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December 20, 2013

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

Re: Periodic Progress Report 3rd Quarter 2013
Benson-Montin-Greer
Highway 537 Truck Receiving Station 2009 Release
Rio Arriba County, New Mexico

Dear Mr. von Gonten:

On behalf of Benson-Montin-Greer Drilling Corporation (BMG), Animas Environmental Services, LLC (AES) has prepared this Periodic Progress Report, which provides details of groundwater monitoring and sampling conducted for the 3rd Quarter 2013 at the BMG Highway 537 Truck Receiving Station 2009 release location. Sampling was conducted in September 2013 in accordance with recommendations presented in the Site Investigation Report prepared by AES and submitted on April 10, 2009.

1.0 Site Information

The BMG Highway 537 Truck Receiving Station consists of eight 500 barrel (bbl) oil storage tanks, one 600 bbl oil storage tank, one 80 bbl open top waste tank, and various pumps and meters associated with crude oil transport truck loading, unloading, and pipeline transport. Surface ownership in the area where the release occurred includes private land owned by the Schmitz Ranch.

1.1 Site Location

The truck receiving station is located along the south side of NM State Highway 537 and is adjacent to the Los Ojitos Arroyo, which eventually drains to Largo Canyon. The facility is described legally as being located within the SW¼ NW¼ Section 18, T25N, R3W in Rio Arriba County, New Mexico. Latitude and longitude were recorded as being N36.39866 and W107.19328, respectively. A topographic site location map, based on an excerpt from the United States Geological Survey (USGS) 7.5-minute Schmitz Ranch, Rio Arriba County, New Mexico topographic quadrangle (USGS 1963), is included as Figure 1. An aerial map with a site plan, including existing monitor wells, is presented as Figure 2.

1.2 Release History

On January 29, 2009, a Western Refining truck driver discovered crude condensate within the bermed area around the storage tanks, on the south side of Tank #1. BMG personnel arrived on-site and confirmed a leak at a buried 6-inch line between the storage tanks and the truck loading pump. BMG isolated the line and emptied it of residual oil. BMG then contacted Brandon Powell of New Mexico Oil Conservation Division (NMOCD) to provide notification and intended response to the release. Also on January 29, 2009, BMG contracted with TNT Excavating (TNT) to remove the buried 6-inch line in order to determine where the leak originated.

On January 30, 2009, TNT used a trackhoe to excavate an area (10 feet by 20 feet by 15 feet in depth) around the buried 6-inch line. AES collected soil samples from the base of the excavation for field screening with a photo-ionization detector (PID) organic vapor meter (OVM). Field screening results at 12 feet below ground surface (bgs) were 5,861 parts per million (ppm) volatile organic compounds (VOCs), and at 15 feet bgs VOCs were measured at 6,640 ppm. Additionally, AES collected one soil sample at 15 feet bgs for laboratory analysis of benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH). The analytical results of the soil sample collected on January 30, 2009, had total BTEX concentrations of 1,657 mg/kg and total TPH concentrations of 20,300 mg/kg.

The release was the result of a corrosion hole along the bottom of the pipe near the truck loading pumps. Because it was determined that the leak had impacted soils to at least 15 feet bgs, and due to the presence of tanks, buried pipe, buried conduit, and fixed pumps and meters within the release area, BMG and AES, in consultation with NMOCD, concluded that an assessment of the release area by installing soil borings and monitor wells would be the most appropriate assessment method.

On February 2, 2009, the 6-inch line was repaired, and the excavation was backfilled with clean fill material. Approximately 100 cubic yards of contaminated soil were transported to the TNT Landfarm for disposal. From February 16 through 20, 2009, site investigation activities were conducted by AES in order to delineate the full extent of petroleum hydrocarbon impact on surface and subsurface soils and groundwater resulting from the release. The investigation procedures included the installation of 11 monitor wells (MW-1 through MW-11) and collection of soil and groundwater samples. Work was completed in accordance with the *Sampling and Analysis Plan* prepared by AES and dated February 3, 2009, and also in accordance with U.S. Environmental Protection Agency (USEPA) Environmental Response Team's Standard Operating Procedures (SOPs), and applicable American Society of Testing and Materials (ASTM) standards. Details of the site investigation are included in the AES *Site Investigation Report* submitted to NMOCD in April 2009.

2.0 Groundwater Monitoring and Sampling – September 2013

The third quarterly groundwater and sampling event of 2013 was conducted by AES personnel on September 25, 2013. Groundwater samples from MW-1, MW-3, and MW-9 were laboratory analyzed for BTEX per USEPA Method 8021 and TPH per USEPA Method 8015 at Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico, as well as field analyzed for temperature, conductivity, dissolved oxygen (DO), pH, and ORP. No samples were analyzed from MW-2, MW-4 through MW-8, MW-10, and MW-11 because these wells have remained below applicable New Mexico Water Quality Control Commission (WQCC) standards or laboratory detection limits for BTEX and TPH for eight or more consecutive sampling events.

2.1 Groundwater Measurements and Water Quality Data

During the September 2013 sampling event, groundwater measurements were recorded for MW-1 through MW-11. Average groundwater elevations increased across the site by approximately 0.9 feet since the June 2013 sampling event. Groundwater gradient was calculated between MW-2 and MW-8, with a magnitude of 0.008 ft/ft to the west-southwest. Groundwater elevations ranged from 14.92 feet below top of casing (TOC) in MW-6 to 30.00 feet below TOC in MW-11. Groundwater elevation data and contours are presented in Figure 3.

Groundwater quality measurements were recorded for MW-1, MW-3, and MW-9. Recorded temperatures ranged from 12.50°C in MW-3 to 13.08°C in MW-9. Groundwater pH measurements ranged from 7.19 to 7.22, and DO concentrations were between 1.64 mg/L in MW-1 and 2.44 mg/L in MW-9. ORP measurements were between -84.6 mV in MW-9 and -48.6 mV in MW-1, and conductivity readings were between 7.764 mS/cm and 8.437 mS/cm. Depth to groundwater measurements and water quality data are presented in Table 1. Water Sample Collection Forms are included in the Appendix.

2.2 Groundwater Analytical Results

Dissolved phase benzene concentrations exceeded the WQCC standard in MW-1 (180 µg/L) and MW-3 (30 µg/L). Dissolved phase toluene, ethylbenzene, and xylene concentrations were below applicable New Mexico Water Quality Control Commission (WQCC) standards in each of the wells sampled. TPH concentrations as GRO above laboratory detection limits were reported in MW-1 (0.53 mg/L) and MW-3 (0.23 mg/L), and TPH concentrations (as DRO and MRO) were reported below the laboratory detection limits in all wells sampled. Tabulated laboratory analytical results are included in Table 2. Contaminant concentrations are included in Figure 4, and Graphs 1 through 3 present groundwater elevations and dissolved phase benzene concentrations for MW-1, MW-3, and MW-9, respectively. Laboratory analytical reports for September 2013 are included in the Appendix.

3.0 Conclusions and Recommendations

AES conducted groundwater monitoring and sampling at the BMG Highway 537 Truck Receiving Station on September 25, 2013. Groundwater elevations were found to have increased in all wells by approximately 0.9 feet since June 2013. Groundwater gradient was calculated to be approximately 0.008 ft/ft in a west-southwestern direction, which is consistent with historic site data.

Groundwater samples were collected from monitor wells MW-1, MW-3, and MW-9. Monitor wells MW-2, MW-4 through MW-8, MW-10, and MW-11 have remained below the WQCC standards for BTEX and TPH for eight consecutive sampling events and therefore were not sampled in September 2013.

Dissolved phase benzene concentrations above the WQCC standard of 10 µg/L were reported in MW-1 (180 µg/L) and MW-3(30 µg/L). Benzene concentrations remained below the WQCC standard for the sixth consecutive quarter in MW-9. Dissolved phase toluene, ethylbenzene, and xylenes have remained below the applicable WQCC standards in each of the wells. GRO concentrations above the laboratory detection limit were reported in MW-1 (0.53 mg/L) and MW-3 (0.23 mg/L). DRO and MRO concentrations were reported below the laboratory detection limits in each of the wells sampled during the September 2013 sampling event.

Based on laboratory analytical results, AES recommends continuing groundwater monitoring and sampling of monitor wells MW-1, MW-3, and MW-9 on a quarterly basis.

4.0 Scheduled Site Activities

The fourth quarter 2013 groundwater sampling event was scheduled to occur in December 2013, and a report will be prepared and submitted upon receipt of laboratory analytical results.

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

Sincerely,

Landrea Cupps
Environmental Scientist

Deborah Watson, P.G.
Project Manager

Elizabeth McNally, P.E.

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Graph 1. MW-1 Groundwater Elevations and Benzene Concentrations, September 2013
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Graph 3. MW-9 Groundwater Elevations and Benzene Concentrations, September 2013

Appendix

Water Sample Collection Forms 092513
Hall Analytical Report 1309D34

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TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-1	05-Mar-09	27.95	7064.66	7036.71	12.29	5.231	1.27	6.64	-36.1
MW-1	11-Sep-09	28.66	7064.66	7036.00	13.15	7.016	0.65	8.60	-118.5
MW-1	15-Jan-10	28.91	7064.66	7035.75	13.30	3.714	2.74	6.79	-167.8
MW-1	15-Oct-10	29.20	7064.66	7035.46	13.77	4.642	1.51	7.14	-17.9
MW-1	21-Jan-11	29.28	7064.66	7035.38	12.42	4.246	1.63	6.92	-85.8
MW-1	12-May-11	28.93	7064.66	7035.73	13.08	3.830	2.95	7.00	-96.1
MW-1	12-Aug-11	29.67	7064.66	7034.99	14.03	4.637	3.83	6.94	-107.9
MW-1	16-Nov-11	29.82	7064.66	7034.84	11.57	4.385	2.89	5.35	-69.7
MW-1	21-Feb-12	29.77	7064.66	7034.89	12.01	4.063	1.09	6.78	-123.9
MW-1	24-May-12	29.77	7064.66	7034.89	12.94	4.563	1.04	6.95	-46.5
MW-1	10-Sep-12	30.14	7064.66	7034.52	14.63	4.705	1.16	7.12	-15.7
MW-1	04-Dec-12	30.33	7064.66	7034.33	12.55	4.430	1.30	7.11	-7.1
MW-1	26-Mar-13	29.87	7064.66	7034.79	12.20	4.556	1.66	6.72	-5.9
MW-1	01-Jul-13	30.41	7064.66	7034.25	13.52	4.372	3.61	7.18	9.2
MW-1	25-Sep-13	29.51	7064.66	7035.15	12.62	8.264	1.64	7.21	-48.6
MW-2	05-Mar-09	27.69	7064.65	7036.96	12.00	4.567	2.59	6.82	-29.8
MW-2	10-Sep-09	28.38	7064.65	7036.27	12.93	6.480	1.09	7.58	62.2
MW-2	15-Jan-10	28.62	7064.65	7036.03	12.49	3.604	2.10	7.57	-70.3
MW-2	14-Oct-10	28.91	7064.65	7035.74	12.49	3.968	1.71	7.40	98.9
MW-2	21-Jan-11	28.99	7064.65	7035.66	11.44	4.045	1.62	8.56	-6.2
MW-2	12-May-11	28.63	7064.65	7036.02	13.14	4.087	1.43	7.67	-66.7
MW-2	12-Aug-11	29.37	7064.65	7035.28	14.08	4.102	4.36	7.09	160.2
MW-2	16-Nov-11	29.52	7064.65	7035.13	11.60	4.021	2.48	7.51	176.2
MW-2	21-Feb-12	29.46	7064.65	7035.19	NM	NM	NM	NM	NM
MW-2	24-May-12	29.47	7064.65	7035.18	NM	NM	NM	NM	NM
MW-2	10-Sep-12	29.84	7064.65	7034.81	NM	NM	NM	NM	NM

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Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-2	04-Dec-12	30.03	7064.65	7034.62	NM	NM	NM	NM	NM
MW-2	26-Mar-13	29.60	7064.65	7035.05	NM	NM	NM	NM	NM
MW-2	27-Jun-13	30.11	7064.65	7034.54	NM	NM	NM	NM	NM
MW-2	25-Sep-13	29.28	7064.65	7035.37	NM	NM	NM	NM	NM
MW-3	05-Mar-09	27.16	7064.01	7036.85	12.29	4.310	2.17	6.66	-28.2
MW-3	11-Sep-09	27.99	7064.01	7036.02	13.50	6.080	0.53	9.43	-163.6
MW-3	15-Jan-10	28.22	7064.01	7035.79	11.99	3.607	1.85	7.27	-222.5
MW-3	14-Oct-10	28.54	7064.01	7035.47	12.41	4.180	1.46	7.24	-53.1
MW-3	21-Jan-11	28.60	7064.01	7035.41	11.92	4.224	1.60	7.20	-122.5
MW-3	12-May-11	28.21	7064.01	7035.80	12.56	4.172	2.25	7.28	-145.8
MW-3	12-Aug-11	29.02	7064.01	7034.99	13.32	4.372	2.35	7.17	-158.5
MW-3	16-Nov-11	29.14	7064.01	7034.87	10.87	4.326	2.17	6.53	-105.7
MW-3	21-Feb-12	29.07	7064.01	7034.94	11.36	4.481	1.01	7.09	-118.0
MW-3	24-May-12	29.09	7064.01	7034.92	13.30	4.325	0.81	7.07	-70.3
MW-3	10-Sep-12	29.45	7064.01	7034.56	13.26	4.377	2.49	7.23	-42.7
MW-3	04-Dec-12	29.65	7064.01	7034.36	12.08	4.294	0.69	7.26	-46.8
MW-3	26-Mar-13	29.12	7064.01	7034.89	11.93	2.337	5.85	7.46	59.3
MW-3	01-Jul-13	29.74	7064.01	7034.27	14.64	4.119	11.22	7.69	-36.8
MW-3	25-Sep-13	28.65	7064.01	7035.36	12.50	7.764	2.08	7.22	-79.5
MW-4	05-Mar-09	27.39	7063.72	7036.33	12.36	4.760	1.72	6.58	-29.2
MW-4	06-Apr-09	27.58	7063.72	7036.14	11.87	4.599	2.06	6.75	18.0
MW-4	10-Sep-09	28.12	7063.72	7035.60	13.09	6.337	0.81	6.98	54.6
MW-4	15-Jan-10	28.34	7063.72	7035.38	11.65	3.812	2.78	7.20	-125.1
MW-4	15-Oct-10	28.64	7063.72	7035.08	12.52	4.491	1.42	7.13	42.8
MW-4	21-Jan-11	28.72	7063.72	7035.00	11.90	4.748	1.14	7.19	5.4

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Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-4	12-May-11	28.39	7063.72	7035.33	13.11	4.576	2.58	7.29	-25.8
MW-4	12-Aug-11	29.10	7063.72	7034.62	13.89	4.759	3.98	6.85	74.9
MW-4	16-Nov-11	29.26	7063.72	7034.46	11.66	4.725	2.15	7.11	153.0
MW-4	21-Feb-12	29.22	7063.72	7034.50	10.27	4.927	1.02	7.02	-11.3
MW-4	24-May-12	29.23	7063.72	7034.49	13.75	4.687	1.04	6.98	39.3
MW-4	10-Sep-12	29.58	7063.72	7034.14	NM	NM	NM	NM	NM
MW-4	04-Dec-12	29.77	7063.72	7033.95	NM	NM	NM	NM	NM
MW-4	26-Mar-13	29.33	7063.72	7034.39	NM	NM	NM	NM	NM
MW-4	27-Jun-13	29.85	7063.72	7033.87	NM	NM	NM	NM	NM
MW-4	25-Sep-13	28.96	7063.72	7034.76	NM	NM	NM	NM	NM
MW-5	05-Mar-09	28.24	7064.79	7036.55	11.80	6.088	3.89	6.61	-17.3
MW-5	10-Sep-09	28.87	7064.79	7035.92	12.78	7.785	1.22	7.09	60.5
MW-5	15-Jan-10	29.10	7064.79	7035.69	11.19	4.288	1.93	7.27	-85.8
MW-5	14-Oct-10	29.38	7064.79	7035.41	12.34	4.725	1.24	7.23	98.1
MW-5	21-Jan-11	29.47	7064.79	7035.32	11.93	5.038	2.71	7.31	103.9
MW-5	12-May-11	29.17	7064.79	7035.62	12.40	4.957	2.44	7.42	-44.4
MW-5	12-Aug-11	29.84	7064.79	7034.95	13.73	4.968	3.87	6.83	189.8
MW-5	16-Nov-11	30.00	7064.79	7034.79	11.16	4.814	4.47	7.18	290.4
MW-5	21-Feb-12	29.96	7064.79	7034.83	NM	NM	NM	NM	NM
MW-5	25-May-12	29.96	7064.79	7034.83	NM	NM	NM	NM	NM
MW-5	10-Sep-12	30.31	7064.79	7034.48	NM	NM	NM	NM	NM
MW-5	04-Dec-12	30.52	7064.79	7034.27	NM	NM	NM	NM	NM
MW-5	26-Mar-13	30.14	7064.79	7034.65	NM	NM	NM	NM	NM
MW-5	27-Jun-13	30.60	7064.79	7034.19	NM	NM	NM	NM	NM
MW-5	25-Sep-13	29.87	7064.79	7034.92	NM	NM	NM	NM	NM

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Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-6	05-Mar-09	12.67	7049.54	7036.87	9.21	4.967	4.30	6.53	4.6
MW-6	10-Sep-09	13.90	7049.54	7035.64	11.85	6.287	1.15	7.12	75.9
MW-6	15-Jan-10	14.02	7049.54	7035.52	10.81	3.789	2.46	7.35	-66.7
MW-6	15-Oct-10	14.39	7049.54	7035.15	12.45	4.353	1.40	7.24	20.7
MW-6	21-Jan-11	14.42	7049.54	7035.12	11.59	4.516	3.10	7.32	-37.3
MW-6	12-May-11	14.00	7049.54	7035.54	10.69	4.349	1.89	7.47	-24.9
MW-6	12-Aug-11	14.93	7049.54	7034.61	11.99	4.492	4.24	7.56	0.2
MW-6	16-Nov-11	14.99	7049.54	7034.55	12.01	4.398	2.74	6.46	182.1
MW-6	21-Feb-12	14.90	7049.54	7034.64	NM	NM	NM	NM	NM
MW-6	25-May-12	14.92	7049.54	7034.62	NM	NM	NM	NM	NM
MW-6	10-Sep-12	NM	7049.54	NM	NM - Well is Dry				
MW-6	04-Dec-12	15.48	7049.54	7034.06	NM	NM	NM	NM	NM
MW-6	26-Mar-13	14.79	7049.54	7034.75	NM	NM	NM	NM	NM
MW-6	27-Jun-13	15.60	7049.54	7033.94	NM	NM	NM	NM	NM
MW-6	25-Sep-13	14.92	7049.54	7034.62	NM	NM	NM	NM	NM
MW-7	06-Mar-09	26.34	7062.80	7036.46	11.40	4.951	2.17	6.50	-3.3
MW-7	10-Sep-09	27.23	7062.80	7035.57	12.61	6.288	1.03	7.05	51.0
MW-7	15-Jan-10	27.44	7062.80	7035.36	11.02	3.820	2.92	7.27	-66.3
MW-7	14-Oct-10	27.76	7062.80	7035.04	12.79	4.047	1.24	7.19	68.6
MW-7	21-Jan-11	27.82	7062.80	7034.98	10.79	4.205	2.22	7.37	42.0
MW-7	12-May-11	27.46	7062.80	7035.34	12.80	4.118	1.73	7.38	-70.4
MW-7	12-Aug-11	28.24	7062.80	7034.56	13.88	4.119	2.90	7.30	112.8
MW-7	16-Nov-11	28.38	7062.80	7034.42	11.24	4.077	2.75	6.32	168.0
MW-7	21-Feb-12	28.31	7062.80	7034.49	NM	NM	NM	NM	NM
MW-7	24-May-12	28.34	7062.80	7034.46	NM	NM	NM	NM	NM
MW-7	10-Sep-12	28.69	7062.80	7034.11	NM	NM	NM	NM	NM

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Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-7	04-Dec-12	28.86	7062.80	7033.94	NM	NM	NM	NM	NM
MW-7	26-Mar-13	28.33	7062.80	7034.47	NM	NM	NM	NM	NM
MW-7	27-Jun-13	28.97	7062.80	7033.83	NM	NM	NM	NM	NM
MW-7	25-Sep-13	27.78	7062.80	7035.02	NM	NM	NM	NM	NM
MW-8	06-Mar-09	27.49	7063.27	7035.78	11.91	4.731	2.14	6.40	-4.4
MW-8	10-Sep-09	28.14	7063.27	7035.13	13.53	5.987	1.12	8.51	-93.2
MW-8	15-Jan-10	28.39	7063.27	7034.88	11.43	2.891	1.86	6.68	-162.2
MW-8	15-Oct-10	28.70	7063.27	7034.57	12.80	4.017	1.21	7.04	-39.1
MW-8	21-Jan-11	28.80	7063.27	7034.47	12.30	4.002	1.55	7.08	-91.2
MW-8	12-May-11	28.52	7063.27	7034.75	13.16	3.966	1.60	7.16	-121.2
MW-8	12-Aug-11	29.19	7063.27	7034.08	13.85	4.194	3.45	6.97	-148.3
MW-8	16-Nov-11	29.35	7063.27	7033.92	11.49	4.218	2.57	6.49	-115.4
MW-8	21-Feb-12	29.31	7063.27	7033.96	12.21	4.500	0.88	6.96	-116.0
MW-8	24-May-12	29.34	7063.27	7033.93	13.43	4.402	0.65	6.93	-41.2
MW-8	10-Sep-12	29.68	7063.27	7033.59	12.98	4.499	1.34	7.12	-27.3
MW-8	04-Dec-12	29.87	7063.27	7033.40	12.53	3.045	3.78	7.13	-3.1
MW-8	26-Mar-13	29.47	7063.27	7033.80	12.65	4.449	4.10	6.95	22.0
MW-8	27-Jun-13	29.97	7063.27	7033.30	14.39	6.908	8.14	7.01	-43.6
MW-8	25-Sep-13	29.14	7063.27	7034.13	NM	NM	NM	NM	NM
MW-9	06-Mar-09	27.60	7062.60	7035.00	9.47	5.418	5.12	6.39	-1.8
MW-9	06-Apr-09	27.74	7062.60	7034.86	11.86	5.174	2.24	6.72	25.2
MW-9	10-Sep-09	28.19	7062.60	7034.41	13.10	7.257	0.86	7.03	-129.8
MW-9	15-Jan-10	28.42	7062.60	7034.18	10.89	3.960	2.29	7.13	-187.4
MW-9	15-Oct-10	28.74	7062.60	7033.86	12.85	4.561	1.89	7.17	-74.4
MW-9	21-Jan-11	28.85	7062.60	7033.75	12.67	4.452	1.34	7.16	-90.8

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-9	12-May-11	28.61	7062.60	7033.99	13.12	4.120	2.31	7.28	-94.1
MW-9	12-Aug-11	29.22	7062.60	7033.38	12.92	4.492	5.42	7.33	-132.7
MW-9	16-Nov-11	29.41	7062.60	7033.19	11.80	4.402	2.67	5.56	-75.1
MW-9	21-Feb-12	29.39	7062.60	7033.21	11.89	4.241	1.37	6.95	-127.0
MW-9	24-May-12	29.39	7062.60	7033.21	13.68	4.470	0.80	7.08	-56.4
MW-9	10-Sep-12	29.73	7062.60	7032.87	13.41	4.439	1.41	7.13	-52.2
MW-9	04-Dec-12	29.90	7062.60	7032.70	12.87	4.374	1.34	7.19	-60.5
MW-9	26-Mar-13	29.56	7062.60	7033.04	12.57	4.396	1.24	6.72	-15.8
MW-9	27-Jun-13	30.00	7062.60	7032.60	20.04	6.761	2.38	7.10	-48.5
MW-9	25-Sep-13	29.28	7062.60	7033.32	13.08	8.437	2.44	7.19	-84.6
MW-10	09-Mar-09	26.25	7063.27	7037.02	10.51	4.572	3.44	6.62	15.6
MW-10	10-Sep-09	27.10	7063.27	7036.17	12.62	5.133	1.83	6.97	80.7
MW-10	15-Jan-10	27.29	7063.27	7035.98	10.82	3.210	2.47	7.10	-99.3
MW-10	14-Oct-10	27.61	7063.27	7035.66	11.98	3.811	1.80	7.22	119.2
MW-10	21-Jan-11	27.66	7063.27	7035.61	10.73	3.946	1.78	7.45	90.1
MW-10	12-May-11	27.28	7063.27	7035.99	12.26	3.839	1.34	7.26	84.9
MW-10	12-Aug-11	28.08	7063.27	7035.19	12.84	3.948	4.99	6.62	175.8
MW-10	16-Nov-11	28.20	7063.27	7035.07	10.81	3.912	2.81	6.17	190.7
MW-10	21-Feb-12	28.13	7063.27	7035.14	NM	NM	NM	NM	NM
MW-10	24-May-12	28.15	7063.27	7035.12	NM	NM	NM	NM	NM
MW-10	10-Sep-12	28.54	7063.27	7034.73	NM	NM	NM	NM	NM
MW-10	04-Dec-12	28.72	7063.27	7034.55	NM	NM	NM	NM	NM
MW-10	26-Mar-13	28.20	7063.27	7035.07	NM	NM	NM	NM	NM
MW-10	27-Jun-13	28.79	7063.27	7034.48	NM	NM	NM	NM	NM
MW-10	25-Sep-13	27.80	7063.27	7035.47	NM	NM	NM	NM	NM

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	Temperature (C)	Conductivity (mS)	DO (mg/L)	pH	ORP (mV)
MW-11	09-Mar-09	28.33	7064.10	7035.77	11.47	5.730	3.52	6.63	17.1
MW-11	10-Sep-09	28.88	7064.10	7035.22	13.32	7.785	0.67	7.02	61.2
MW-11	15-Jan-10	29.13	7064.10	7034.97	10.20	3.995	1.86	7.16	-59.2
MW-11	14-Oct-10	29.44	7064.10	7034.66	13.00	4.901	1.93	7.20	94.5
MW-11	21-Jan-11	29.53	7064.10	7034.57	11.55	4.937	1.75	7.37	216.0
MW-11	12-May-11	29.25	7064.10	7034.85	12.97	4.701	2.71	7.41	-16.0
MW-11	12-Aug-11	29.89	7064.10	7034.21	12.89	4.872	3.24	7.39	122.2
MW-11	16-Nov-11	30.07	7064.10	7034.03	11.49	4.762	3.61	7.00	307.9
MW-11	21-Feb-12	30.04	7064.10	7034.06	NM	NM	NM	NM	NM
MW-11	24-May-12	30.06	7064.10	7034.04	NM	NM	NM	NM	NM
MW-11	10-Sep-12	30.38	7064.10	7033.72	NM	NM	NM	NM	NM
MW-11	04-Dec-12	30.58	7064.10	7033.52	NM	NM	NM	NM	NM
MW-11	26-Mar-13	30.23	7064.10	7033.87	NM	NM	NM	NM	NM
MW-11	27-Jun-13	30.66	7064.10	7033.44	NM	NM	NM	NM	NM
MW-11	25-Sep-13	30.00	7064.10	7034.10	NM	NM	NM	NM	NM
Downgradient MW-7*	09-Mar-09	13.09	7051.30	7038.21	8.14	3.441	4.52	6.49	12.8

NOTE: NM = NOT MEASURED
NA = NOT AVAILABLE
* = Monitoring Well from HWY 537 '06-'07 spill

Average GW Elev.:
7033.88

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-1	05-Mar-09	**310**	91	5.1	200	2.1	<1.0	<5.0
MW-1	11-Sep-09	**1,500**	1.1	48	170	4.8	<1.0	<5.0
MW-1	15-Jan-10	**630**	<5.0	19	47	2.1	<1.0	<5.0
MW-1	15-Oct-10	**960**	53	37	94	4.1	<1.0	<5.0
MW-1	21-Jan-11	**3,600**	<10	140	160	10	<1.0	<5.0
MW-1	12-May-11	**7,800**	42	270	33	19	<1.0	<5.0
MW-1	12-Aug-11	**280**	<1.0	18	<2.0	1.2	<1.0	<5.0
MW-1	16-Nov-11	**2,700**	<5.0	76	<10	3.9	<1.0	<5.0
MW-1	21-Feb-12	**360**	<1.0	54	<2.0	1.2	<1.0	<5.0
MW-1	24-May-12	**210**	2.1	31	5.1	0.59	<1.0	<5.0
MW-1	10-Sep-12	**54**	<2.0	36	<4.0	0.45	<1.0	<5.0
MW-1	04-Dec-12	<2.0	<2.0	17	<4.0	0.19	<1.0	<5.0
MW-1	26-Mar-13	1.2	<1.0	1.8	<2.0	<0.050	<1.0	<5.0
MW-1	01-Jul-13	1.6	<1.0	6.5	<2.0	0.090	<1.0	<5.0
MW-1	25-Sep-13	**180**	2.9	36	8.8	0.53	<1.0	<5.0
MW-2	05-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	14-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	05-Mar-09	**400**	**1,100**	110	**1,300**	8.2	3.4	<5.0
MW-3	11-Sep-09	**380**	27	26	61	4.2	9.6	6.0
MW-3	15-Jan-10	**750**	11	34	<20	3.4	7.0	6.1
MW-3	14-Oct-10	**140**	<1.0	6.8	2.8	0.76	1.9	<5.0
MW-3	21-Jan-11	**280**	<1.0	24	9.1	1.7	3.5	<5.0
MW-3	12-May-11	**980**	<1.0	42	<2.0	3.0	4.8	<5.0
MW-3	12-Aug-11	**51**	<1.0	4.2	<2.0	0.38	<1.0	<5.0
MW-3	16-Nov-11	**63**	<1.0	6.0	<2.0	0.46	3.3	<5.0
MW-3	21-Feb-12	4.8	<1.0	<1.0	<2.0	0.18	<1.0	<5.0
MW-3	24-May-12	**50**	<1.0	3.0	<2.0	0.33	<1.0	<5.0
MW-3	10-Sep-12	6.2	<2.0	<2.0	<4.0	0.29	<1.0	<5.0

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-3	04-Dec-12	<2.0	<2.0	<2.0	<4.0	0.26	<1.0	<5.0
MW-3	26-Mar-13	2.5	<1.0	<1.0	<2.0	0.23	<1.0	<5.0
MW-3	01-Jul-13	<1.0	<1.0	<1.0	<2.0	0.11	<1.0	<5.0
MW-3	25-Sep-13	**30**	<1.0	1.5	3.2	0.23	<1.0	<5.0
MW-4	05-Mar-09	2.7	1.4	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	06-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	10-Sep-09	**13**	<1.0	<1.0	<2.0	0.051	<1.0	<5.0
MW-4	15-Jan-10	8.6	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	15-Oct-10	6.3	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	21-Jan-11	3.6	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	21-Feb-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	24-May-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	05-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	14-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	06-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	15-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	06-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0

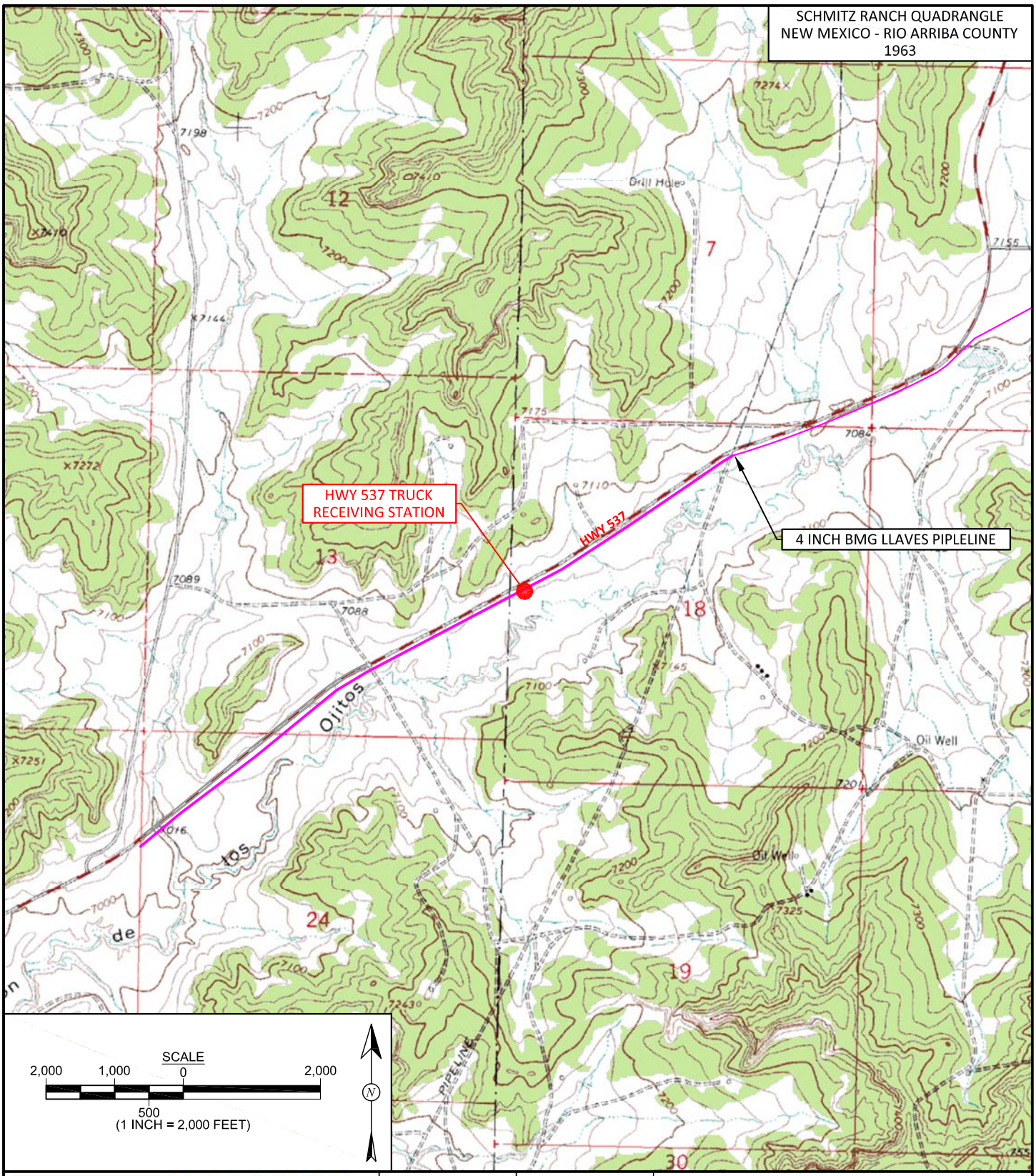
TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-7	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	14-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	06-Mar-09	**160**	170	12	350	2.1	1.5	<5.0
MW-8	11-Sep-09	**1,200**	<20	36	75	4.1	1.1	<5.0
MW-8	15-Jan-10	**56**	<1.0	2.3	2.2	0.24	<1.0	<5.0
MW-8	15-Oct-10	**50**	<1.0	1.7	<2.0	0.21	<1.0	<5.0
MW-8	21-Jan-11	**370**	<1.0	4.6	<2.0	0.58	<1.0	<5.0
MW-8	12-May-11	**430**	<1.0	25	<2.0	1.4	<1.0	<5.0
MW-8	12-Aug-11	2.3	<1.0	<1.0	<2.0	0.070	<1.0	<5.0
MW-8	16-Nov-11	1.5	<1.0	<1.0	<2.0	0.17	<1.0	<5.0
MW-8	21-Feb-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	24-May-12	<1.0	<1.0	<1.0	<2.0	0.12	<1.0	<5.0
MW-8	10-Sep-12	<1.0	<1.0	<1.0	<2.0	0.16	<1.0	<5.0
MW-8	04-Dec-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	26-Mar-13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	27-Jun-13	<1.0	<1.0	<1.0	<2.0	0.052	<1.0	<5.0
MW-9	06-Mar-09	**170**	350	49	530	2.5	<1.0	<5.0
MW-9	06-Apr-09	**82**	62	16	210	1.6	<1.0	<5.0
MW-9	10-Sep-09	**46**	<1.0	3.8	19	0.86	<1.0	<5.0
MW-9	15-Jan-10	**62**	<1.0	4.2	12	0.49	<1.0	<5.0
MW-9	15-Oct-10	**53**	<1.0	2.3	<2.0	0.22	<1.0	<5.0
MW-9	21-Jan-11	**390**	<1.0	5.1	<2.0	0.41	<1.0	<5.0
MW-9	12-May-11	**390**	<1.0	11	<2.0	0.92	<1.0	<5.0
MW-9	12-Aug-11	**120**	<1.0	5.6	<2.0	0.35	<1.0	<5.0
MW-9	16-Nov-11	**200**	<5.0	9.6	<10	0.57	<1.0	<5.0
MW-9	21-Feb-12	**120**	<1.0	4.2	<2.0	0.30	<1.0	<5.0
MW-9	24-May-12	3.8	<1.0	1.4	<2.0	0.076	<1.0	<5.0
MW-9	10-Sep-12	<1.0	<1.0	<1.0	<2.0	0.072	<1.0	<5.0
MW-9	04-Dec-12	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-9	26-Mar-13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-9	27-Jun-13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-9	25-Sep-13	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	09-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	14-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-10	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	09-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	10-Sep-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	15-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	14-Oct-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	21-Jan-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	12-May-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	12-Aug-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-11	16-Nov-11	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
Downgradient MW-7*	09-Mar-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0

NOTE: NS = Not Sampled
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics
* = Monitoring Well from HWY 537 '06-'07 spill



Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** January 10, 2013	**FIGURE 1**
REVISIONS BY: S. Glasses	**DATE REVISED:** November 1, 2013	**TOPOGRAPHIC SITE LOCATION MAP**
CHECKED BY: D. Watson	**DATE CHECKED:** November 1, 2013	BENSON-MONTIN-GREER LLAVES PIPELINE HWY. 537 TRUCK RECEIVING STATION 2009 RELEASE
APPROVED BY: E. McNally	**DATE APPROVED:** November, 2013	SW ¼ NW ¼ SECTION 18, T25N, R3W RIO ARRIBA COUNTY, NEW MEXICO N36.39866, W107.19328

FIGURE 2

GENERAL SITE PLAN
BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW¼ NW¼ SECTION 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
C. Lameman	January 10, 2013
REVISIONS BY:	**DATE REVISED:**
S. Glasses	November 1, 2013
CHECKED BY:	**DATE CHECKED:**
D. Watson	November 1, 2013
APPROVED BY:	**DATE APPROVED:**
E. McNally	November 1, 2013

LEGEND

MONITORING WELL INSTALLED FEBRUARY 2009

AERIAL SOURCE: © 2012 MICROSOFT CORPORATION - AVAILABLE EXCLUSIVELY BY DIGITALGLOBE

SCALE
40 20 0 40
10
(1 INCH = 40 FEET)

STATE HWY. 537
CATTLE GUARD
PIPELINE INLET
9
10
4" DIA. BURIED PIPE
GATE
SOIL BERM
6" DIA. ABOVE GRADE PIPE
4" BURIED PIPE
LLAVES PIPELINE
MW-5
8
7
6
4
5
3
2
1
METER SKID/PUMPS
MW-2
MW-11
MW-1
PUMPS
LOCATION OF ⅛" CORROSION HOLE, DISCOVERED ON 01/30/09
CATTLE GUARD
GATE
4" DIA. BURIED PIPE
MW-4
MW-10
TRUCK LOADING STATION
MW-3
FENCE
MW-8
MW-7
MW-9
POND
MW-6

FIGURE 3

GROUNDWATER ELEVATION CONTOURS, SEPTEMBER 2013
BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW¼ NW¼ SECTION 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
C. Lameman	January 10, 2013
REVISIONS BY:	**DATE REVISED:**
S. Glasses	November 1, 2013
CHECKED BY:	**DATE CHECKED:**
D. Watson	November 1, 2013
APPROVED BY:	**DATE APPROVED:**
E. McNally	November 1, 2013

LEGEND

- MONITOR WELL LOCATIONS (INSTALLED FEBRUARY 2009)
- FENCE
- PONDS, WET LANDS, & FLOOD PLANES
- 7035.47 GROUNDWATER ELEVATION IN FEET (A.M.S.L.)
- —7035.0— GROUNDWATER ELEVATION CONTOUR IN FEET (A.M.S.L.)

NOTE: GROUNDWATER ELEVATION MEASUREMENTS WERE MADE ON SEPTEMBER 25, 2013.

SCALE
40 20 0 40
10
(1 INCH = 40 FEET)

STATE HWY. 537
CATTLE GUARD
GATE
FENCE
SOIL BERM
METER SKID/PUMPS
PUMPS
POND
GROUNDWATER GRADIENT BETWEEN MW-9 AND MW-10 IS 0.008 FT/FT
MW-1 7035.15
MW-2 7035.37
MW-3 7035.36
MW-4 7034.76
MW-5 7034.92
MW-6 7034.62
MW-7 7035.02
MW-8 7034.13
MW-9 7033.32
MW-10 7035.47
MW-11 7034.10
7035.0
7034.5
7034.0
7033.5
1 2 3 4 5 6 7 8 9 10

FIGURE 4

GROUNDWATER CONTAMINANT CONCENTRATIONS, SEPTEMBER 2013
BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW¼ NW¼ SECTION 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
C. Lameman	January 10, 2013
REVISIONS BY:	**DATE REVISED:**
C. Lameman	November 6, 2013
CHECKED BY:	**DATE CHECKED:**
D. Watson	November 6, 2013
APPROVED BY:	**DATE APPROVED:**
E. McNally	November 6, 2013

LEGEND

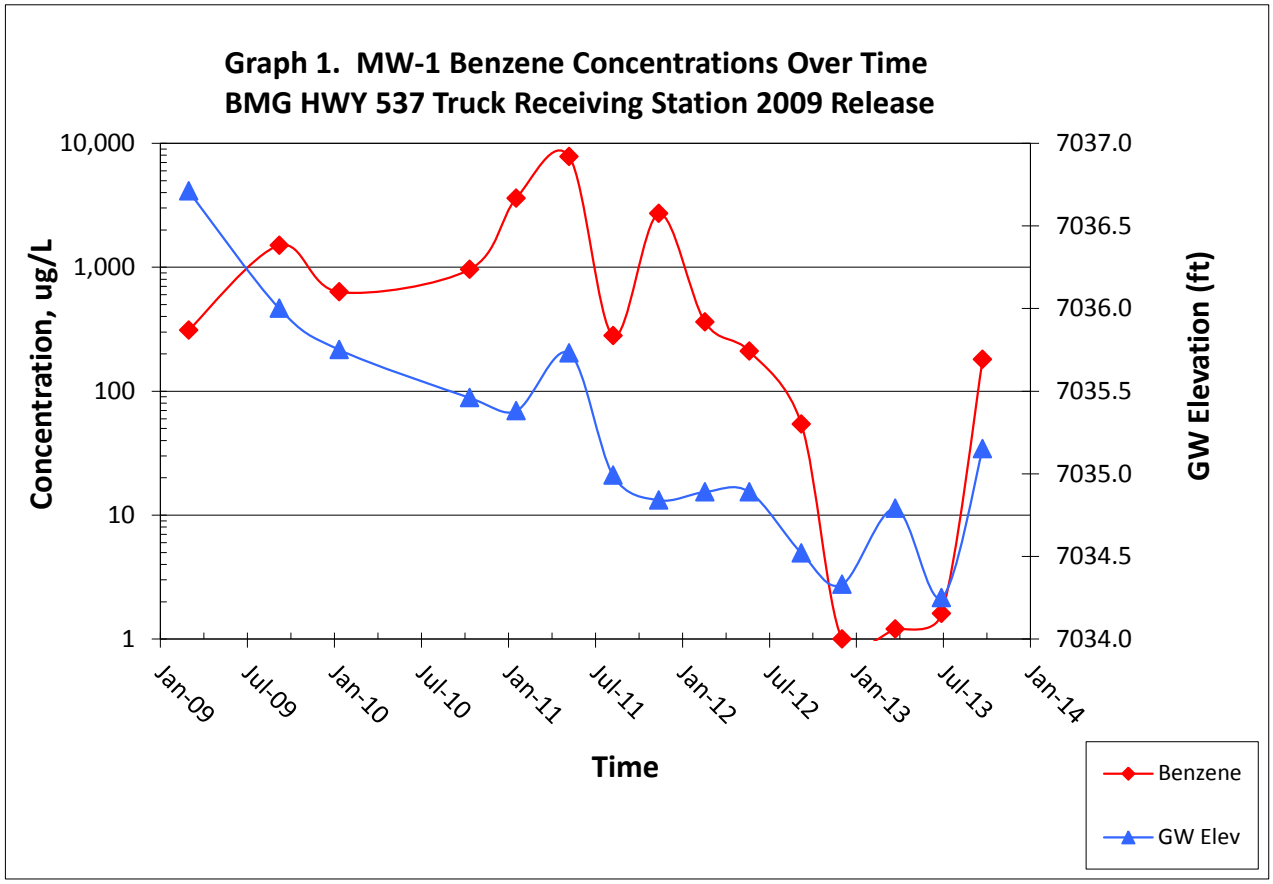
- MONITOR WELL LOCATIONS (INSTALLED FEBRUARY 2009)
- FENCE
- PONDS, WET LANDS, & FLOOD PLANES
- B — BENZENE
- T — TOLUENE
- E — ETHYLBENZENE
- X — XYLENES
- GRO — GASOLINE RANGED ORGANICS
- DRO — DIESEL RANGED ORGANICS
- MRO — MOTOR OIL RANGED ORGANICS
- µg/L — MICROGRAMS PER LITER (PPB)
- < — ANALYTE NOT DETECTED ABOVE LISTED METHOD LIMIT

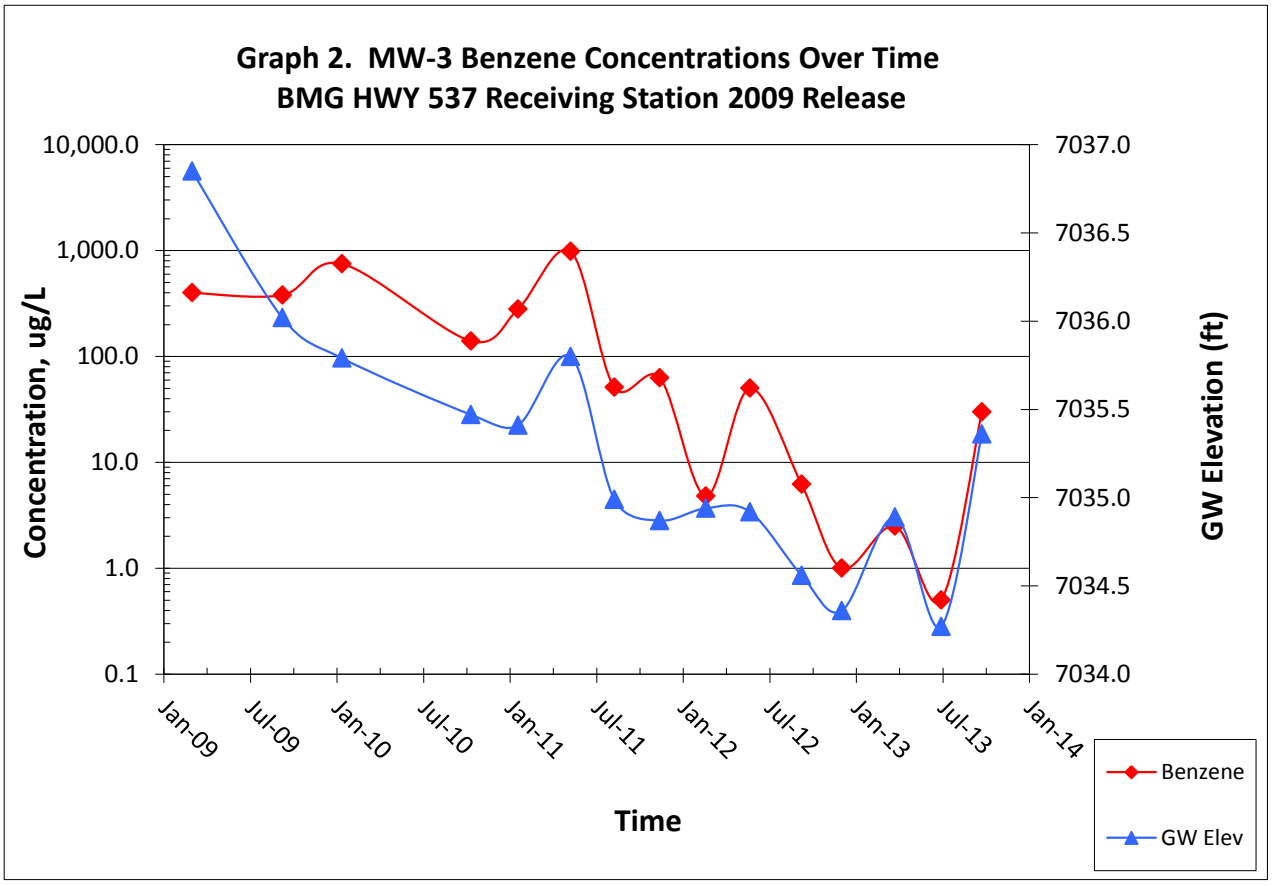
NOTE: ALL SAMPLES COLLECTED ON SEPTEMBER 25, 2013, AND ANALYZED PER EPA METHOD 8021B AND 8015B.

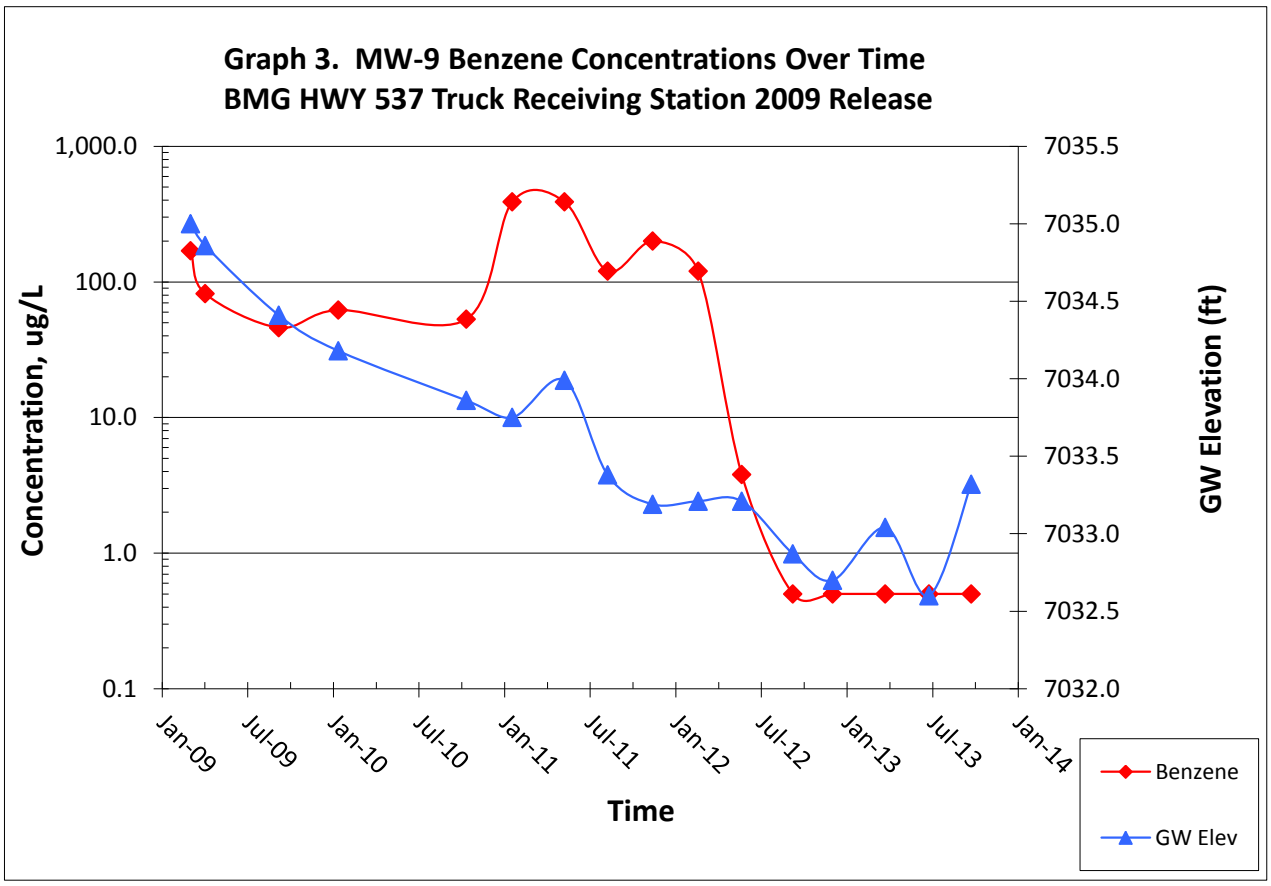
SCALE
40 20 0 40
10
(1 INCH = 40 FEET)

STATE HWY. 537
CATTLE GUARD
GATE
FENCE
CATTLE GUARD
GATE
BERM
METER SKID/PUMPS
PUMPS
SOIL BERM
POND

MW-1: B = 180 µg/L; T = 2.9 µg/L; E = 36 µg/L; X = 8.8 µg/L; GRO = 0.53 mg/L; DRO = <1.0 mg/L; MRO = <5.0 mg/L
MW-2: NOT SAMPLED
MW-3: B = 30 µg/L; T = <1.0 µg/L; E = 1.5 µg/L; X = 3.2 µg/L; GRO = 0.23 mg/L; DRO = <1.0 mg/L; MRO = <5.0 mg/L
MW-4: NOT SAMPLED
MW-5: NOT SAMPLED
MW-6: NOT SAMPLED
MW-7: NOT SAMPLED
MW-8: NOT SAMPLED
MW-9: B = <1.0 µg/L; T = <1.0 µg/L; E = <1.0 µg/L; X = <2.0 µg/L; GRO = <0.050 mg/L; DRO = <1.0 mg/L; MRO = <5.0 mg/L
MW-10: NOT SAMPLED
MW-11: NOT SAMPLED


Graph 1. MW-1 Benzene Concentrations Over Time
BMG HWY 537 Truck Receiving Station 2009 Release
Concentration, ug/L
10,000
1,000
100
10
1
GW Elevation (ft)
7037.0
7036.5
7036.0
7035.5
7035.0
7034.5
7034.0
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Time
Benzene
GW Elev


Graph 2. MW-3 Benzene Concentrations Over Time
BMG HWY 537 Receiving Station 2009 Release
Concentration, ug/L
10,000.0
1,000.0
100.0
10.0
1.0
0.1
GW Elevation (ft)
7037.0
7036.5
7036.0
7035.5
7035.0
7034.5
7034.0
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Time
Benzene
GW Elev


Graph 3. MW-9 Benzene Concentrations Over Time
BMG HWY 537 Truck Receiving Station 2009 Release
Concentration, ug/L
1,000.0
100.0
10.0
1.0
0.1
GW Elevation (ft)
7035.5
7035.0
7034.5
7034.0
7033.5
7033.0
7032.5
7032.0
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Jan-14
Time
Benzene
GW Elev

DEPTH TO GROUNDWATER MEASUREMENT FORM

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

Project: Groundwater Monitoring
Site: Hwy 537 Truck Station Spill 2009
Location: Rio Arriba County, New Mexico
Tech: C. Lamemen / J. Christopherson

Project No.: AES 090201
Date: 9-25-13
Time:
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1310		29.57		
MW-2	1235		29.28		
MW-3	1237		28.65		
MW-4	1221		28.96		
MW-5	1232		29.87		
MW-6	14.75		14.92		
MW-7	1220		27.78		
MW-8	1225		29.14		
MW-9	1354		29.28		
MW-10	1217		27.80		
MW-11	1230		30.00		

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 Truck Station Spill 2009
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/JC
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.51 **Time:** 1310 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 090201
Date: 9-25-3
Arrival Time: 1308
Air Temp: _____
T.O.C. Elev. (ft): 7064.66
Total Well Depth (ft): 43.65

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
1314	13.16	7.886	2.10	6.98	-77.1	0.25	Clear / no odor
1318	13.08	7.450	2.80	6.91	-95.5	1	Lt. Org Sed / no odor
1322	12.78	8.149	1.91	7.02	-81.4	2	" / "
1325	12.88	7.901	1.92	6.95	-70.5	3	" / "
1334	13.65	8.237	1.44	7.30	-40.5	4	" / "
1337	12.79	8.326	1.38	7.21	-46.0	5	" / "
1339	12.62	8.264	1.64	7.21	-48.6	6	Cloudy / "
1345							Samples Collected

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

BTEX per EPA Method 8021 (3 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (40mL Vial w/ no preservative)

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

Notes/Comments:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

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

Site: Highway 537 Truck Station Spill 2009 | **Project No.:** AES 090201
Location: Rio Arriba County, New Mexico | **Date:**
Project: Groundwater Monitoring and Sampling | **Arrival Time:** 1236
Sampling Technician: CL / JC | **Air Temp:**
Purge / No Purge: Purge | **T.O.C. Elev. (ft):** 7064.01
Well Diameter (in): 2 | **Total Well Depth (ft):** 41.1
Initial D.T.W. (ft): | **Time:** | *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 28.65 | **Time:** 1237 | *(taken prior to purging well)*
Final D.T.W. (ft): | **Time:** | *(taken after sample collection)*
If NAPL Present: **D.T.P.:** | **D.T.W.:** | **Thickness:** | **Time:**

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1242	13.58	7.791	4.06	7.23	-94.1	0.25	Clear
1245	12.90	7.816	2.82	7.15	-114.1	1	Gray Sed / No Odor
1248	12.86	7.811	2.42	7.15	-90.3	2	" / "
1251	12.65	7.790	2.60	7.12	-80.4	3	" / Organic Odor
1253	12.48	7.800	2.01	7.24	-77.7	4	" / "
1256	12.53	7.767	2.05	7.20	-88.0	5	" / "
1300	12.50	7.764	2.08	7.22	-79.5	6	" / "
1305							Sample Collected

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

BTEX per EPA Method 8021 (3 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (40mL Vial w/ 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 or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-9

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

Site: Highway 537 Truck Station Spill 2009
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: CL/JC
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.28 **Time:** 1354 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*
If NAPL Present: **D.T.P.:** _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 090201
Date: 9-25-13
Arrival Time: 1352
Air Temp: _____
T.O.C. Elev. (ft): 7062.6
Total Well Depth (ft): 39.15

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
1358	13.71	8.153	4.60	7.27	-76.6	0.25	Dark Red / No Odor
1400	13.33	7.848	3.18	7.44	-79.2	1	"
1403	13.17	8.379	2.56	7.16	-82.8	2	"
1405	13.03	8.014	2.60	7.15	-81.4	3	"
1407	13.05	8.136	2.30	7.16	-77.0	4	"
1411	13.08	8.437	2.44	7.19	-84.6	5	
1416	—	—	—	—	—	—	Sample Collected

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

BTEX per EPA Method 8021 (3 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C6-C36 per EPA Method 8015B (40mL Vial w/ no preservative)

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

Notes/Comments:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 03, 2013

Debbie Watson

Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 486-4071
FAX

RE: BMG Hwy 537 2009 Release OrderNo.: 1309D34

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/27/2013 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-1
Project: BMG Hwy 537 2009 Release
Collection Date: 9/25/2013 1:45:00 PM
Lab ID: 1309D34-001
Matrix: AQUEOUS
Received Date: 9/27/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst:	**BCN**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/30/2013 1:55:04 PM	9552
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/30/2013 1:55:04 PM	9552
Surr: DNOP	85.0	70.1-140		%REC	1	9/30/2013 1:55:04 PM	9552
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	0.53	0.050		mg/L	1	9/30/2013 3:34:08 PM	R13724
Surr: BFB	149	51.5-151		%REC	1	9/30/2013 3:34:08 PM	R13724
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	180	2.0		µg/L	2	10/1/2013 7:39:35 PM	R13759
Toluene	2.9	2.0		µg/L	2	10/1/2013 7:39:35 PM	R13759
Ethylbenzene	36	2.0		µg/L	2	10/1/2013 7:39:35 PM	R13759
Xylenes, Total	8.8	4.0		µg/L	2	10/1/2013 7:39:35 PM	R13759
Surr: 4-Bromofluorobenzene	125	85-136		%REC	2	10/1/2013 7:39:35 PM	R13759

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-3
Project: BMG Hwy 537 2009 Release
Collection Date: 9/25/2013 1:05:00 PM
Lab ID: 1309D34-002
Matrix: AQUEOUS
Received Date: 9/27/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/30/2013 2:17:29 PM	9552
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/30/2013 2:17:29 PM	9552
Surr: DNOP	90.6	70.1-140		%REC	1	9/30/2013 2:17:29 PM	9552
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.23	0.050		mg/L	1	9/30/2013 5:01:23 PM	R13724
Surr: BFB	124	51.5-151		%REC	1	9/30/2013 5:01:23 PM	R13724
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	30	1.0		µg/L	1	10/1/2013 8:09:52 PM	R13759
Toluene	ND	1.0		µg/L	1	10/1/2013 8:09:52 PM	R13759
Ethylbenzene	1.5	1.0		µg/L	1	10/1/2013 8:09:52 PM	R13759
Xylenes, Total	3.2	2.0		µg/L	1	10/1/2013 8:09:52 PM	R13759
Surr: 4-Bromofluorobenzene	118	85-136		%REC	1	10/1/2013 8:09:52 PM	R13759

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-9
Project: BMG Hwy 537 2009 Release
Collection Date: 9/25/2013 2:16:00 PM
Lab ID: 1309D34-003 **Matrix:** AQUEOUS **Received Date:** 9/27/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/30/2013 2:39:54 PM	9552
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/30/2013 2:39:54 PM	9552
Surr: DNOP	90.7	70.1-140		%REC	1	9/30/2013 2:39:54 PM	9552
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/30/2013 6:32:18 PM	R13724
Surr: BFB	102	51.5-151		%REC	1	9/30/2013 6:32:18 PM	R13724
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	10/1/2013 11:41:22 PM	R13759
Toluene	ND	1.0		µg/L	1	10/1/2013 11:41:22 PM	R13759
Ethylbenzene	ND	1.0		µg/L	1	10/1/2013 11:41:22 PM	R13759
Xylenes, Total	ND	2.0		µg/L	1	10/1/2013 11:41:22 PM	R13759
Surr: 4-Bromofluorobenzene	113	85-136		%REC	1	10/1/2013 11:41:22 PM	R13759

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: Trip Blank
Project: BMG Hwy 537 2009 Release
Collection Date:
Lab ID: 1309D34-004
Matrix: TRIP BLANK
Received Date: 9/27/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	10/2/2013 12:11:38 AM	R13759
Toluene	ND	1.0		µg/L	1	10/2/2013 12:11:38 AM	R13759
Ethylbenzene	ND	1.0		µg/L	1	10/2/2013 12:11:38 AM	R13759
Xylenes, Total	ND	2.0		µg/L	1	10/2/2013 12:11:38 AM	R13759
Surr: 4-Bromofluorobenzene	111	85-136		%REC	1	10/2/2013 12:11:38 AM	R13759

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1309D34**

03-Oct-13

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **MB-9552**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **PBW**	Batch ID: **9552**	RunNo: **13697**
Prep Date: **9/30/2013**	Analysis Date: **9/30/2013**	SeqNo: **390543** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.84		1.000		83.7	70.1	140			

Sample ID **LCS-9552**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSW**	Batch ID: **9552**	RunNo: **13709**
Prep Date: **9/30/2013**	Analysis Date: **9/30/2013**	SeqNo: **390620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	105	73.3	145			
Surr: DNOP	0.50		0.5000		101	70.1	140			

Sample ID **LCSD-9552**	SampType: **LCSD**	TestCode: **EPA Method 8015D: Diesel Range**
Client ID: **LCSS02**	Batch ID: **9552**	RunNo: **13709**
Prep Date: **9/30/2013**	Analysis Date: **9/30/2013**	SeqNo: **390845** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	113	73.3	145	7.38	20	
Surr: DNOP	0.60		0.5000		120	70.1	140	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1309D34**

03-Oct-13

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R13724**	RunNo: **13724**
Prep Date:	Analysis Date: **9/30/2013**	SeqNo: **391406** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		100	51.5	151			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R13724**	RunNo: **13724**
Prep Date:	Analysis Date: **9/30/2013**	SeqNo: **391407** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.0	80	120			
Surr: BFB	21		20.00		106	51.5	151			

Sample ID **1309D34-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-1**	Batch ID: **R13724**	RunNo: **13724**
Prep Date:	Analysis Date: **9/30/2013**	SeqNo: **391414** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.82	0.050	0.5000	0.5254	58.4	67.7	128			S
Surr: BFB	28		20.00		138	51.5	151			

Sample ID **1309D34-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MW-1**	Batch ID: **R13724**	RunNo: **13724**
Prep Date:	Analysis Date: **9/30/2013**	SeqNo: **391415** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.82	0.050	0.5000	0.5254	59.6	67.7	128	0.731	20	S
Surr: BFB	28		20.00		141	51.5	151	0	0	

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392526** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	20		20.00		98.9	51.5	151			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392527** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	21		20.00		105	51.5	151			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1309D34**

03-Oct-13

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392545** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		108	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392546** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.4	80	120			
Toluene	19	1.0	20.00	0	97.2	80	120			
Ethylbenzene	20	1.0	20.00	0	97.6	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		111	85	136			

Sample ID **1309D34-003AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-9**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392552** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0.5380	91.8	73.4	119			
Toluene	19	1.0	20.00	0.2540	93.1	80	120			
Ethylbenzene	19	1.0	20.00	0	95.1	80	120			
Xylenes, Total	59	2.0	60.00	0.9040	96.6	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	85	136			

Sample ID **1309D34-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-9**	Batch ID: **R13759**	RunNo: **13759**
Prep Date:	Analysis Date: **10/1/2013**	SeqNo: **392553** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0.5380	92.8	73.4	119	1.03	20	
Toluene	19	1.0	20.00	0.2540	93.8	80	120	0.697	20	
Ethylbenzene	19	1.0	20.00	0	95.4	80	120	0.252	20	
Xylenes, Total	59	2.0	60.00	0.9040	97.0	80	120	0.366	20	
Surr: 4-Bromofluorobenzene	24		20.00		118	85	136	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Animas Environmental Work Order Number: 1309D34 RcptNo: 1

Received by/date: 09/27/13

Logged By: Lindsay Mangin 9/27/2013 10:00:00 AM

Completed By: Lindsay Mangin 9/27/2013 11:15:52 AM

Reviewed By: 9/27/13

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche St Farmington NM 87401

Phone #: 505-564-2281

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: BMG HWY 537 2009 Release

Project #:

Project Manager: D. Watson

Sampler: C. Lamerson

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.1

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. 1309D34	BTEX + [redacted]'s (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
9-25-13	1345	H_2O	MW-1	6-40ml Vials	5-HCl 1-non	-001	X		X									
"	1305	"	MW-3	"	"	-002	X		X									
"	1416	"	MW-9	"	"	-003	X		X									
			Trip Blanks	2-40ml	2-HCl	-004	X											

Date:	Time:	Relinquished by:	Received by:	Date	Time
9-26-13	1750			9/26/13	1750
9/26/13	1800			09/27/13	0900

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.