1417	—	7.61	—	
~~MW-11~~					Destroyed

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

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-1

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 47.21 **Time:** 10:38 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1034
Air Temp: 50°F
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
1041	12.45	4.063	1.97	7.22	9.4	0.25	
1046							Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): ____ **Time:** ____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 36.29 **Time:** 1143 *(taken prior to purging well)*
Final D.T.W. (ft): ____ **Time:** ____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1140
Air Temp: 54°F
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
1144	13.74	5,308	2.47	7.37	8.8	0.25	
1149							Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.11 **Time:** 1202 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1201
Air Temp: 56°F
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
1207	12.88	3.233	1.63	6.98	10.9	0.25	
1212							Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 27.06 **Time:** 1224 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1222
Air Temp: 58°F
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
1225	13.62	2.828	2.07	6.92	8.3	0.25	
1230	—						Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 20.11 **Time:** 1245 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1241
Air Temp: 58°F
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
1247	12.10	22.69	2.52	7.01	9.7	1/16	
1252	—	—	—	—	—	—	Samples Collected
		↑					
		L YSI Malfunction					

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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:	Highway 537 Station Spill	**Project No.:**	AES 070302
Location:	Rio Arriba County, New Mexico	**Date:**	4-6-09
Project:	Groundwater Monitoring	**Arrival Time:**	1303
Sampling Technician:	N. Willis	**Air Temp:**	58°F
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	
Initial D.T.W. (ft):		**Time:**	*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	22.24	**Time:** 13.05	*(taken prior to purging well)*
Final D.T.W. (ft):		**Time:**	*(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
1308	12.77	4.246	2.08	7.19	10.6	1/16	
1313							Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 13.32 **Time:** 1333 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1328
Air Temp: 58°F
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
1336	10.78	3.191	2.29	6.60	13.1	1/16	
1341	—					—	Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-8**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(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: 4-7-09
Arrival Time: 0930
Air Temp: 45°F
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

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 Vials 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

Obstruction in well and unable to get past it to water. Tryed it retreave object but failed. Object is stuck or jamed in well half way down.
Tool used to retreave object: fishing line, weights, and hooks, bailing wire, steel tape.

revised: 05/23/07

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-9 (Destroyed)

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(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: 4-6-09
Arrival Time: _____
Air Temp: _____
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

Destroyed
No Sample

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

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
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 7.61 **Time:** 1417 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 070302
Date: 4-6-09
Arrival Time: 1415
Air Temp: 58°F
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
1418	9.44	4.835	1.90	6.74	14.5	4/16	
1423	—	—	—	—	—	—	Samples Collected

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-11 (Destroyed)**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: A. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(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: 4-6-09
Arrival Time: _____
Air Temp: _____
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

Destroyed No Sample

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: _____

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: _____
Purge / No Purge: _____
Well Diameter (in): _____
Initial D.T.W. (ft): _____ **Time:** _____ *(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: _____
Arrival Time: _____
Air Temp: _____
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

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: _____

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: _____
Purge / No Purge: _____
Well Diameter (in): _____
Initial D.T.W. (ft): _____ **Time:** _____ *(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: _____
Arrival Time: _____
Air Temp: _____
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

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 Vials 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

If it is necessary to calculate the volume of the monitoring well to determine what volume of groundwater will need to be purged from the well prior to collecting the samples, use the following equation:

Well Volume = (h)(cf)

where:

h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

The gallons/foot for common size monitoring wells are as follows:

Well Diameter (inches)	2"	3"	4"	6"
Volume (gallons/foot)	0.1632	0.3672	0.6528	1.4688

The well volume is typically tripled to determine the volume to be purged.

Show purge volume calculation below:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 15, 2009

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

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

RE: HWY 537 '06-'07 Spill

Order No.: 0904127

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 4/8/2009 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: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0904127	**Collection Date:**	4/6/2009 10:46:00 AM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-01	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	105	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 9:41:51 PM
Surr: BFB	87.2	59.9-122		%REC	1	4/14/2009 9:41:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 9:41:51 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 9:41:51 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 9:41:51 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 9:41:51 PM
Surr: 4-Bromofluorobenzene	86.6	65.9-130		%REC	1	4/14/2009 9:41:51 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0904127	**Collection Date:**	4/6/2009 11:49:00 AM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-02	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	109	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 10:12:21 PM
Surr: BFB	87.5	59.9-122		%REC	1	4/14/2009 10:12:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 10:12:21 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 10:12:21 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 10:12:21 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 10:12:21 PM
Surr: 4-Bromofluorobenzene	87.6	65.9-130		%REC	1	4/14/2009 10:12:21 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0904127	**Collection Date:**	4/6/2009 12:12:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-03	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	110	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 10:42:45 PM
Surr: BFB	89.0	59.9-122		%REC	1	4/14/2009 10:42:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 10:42:45 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 10:42:45 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 10:42:45 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 10:42:45 PM
Surr: 4-Bromofluorobenzene	89.3	65.9-130		%REC	1	4/14/2009 10:42:45 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0904127	**Collection Date:**	4/6/2009 12:30:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-04	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	109	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 11:13:15 PM
Surr: BFB	88.3	59.9-122		%REC	1	4/14/2009 11:13:15 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 11:13:15 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 11:13:15 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 11:13:15 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 11:13:15 PM
Surr: 4-Bromofluorobenzene	88.4	65.9-130		%REC	1	4/14/2009 11:13:15 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-5
Lab Order:	0904127	**Collection Date:**	4/6/2009 12:52:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-05	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	108	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 11:43:39 PM
Surr: BFB	82.6	59.9-122		%REC	1	4/14/2009 11:43:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 11:43:39 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 11:43:39 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 11:43:39 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 11:43:39 PM
Surr: 4-Bromofluorobenzene	80.1	65.9-130		%REC	1	4/14/2009 11:43:39 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0904127	**Collection Date:**	4/6/2009 1:13:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-06	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	108	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/15/2009 12:15:51 AM
Surr: BFB	82.8	59.9-122		%REC	1	4/15/2009 12:15:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/15/2009 12:15:51 AM
Toluene	ND	1.0		µg/L	1	4/15/2009 12:15:51 AM
Ethylbenzene	ND	1.0		µg/L	1	4/15/2009 12:15:51 AM
Xylenes, Total	ND	2.0		µg/L	1	4/15/2009 12:15:51 AM
Surr: 4-Bromofluorobenzene	82.9	65.9-130		%REC	1	4/15/2009 12:15:51 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		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0904127	**Collection Date:**	4/6/2009 1:41:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-07	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	110	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/15/2009 12:46:16 AM
Surr: BFB	86.7	59.9-122		%REC	1	4/15/2009 12:46:16 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/15/2009 12:46:16 AM
Toluene	ND	1.0		µg/L	1	4/15/2009 12:46:16 AM
Ethylbenzene	ND	1.0		µg/L	1	4/15/2009 12:46:16 AM
Xylenes, Total	ND	2.0		µg/L	1	4/15/2009 12:46:16 AM
Surr: 4-Bromofluorobenzene	86.0	65.9-130		%REC	1	4/15/2009 12:46:16 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: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-10
Lab Order:	0904127	**Collection Date:**	4/6/2009 2:23:00 PM
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-08	**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	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	105	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/15/2009 1:16:53 AM
Surr: BFB	91.8	59.9-122		%REC	1	4/15/2009 1:16:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/15/2009 1:16:53 AM
Toluene	ND	1.0		µg/L	1	4/15/2009 1:16:53 AM
Ethylbenzene	ND	1.0		µg/L	1	4/15/2009 1:16:53 AM
Xylenes, Total	ND	2.0		µg/L	1	4/15/2009 1:16:53 AM
Surr: 4-Bromofluorobenzene	94.1	65.9-130		%REC	1	4/15/2009 1:16:53 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: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	Trip Blank
Lab Order:	0904127	**Collection Date:**	
Project:	HWY 537 '06-'07 Spill	**Date Received:**	4/8/2009
Lab ID:	0904127-09	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/15/2009 1:47:19 AM
Surr: BFB	91.6	59.9-122		%REC	1	4/15/2009 1:47:19 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/15/2009 1:47:19 AM
Toluene	ND	1.0		µg/L	1	4/15/2009 1:47:19 AM
Ethylbenzene	ND	1.0		µg/L	1	4/15/2009 1:47:19 AM
Xylenes, Total	ND	2.0		µg/L	1	4/15/2009 1:47:19 AM
Surr: 4-Bromofluorobenzene	93.9	65.9-130		%REC	1	4/15/2009 1:47:19 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: HWY 537 '06-'07 Spill **Work Order:** 0904127

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-18809		*MBLK*			Batch ID: **18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18809		*LCS*			Batch ID: **18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.228	mg/L	1.0	105	74	157			
Sample ID: LCSD-18809		*LCSD*			Batch ID: **18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.455	mg/L	1.0	109	74	157	4.25	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R33239**		Analysis Date:		4/14/2009 9:30:26 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R33239**		Analysis Date:		4/14/2009 6:38:55 PM
Gasoline Range Organics (GRO)	0.5620	mg/L	0.050	112	80	115			
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R33239**		Analysis Date:		4/14/2009 9:30:26 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: **R33239**		Analysis Date:		4/14/2009 7:09:20 PM
Benzene	20.70	µg/L	1.0	103	85.9	113			
Toluene	21.19	µg/L	1.0	106	86.4	113			
Ethylbenzene	20.63	µg/L	1.0	103	83.5	118			
Xylenes, Total	61.39	µg/L	2.0	102	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: 4/8/2009

Work Order Number 0904127 Received by: AT

Checklist completed by: _____ 4/8/09 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 ☐		
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 ☑	
Container/Temp Blank temperature?	3°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche
Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-7022

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Hwy 537 '06-'07 Spill

Project #: 070302

Project Manager: Ross Kennemer

Sampler: Nathan Willis

On Ice: ☒ Yes ☐ No

Sample Temperature: 5

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2906412	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	8015 TPH (C6-C36)			Air Bubbles (Y or N)
4-6-09	1046	H_2O	MW-1	5-40mL glass	4-HCl 1-Non Pre.	-1												X	X			
	1149		MW-2			-2												X	X			
	1212		MW-3			-3												X	X			
	1230		MW-4			-4												X	X			
	1252		MW-5			-5												X	X			
	1313		MW-6			-6												X	X			
	1341		MW-7			-7												X	X			
4-6-09	1423	H_2O	MW-10	5-40mL glass	4-HCl 1-Non Pre.	-8												X	X			
			Trip Blank	2-40mL glass	HCl	-9												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-6-09	1650	Nathan Willis	Deborah Watson	4-6-09	1650
4-8-09	0840	Deborah Watson		4/8/09	1520

Remarks:

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

Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche
Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-7022

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Hwy 537 '06-'07 Spill

Project #: 070302

Project Manager: Ross Kennemer

Sampler: Nathan Willis

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 090412	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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	8015 TPH (C6-C36)			Air Bubbles (Y or N)
4-6-09	1046	H_2O	MW-1	5-40mL glass	4-HCl 1-Non Pres.	-1												X	X			
	1149		MW-2			-2												X	X			
	1212		MW-3			-3												X	X			
	1230		MW-4			-4												X	X			
	1252		MW-5			-5												X	X			
	1313		MW-6			-6												X	X			
	1341		MW-7			-7												X	X			
4-6-09	1423	H_2O	MW-10	5-40mL glass	4-HCl 1-Non Pres.	-8												X	X			
			Trip Blank	2-40ml glass	HCl	-9												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-6-09	1650	[signature]	Deborah Watson	4-6-09	1650
4-8-09	0840	Deborah Watson	[signature]	4/8/09	1520

Remarks:

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