3R - 448

GWMR

12 / 27 / 2012

December 27, 2012

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

Re: Periodic Progress Report
Benson-Montin-Greer
Highway 537 Truck Receiving Station 2009 Oil 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 in September 2012 at the BMG Highway 537 Truck Receiving Station 2009 release location. Sampling was conducted in accordance with recommendations presented in the Site Investigation Report prepared by AES and submitted on April 10, 2009.

1.0 Site Information

1.1 Site Location

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.

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 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, and immediately contacted BMG. BMG personnel arrived on-site later in the morning 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 around the buried 6-inch line measuring 10 feet by 20 feet by 15 feet in depth. 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.

Following a thorough inspection of the buried 6-inch line, BMG personnel discovered a small external corrosion hole, measuring approximately 1/8 inch in diameter, 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 excavating additional soils in order to determine the extent of the release would be difficult and 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 2012

The third quarterly groundwater and sampling event of 2012 was conducted by AES personnel on September 10, 2012. Groundwater samples from MW-1, MW-3, MW-8, 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. No samples were collected from MW-2, MW-4, MW-5 through MW-7, MW-10, and MW-11 because these wells have remained below laboratory detection limits for BTEX and TPH for eight consecutive sampling events.

2.1 Groundwater Measurements and Water Quality Data

During the September 2012 sampling event, groundwater measurements were recorded for MW-1 through MW-11. Average groundwater elevations decreased across the site by an average of 0.35 feet since the May 2012 sampling event. Groundwater gradient was calculated between MW-2 and MW-8, with a magnitude of 0.008 ft/ft to the southwest. Groundwater elevations ranged from 28.54 feet below top of casing (TOC) in MW-10 to 30.38 feet below TOC in MW-11. No groundwater was present in MW-6. Groundwater elevation data and contours are presented in Figure 3.

Groundwater quality measurements were recorded for MW-1, MW-3, MW-8, and MW-9. Recorded temperatures ranged from 12.98°C in MW-8 to 14.63°C in MW-1. Groundwater pH measurements ranged from 7.12 to 7.23, and DO concentrations were between 1.16 mg/L in MW-1 and 2.49 mg/L in MW-3. ORP measurements were between -52.2 mV in MW-9 and -15.7 mV in MW-1, and conductivity readings were between 4.377 mS/cm and 4.705 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

A dissolved phase benzene concentration above the applicable Water Quality Control Commission (WQCC) standard of 10 µg/L continues to be reported in MW-1 with 54 µg/L. The dissolved phase benzene concentration in MW-3 decreased from 50 µg/L in May 2012 to

6.2 µg/L in September 2012. Dissolved phase benzene concentrations have remained below the WQCC standard for five consecutive sampling events in MW-8 and two consecutive sampling events in MW-9, with concentrations below the laboratory detection limit of 1.0 µg/L. Toluene, ethylbenzene, and xylene concentrations were below applicable WQCC standards in each of the wells sampled.

GRO concentrations above laboratory detection limits were reported in MW-1 (0.45 mg/L), MW-3 (0.29 mg/L), MW-8 (0.16 mg/L), and MW-9 (0.072 mg/L). DRO and MRO concentrations 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 dissolved phase benzene contours are presented in Figure 5. Graphs 1 through 4 present groundwater elevations and dissolved phase benzene concentrations for MW-1, MW-3, MW-8, and MW-9, respectively. Laboratory analytical reports for September 2012 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 10, 2012. Samples were collected from monitor wells MW-1, MW-3, MW-8, and MW-9. Monitor wells MW-2, MW-4 through MW-7, MW-10, and MW-11 were below the WQCC standards for BTEX and below laboratory detection limits for TPH for eight consecutive sampling events and therefore were not sampled during the September 2012 sampling event.

Dissolved phase benzene concentrations have decreased in MW-1 to 54 µg/L since November 2011 but have fluctuated in MW-3 over the past year, with the most recent benzene concentration reported at 6.2 µg/L. Benzene concentrations in both MW-8 and MW-9 were reported below laboratory detection limits. Dissolved phase toluene, ethylbenzene, and xylenes have remained below the applicable WQCC standards in all wells. GRO concentrations above the laboratory detection limit were reported in MW-1, MW-3, MW-8, and MW-9, with the highest concentration of 0.45 mg/L reported in MW-1. DRO and MRO concentrations were reported below the laboratory detection limits in all wells during the September 2012 sampling event.

Based on laboratory analytical results, AES recommends continuing groundwater monitoring and sampling of monitor wells for MW-1, MW-3, MW-8, and MW-9 on a quarterly basis.

4.0 Scheduled Site Activities

The 4th quarter 2012 groundwater sampling event was completed in early December 2012, and laboratory analytical results are pending.

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

Sincerely,

Heather Woods
Staff Geologist

Elizabeth McNally, P.E.

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Graph 1. MW-1 Groundwater Elevations and Benzene Concentrations, September 2012
Graph 2. MW-3 Groundwater Elevations and Benzene Concentrations, September 2012
Graph 3. MW-8 Groundwater Elevations and Benzene Concentrations, September 2012
Graph 4. MW-9 Groundwater Elevations and Benzene Concentrations, September 2012

Appendix

Water Sample Collection Forms, September 2012
Hall Analytical Report 1209360

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Benson-Montin-Greer Drilling Corp.
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Farmington NM 87402

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#70 County Road 405
Lindrith, New Mexico 87029

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New Mexico Oil Conservation Division
1000 Rio Brazos Road
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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-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
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

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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-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
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-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

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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-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-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

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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	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
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-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
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

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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-9	10-Sep-12	29.73	7062.60	7032.87	13.41	4.439	1.41	7.13	-52.2
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-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

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)
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

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-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
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

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-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
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

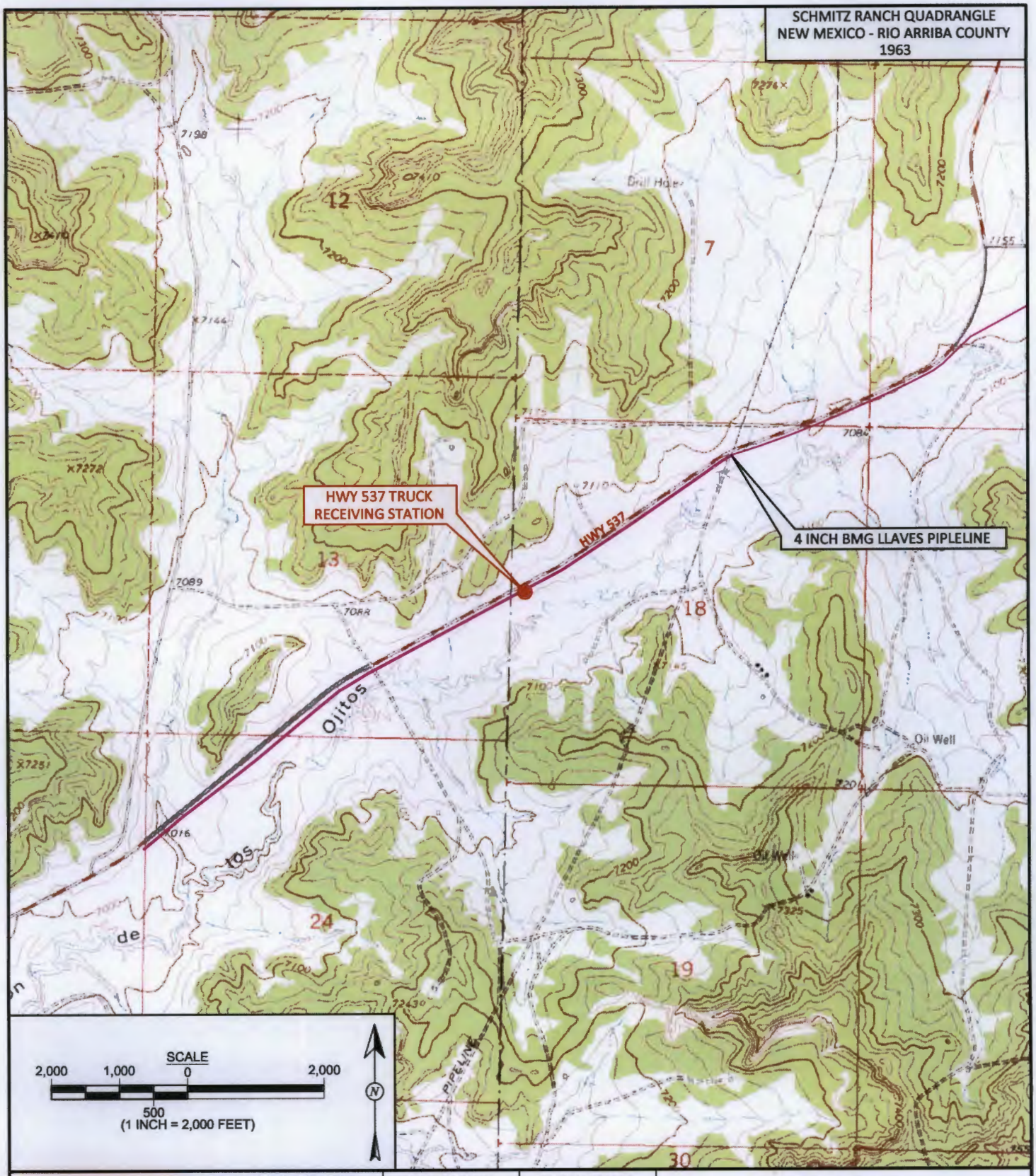
TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 TRUCK RECEIVING STATION 2009 RELEASE
Rio Arriba County, New Mexico

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-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-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-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

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-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:** N. Willis	**DATE DRAWN:** April 4, 2011	**FIGURE 1**
	REVISIONS BY: C. Lameman	**DATE REVISED:** October 8, 2012	**TOPOGRAPHIC SITE LOCATION MAP** BENSON-MONTIN-GREER LLAVES PIPELINE HWY. 537 TRUCK RECEIVING STATION 2009 RELEASE SW ¼ SW ¼, NW ¼ SEC. 18, T25N, R3W RIO ARRIBA COUNTY, NEW MEXICO N36.39866, W107.19328
	CHECKED BY: H. Woods	**DATE CHECKED:** October 8, 2012	
	APPROVED BY: E. McNally	**DATE APPROVED:** December 27, 2012	

FIGURE 2

GENERAL SITE PLAN
BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW ¼ SW ¼, NW ¼ SEC. 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

AES
Animas Environmental Services, LLC

DRAWN BY: R. Kennemer	**DATE DRAWN:** March 16, 2009
REVISIONS BY: C. Lameman	**DATE REVISED:** October 8, 2012
CHECKED BY: H. Woods	**DATE CHECKED:** October 8, 2012
APPROVED BY: E. McNally	**DATE APPROVED:** December 27, 2012

LEGEND

MONITORING WELL INSTALLED FEBRUARY 2009

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

N

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

FIGURE 3

GROUNDWATER ELEVATION CONTOURS, SEPTEMBER 2012

BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW ¼ SW ¼, NW ¼ SEC. 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
R. Kennemer	March 16, 2009
REVISIONS BY:	**DATE REVISED:**
C. Lameman	October 8, 2012
CHECKED BY:	**DATE CHECKED:**
H. Woods	October 8, 2012
APPROVED BY:	**DATE APPROVED:**
E. McNally	December 27, 2012

LEGEND

- MONITOR WELL LOCATIONS (INSTALLED FEBRUARY 2009)
- FENCE
- PONDS, WET LANDS, & FLOOD PLANES
- 7034.52 GROUNDWATER ELEVATION IN FEET (A.M.S.L.)
- —7034.0— GROUNDWATER ELEVATION CONTOUR IN FEET (A.M.S.L.)

NOTE: ALL GROUNDWATER ELEVATION MEASUREMENTS WERE MADE ON SEPTEMBER 10, 2012.

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

STATE HWY. 537
CATTLE GUARD
GATE
SOIL BERM
METER SKID/PUMPS
PUMPS
FENCE
POND
GROUNDWATER GRADIENT BETWEEN MW-2 AND MW-8 IS 0.008 FT/FT
MW-1 7034.52
MW-2 7034.81
MW-3 7034.56
MW-4 7034.14
MW-5 7034.48
MW-6 DRY
MW-7 7034.11
MW-8 7033.59
MW-9 7032.87
MW-10 7034.73
MW-11 7033.72
7034.8
7034.6
7034.4
7034.2
7034.0
7033.8
7033.6
7033.4
7033.2
7033.0
1 2 3 4 5 6 7 8 9 10

FIGURE 4

GROUNDWATER CONTAMINANT CONCENTRATIONS, SEPTEMBER 2012
BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW ¼ SW ¼, NW ¼ SEC. 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
R. Kennemer	March 16, 2009
REVISIONS BY:	**DATE REVISED:**
C. Lameman	October 8, 2012
CHECKED BY:	**DATE CHECKED:**
H. Woods	October 8, 2012
APPROVED BY:	**DATE APPROVED:**
E. McNally	December 27, 2012

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 10, 2012, 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
SOIL BERM
METER SKID/PUMPS
PUMPS
POND
1 2 3 4 5 6 7 8 9 10

MW-1
B = 54 µg/L
T = <2.0 µg/L
E = 36 µg/L
X = <4.0 µg/L
GRO = 0.45 µg/L
DRO = <1.0 µg/L
MRO = <5.0 µg/L

MW-2 NOT SAMPLED
MW-3
B = 6.2 µg/L
T = <2.0 µg/L
E = <2.0 µg/L
X = <4.0 µg/L
GRO = 0.29 µg/L
DRO = <1.0 µg/L
MRO = <5.0 µg/L

MW-4 NOT SAMPLED
MW-5 NOT SAMPLED
MW-6 NOT SAMPLED
MW-7 NOT SAMPLED
MW-8
B = <1.0 µg/L
T = <1.0 µg/L
E = <1.0 µg/L
X = <2.0 µg/L
GRO = 0.16 µg/L
DRO = <1.0 µg/L
MRO = <5.0 µg/L

MW-9
B = <1.0 µg/L
T = <1.0 µg/L
E = 1.4 µg/L
X = <2.0 µg/L
GRO = 0.072 µg/L
DRO = <1.0 µg/L
MRO = <5.0 µg/L

MW-10 NOT SAMPLED
MW-11 NOT SAMPLED

FIGURE 5

DISSOLVED BENZENE CONCENTRATION CONTOURS SEPTEMBER 2012

BENSON-MONTIN-GREER
LLAVES PIPELINE HWY. 537
TRUCK RECEIVING STATION 2009 RELEASE
SW ¼ SW ¼, NW ¼ SEC. 18, T25N, R3W
RIO ARRIBA COUNTY, NEW MEXICO
N36.39866, W107.19328

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
R. Kennemer	March 16, 2009
REVISIONS BY:	**DATE REVISED:**
C. Lameman	October 8, 2012
CHECKED BY:	**DATE CHECKED:**
H. Woods	October 8, 2012
APPROVED BY:	**DATE APPROVED:**
E. McNally	December 27, 2012

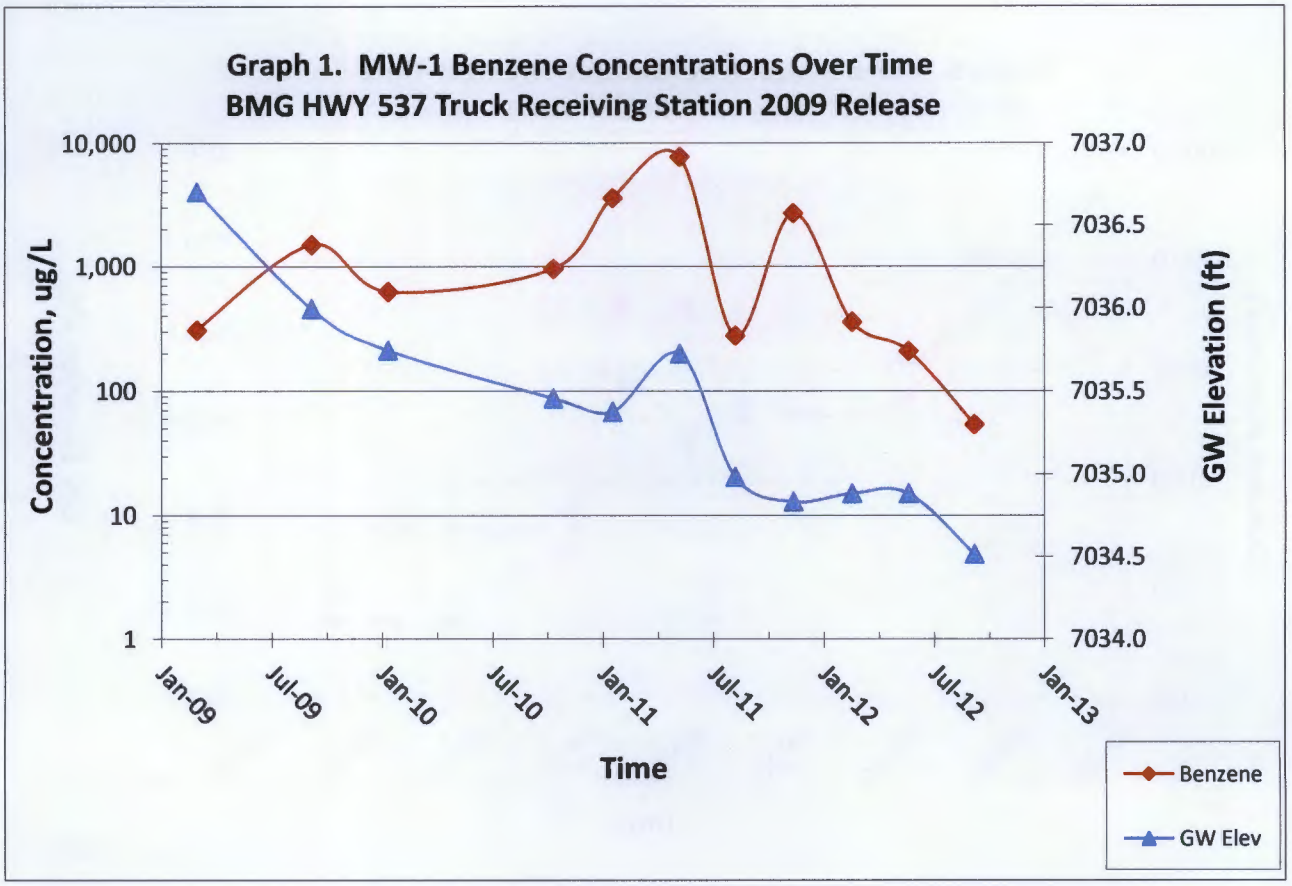
LEGEND

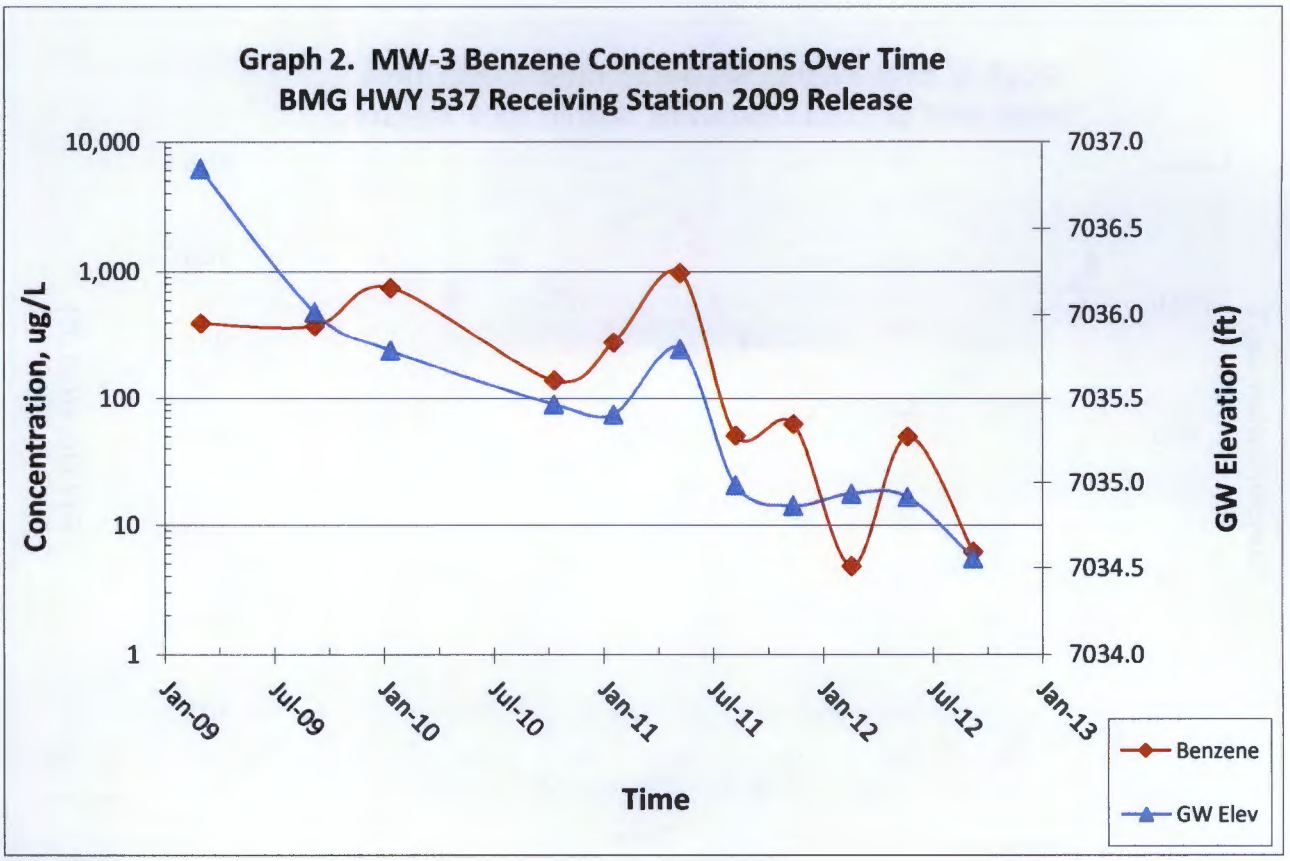
- MONITOR WELL LOCATIONS (INSTALLED FEBRUARY 2009)
- FENCE
- PONDS, WET LANDS, & FLOOD PLANES
- 54 DISSOLVED BENZENE CONCENTRATION IN µg/L
- 50 DISSOLVED BENZENE CONCENTRATION CONTOURS µg/L

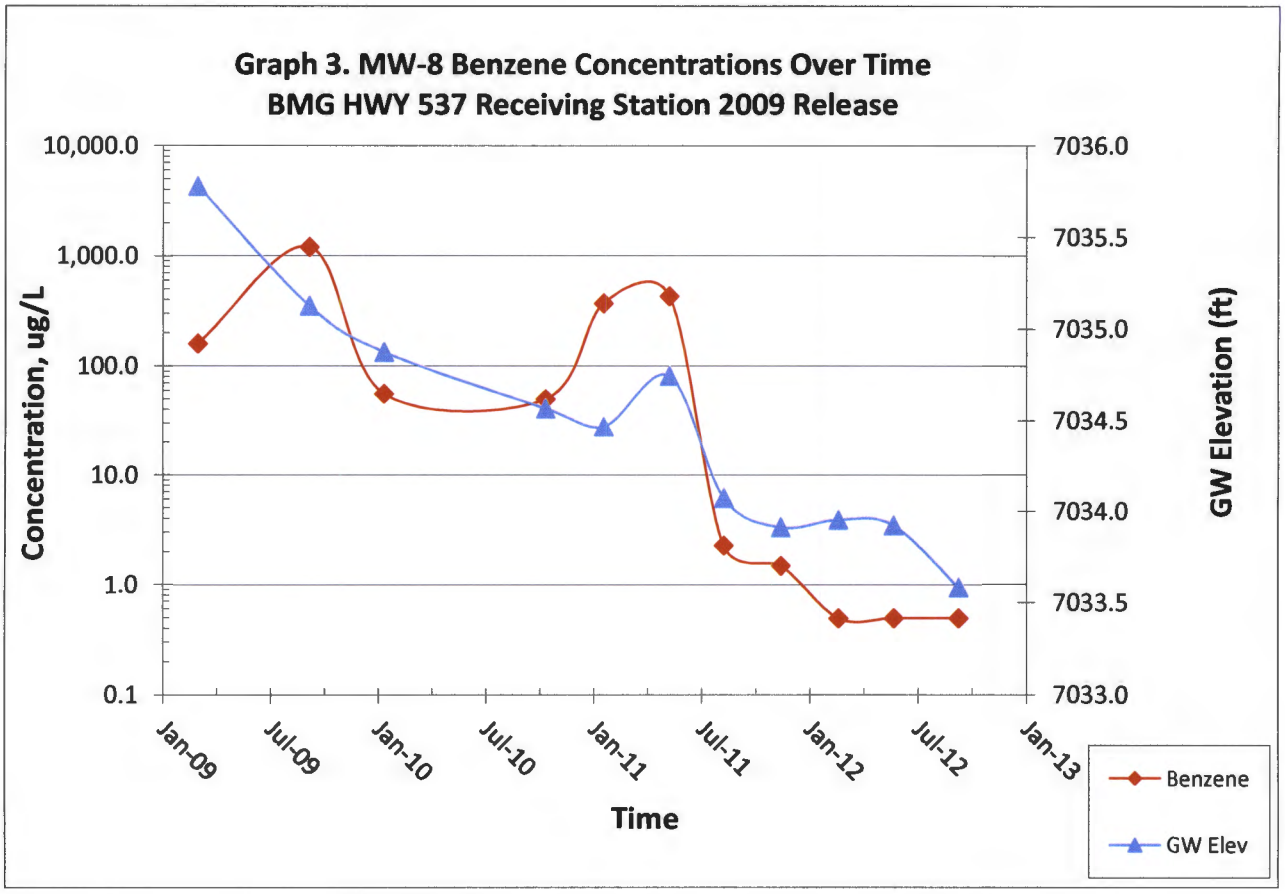
NOTE: ALL SAMPLES COLLECTED ON SEPTEMBER 8, 2012, AND ANALYZED PER EPA METHOD 8021B AND 8015B.

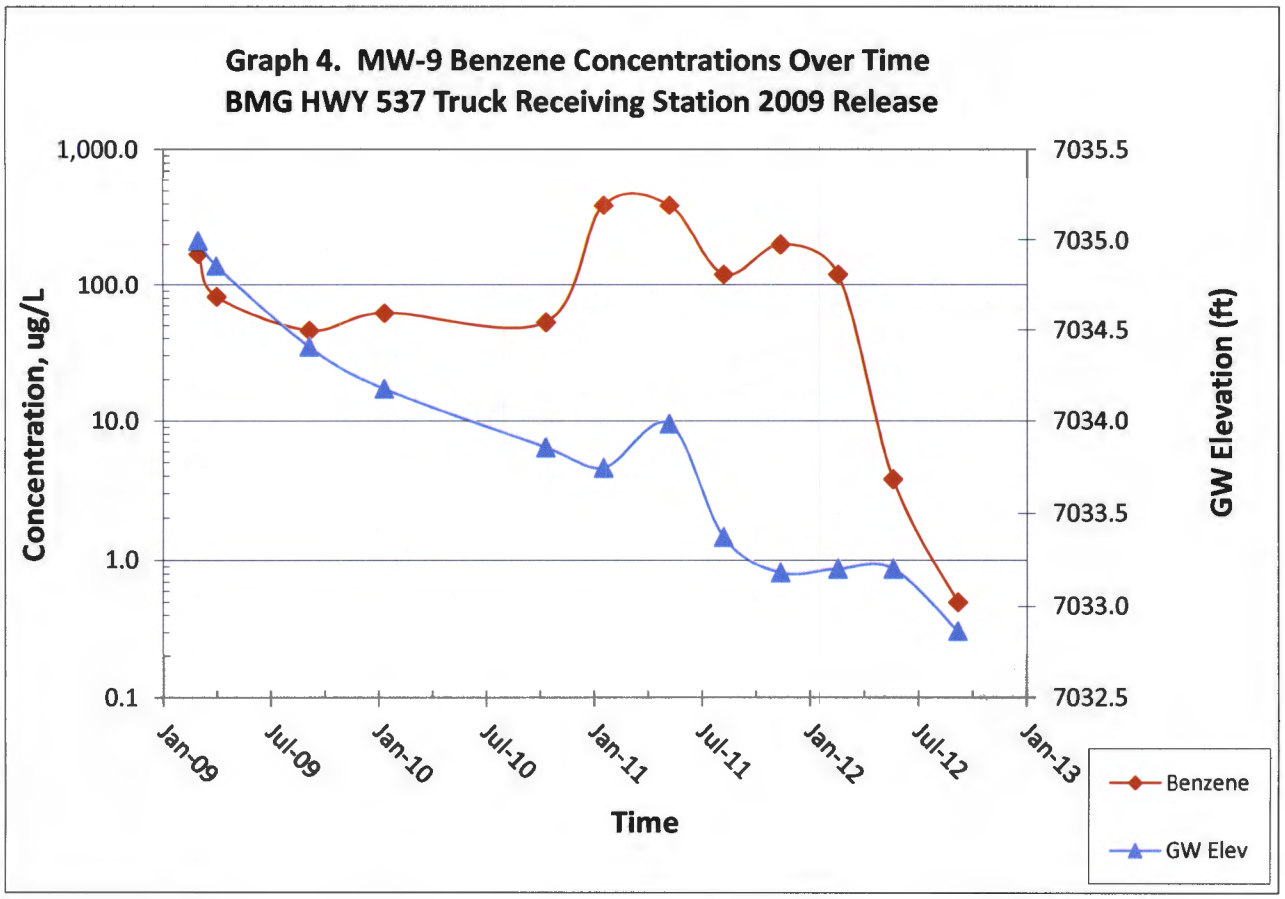
STATE HWY. 537
CATTLE GUARD
GATE
CATTLE GUARD
GATE
FENCE
SOIL BERM
SOIL BERM
METER SKID/PUMPS
PUMPS
POND
MW-1 54
MW-2 NS
MW-3 6.2
MW-4 NS
MW-5 NS
MW-6 NS
MW-7 NS
MW-8 <1.0
MW-9 <1.0
MW-10 NS
MW-11 NS
50
10
5
1
2
3
4
5
6
7
8
9
10

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


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
Time
Benzene
GW Elev


Graph 2. MW-3 Benzene Concentrations Over Time
BMG HWY 537 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
Time
Benzene
GW Elev


Graph 3. MW-8 Benzene Concentrations Over Time
BMG HWY 537 Receiving Station 2009 Release
10,000.0
1,000.0
100.0
10.0
1.0
0.1
Concentration, ug/L
7036.0
7035.5
7035.0
7034.5
7034.0
7033.5
7033.0
GW Elevation (ft)
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Time
Benzene
GW Elev


Graph 4. MW-9 Benzene Concentrations Over Time
BMG HWY 537 Truck Receiving Station 2009 Release
1,000.0
100.0
10.0
1.0
0.1
Concentration, ug/L
7035.5
7035.0
7034.5
7034.0
7033.5
7033.0
7032.5
GW Elevation (ft)
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
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:

Project No.: AES 090201
Date: 9-10-2012
Time: 0910
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	0910		30.14		
MW-2	0935		29.84		
MW-3	0913		29.45		
MW-4	0919		29.58		
MW-5	0923		30.31		
MW-6	0941		Dry		9.08 TDW, WELL is DRY. 1" PVC well
MW-7	0917		28.69		
MW-8	0915		29.68		
MW-9	0928		29.73		
MW-10	0932		28.54		
MW-11	0925		30.38		

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

MONITORING WELL SAMPLING RECORD	Animas Environmental Services
Monitor Well No: MW-1	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:** 9-10-2012
Project: Groundwater Monitoring and Sampling **Arrival Time:** 1135 (1220 Sample Time)
Sampling Technician: LL/ZT **Air Temp:**
Purge / No Purge: Purge **T.O.C. Elev. (ft):** 7064.66
Well Diameter (in): 2 **Total Well Depth (ft):** 43.65
Initial D.T.W. (ft): 30.14 **Time:** 0910 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 30.14 **Time:** 1155 *(taken prior to purging well)*
Final D.T.W. (ft): 30.15 **Time:** 1225 *(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
1148	15.71	4.580	9.7	6.98	-44.1	1st Bailer	clear
1152	14.51	4.248	9.3	6.87	-48.7	1 gal	Black / Brown
1157	14.81	4.061	8.1	6.86	-47.3	2 gal	Brown / Gray
1200	14.21	4.412	0.088	6.98	-31.0	3 gal	Gray
1205	14.66	4.437	0.90	7.02	-25.6	4 gal	Gray
1212	14.55	4.465	0.89	7.00	-21.9	5 gal	Gray
1220	14.63	4.705	1.16	7.12	-15.7	6.30	Gray / Silt

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: 13.51 H_2O Column
2.20 Volume
6.61 Purg

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:** 1022 1127 Sample Time
Sampling Technician: L.L & ZT **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): 29.45 **Time:** 0913 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 28.68 **Time:** 1125 *(taken prior to purging well)*
Final D.T.W. (ft): 29.367 **Time:** 1132 *(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
1113	13.11	4.397	20.3	7.45	-85.4	1st bailer	Clear H_2O
1116	13.10	4.383	9.7	7.31	-85.6	1 gal	Black
1119	12.68	4.385	0.68	7.25	-75.7	2 gal	Black
1122	12.50	4.361	4.9	7.27	-65.9	3 gal	Black
1125	12.67	4.363	5.0	7.18	-53.9	4 gal	Black
1130	13.26	4.377	24.9	7.23	-42.7		Black

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: 12.51 12.65
20.01
4.65

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: L. LAMONE & Z. TRUJILLO
Purge / No Purge: Purge
Well Diameter (in): 2

Project No.: AES 090201
Date: 9-10-2012
Arrival Time: 0954 (1011 SAMPLE TIME)
Air Temp:
T.O.C. Elev. (ft): 7062.6
Total Well Depth (ft): 39.15

Initial D.T.W. (ft): 29.73 **Time:** 0928 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): 29.93 **Time:** 1011 *(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
0958	14.16	4.448	3.53	7.09	-66.5	1st Bailer	clear
1001	13.48	4.198	2.83	7.08	-48.3	1.0 gal	lt. Tan H2O
1003	13.42	4.308	1.82	7.08	-48.2	2.0 gal	
1006	13.19	4.345	1.79	7.09	-52.6	3.0 gal	Tan H2O
1011	13.41	4.439	1.41	7.13	-52.2	4.60 gal	Tan H2O

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:

9.42 H2O column
1.54 volume
4.60 Purge

H2O lt tan w/ NO odor No sheen!

MONITORING WELL SAMPLING RECORD	Animas Environmental Services
Monitor Well No: _____	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:** _____
Sampling Technician: _____ **Air Temp:** _____
Purge / No Purge: Purge **T.O.C. Elev. (ft):** _____
Well Diameter (in): 2 **Total Well Depth (ft):** _____
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)*
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

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:

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

September 18, 2012

Debbie Watson

Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 486-4071
FAX (505) 324-2022

RE: BMG Hwy 537 2009 Release OrderNo.: 1209360

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/11/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. 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.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1209360**
Date Reported: **9/18/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: MW-1
Project: BMG Hwy 537 2009 Release
Collection Date: 9/10/2012 12:20:00 PM
Lab ID: 1209360-001 **Matrix:** AQUEOUS **Received Date:** 9/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/12/2012 1:21:49 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/12/2012 1:21:49 PM
Surr: DNOP	126	79.5-166		%REC	1	9/12/2012 1:21:49 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.45	0.10		mg/L	2	9/13/2012 2:19:59 AM
Surr: BFB	118	69.8-119		%REC	2	9/13/2012 2:19:59 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	54	2.0		µg/L	2	9/13/2012 2:19:59 AM
Toluene	ND	2.0		µg/L	2	9/13/2012 2:19:59 AM
Ethylbenzene	36	2.0		µg/L	2	9/13/2012 2:19:59 AM
Xylenes, Total	ND	4.0		µg/L	2	9/13/2012 2:19:59 AM
Surr: 4-Bromofluorobenzene	128	69.7-152		%REC	2	9/13/2012 2:19:59 AM

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
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: 9/10/2012 11:27:00 AM
Lab ID: 1209360-002 **Matrix:** AQUEOUS **Received Date:** 9/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/12/2012 1:43:26 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/12/2012 1:43:26 PM
Surr: DNOP	130	79.5-166		%REC	1	9/12/2012 1:43:26 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.29	0.10		mg/L	2	9/13/2012 4:50:53 AM
Surr: BFB	116	69.8-119		%REC	2	9/13/2012 4:50:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	6.2	2.0		µg/L	2	9/13/2012 4:50:53 AM
Toluene	ND	2.0		µg/L	2	9/13/2012 4:50:53 AM
Ethylbenzene	ND	2.0		µg/L	2	9/13/2012 4:50:53 AM
Xylenes, Total	ND	4.0		µg/L	2	9/13/2012 4:50:53 AM
Surr: 4-Bromofluorobenzene	119	69.7-152		%REC	2	9/13/2012 4:50:53 AM

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
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-8
Project: BMG Hwy 537 2009 Release
Collection Date: 9/10/2012 10:59:00 AM
Lab ID: 1209360-003 **Matrix:** AQUEOUS **Received Date:** 9/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/12/2012 2:05:11 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/12/2012 2:05:11 PM
Surr: DNOP	131	79.5-166		%REC	1	9/12/2012 2:05:11 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.16	0.050		mg/L	1	9/13/2012 4:43:48 PM
Surr: BFB	108	69.8-119		%REC	1	9/13/2012 4:43:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/13/2012 4:43:48 PM
Toluene	ND	1.0		µg/L	1	9/13/2012 4:43:48 PM
Ethylbenzene	ND	1.0		µg/L	1	9/13/2012 4:43:48 PM
Xylenes, Total	ND	2.0		µg/L	1	9/13/2012 4:43:48 PM
Surr: 4-Bromofluorobenzene	110	69.7-152		%REC	1	9/13/2012 4:43:48 PM

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
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: 9/10/2012 10:11:00 AM
Lab ID: 1209360-004 **Matrix:** AQUEOUS **Received Date:** 9/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/12/2012 2:26:51 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/12/2012 2:26:51 PM
Surr: DNOP	129	79.5-166		%REC	1	9/12/2012 2:26:51 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.072	0.050		mg/L	1	9/13/2012 5:14:03 PM
Surr: BFB	103	69.8-119		%REC	1	9/13/2012 5:14:03 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/13/2012 5:14:03 PM
Toluene	ND	1.0		µg/L	1	9/13/2012 5:14:03 PM
Ethylbenzene	ND	1.0		µg/L	1	9/13/2012 5:14:03 PM
Xylenes, Total	ND	2.0		µg/L	1	9/13/2012 5:14:03 PM
Surr: 4-Bromofluorobenzene	112	69.7-152		%REC	1	9/13/2012 5:14:03 PM

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
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: 1209360-005
Matrix: TRIP BLANK
Received Date: 9/11/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/13/2012 5:44:20 PM
Toluene	ND	1.0		µg/L	1	9/13/2012 5:44:20 PM
Ethylbenzene	ND	1.0		µg/L	1	9/13/2012 5:44:20 PM
Xylenes, Total	ND	2.0		µg/L	1	9/13/2012 5:44:20 PM
Surr: 4-Bromofluorobenzene	121	69.7-152		%REC	1	9/13/2012 5:44:20 PM

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
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#: **1209360**

18-Sep-12

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **MB-3703**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range**
Client ID: **PBW**	Batch ID: **3703**	RunNo: **5423**
Prep Date: **9/11/2012**	Analysis Date: **9/11/2012**	SeqNo: **154966** 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	1.2		1.000		118	79.5	166			

Sample ID **LCS-3703**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range**
Client ID: **LCSW**	Batch ID: **3703**	RunNo: **5423**
Prep Date: **9/11/2012**	Analysis Date: **9/11/2012**	SeqNo: **155418** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.7	1.0	5.000	0	93.1	74	157			
Surr: DNOP	0.49		0.5000		97.1	79.5	166			

Sample ID **LCSD-3703**	SampType: **LCSD**	TestCode: **EPA Method 8015B: Diesel Range**
Client ID: **LCSS02**	Batch ID: **3703**	RunNo: **5423**
Prep Date: **9/11/2012**	Analysis Date: **9/11/2012**	SeqNo: **155419** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.7	1.0	5.000	0	93.6	74	157	0.626	23	
Surr: DNOP	0.42		0.5000		84.4	79.5	166	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209360**

18-Sep-12

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBW**	Batch ID: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/12/2012**	SeqNo: **156953** 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	17		20.00		85.8	69.8	119			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/12/2012**	SeqNo: **156954** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0	88.0	75.9	119			
Surr: BFB	18		20.00		88.0	69.8	119			

Sample ID **1209360-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **MW-1**	Batch ID: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **156964** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1.3	0.10	1.000	0.4484	81.6	63.5	131			
Surr: BFB	41		40.00		103	69.8	119			

Sample ID **1209360-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **MW-1**	Batch ID: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **156965** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1.3	0.10	1.000	0.4484	82.5	63.5	131	0.662	16.7	
Surr: BFB	42		40.00		104	69.8	119	0	0	

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBW**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158006** 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	18		20.00		91.2	69.8	119			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158007** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.7	75.9	119			
Surr: BFB	19		20.00		96.2	69.8	119			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209360**

18-Sep-12

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **1209360-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **MW-8**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158014** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0.1556	76.1	63.5	131			
Surr: BFB	22		20.00		109	69.8	119			

Sample ID **1209360-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **MW-8**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158015** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.56	0.050	0.5000	0.1556	80.0	63.5	131	3.59	16.7	
Surr: BFB	22		20.00		109	69.8	119	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209360**

18-Sep-12

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: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/12/2012**	SeqNo: **156971** 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	19		20.00		94.6	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R5492**	RunNo: **5492**
Prep Date:	Analysis Date: **9/12/2012**	SeqNo: **156972** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	80	120			
Toluene	23	1.0	20.00	0	113	80	120			
Ethylbenzene	23	1.0	20.00	0	114	80	120			
Xylenes, Total	69	2.0	60.00	0	116	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		115	69.7	152			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158020** 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	21		20.00		105	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158021** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	80	120			
Toluene	23	1.0	20.00	0	113	80	120			
Ethylbenzene	23	1.0	20.00	0	113	80	120			
Xylenes, Total	69	2.0	60.00	0	114	80	120			
Surr: 4-Bromofluorobenzene	27		20.00		135	69.7	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209360**

18-Sep-12

Client: Animas Environmental Services

Project: BMG Hwy 537 2009 Release

Sample ID **1209360-004AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-9**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158025** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0.7340	114	74.1	124			
Toluene	23	1.0	20.00	0.2100	114	75.2	124			
Ethylbenzene	24	1.0	20.00	0.7160	114	69	125			
Xylenes, Total	70	2.0	60.00	0.8060	115	73.1	126			
Surr: 4-Bromofluorobenzene	22		20.00		110	69.7	152			

Sample ID **1209360-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-9**	Batch ID: **R5522**	RunNo: **5522**
Prep Date:	Analysis Date: **9/13/2012**	SeqNo: **158026** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0.7340	115	74.1	124	0.262	11.2	
Toluene	23	1.0	20.00	0.2100	114	75.2	124	0.00867	11.9	
Ethylbenzene	24	1.0	20.00	0.7160	116	69	125	1.33	13.5	
Xylenes, Total	70	2.0	60.00	0.8060	116	73.1	126	0.787	13	
Surr: 4-Bromofluorobenzene	21		20.00		105	69.7	152	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name:	Animas Environmental	Work Order Number:	1209360
Received by/date:	MG	09/11/12	
Logged By:	**Michelle Garcia**	9/11/2012 10:00:00 AM	Michelle Garcia
Completed By:	**Michelle Garcia**	9/11/2012 10:44:01 AM	Michelle Garcia
Reviewed By:	IO 09/12/12		

Chain of Custody

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

Log In

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

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Animas Environmental Services	X Standard ☐ Rush
Mailing Address 624 E Comanche	Project Name: BMG Hwy 537 2009 Release
Farmington NM 87401	Project #: AES 090201
Phone #: 505-564-2281	Project Manager: Deborah Watson
email or Fax#: 505-324-2022	Sampler: Z. Trujillo
QA/QC Package: X Standard ☐ Level 4 (Full Validation)	On Ice: X Yes ☐ No
Accreditation: ☐ NELAP ☐ Other	Sample Temperature: 1.0
☐ EDD (Type)	

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1209360	BTEX 8021	TPH 8015 (C6 - C36) (GRO, DRO, MRO)	Air Bubbles (Y or N)
9-10-12	1220	H_2O	MW-1	Glass 6 - 40 mL	5 - HCl 1 - Non	-001	X	X	
9-10-12	1127	H_2O	MW-3	Glass 6 - 40 mL	5 - HCl 1 - Non	-002	X	X	
9-10-12	1059	H_2O	MW-8	Glass 6 - 40 mL	5 - HCl 1 - Non	-003	X	X	
9-10-12	1011	H_2O	MW-9	Glass 6 - 40 mL	5 - HCl 1 - Non	-004	X	X	
9-10-12		H_2O	Trip Blank	Glass 2 - 40 mL	HCl	-005	X		

Date	Time	Relinquished by	Received by	Date	Time
9-10-12	1630	Zach Trujillo	Christine Walker	9/10/12	1647
~~9-10-12~~	~~1630~~	~~Zach Trujillo~~	Muriel Gee	09/11/12	10:00

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.

9/10/12 1710 Christine Walker