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Animas Environmental Services, LLC

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January 18, 2011

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

RE: Corrective Action Plan for the Benson-Montin-Greer Highway 537 Llaves Pipeline 2008 Oil Spill, Rio Arriba County, New Mexico

Dear Mr. von Gonten:

Animas Environmental Services, LLC (AES), on behalf of Benson-Montin-Greer Drilling Corporation (BMG), prepared the enclosed Corrective Action Plan (CAP) for the BMG Highway 537 Llaves Pipeline 2008 Spill Location. If you have any questions, please contact me at (505) 564-2281.

Sincerely,

Ross Kennemer
Senior Project Manager

Enclosures: Corrective Action Plan

cc: Craig Schmitz
#70 CR 405
Lindrith, NM 87029

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

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Prepared for:
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Prepared on behalf of:
Mike Dimond
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4900 College Blvd
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Corrective Action Plan

Benson-Montin-Greer
Highway 537 Llaves Pipeline Spill
(2008), Schmitz Ranch,
Rio Arriba County, New Mexico

January 18, 2011

Prepared by:
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1.0 Introduction

Animas Environmental Services, LLC (AES), on behalf of Benson Montin Greer Drilling Corporation (BMG), has prepared this Corrective Action Plan (CAP) for remediation of petroleum hydrocarbon contamination associated with BMG's Highway 537 Llaves Pipeline 2008 spill, which was discovered December 31, 2007. As a result of a failure in the Llaves Pipeline, the spill resulted in an unknown volume of crude oil being discharged onto private land and into portions of a small, unnamed arroyo. Further migration of the spill was limited when BMG personnel constructed a small earthen dam across the arroyo. Initial investigation confirmed that the oil had migrated laterally along the arroyo for a distance of approximately 920 feet on the ground surface.

In the conclusions of the Site Investigation Report, submitted to the New Mexico Oil Conservation Division (NMOCD) in June 2008, AES recommended evaluation of a mechanical treatment approach (high vacuum multi-phase extraction) to address the residual petroleum hydrocarbon contamination in subsurface soil and groundwater at the site. This CAP proposes to remediate petroleum hydrocarbon contamination, as delineated in the June 2008 Site Investigation Report, using a mobile remediation system capable of conducting high vacuum extraction of soil vapor, free product, and groundwater. Treatment of extracted soil vapors will be accomplished through the on-board capabilities of the treatment system. Recovered free product and any oil separated from the extracted groundwater will be collected by the system and then properly disposed at an off-site facility.

2.0 Site Information

2.1 Site Location

The Llaves Pipeline is a 4-inch diameter pipeline that carries crude oil and is located in the southeast portion of the San Juan Basin, Rio Arriba County, New Mexico. The Llaves pipeline travels in an east-northeast to west-southwest direction in the area where the spill occurred. Surface ownership in the area where the spill occurred includes private land owned by the Schmitz Ranch. The pipeline transects several small, unnamed tributaries (in the area where the spill occurred) that drain to the Los Ojitos Arroyo and eventually to Largo Canyon.

The spill began on the Schmitz Ranch, on the south side of Highway 537, within the NW¼ NE¼ of Section 18, T25N, R3W (latitude and longitude recorded as N36° 24' 214" and W107° 11' 053") and flowed south and southwest through a small unnamed arroyo for a distance of approximately 920 linear feet. A topographic site location map, based on the USGS 7.5-minute Schmitz Ranch, Rio Arriba County, New Mexico, topographic quadrangle (USGS

1965), is included as Figure 1. A site plan illustrating the general site layout and the spill investigation area is presented as Figure 2.

2.2 Spill History

On December 31, 2007, a Western Refining truck driver discovered the Llaves pipeline leak and immediately contacted BMG. BMG personnel arrived on-site at about 1630 hrs on the same day and confirmed the leak. BMG shut down the Llaves pipeline pumps and closed a block valve located about one mile upstream. BMG personnel also constructed a small earthen dam across the arroyo to limit further surface migration of the oil. Due to the cold ambient temperature, the oil quickly became thick and waxy upon reaching the surface. On January 1, 2008, BMG left Mr. Brandon Powell of the NMOCD a voice mail providing notification of the spill and BMG's intended remedial response. Also on January 1, 2008, BMG contracted with TNT Excavating to remove the oil that had pooled along the surface of the small arroyo. Approximately 40 barrels (bbls) of oil were recovered and placed in storage tanks at the BMG Hwy 537 Transfer Station.

On January 8, 2008, TNT Excavating uncovered the Llaves pipeline to allow the failed section to be observed and repaired. A portion of a 16-inch Enterprise pipeline was also uncovered where it crosses the Llaves pipeline traveling in a northeast to southwest direction. A total of 3,932 cubic yards of contaminated soils were excavated and transported to the TNT Landfarm facility for disposal.

On January 9, 2008, the Llaves pipeline was repaired, and AES inspected the site as part of preparation of the Sampling and Analysis Plan, which was submitted to NMOCD on January 23, 2008. BMG notified the National Response Center of the spill on January 23, 2008, and the release was given an ID# 860429. No other remedial action has been conducted for this release.

2.3 Site Investigation – April and May 2008

In April and May 2008, AES performed a site investigation to delineate the full extent of petroleum hydrocarbon impact to surface and subsurface soils and groundwater resulting from the spill. The investigation procedures included the installation of 15 soil borings (TH-1 through TH-15) in and around the spill area, from which soil samples were collected. Nine of the 15 soil borings were subsequently converted to groundwater monitoring wells (MW-1 through MW-9). Mr. Brandon Powell of NMOCD was present on April 14, 2008, for the installation of several of the soil borings and monitoring wells. Work was completed in accordance with the SAP prepared by AES and dated January 23, 2008, with U.S. Environmental Protection Agency (USEPA) Environmental Response Team's Standard Operating Procedures (SOPs), and with applicable American Society of Testing and Materials (ASTM) standards.

2.3.1 Soil Boring Installation

From April 14 to 16, 2008, AES installed 15 soil borings to define the lateral and vertical extent of near surface and subsurface soil contamination. All soil borings (TH-1 through TH-15) were installed with a direct push rig. Borings TH-1 through TH-11 ranged in depth from 33.5 feet below ground surface (bgs) to 40 feet bgs. Borings TH-12 through TH-15 were each advanced to 4 feet bgs. Throughout the site, soil lithology consisted of interbedded layers of brown silty clay, poorly sorted tan sands, and very moist plastic brown clays. The locations of the soil borings installed in April 2008 are illustrated on Figure 2. Figure 3 includes a geological cross section along with soil field screening results.

2.3.2 Soil Sample Collection

Soil samples were collected in a 4-foot disposable sleeve using the direct push rig sampling tubes. Each boring was logged for lithology and sampled continuously for field screening of volatile organic compounds (VOCs) with a photo-ionization detector (PID) organic vapor meter (OVM). A Soil Boring Log was completed for each soil boring to record sample information such as depth, collection method, soil moisture content, color, density, grain size, plasticity, contaminant presence, and overall stratigraphy. Soil sample collection was completed in strict accordance with the approved SAP and USEPA Environmental Response Team's SOPs.

OVM readings were at or near background levels for all samples collected from TH-3/MW-1, TH-4/MW-2, TH-5/MW-3, TH-6/MW-4, TH-8/MW-6, TH-9/MW-7, and TH-14. Background OVM readings ranged from 0.0 parts per million (ppm) to 0.6 ppm. Details of PID-OVM readings above background levels are as follows:

- **TH-1** OVM readings ranged from 1,088 ppm at 28 to 30 feet bgs to 1,673 ppm at 18 to 19 feet bgs. The OVM reading at the terminal depth of the boring (32 to 33 feet bgs) was 1,537 ppm.
- **TH-2** OVM readings ranged from 2.4 ppm at 28 feet bgs to 1,230 ppm at the terminal depth of the boring (34 feet bgs).
- **TH-10/MW-8** OVM readings ranged from 1.9 ppm at the terminal depth of the boring (31 to 32 feet bgs) to 34.0 ppm at 19 to 20 feet bgs.
- **TH-11/MW-9** OVM readings ranged from 0.7 ppm at the terminal depth of the boring (31 to 32 feet bgs) to 34.0 ppm at 15 to 16 feet bgs.
- **TH-12** OVM reading at terminal depth (3 to 4 feet bgs) was 10.3 ppm.
- **TH-13** OVM reading at terminal depth (3 to 4 feet bgs) was 1,221 ppm.
- **TH-15** OVM reading at terminal depth (3 to 4 feet bgs) was 18.6 ppm.

Field soil boring logs were included in Appendix B of the Site Investigation Report submitted to NMOCD in June 2008.

2.3.3 Laboratory Analyses – Soil

Soil samples collected from the borings were submitted to an EPA-approved laboratory, Hall Environmental Analysis Laboratory (Hall), Albuquerque, New Mexico, for laboratory analysis of the following parameters:

- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) – EPA Method 8021
- Total Petroleum Hydrocarbons (TPH) (C_6-C_{36}) Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Motor Oil Range Organics (MRO) – EPA Method 8015 Modified

Soil samples were collected for laboratory analysis from the terminal depths of the borings and from intervals determined by the AES Project Manager to be representative of the most likely impacted zones within each boring. Remediation action levels promulgated by NMOCD for oil spills and releases (August 13, 1993) were utilized as action levels for soil characterization in the Site Investigation Report submitted to NMOCD in June 2008. Specifically, the NMOCD remediation action levels for total BTEX are 50 mg/kg and 100 mg/kg for TPH.

Soil analytical results showed that soil samples collected from TH-1 at 17 to 19 feet bgs and TH-2 at 34 feet bgs had BTEX concentrations above NMOCD Action Levels with 249 mg/kg total BTEX and 475 mg/kg total BTEX, respectively. Total BTEX concentrations from the remaining soil samples were either below laboratory detection limits or well below the applicable action level of 50 mg/kg total BTEX.

The NMOCD Action Levels for TPH (100 mg/kg) were exceeded in four samples: TH-1 at 17 to 19 feet bgs (19,800 mg/kg) and 33 to 33.5 feet bgs (820 mg/kg), TH-2 at 34 feet bgs (29,000 mg/kg), and TH-13 at 4 feet bgs (676 mg/kg). TPH concentrations in the remaining soil samples were either below laboratory detection limits or well below the applicable action level of 100 mg/kg total TPH.

The analytical results for the soil samples are presented on Figure 2. Figure 3 presents geological cross-sections and soil field screening results from the April 2008 field investigation. Soil analytical laboratory reports were presented in Appendix C of the Site Investigation Report, dated June 23, 2008. Soil Boring logs are presented in Appendix A of this CAP.

2.3.4 Monitoring Well Installation

A total of nine monitoring wells were installed with the direct push rig during the April 2008 drilling event. The monitoring wells were positioned around the excavation to define horizontal migration of petroleum hydrocarbon contaminants in groundwater. Groundwater

was encountered at depths between approximately 28 and 35 feet bgs during installation of the monitoring wells.

Monitoring wells were installed in strict accordance with the SAP and USEPA Environmental Response Team's SOPs. Monitoring well construction for all wells consisted of 1.4-inch outside diameter (OD) [0.75-inch inside diameter (ID)] Schedule 40 PVC pre-packed screen (0.010 inch slot), and 1.0-inch diameter blank riser casing. Monitoring well construction diagrams for MW-1 through MW-9 were included on the Boring Logs in Appendix B of the Site Investigation Report submitted to NMOCD in June 2008.

2.3.5 Groundwater Sample Collection

AES personnel completed groundwater monitoring and sampling of the wells on May 5, 2008. Due to the slow recharge rate of some wells, samples were collected prior to gathering water quality data. Groundwater samples were collected from a total of eight monitoring wells with new disposable bailers and transferred into appropriate sample containers, labeled accordingly, and documented on Water Sample Collection Forms. Monitoring well MW-5 was not sampled because it was dry.

Water quality data were not collected from MW-5, MW-7, and MW-8 because of slow recharge rates. Groundwater temperature ranged from 13.95°C in MW-6 to 16.43°C in MW-2. Conductivity ranged from 1.764 mS in MW-6 to 4.083 mS in MW-3, and DO was measured between 1.48 mg/L in MW-1 and 2.59 mg/L in MW-9. Although DO was recorded during field activities, it should be noted that due to the use of bailers, the accuracy of dissolved oxygen measurements is unknown. Oxidation Reduction Potential (ORP) was recorded between -37.9 mV in MW-9 and 141.9 mV in MW-1. Field groundwater data were summarized in Table 2, and Water Sample Collection forms were presented in Appendix D of the 2008 Site Investigation Report.

2.3.6 Laboratory Analyses – Groundwater

All groundwater analytical samples collected from the monitoring wells in May 2008 were submitted to Hall, Albuquerque, New Mexico, for analysis of the following parameters:

- BTEX – EPA Method 8021
- TPH (C_6-C_{36}) GRO, DRO, and MRO – EPA Method 8015 Modified

A travel blank was also analyzed for BTEX per EPA Method 8021.

Analytical results from groundwater samples collected during the May 2008 sampling event showed that benzene concentrations exceeded the New Mexico Water Quality Control Commission (WQCC) standard of 10 µg/L in MW-8 (26 µg/L). Two wells, MW-7 and MW-9, had benzene concentrations of 2.8 µg/L and 6.2 µg/L, respectively, which are above the

detection limit but below the WQCC standard for benzene. Toluene, ethylbenzene, and xylene concentrations were either below laboratory detection limits or well below applicable WQCC standards in each of the wells sampled.

WQCC standards have not been established for TPH GRO, DRO, or MRO. However, four wells had GRO concentrations above the laboratory detection limit, including MW-1 (0.092 mg/L), MW-7 (0.40 mg/L), MW-8 (1.1 mg/L), and MW-9 (0.90 mg/L). DRO and MRO concentrations were below the laboratory detection limit in each of the wells sampled. The analytical results for the groundwater samples collected during the May 2008 sampling event were presented in Appendix C of the 2008 Site Investigation Report.

2.4 Groundwater Sampling – September 2008

On September 24, 2008, AES performed a second groundwater sampling event at the site. This sampling event was conducted in accordance with recommendations presented in the 2008 Site Investigation Report.

2.4.1 Groundwater Measurement Data

During the September 2008 sampling event, groundwater measurements and water quality data were recorded for MW-1 through MW-4 and MW-6 through MW-9. Water quality data for MW-5 was not recorded because of low yield in this well. Groundwater elevations were measured with a Keck water level (to an accuracy of 0.01 foot) and found to range from 29.61 feet bgs in MW-2 down to 38.16 feet bgs in MW-7.

Water quality measurements were made with a YSI Water Quality Meter. Temperature ranged from 13.70°C in MW-4 to 15.32°C in MW-1, and pH ranged from 6.80 to 7.08. Dissolved oxygen concentrations ranged between 2.75 mg/L in MW-2 and 6.11 mg/L in MW-7; oxidation reduction potential (ORP) ranged from -9.6 mV to 50.3 mV; and conductivity was between 1.464 mS and 3.588 mS.

2.4.2 Laboratory Analyses – Groundwater

Groundwater samples for laboratory analysis were collected from MW-1 through MW-4 and MW-6 through MW-9. MW-5 did not produce sufficient water for collection of a groundwater sample during the September 2008 sampling event. All groundwater analytical samples collected from the monitoring wells were submitted to Hall, Albuquerque, New Mexico, for analysis of the following parameters:

- BTEX – EPA Method 8021
- TPH (C_6-C_{36}) GRO, DRO, and MRO – EPA Method 8015 Modified

Benzene concentrations were above the applicable New Mexico WQCC standard of 10 µg/L in MW-8 (65 µg/L) and MW-9 (17 µg/L). Benzene concentrations were below laboratory

detection limits and also well below applicable New Mexico WQCC standards for each of the other wells sampled. Toluene, ethylbenzene, and xylene concentrations were below applicable WQCC standards in each of the wells sampled. Gasoline range organics concentrations were above the laboratory detection limit in MW-7 (0.069 mg/L), MW-8 (0.90 mg/L), and MW-9 (0.32 mg/L). Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled. Tabulated laboratory analytical results and laboratory analytical reports were presented in a Periodic Progress Report submitted to NMOCD on October 29, 2008.

2.5 Groundwater Sampling – January 2009

On January 2 and 5, 2009, AES conducted a third groundwater sampling event at the site.

2.5.1 Groundwater Measurement Data

During the January 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-4 and MW-6 through MW-8. Groundwater measurements were not recorded for MW-5 and MW-9 because they were dry. Groundwater elevations were measured with a Keck water level (with accuracy to 0.01 foot) and ranged from 29.52 feet bgs in MW-2 down to 38.21 feet bgs in MW-7.

Water quality measurements were unavailable during this sampling event due to YSI Water Quality Meter malfunction in the field. Depth to groundwater measurements are presented in Table 1, and Water Sample Collection Forms are included as Appendix B of this CAP.

2.5.2 Laboratory Analyses – Groundwater

Groundwater samples were laboratory analyzed for BTEX and TPH per EPA Methods 8021/8015 at Hall, Albuquerque, New Mexico. Benzene concentrations were above the applicable New Mexico WQCC standard (10 µg/L) in MW-8 with 45 µg/L. Benzene concentrations were below laboratory detection limits, and therefore well below applicable WQCC standards, for each of the other wells sampled.

Toluene, ethylbenzene, and xylene concentrations were below applicable WQCC standards in each of the wells sampled. Gasoline range organics concentrations were above laboratory detection limit (0.050 mg/L) in MW-8 with 1.0 mg/L. Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled.

Tabulated laboratory groundwater analytical results are included in Table 2, and laboratory analytical reports are presented in Appendix C of this CAP.

2.6 Groundwater Sampling – April 2009

AES personnel completed a fourth groundwater monitoring and sampling event at the site on April 7, 2009. Groundwater samples were collected from all wells, except MW-5 (dry).

2.6.1 Groundwater Measurement Data

During the April 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-4 and MW-6 through MW-9. Groundwater measurements were not recorded for MW-5 because the well was dry. Groundwater elevations were measured with a Keck water level (with accuracy to 0.01 foot) and ranged from 29.50 feet bgs in MW-2 to 38.16 feet bgs in MW-7.

Water quality measurements were made with a YSI Water Quality Meter. Temperature ranged from 11.90°C in MW-4 to 13.86°C in MW-1, and pH ranged from 6.86 to 7.31. Dissolved oxygen concentrations ranged between 1.11 mg/L (MW-9) and 3.19 mg/L (MW-1); oxidation reduction potential (ORP) ranged from -108.8 mV to 24.7 mV; and conductivity was between 1.854 mS and 4.596 mS. Depth to groundwater measurements are presented in Table 1, and Water Sample Collection Forms are included as Appendix B.

2.6.2 Laboratory Analyses – Groundwater

Groundwater samples were laboratory analyzed for BTEX and TPH per EPA Methods 8021/8015 at Hall, Albuquerque, New Mexico. Benzene concentrations were above the applicable New Mexico WQCC standard (10 µg/L) in two wells, MW-8 (25 µg/L) and MW-9 (12 µg/L). Benzene concentrations were below laboratory detection limits, and therefore well below applicable WQCC standards, for each of the other wells sampled.

Toluene, ethylbenzene, and xylene concentrations were below applicable WQCC standards in each of the wells sampled. Gasoline range organics concentrations were above the laboratory detection limit (0.050 mg/L) in MW-8 (0.89 mg/L) and MW-9 (0.32 mg/L). Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled.

Tabulated laboratory groundwater analytical results are included in Table 2, and laboratory analytical reports are presented in Appendix C.

2.7 Groundwater Sampling – July 2009

AES personnel completed quarterly groundwater monitoring and sampling event on July7, 2009. Groundwater samples were collected from all wells, except MW-3 (filled with sediment) and MW-5 (dry).

2.7.1 Groundwater Measurement Data

During the July 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-4 and MW-6 through MW-9. Groundwater measurements were not recorded for MW-5 because the well was dry. Groundwater elevations were measured with a Keck water level (with accuracy to 0.01 foot) and ranged from 29.65 feet bgs in MW-2 to 38.29 feet bgs in MW-7.

Water quality measurements were made with a YSI Water Quality Meter. Temperature ranged from 15.28°C (MW-2) to 17.51°C (MW-6), and pH ranged from 7.06 to 7.31. Dissolved oxygen concentrations ranged between 0.80 mg/L (MW-4) and 2.27 mg/L (MW-7); oxidation reduction potential (ORP) ranged from -74.0 mV to 92.6 mV; and conductivity was between 1.557 mS and 3.161 mS. Depth to groundwater measurements are presented in Table 1 and Water Sample Collection Forms are included as Appendix B.

2.7.2 Laboratory Analyses – Groundwater

Groundwater samples were laboratory analyzed for BTEX and TPH per EPA Methods 8021/8015 at Hall, Albuquerque, New Mexico. BTEX concentrations were below applicable WQCC standards, for each of the wells sampled. Gasoline range organics concentrations were above laboratory detection limit (0.050 mg/L) in MW-8 (0.21 mg/L) and MW-9 (0.28 mg/L). Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled. Tabulated laboratory groundwater analytical results are included in Table 2, and laboratory analytical reports are presented in Appendix C.

2.8 Groundwater Sampling – October 2009

On October 12, 2009, AES conducted quarterly groundwater monitoring and sampling event at the site. Groundwater samples were collected from all wells, except MW-5 (dry).

2.8.1 Groundwater Measurement Data

During the October 2009 sampling event, groundwater measurements were recorded for MW-1 through MW-4 and MW-6 through MW-9. Groundwater measurements were not recorded for MW-5 because the well was dry. Groundwater elevations were measured with a Keck water level (with accuracy to 0.01 foot) and ranged from 29.93 feet bgs in MW-2 to 38.49 feet bgs in MW-7.

Water quality measurements were made with a YSI Water Quality Meter. Temperature ranged from 13.11°C (MW-6) to 14.10°C (MW-2). Groundwater pH ranged from 7.00 to 7.43. Dissolved oxygen concentrations were between 1.48 mg/L (MW-8) and 5.91 mg/L (MW-1); oxidation reduction potential (ORP) ranged from -102.1 mV to 293.3 mV; and conductivity was between 1.297 mS and 2.553 mS. Depth to groundwater measurements are presented in Table 1, and Water Sample Collection Forms are included as Appendix B.

2.8.2 Laboratory Analyses – Groundwater

Groundwater samples were laboratory analyzed for BTEX and TPH per EPA Methods 8021/8015 at Hall, Albuquerque, New Mexico. Benzene concentrations were above the applicable New Mexico WQCC standard (10 µg/L) in MW-8 (15 µg/L) and MW-9 (26 µg/L). Benzene concentrations were below laboratory detection limits, and therefore well below applicable WQCC standards, for each of the other wells sampled.

Toluene, ethylbenzene, and xylene concentrations were below applicable WQCC standards in each of the wells sampled. Gasoline range organics concentrations were above laboratory detection limit (0.050 mg/L) in MW-8 (0.52 mg/L) and MW-9 (0.31 mg/L). Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled. Tabulated laboratory groundwater analytical results are included in Table 2, and laboratory analytical reports are presented in Appendix C.

2.9 Groundwater Sampling – January 2010

AES personnel completed the seventh groundwater monitoring and sampling event at the site on January 12, 2010. Groundwater samples were collected from all wells except, MW-5 (dry) and MW-9 (contained 2.37 feet of free product).

2.9.1 Groundwater Measurement Data

During the January 2010 sampling event, groundwater measurements were recorded for MW-1 through MW-4 and MW-6 through MW-8. Groundwater measurements were not recorded for MW-5 because the well was dry. Monitor well MW-9 contained 2.37 feet of crude oil. Groundwater elevations were measured with a Keck water level (with accuracy to 0.01 foot) and ranged from 30.01 feet bgs in MW-2 to 38.64 feet bgs in MW-7.

Water quality measurements were made with a YSI Water Quality Meter. Temperature ranged from 10.88°C (MW-2) to 11.82°C (MW-6), and pH ranged from 7.02 to 7.72. Dissolved oxygen concentrations ranged between 1.73 mg/L (MW-8) and 3.35 mg/L (MW-1); oxidation reduction potential (ORP) ranged from -159.8 mV to -2.9 mV; and conductivity was between 1.615 mS and 4.035 mS.

Based on groundwater measurement data collected during this monitoring and sampling event, the groundwater gradient is south-southeast at a magnitude of 0.031 ft/ft. A groundwater gradient map is included as Figure 4. Depth to groundwater measurements are presented in Table 1, and Water Sample Collection Forms are included as Appendix B.

2.9.2 Laboratory Analyses – Groundwater

Groundwater samples were laboratory analyzed for BTEX and TPH per EPA Methods 8021/8015 at Hall, Albuquerque, New Mexico. BTEX concentrations were below laboratory

detection limits, and therefore well below applicable WQCC standards, for each of the sampled wells.

Gasoline range organics concentrations were above laboratory detection limit (0.050 mg/L) in MW-8 (0.088 mg/L). Diesel and motor oil range organics concentrations were below laboratory detection limits in each of the wells sampled.

Tabulated laboratory groundwater analytical results are included in Table 2 and also presented on Figure 5. Laboratory analytical reports are presented in Appendix C.

3.0 Geology and Hydrogeology

3.1 Geology

Rio Arriba County, New Mexico, is located along the southeastern margin of the San Juan Basin portion of the Colorado Plateau physiographic province. The San Juan Basin is a large structural depression encompassing approximately 22,000 square miles and contains deep Tertiary fill resting on rocks of Late Cretaceous age. The lithology consists primarily of the Mesaverde Group, composed primarily of sandstones. The topography is broad and mostly flat, surrounded by mountains and deep canyons. Major rivers carved deep canyons and mesas, and physical erosion from wind and water chipped and polished the exposed rocks in the canyons.

The regional geology is predominantly Late Cretaceous coastal plains and shoreline and marine units that were deposited along the western margin of the interior seaway. The shallow inland sea transgressed and regressed over a period of 250 million years, depositing the Dakota Sandstone and Mancos Shale units. The Dakota Sandstone records the alternating rise (shale) and fall (sandstones) of sea level as the shoreline moved back and forth across the area about 98 to 100 million years ago. The long-term rise in sea level deposited rocks of the Mancos Group, which includes the Graneros Shale, Greenhorn Limestone, and Carlisle Shale (in order from oldest to youngest). Gradually the sea level dropped again, and the shoreline retreated to the northeast, as deposition of the Mesaverde Group began. The Mesaverde Group consists of alternating sandstones, siltstones, and coal deposited by rivers flowing into the shallow sea.

3.2 Hydrogeology

In the site vicinity, shallow groundwater is encountered within valleys and canyons at depths less than 100 feet and is typically associated with arroyos, which can be incised as much as 20 feet below the valley floor. The depth to groundwater at the site ranges between 29 feet and 38 feet bgs. Based on groundwater measurement data collected during the January

2010 monitoring and sampling event, the groundwater gradient is south-southeast at a magnitude of 0.031 ft/ft.

4.0 Conceptual Site Model and Proposed Remediation Standards

The Conceptual Site Model for the BMG Highway 537 Llaves Pipeline Spill (2008) includes the following potential receptors and exposure pathways for both current and future uses:

Potential Receptors and Exposure Pathways for Current and Future Uses

Contaminated Media	***Receptor***	***Potentially Completed Exposure Pathway***
Surface Soil	Construction Worker	NA – Contaminated soil removed
Subsurface Soil	Construction Worker	Dermal contact, inhalation, ingestion
Subsurface Soil	Groundwater	Leaching via precipitation and infiltration
Groundwater	On-site or Off-site Domestic Well	Ingestion or inhalation (Note: no current nearby domestic wells within ½ mile of site)
Surface Water	Human or Wildlife Consumption	Dermal contact, inhalation, ingestion

Because of the early response work involving the removal of almost 4,000 cubic yards of contaminated soil from the site, no surface soil contamination is present. However, subsurface soil has potentially complete exposure pathways for construction worker activities and for migration to groundwater via leaching. Groundwater contamination has also occurred as a result of this release, so a groundwater exposure pathway could be complete in the future if subsurface soil contamination leached to groundwater or if human consumption were to occur from an impacted potable well. At this time, no potable wells are known to be present within one-half mile of the site. Surface water in the adjacent arroyo could become a complete exposure pathway if petroleum hydrocarbon contaminated groundwater migrated to the extent that it discharged at the surface in the arroyo.

4.1 Proposed Remedial Standards

Based on the potentially complete exposure pathways identified above (including leaching to groundwater), the final remediation levels are proposed to be based on the New Mexico Environment Department (NMED) Groundwater Quality Bureau (GWQB) Soil Screening Guidelines (2006). Proposed remedial levels are presented below, and if any additional

contaminants of concern are identified during the remedial process, the most stringent applicable remedial level will be applied.

Contaminants of Concern and Proposed Cleanup Standards for Soil and Groundwater at BMG Highway 537 Llaves Pipeline Spill (2008)

Contaminant of Concern	*Proposed Groundwater Cleanup Standard (µg/L)*	*Proposed Soil Cleanup Standard (mg/kg)*	*Applicable Standard or Soil Screening Level*
TPH	NA	100	NMOCD
Total BTEX	NA	50	NMOCD
Benzene	10	0.0201	WQCC/ NMED – Groundwater Leaching DAF 20
Toluene	750	21.7	WQCC/ NMED – Groundwater Leaching DAF 20
Ethylbenzene	750	20.2	WQCC/ NMED – Groundwater Leaching DAF 20
Xylene	620	2.06	WQCC/ NMED – Groundwater Leaching DAF 20
Naphthalene	30	0.394	WQCC/ NMED – Groundwater Leaching DAF 20

5.0 Proposed Corrective Action Technology

5.1 MPE Technology

High vacuum multi-phase extraction (MPE) consists of using extraction wells screened in the unsaturated zone to induce air, vapor and liquid flow through the unsaturated zone by creating a pressure gradient through the application of high vacuum (>20" Hg) to the wells. The MPE approach can enhance the recovery of non-aqueous phase liquids, volatilization of contaminants dissolved in pore water, and desorption of contaminants from the surfaces of soil particles.

Based on the documented site geologic conditions and AES' experience with the effectiveness of properly pilot studied MPE systems at similar sites, it appears that MPE is a viable technology for remediation of petroleum hydrocarbon contaminated soil and the presence of free product at this site. Based on site conditions and equipment specifications, AES anticipates a radius of influence (ROI) of approximately 25 to 30 feet at an applied vacuum of 20" Hg.

To implement the use of MPE as a remediation approach at this site, AES proposes to install five MPE wells in the vicinity of MW-9, which currently contains 2.37 feet of free product. The system will use a manifold to connect the extraction wells so that each one can be controlled individually and can be operated either as an extraction point or an air inlet point. The proposed well locations and system design information are presented in Figure 6, and a proposed MPE well construction schematic is included as Figure 7.

5.2 MPE System Operation

A mobile MPE remediation system will be used to conduct the remedial action at this site. This system is a trailer-mounted remediation unit designed around the use of an internal combustion engine (ICE) to provide high (>20" Hg) vacuum for conducting multi-phase (vapor/liquid) extraction and treatment. The ICE unit consists of an RSI S.A.V.E. II Model V3 single engine modular base system, with a compressive thermal oxidizer (the power source) with a destruction rate of up to 30 lbs/hour, a condensate separation and treatment tank, and a Phoenix 1000 Automation System. The RSI unit is capable of generating air flows of up to 55 cubic feet per minute (SCFM) at a vacuum of 20" Hg while at an engine operating speed of 2,000 revolutions per minute (RPM).

AES will install 1-inch diameter reinforced nylon tubing inside each MPE well and will provide excess tubing so the extraction point depth can be adjusted as needed to suit operational conditions. Each MPE wellhead will be capped with a slip-fit cap that has a compression-fit

vacuum hose inlet, a 0.25-inch ball valve for air flow control, and a vacuum gauge. Each MPE well will be connected to the ICE system via a single 2-inch reinforced vacuum hose attached to the main air inlet on the ICE system. The vacuum line for each MPE well will be connected directly to the main vacuum hose at a point near the wellhead.

In order to minimize the installation time needed to begin the remediation, the system will be installed using above ground piping to connect the extraction wells and manifold piping to the ICE unit. On startup, the MPE system will initially be operated similar to a pilot study in order to fully evaluate flow processes and optimize the system for the site. The startup/shakedown will be conducted for approximately three 8-hour days. The startup will include a series of step-increased applications (a minimum of four) in the applied vacuum flow. During startup, the following parameters will be continuously monitored in order to optimize the system design and operation: 1) applied vacuum at the vacuum extraction wellhead; 2) observed vacuum in each observation well; 3) vapor flow rate, including the flow stream temperature and pressure at the location of the flow rate measurement to accurately convert the rate to standard temperature and pressure; and 4) soil gas sampling by OVM and lower explosion limit (LEL) meter. Because the remediation system is based on an ICE system, which results in nearly complete destruction of hydrocarbon vapors, no vapor mitigation is anticipated for the duration of the remediation activity.

VOC air analysis will be conducted during operation of the MPE system via the automated on-board gas monitoring function of the ICE unit. Results will be reported as parts per million by volume (ppmv) for total volatiles in the influent air. In addition, laboratory analytical samples for VOCs in air will be collected once at system startup and again just prior to system shutdown. On each occasion, VOC samples will be collected from the influent air and from the post-treatment effluent air. These laboratory samples will be submitted to Hall in Albuquerque, New Mexico, for laboratory analysis of the following parameters:

- BTEX – EPA Method 8021
- TPH GRO – EPA Method 8015 Modified

Achieving the specified remediation goals is anticipated to require operation of the system for approximately three to six months. Final closure will be determined by closure sampling of the contaminated soil zones at locations TH-1 and TH-2. The decision to conduct closure sampling will be based on analysis of influent air BTU content collected during system operation.

At the point at which influent air concentrations have reached asymptotic levels for a period of 15 consecutive days the system will be shut down for 7 days. After the shut down, the system will be restarted and allowed to run for an additional 7 days. If at any time during

the restart the influent air concentrations exceed the pre-shut down asymptotic level by greater than 5 percent, the system will be left in operation for an additional 15 days. At the completion of the second 15-day period, the shut-down sequence will be repeated.

Upon completing the second shut-down sequence, or if the initial shut-down is satisfactory, AES proposes to collect soil confirmation samples for evaluation of the soil contamination conditions, after which the soil analytical results will be utilized to determine the next step in completing the remediation. If the confirmation soil samples are below NMOCD action levels, AES will submit a final report to NMOCD documenting the achievement of final remediation objectives and requesting final closure of the release incident. However, if the soil samples indicate continued presence of petroleum hydrocarbon contamination, AES will propose additional system operation or possibly provide modifications to the CAP. Startup and MPE operational procedures will be conducted according to the U.S. Army Corps of Engineers (USACE) *Engineering and Design: Multi-Phase Extraction, June 1999.*

5.3 Notification of Utilities

AES will utilize the New Mexico One-Call system to identify and mark all underground utilities at the site before initiating drilling activities. AES will contact separately any utilities not participating in the New Mexico One-Call system.

5.4 Notification of Client and Regulatory Agency

AES will notify Mr. Mike Dimond of BMG, Craig Schmitz, property owner, and Mr. Brandon Powell and Edward Hansen of NMOCD via letter before beginning field activities.

5.5 Health and Safety Plan

Prior to the start of the CAP installation activities, AES will prepare and implement a comprehensive site-specific Health and Safety Plan (HASP) addressing the proposed scope of work and associated monitoring and sampling requirements. All employees and subcontractors will be required to read and sign the HASP to acknowledge their understanding of the information contained within the HASP. The HASP will be implemented and enforced on site by the assigned Site Safety and Health Officer. Daily tailgate meetings will be held and documented during field activities and addressed site-specific health and safety concerns or issues.

5.6 Remediation Well installation

A CME-75 auger drilling rig will be utilized to install the remediation system wells. All five wells will be installed to an estimated depth of 36 feet bgs to ensure the wells will reach the deepest zone of petroleum hydrocarbon contaminated soil, free product, and petroleum contaminated groundwater.

The MPE wells will be constructed of 2-inch diameter PVC well casing and slotted screen with interlocking, o-ring sealed joints. The base of the well will be a 2-inch diameter PVC well point joined to the bottom screened section with an interlocking, o-ring sealed joint. Well screens will extend from the base of the boring (36 feet) to a depth of 26 feet bgs. Well casing will extend from 26 feet bgs to 3 feet above the ground surface. The annular space, 7 inches in diameter, will be filled with 10-20 silica sand from the base of the boring up to a depth of 24 feet bgs. A hydrated bentonite seal will be placed from 24 feet bgs to a depth of 16 foot bgs. Grout, consisting of cement and bentonite, will be placed from a depth of 24 feet bgs to 1 foot bgs. A concrete collar and steel surface protector will be installed to ensure surface protection for the well. Proposed MPE well construction details are presented on Figure 7.

Strict decontamination procedures will be employed to ensure that augers and down-hole sampling equipment are properly cleaned between each use. Decontamination will consist of power-washing equipment with water and Alconox followed by thorough rinsing with clean water.

5.7 Waste Disposal

Drill cuttings are anticipated to be generated during the advancement of soil borings, which will be drummed and disposed of at the TNT Landfarm. Petroleum contaminated groundwater and free product produced by the MPE system will be stored on-site in a 100 barrel (bbl) tank and periodically disposed of at the TNT Landfarm. All waste will be characterized in accordance with TNT Landfarm requirements prior to disposal.

6.0 Confirmation Sampling

6.1 Soil

6.1.1 Confirmation Soil Sample Collection

After completion of remedial activities, confirmation soil borings will be advanced at the site. Closure soil samples will be collected from each soil boring to confirm that soil remediation objectives have been met through operation of the MPE system. The samples will be collected using a direct push rig and will be collected from discrete intervals within the pre-cleanup petroleum hydrocarbon contamination zones. Proposed confirmation boring locations will be submitted for NMOCD approval prior to installation.

The samples will be collected in new, disposable plastic sampling tubes. Because the samples are intended for laboratory confirmation, no field screening of these samples will be conducted. Soil sampling for laboratory analysis will be completed in strict accordance with

USEPA Environmental Response Team's SOPs. Once collected, sample containers will be placed on ice in insulated coolers and shipped at less than 6°C to the analytical laboratory.

A Soil Boring Log will be completed for each soil confirmation boring. These logs will record sample depth and method of collection, as well as observations of soil moisture, color, density, grain size, plasticity, contaminant presence, and overall stratigraphy.

6.1.2 Laboratory Analysis – Soil

Soil samples collected from the confirmation borings will be submitted to an EPA-approved laboratory, Hall Environmental Analysis Laboratory (Hall), Albuquerque, New Mexico, for laboratory analysis of the following parameters:

- BTEX – EPA Method 8021
- TPH (C6-C36) GRO, DRO, and MRO – EPA Method 8015 Modified

For all laboratory soil samples, quality assurance and quality control (QA/QC) procedures, sample preservation, apparatus required, and analyses performed were in accordance with USEPA Document EPA-600, "Methods for Chemical Analysis for Water and Wastes" dated July 1982; and USEPA document SW-846, 3rd Edition, "Test Methods for Evaluating Solid Waste: Physical Chemical Methods", dated November 1986.

6.2 Groundwater

6.2.1 Quarterly Groundwater Monitoring and Sampling

AES proposes to continue quarterly groundwater sample collection during operation of the MPE system as a means to monitor progress of the remediation system. AES anticipates that quarterly groundwater sample analytical data will exhibit decreases in BTEX and TPH concentrations in wells that contained these compounds as well as the complete removal of free product.

6.2.2 Laboratory Analysis – Groundwater

Groundwater samples, collected quarterly from the monitoring wells, will be submitted to Hall, Albuquerque, New Mexico, for laboratory analysis of the following parameters:

- BTEX – EPA Method 8021B
- TPH (C6-C36) GRO, DRO, and MRO – EPA Method 8015B

For all laboratory samples, quality assurance and quality control (QA/QC) procedures, sample preservation, apparatus required, and analyses performed were in accordance with USEPA Document EPA-600, "Methods for Chemical Analysis for Water and Wastes" dated

July 1982; and USEPA document SW-846, 3rd Edition, "Test Methods for Evaluating Solid Waste: Physical Chemical Methods", dated November 1986.

7.0 Deliverables

7.1 MPE System Startup and As-Built Report

After approval by NMOCD to proceed with installation and operation of the MPE system, AES proposes to begin system installation within 60 days, which will allow for manufacture and transport of the remediation unit from Ventura, California. Within 30 days of completing the startup activities outlined above, AES will submit a written report to the NMOCD to document the startup and initial operation of the MPE system. The report will provide the following to NMOCD:

- A narrative of the startup activities;
- Technical and other data;
- As-built diagrams;
- Soil boring logs;
- MPE well completion reports;
- System specifications; and
- Identification of applicable permits and clearances;

7.2 Quarterly Progress Reports

AES will conduct quarterly groundwater monitoring and sampling, along with completing operations reports for the MPE system. Groundwater sampling results and MPE systems operations summaries will be prepared into quarterly progress reports and submitted to NMOCD for review. Reports will include applicable figures, tabulated laboratory analytical data, graphs showing data trendlines, and RSI summary operations reports.

8.0 Proposed Schedule

AES proposes the following schedule for completing the proposed work scope:

Proposed Project Schedule

	Proposed Task	***Days from CAP Approval***
1	Obtain permits and clearances required to install and operate MPE system;	30
2	Complete MPE installation and begin startup;	60
3	Prepare and submit results of MPE installation and startup.	90
4	Complete quarterly groundwater monitoring and sampling.	
5	Final Closure Report	30 days after obtaining final soil and groundwater samples

9.0 Certification

I, the undersigned, am personally familiar with the information submitted in this Corrective Action Plan, prepared on behalf of Benson-Montin-Greer for the Llaves Pipeline 2008 Spill located in Rio Arriba County, New Mexico. I attest that it is true and complete to the best of my knowledge.

Elizabeth McNally, P.E.
Principal

Ross Kennemer
Principal

10.0 References

Animas Environmental Services, LLC, 2008. Site Investigation Report/Highway 537 Llaves Oil Pipeline Spill (2008), Benson Montin Greer, NW¼ NE¼ of Section 18, T25N, R3W, Rio Arriba County, New Mexico, June 2008.

U.S. Army Corps of Engineers, 2002. *Engineering and Design: Multi-Phase Extraction, June 1999.*

U.S. Environmental Protection Agency (USEPA). 1982. *Methods for Chemical Analysis for Water and Wastes.* Document EPA-600, July, 1982.

USEPA. 1992. SW-846, 3rd Edition, *Test Methods for Evaluating Solid Waste: Physical Chemical Methods*, dated November, 1986, and as amended by Update One, July, 1992.

USEPA. 1991. *Site Characterization for Subsurface Remediation*, EPA 625/4-91-026, November, 1991.

USEPA. 1997. *Expedited Site Assessment Tools for Underground Storage Tank Sites.* OSWER 5403G and EPA 510B-97-001, March, 1997.

USEPA. 2001. Contract Laboratory Program (CLP) Guidance for Field Samplers. OSWER 9240.0-35, EPA 540-R-00-003. June, 2001.

U.S. Geological Survey. 1965. Schmitz Ranch, Rio Arriba County, New Mexico 7.5-minute topographic quadrangle map.

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-1	05-May-08	31.45	7082.57	7051.12	7.62	4.051	1.48	15.57	141.9
MW-1	24-Sep-08	31.91	7082.57	7050.66	6.80	3.588	2.97	15.32	18.1
MW-1	02-Jan-09	31.90	7082.57	7050.67	NM				
MW-1	07-Apr-09	31.92	7082.57	7050.65	7.31	4.536	3.19	13.86	16.8
MW-1	07-Jul-09	31.95	7082.57	7050.62	7.31	3.161	1.48	16.43	52.6
MW-1	12-Oct-09	32.20	7082.57	7050.37	7.43	2.553	5.91	13.97	293.3
MW-1	12-Jan-10	32.41	7082.57	7050.16	7.72	4.035	3.35	11.12	-11.2
MW-2	05-May-08	29.01	7079.94	7050.93	7.59	2.276	2.21	16.43	90.8
MW-2	24-Sep-08	29.61	7079.94	7050.33	6.93	2.073	2.75	14.93	36.0
MW-2	02-Jan-09	29.52	7079.94	7050.42	NM				
MW-2	07-Apr-09	29.50	7079.94	7050.44	6.93	2.560	1.93	13.38	21.5
MW-2	07-Jul-09	29.65	7079.94	7050.29	7.22	2.067	1.07	15.28	45.9
MW-2	12-Oct-09	29.93	7079.94	7050.01	7.37	1.665	5.63	14.10	178.1
MW-2	12-Jan-10	30.01	7079.94	7049.93	7.51	2.297	2.82	10.88	-2.9
MW-3	05-May-08	29.49	7081.10	7051.61	7.79	4.083	2.42	15.91	75.7
MW-3	24-Sep-08	30.07	7081.10	7051.03	6.85	2.778	2.80	14.44	18.5
MW-3	02-Jan-09	30.01	7081.10	7051.09	NM				
MW-3	07-Apr-09	30.02	7081.10	7051.08	6.86	4.596	2.08	12.19	24.7
MW-3	07-Jul-09	30.16	7081.10	7050.94	NM - FILLED WITH SEDIMENT				
MW-3	12-Oct-09	30.41	7081.10	7050.69	7.23	2.316	2.24	13.88	8.3
MW-3	12-Jan-10	30.50	7081.10	7050.60	7.35	2.985	2.87	11.75	-27.2
MW-4	05-May-08	32.74	7084.79	7052.05	7.70	2.699	2.36	14.62	-37.5
MW-4	24-Sep-08	33.21	7084.79	7051.58	6.98	2.163	3.04	13.70	42.9
MW-4	02-Jan-09	33.29	7084.79	7051.50	NM				

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BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-4	07-Apr-09	33.27	7084.79	7051.52	6.91	2.779	1.35	11.90	21.1
MW-4	07-Jul-09	33.32	7084.79	7051.47	7.20	2.124	0.80	17.17	-41.5
MW-4	12-Oct-09	33.56	7084.79	7051.23	7.29	1.792	2.00	13.70	43.7
MW-4	12-Jan-10	33.68	7084.79	7051.11	7.36	2.374	2.03	11.53	-26.7
MW-5	05-May-08		7087.98	NA	NM - WELL DRY				
MW-5	24-Sep-08		7087.98	NA	NM - WELL DRY				
MW-5	02-Jan-09		7087.98	NA	NM - WELL DRY				
MW-5	07-Apr-09		7087.98	NA	NM - WELL DRY				
MW-5	07-Jul-09		7087.98	NA	NM - WELL DRY				
MW-5	12-Oct-09		7087.98	NA	NM - WELL DRY				
MW-5	12-Jan-10		7087.98	NA	NM - WELL DRY				
MW-6	05-May-08	36.03	7088.43	7052.40	7.73	1.764	2.43	13.95	87.3
MW-6	24-Sep-08	36.44	7088.43	7051.99	7.00	1.464	3.95	14.19	50.3
MW-6	02-Jan-09	36.50	7088.43	7051.93	NM				
MW-6	07-Apr-09	36.46	7088.43	7051.97	7.00	1.854	2.21	11.98	22.2
MW-6	07-Jul-09	36.67	7088.43	7051.76	7.27	1.557	1.35	17.51	57.8
MW-6	12-Oct-09	36.78	7088.43	7051.65	7.43	1.297	2.06	13.11	66.0
MW-6	12-Jan-10	36.92	7088.43	7051.51	7.44	1.615	2.24	11.82	-19.2
MW-7	05-May-08	37.71	7090.15	7052.44	NM - LOW YIELD				
MW-7	24-Sep-08	38.16	7090.15	7051.99	7.08	1.572	6.11	13.99	36.3
MW-7	02-Jan-09	38.21	7090.15	7051.94	NM				
MW-7	07-Apr-09	38.16	7090.15	7051.99	6.87	1.955	1.46	12.80	22.0
MW-7	07-Jul-09	38.29	7090.15	7051.86	7.06	1.599	2.27	16.48	92.6
MW-7	12-Oct-09	38.49	7090.15	7051.66	7.18	1.365	4.64	13.48	77.0

TABLE 1
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-7	12-Jan-10	38.64	7090.15	7051.51	7.22	1.679	1.97	11.02	-6.5
MW-8	05-May-08	33.71	7085.20	7051.49	NM - LOW YIELD				
MW-8	24-Sep-08	34.20	7085.20	7051.00	6.88	1.672	3.06	15.24	-9.6
MW-8	05-Jan-09	34.21	7085.20	7050.99	NM				
MW-8	07-Apr-09	34.28	7085.20	7050.92	6.98	2.061	1.81	13.30	-108.8
MW-8	07-Jul-09	34.31	7085.20	7050.89	7.11	1.811	1.17	16.26	-74.0
MW-8	12-Oct-09	34.54	7085.20	7050.66	7.00	1.416	1.48	13.27	-102.1
MW-8	12-Jan-10	34.69	7085.20	7050.51	7.02	1.699	1.73	11.13	-159.8
MW-9	05-May-08	31.81	7083.64	7051.83	7.85	1.955	2.59	15.01	-37.9
MW-9	24-Sep-08	32.26	7083.64	7051.38	7.08	1.515	2.84	14.03	43.3
MW-9	05-Jan-09		7083.64	NA	NM - WELL DRY				
MW-9	07-Apr-09	32.34	7083.64	7051.30	6.89	1.876	1.11	12.85	7.0
MW-9	07-Jul-09	32.41	7083.64	7051.23	7.19	1.672	1.14	16.77	-9.7
MW-9	12-Oct-09	32.63	7083.64	7051.01	7.22	1.352	2.10	13.78	72.9
MW-9	12-Jan-09	34.80	7083.64	NA	NM - 2.37 feet of Crude oil				

NOTE: NS = NOT SAMPLED
NM = NOT MEASURED
NA = NOT AVAILABLE
TBS = TO BE SURVEYED

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
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-May-08	<1.0	<1.0	<1.0	<2.0	0.092	<1.0	<5.0
MW-1	24-Sep-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-1	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	24-Sep-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-2	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	24-Sep-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	07-Jul-09	NS - Well filled with sediment						
MW-3	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-3	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	24-Sep-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-4	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	05-May-08	NS - Well Dry						
MW-5	24-Sep-08	NS - Well Dry						
MW-5	02-Jan-09	NS - Well Dry						
MW-5	07-Apr-09	NS - Well Dry						
MW-5	07-Jul-09	NS - Well Dry						

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

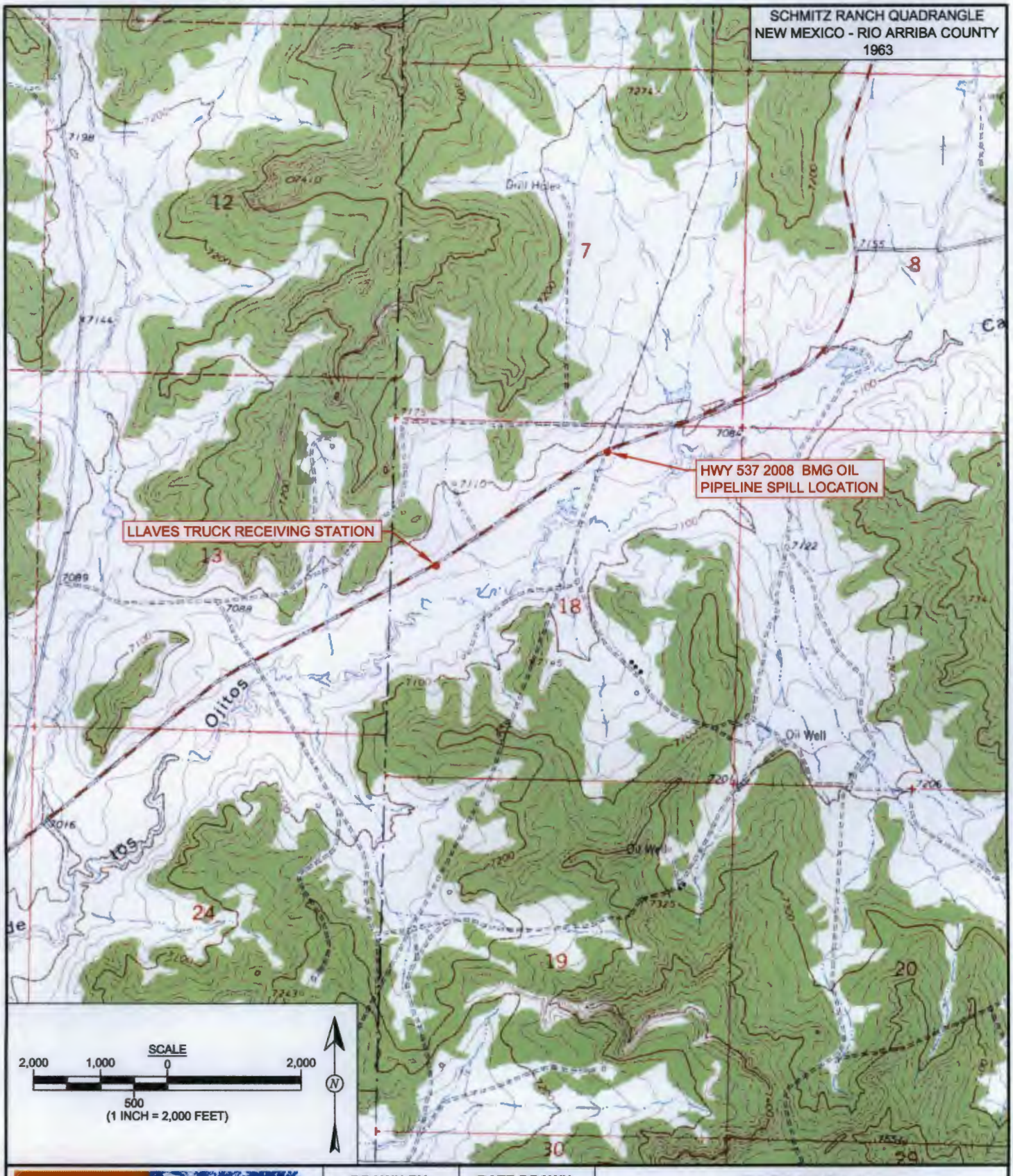
Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-5	12-Oct-09	NS - Well Dry						
MW-5	12-Jan-10	NS - Well Dry						
MW-6	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	24-Sep-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-6	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	05-May-08	2.8	<1.0	<1.0	<2.0	0.40	<1.0	<5.0
MW-7	24-Sep-08	<1.0	<1.0	<1.0	<2.0	0.069	<1.0	<5.0
MW-7	02-Jan-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	07-Apr-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	07-Jul-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	12-Oct-09	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-7	12-Jan-10	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-8	05-May-08	**26**	10	<1.0	<2.0	1.10	<1.0	<5.0
MW-8	24-Sep-08	**65**	26	<1.0	<2.0	0.90	<1.0	<5.0
MW-8	05-Jan-09	**45**	25	<1.0	2.2	1.0	<1.0	<5.0
MW-8	07-Apr-09	**25**	20	<1.0	2.9	0.89	<1.0	<5.0
MW-8	07-Jul-09	7.5	4.5	<1.0	<2.0	0.21	<1.0	<5.0
MW-8	12-Oct-09	**15**	11	<1.0	<2.0	0.52	<1.0	<5.0
MW-8	12-Jan-10	<1.0	<1.0	<1.0	<2.0	0.088	<1.0	<5.0
MW-9	05-May-08	6.2	7.5	<1.0	2.3	0.90	<1.0	<5.0
MW-9	24-Sep-08	**17**	12	<1.0	<2.0	0.32	<1.0	<5.0
MW-9	05-Jan-09	NS - Well Dry						
MW-9	07-Apr-09	**12**	6.2	<1.0	<2.0	0.32	<1.0	<5.0
MW-9	07-Jul-09	7.0	5.3	<1.0	<2.0	0.28	<1.0	<5.0
MW-9	12-Oct-09	**26**	2.0	<1.0	<2.0	0.31	<1.0	<5.0
MW-9	12-Jan-10	NS - 2.37 FEET OF CRUDE OIL						

NOTE: NS = Not Sampled
GRO = Gasoline Range Organics
DRO = Diesel Range Organics

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
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***

MRO = Motor Oil Range Organics



DRAWN BY: N. Willis	**DATE DRAWN:** May 5, 2009	**FIGURE 1**
REVISIONS BY: C. Lameman	**DATE REVISED:** August 19, 2010	**TOPOGRAPHIC SITE LOCATION MAP**
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010	BMG HIGHWAY 537 LLAVES 2008 PIPELINE OIL SPILL NW ¼ NE ¼, SEC. 18, T25N, R3W SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO N36°24.214', W107°11.053'
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010	

AES
Animas Environmental Services, LLC

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 1 TOPOGRAPHIC SITE LOCATION MAP

SUMMARY OF SOIL ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Sample I.D.	Date Sampled	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
		Analytical Method	8021B	8021B	8021B	8021B	8015B	8015B	8015B
USEPA Region 6 Screening Levels			1.6	520	230	210	NE	NE	NE
NMOCD Action Level			50				100		
TH-1	14-Apr-08	17-19	15	81	23	130	2,700	14,000	3,100
TH-1	14-Apr-08	33-33.5	<0.050	0.064	<0.050	<0.10	<5.0	710	110
TH-2	14-Apr-08	7.5-8	<0.050	0.082	<0.050	0.13	<5.0	<10	<50
TH-2	14-Apr-08	19	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-2	14-Apr-08	34	45	160	40	230	5,200	20,000	3,800
TH-3/MW-1	14-Apr-08	37-38	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-4/MW-2	14-Apr-08	31	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-5/MW-3	14-Apr-08	29	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-6/MW-4	14-Apr-08	28.5	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-8/MW-6	15-Apr-08	31	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-9/MW-7	15-Apr-08	33	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-10/MW-8	16-Apr-08	31	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-11/MW-9	16-Apr-08	27	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-12	16-Apr-08	4	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-13	16-Apr-08	4	1.5	12	5.1	31	320	300	56
TH-14	16-Apr-08	4	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50
TH-15	16-Apr-08	4	<0.050	<0.050	<0.050	<0.10	<5.0	<10	<50

NOTE: NE = Not Established
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics

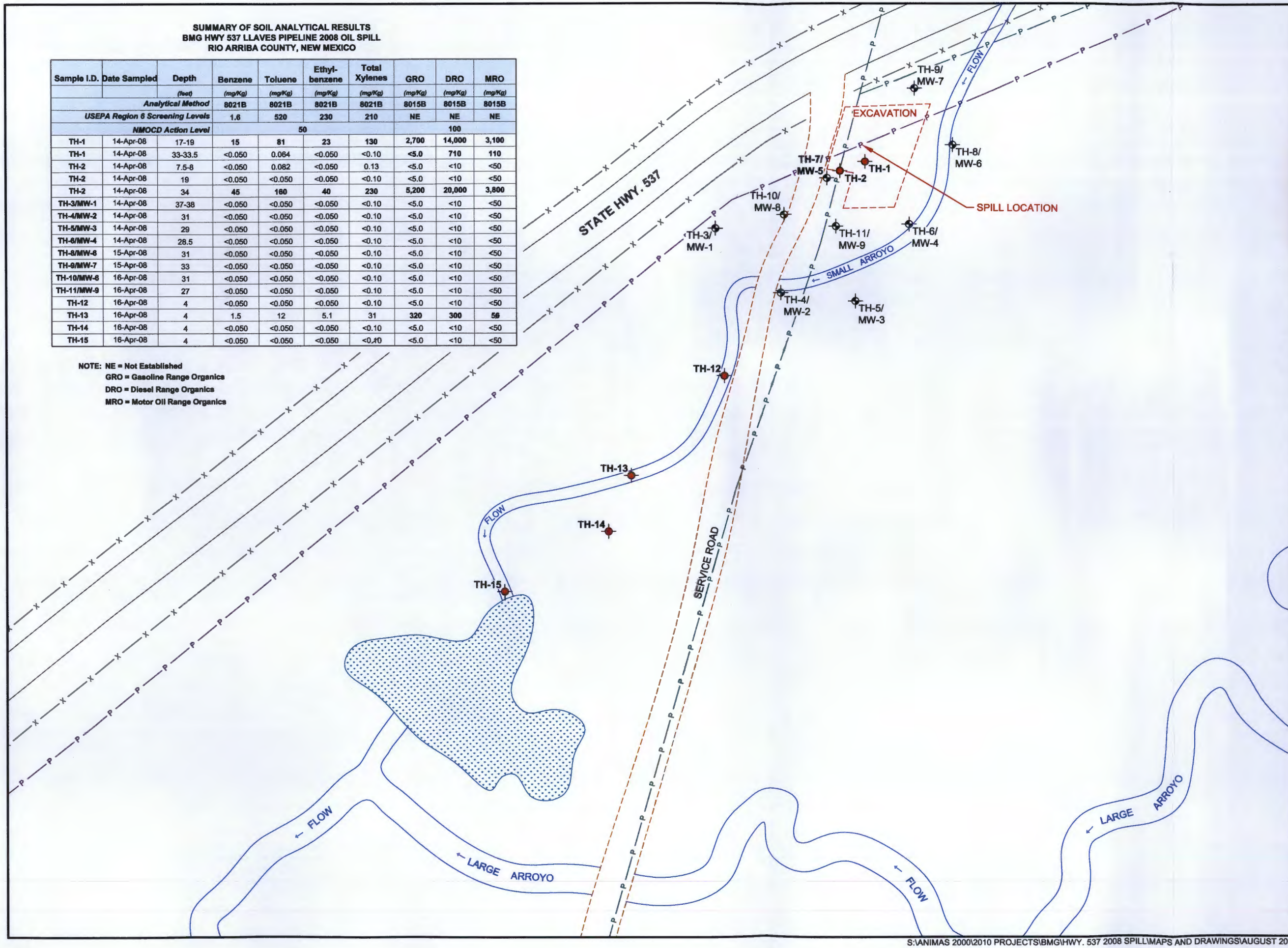


FIGURE 2

GENERAL SITE PLAN AND SOIL SAMPLING RESULTS, 2008
BMG HIGHWAY 537
LLAVES 2008 PIPELINE OIL SPILL
NW ¼ NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH,
RIO ARRIBA COUNTY, NEW MEXICO

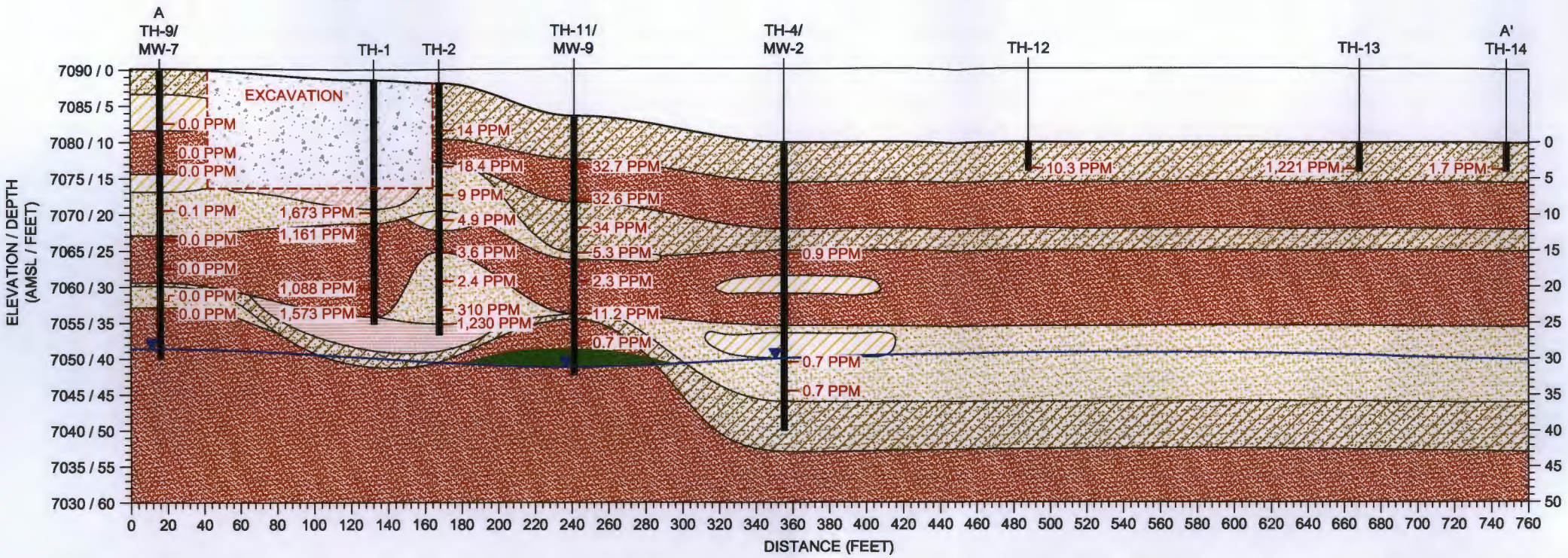
Animas Environmental Services, LLC

DRAWN BY: N. Willis	**DATE DRAWN:** May 5, 2009
REVISIONS BY: C. Lameman	**DATE REVISED:** August 19, 2010
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010

LEGEND
- SOIL BORING AND MONITORING WELL LOCATIONS (INSTALLED FEBRUARY 2008)
- SOIL BORING LOCATIONS (COMPLETED IN FEBRUARY 2008)
- FENCE
- BMG LLAVES 4 INCH OIL PIPELINE
- ENTERPRISE 4 INCH OIL PIPELINE
- DIRT ROAD
- HIGHWAY
- WASHES AND ARROYOS
- FLOOD PLANS AND WET LANDS

SCALE
125 75 0 125
25
(1 INCH = 125 FEET)

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 2 SITE PLAN AND SOIL SAMPLING RESULTS, 2008



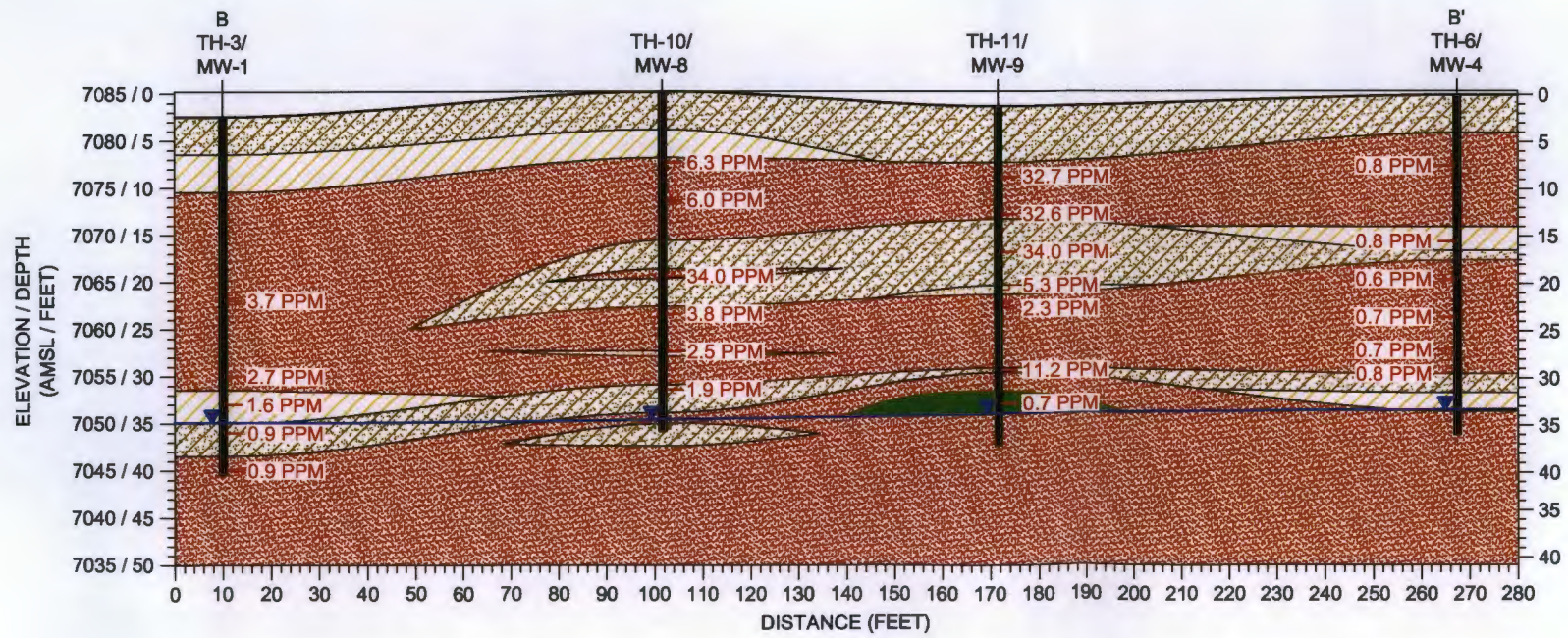


FIGURE 3

GEOLOGICAL CROSS SECTIONS AND SOIL SCREENING RESULTS 2008

BMG HIGHWAY 537
LLAVES 2008 PIPELINE OIL SPILL
NW ¼ NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH,
RIO ARRIBA COUNTY, NEW MEXICO

Animas Environmental Services, LLC

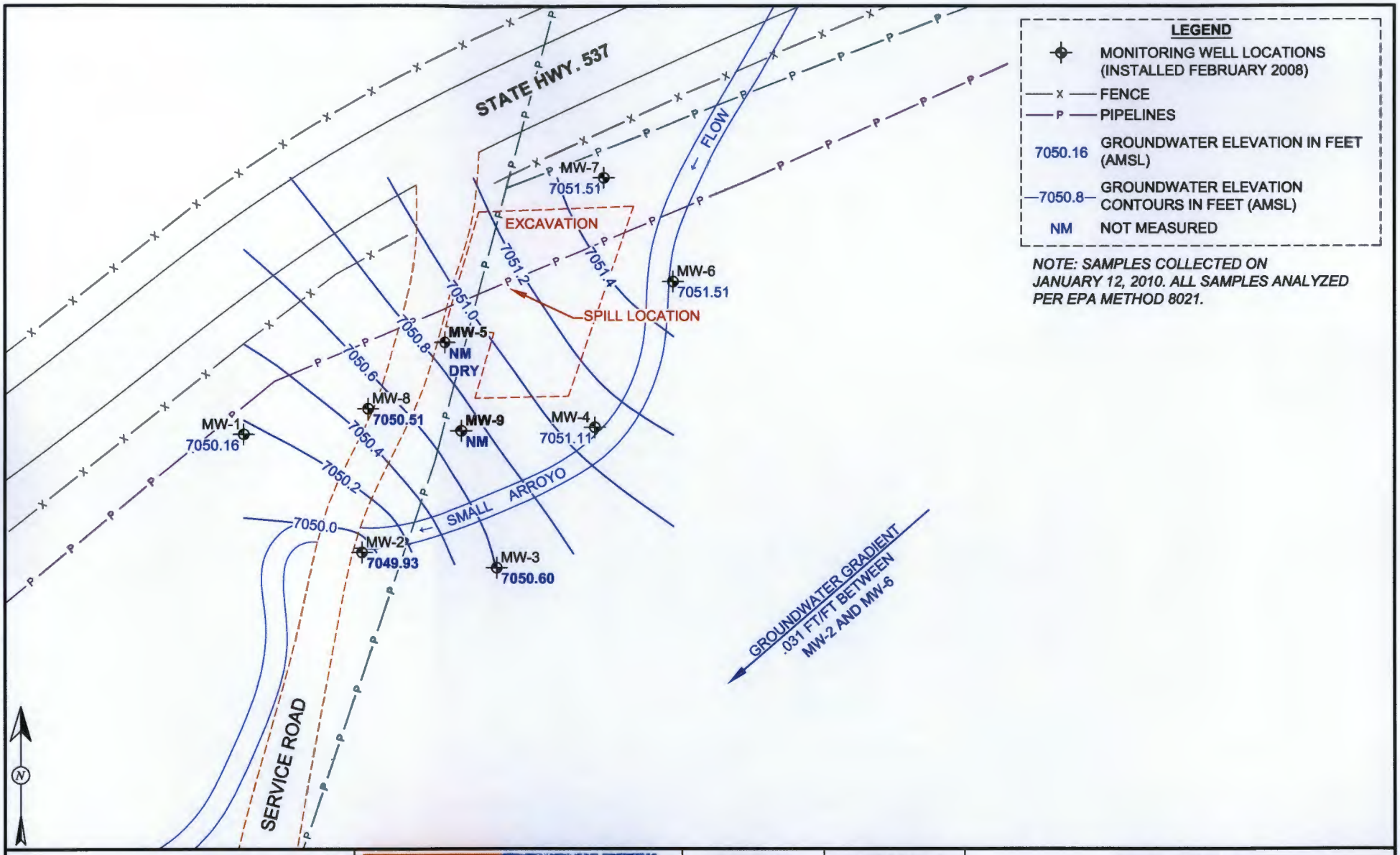
DRAWN BY: N. Willis	**DATE DRAWN:** July 26, 2010
REVISIONS BY: N. Willis	**DATE REVISED:** July 26, 2010
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010

LEGEND

- 0.0 PPM OVM/PID READINGS (PARTS PER MILLION)
- GROUNDWATER ELEVATION
- FREE PRODUCT
- BACKFILL
- CLAY
- CLAYEY SAND
- COARSE GRAINED SANDS
- FINE GRAINED SANDS
- SANDSTONE
- SANDY CLAY

NOT TO SCALE

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 3 GEOLOGICAL X SECTIONS AND SOIL SCREENING RESULTS, 2008

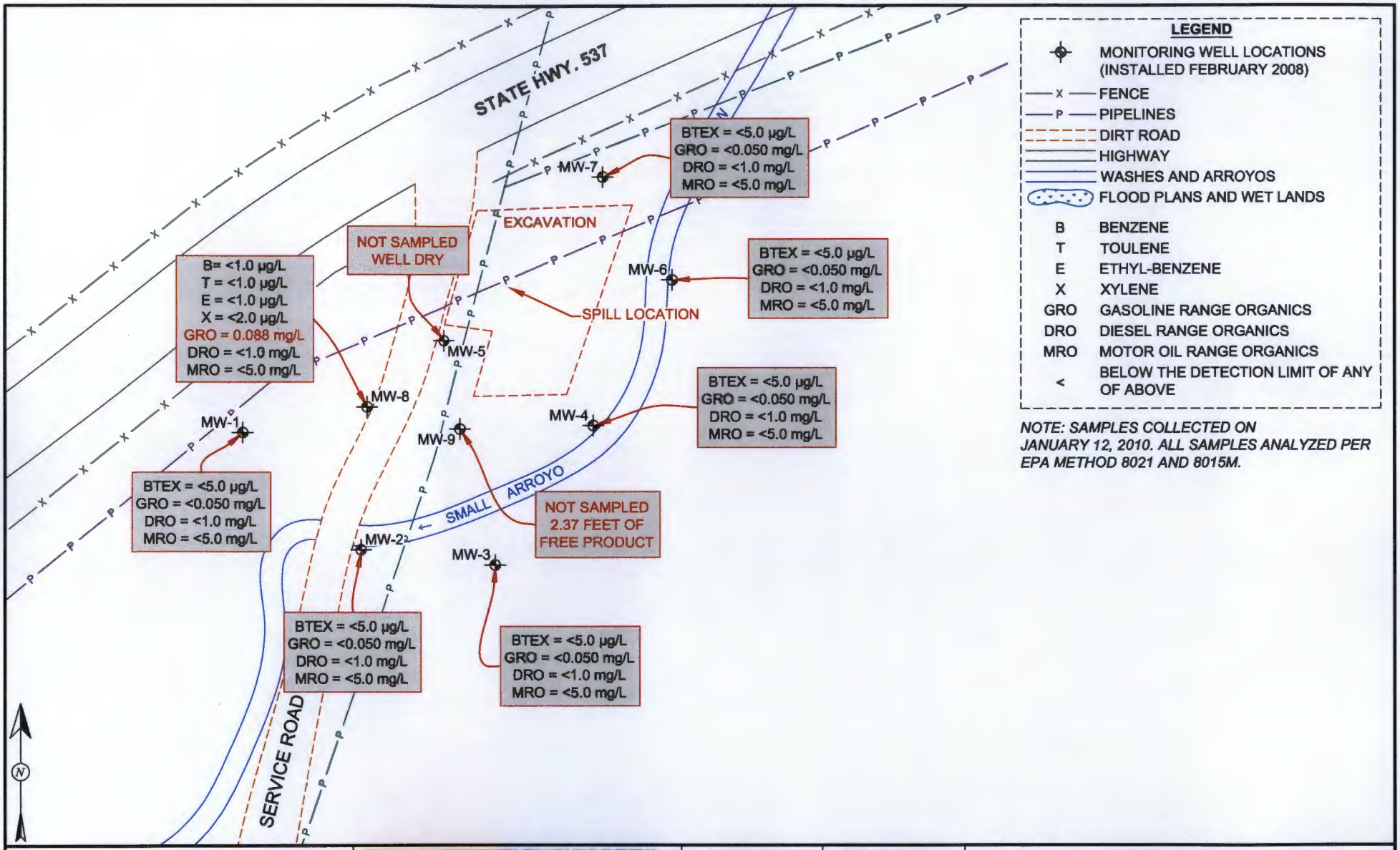


SCALE
100 50 0 100
25
(1 INCH = 100 FEET)

Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: May 5, 2009	**FIGURE 4**
REVISIONS BY: C. Lameman	DATE REVISED: August 19, 2010	**GROUNDWATER ELEVATION CONTOURS JANUARY 2010**
CHECKED BY: R. Kennemer	DATE CHECKED: September 13, 2010	BMG HIGHWAY 537
APPROVED BY: E. McNally	DATE APPROVED: October 25, 2010	LLAVES 2008 PIPELINE OIL SPILL
		NW ¼ NE ¼, SEC. 18, T25N, R3W
		SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 4 GROUNDWATER ELEVATION CONTOURS



NOTE: SAMPLES COLLECTED ON JANUARY 12, 2010. ALL SAMPLES ANALYZED PER EPA METHOD 8021 AND 8015M.

SCALE
100 50 0 100
25
(1 INCH = 100 FEET)

Animas Environmental Services, LLC

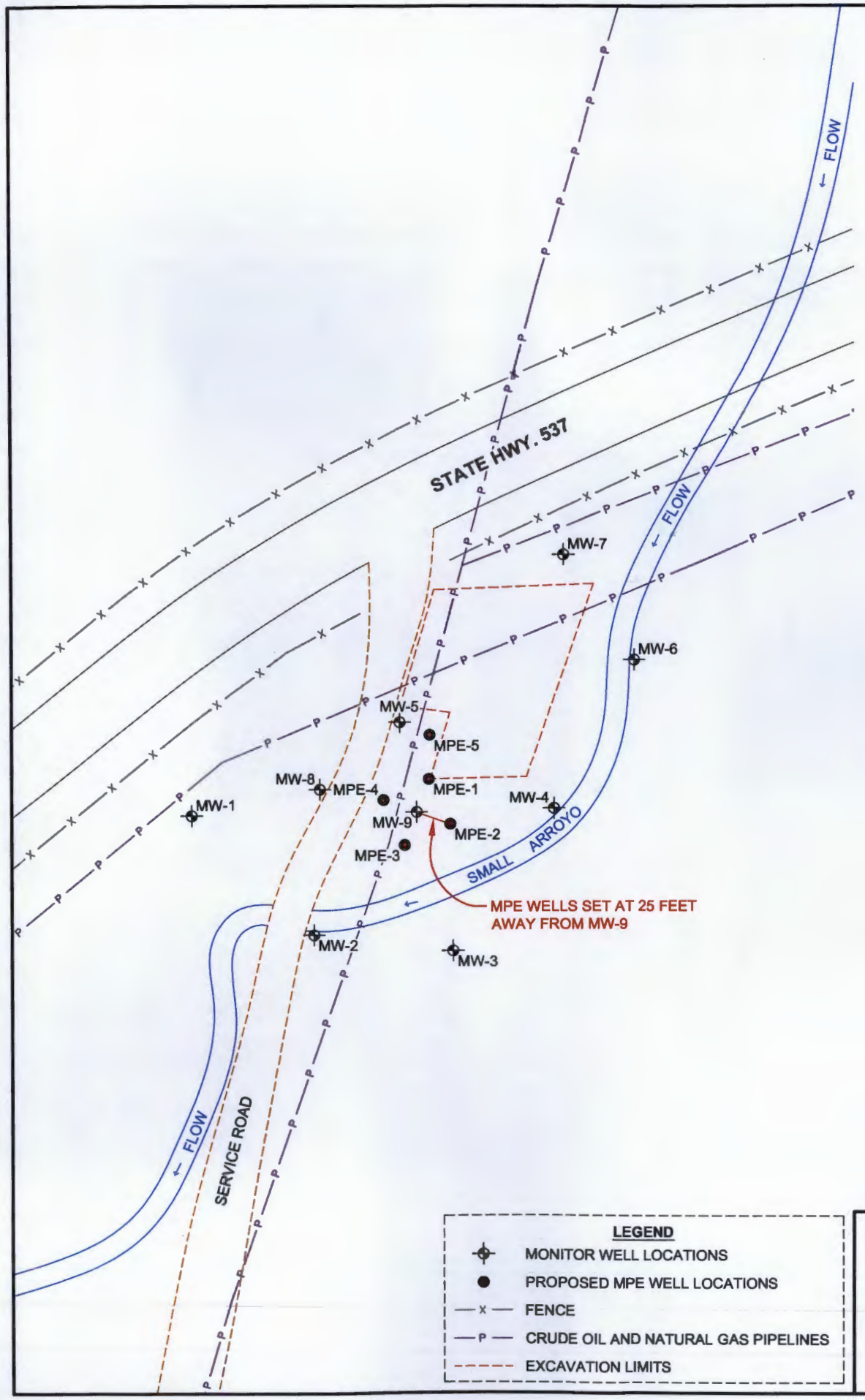
DRAWN BY: N. Willis	**DATE DRAWN:** May 5, 2009
REVISIONS BY: C. Lameman	**DATE REVISED:** August 19, 2010
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010

FIGURE 5

GROUNDWATER CONTAMINANT CONCENTRATIONS, JANUARY 2010

BMG HIGHWAY 537
LLAVES 2008 PIPELINE OIL SPILL
NW ¼ NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 5 GROUNDWATER CONTAMINANT CONCENTRATIONS



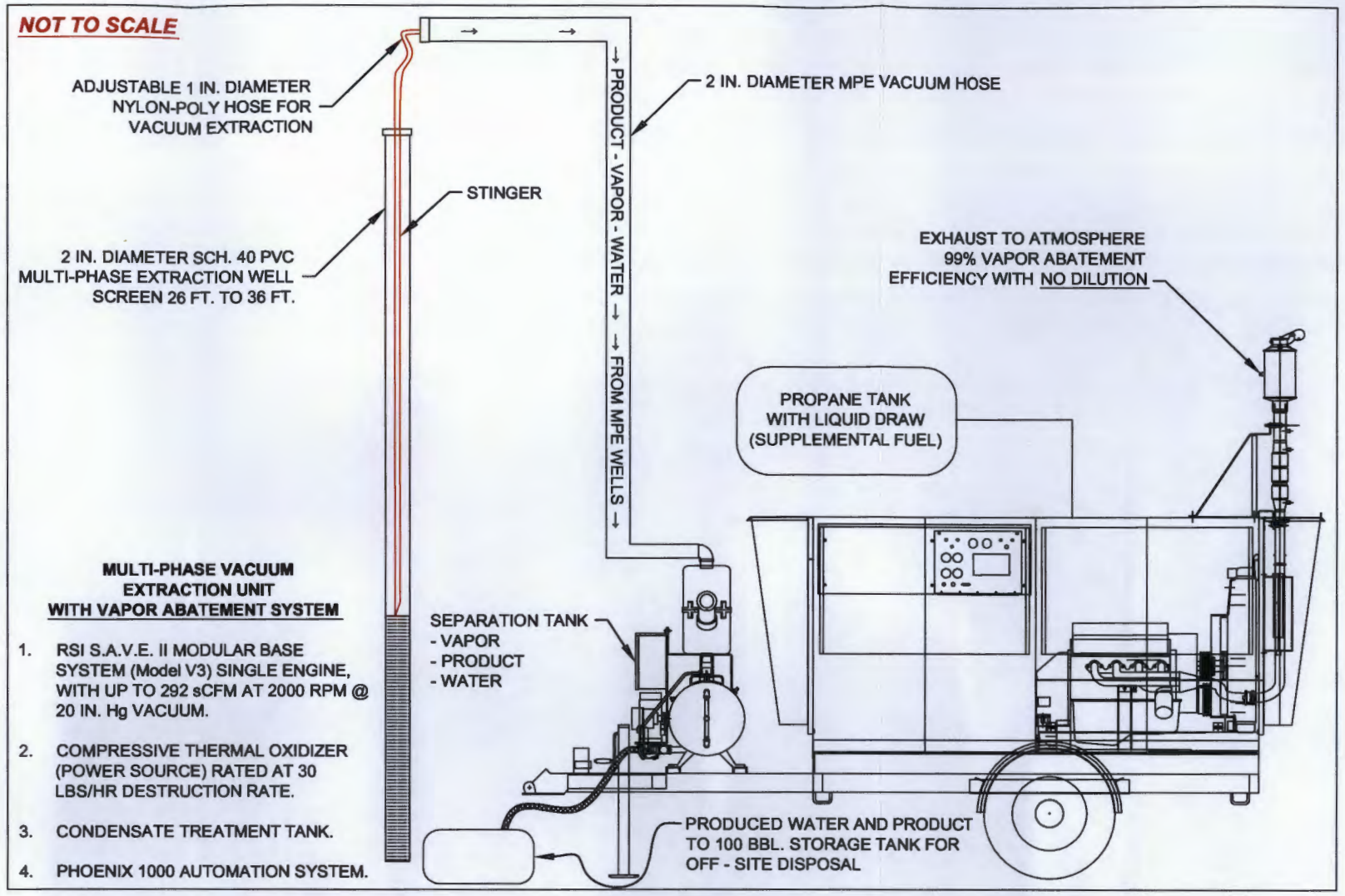
LEGEND

- MONITOR WELL LOCATIONS
- PROPOSED MPE WELL LOCATIONS
- FENCE
- CRUDE OIL AND NATURAL GAS PIPELINES
- EXCAVATION LIMITS

SCALE
100 50 0 100
25
(1 INCH = 100 FEET)

N

NOT TO SCALE

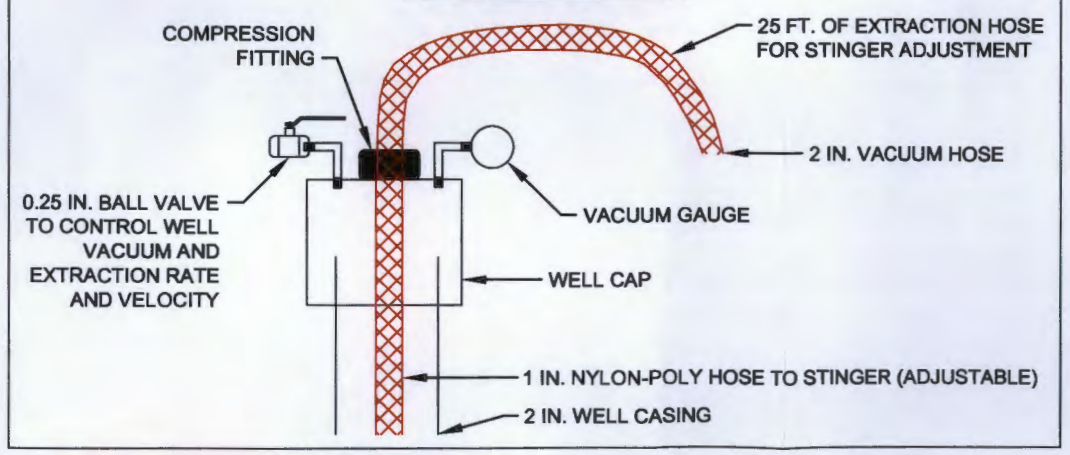


MULTI-PHASE VACUUM EXTRACTION UNIT WITH VAPOR ABATEMENT SYSTEM

1. RSI S.A.V.E. II MODULAR BASE SYSTEM (Model V3) SINGLE ENGINE, WITH UP TO 292 sCFM AT 2000 RPM @ 20 IN. Hg VACUUM.
2. COMPRESSIVE THERMAL OXIDIZER (POWER SOURCE) RATED AT 30 LBS/HR DESTRUCTION RATE.
3. CONDENSATE TREATMENT TANK.
4. PHOENIX 1000 AUTOMATION SYSTEM.

NOT TO SCALE

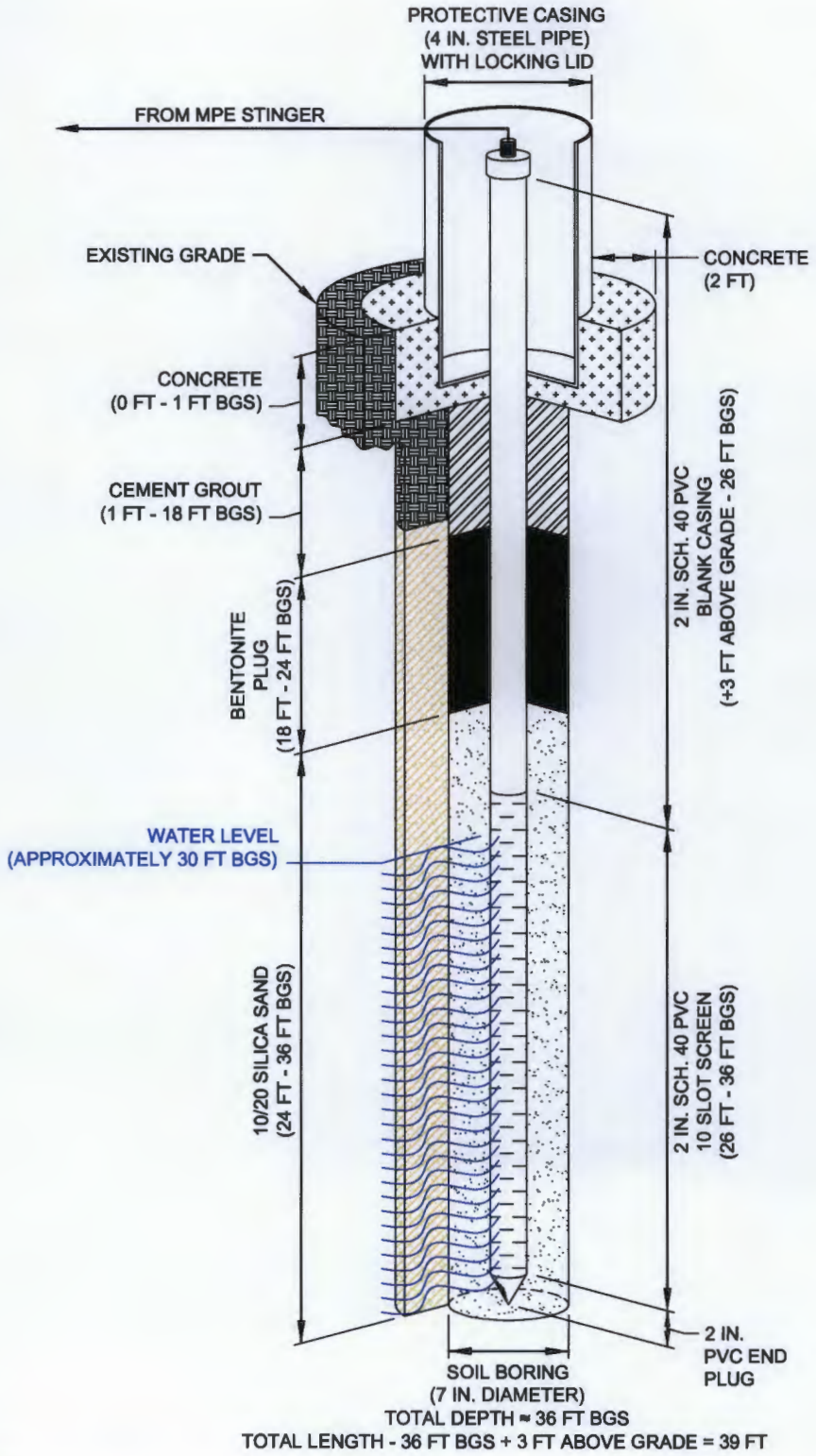
SVE WELL SURFACE EQUIPMENT



Animas Environmental Services, LLC

DRAWN BY: N. Willis	**DATE DRAWN:** August 23, 2010	**FIGURE 6**
REVISIONS BY: N. Willis	**DATE REVISED:** August 23, 2010	**PROPOSED MULTI-PHASE EXTRACTION SYSTEM**
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010	BMG HIGHWAY 537 LLAVES 2008 PIPELINE OIL SPILL
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010	NW ¼ NE ¼, SEC. 18, T25N, R3W SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 6 PROPOSED MULTI-PHASE EXTRACTION SYSTEM



NOT TO SCALE

Animas Environmental Services, LLC

DRAWN BY: N. Willis	**DATE DRAWN:** August 23, 2010
REVISIONS BY: N. Willis	**DATE REVISED:** September 13, 2010
CHECKED BY: R. Kennemer	**DATE CHECKED:** September 13, 2010
APPROVED BY: E. McNally	**DATE APPROVED:** October 25, 2010

FIGURE 7

PROPOSED MPE WELL CONSTRUCTION SCHEMATIC

BMG HIGHWAY 537
LLAVES 2008 PIPELINE OIL SPILL
NW ¼ NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO

S:\ANIMAS 2000\2010 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\AUGUST 2010\FIGURE 7 PROPOSED MPE WELL CONSTRUCTION SCHEMATIC

Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-1

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.217'
Date Completed	: 4/14/08	Longitude	: W107°11.050'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0			Open Excavation		
2	-2					
4	-4					
6	-6					
8	-8					
10	-10					
12	-12					
14	-14					
16	-16	SC		CLAYEY SAND, brown, loose, moist, strong hydrocarbon odor, slight staining.		
18	-18	SP		SAND, poorly sorted, reddish brown, loose, moist, strong hydrocarbon odor, slight staining.		1,673
20	-20	SP		SAND, poorly sorted, reddish-brown, loose, moist, strong hydrocarbon odor, no staining.		1,161
22	-22					
24	-24					
26	-26					
28	-28					1,088
30	-30					
32	-32					
34		SS		SANDSTONE, reddish-brown, hard.		1,573

01-18-2011 S:\Animas 2000\2008 Projects\BMG\Hwy. 537 2008 Spill\Boring Logs\TH-1.bor

Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-2

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.213'
Date Completed	: 4/14/08	Longitude	: W107°11.059'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC		SANDY CLAY, brown, loose, moist, no hydrocarbon odor or staining.		14
5	-5					
10	-10	SP		SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		18.4
15	-15	SP		SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		9
20	-20	CL		CLAY, brown, stiff, very moist, no hydrocarbon odor or staining.		4.9
		SP		SAND, well sorted, fine grained, tan-brown, moist, no hydrocarbon odor or staining.		3.6
25	-25	SP		SAND, well sorted, coarse grained, tan-brown, moist, no hydrocarbon odor or staining.		2.4
30	-30	SP		SAND, well sorted, coarse grained, tan-brown, mosit, slight hydrocarbon odor, no hydrocarbon staining.		310
		SP		SAND, well sorted, coarse grained, tan-brown, moist, free oil present.		
		SS		SANDSTONE, tan-brown, hard, free oil present.		1,230
35						

01-18-2011 S:\Animas 2000\2008 Projects\BMG\Hwy. 537 2008 Spill\Boring Logs\TH-2.bor

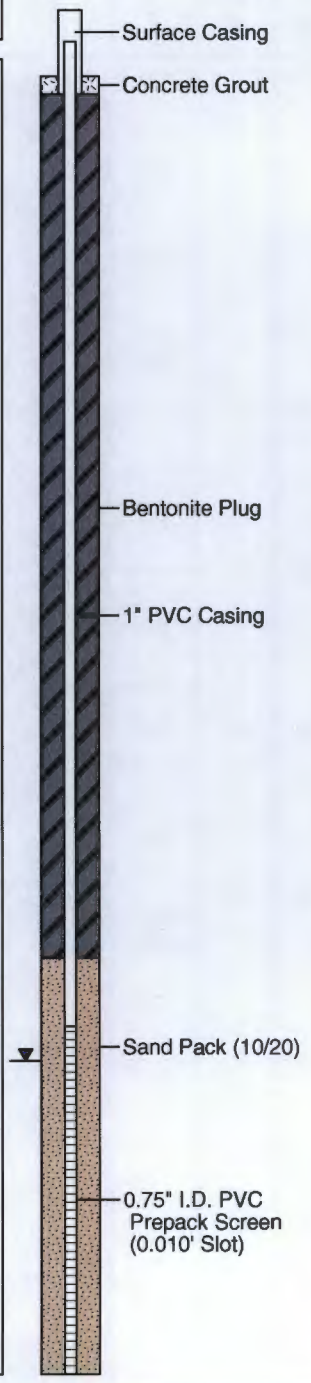
Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-3/MW-1

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.201'
Date Completed	: 4/14/08	Longitude	: W107°11.085'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, dry, loose, no hydrocarbon odor or staining.		
2	-2				
4	-4	CL	CLAY, brown, dry, stiff, no hydrocarbon odor or staining.		
6	-6				
8	-8	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		
10	-10				
12	-12				
14	-14				
16	-16				
18	-18				
20	-20				3.7
22	-22				
24	-24	SP	SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		
26	-26				
28	-28	SP	SAND, well sorted, coarse grained, brown, saturated, no hydrocarbon odor or staining.		2.7
30	-30	CL	CLAY, brown, wet, sticky, no hydrocarbon odor or staining.		1.6
32	-32				
34	-34	SC	SANDY CLAY, brown, wet, no hydrocarbon odor or staining.		0.9
36	-36	SP	SAND, brown, wet, no hydrocarbon ordor or staining.		
38					0.9



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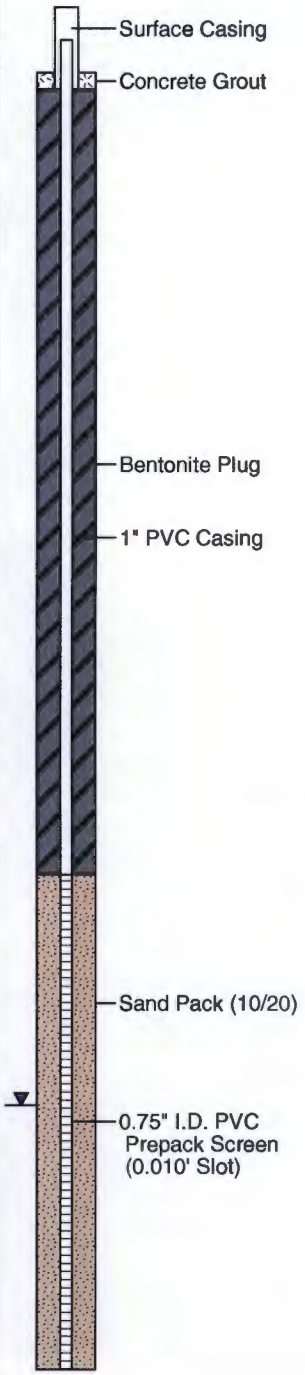
Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-4/MW-2

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.200'
Date Completed	: 4/14/08	Longitude	: W107°11.070'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, dry, loose, no hydrocarbon odor or staining.		
5	-5	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		
10	-10	SC	SANDY CLAY, brown, stiff, moist, no hydrocarbon ordor or staining.		
15	-15	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		0.9
20	-20	CL	CLAY, brown, stiff, moist, fragments of sandstone, no hydrocarbon odor or staining.		
		SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		
25	-25	SP	SAND, well sorted, coarse grained, tan-red, wet, no hydrocarbon odor or staining.		
		CL	CLAY, brown, sticky, wet, no hydrocarbon odor or staining.		
30	-30	SP	SAND, well sorted, coarse grained, tan-red, wet, no hydrocarbon odor or staining.		0.7
35	-35	SC	SANDY CLAY, brown, wet, no hydrocarbon odor or staining.		0.7
40					



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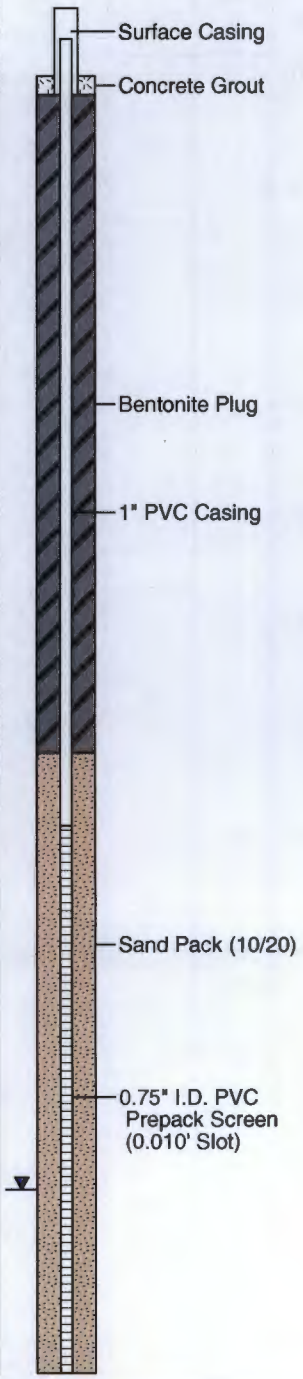
Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-5/MW-3

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.189'
Date Completed	: 4/14/08	Longitude	: W107°11.057'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, dry, loose, no hydrocarbon odor or staining.		
3	-3				
6	-6	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		
9	-9				
12	-12				
15	-15	SP	SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		
18	-18	CL	CLAY, brown, hard, dry, no hydrocarbon odor or staining.		
		SP	SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		0.8
21	-21	SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		
24	-24	SC	SANDY CLAY, tan-red, moist, no hydrocarbon odor or staining.		0.6
27	-27	CL	CLAY, brown, sticky, wet, no hydrocarbon odor or staining.		
30	-30	SP	SAND, well sorted, coarse grained, tan-red, wet, no hydrocarbon odor or staining.		
33	-33	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		0.6
36					



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Animas Environmental Services, LLC.
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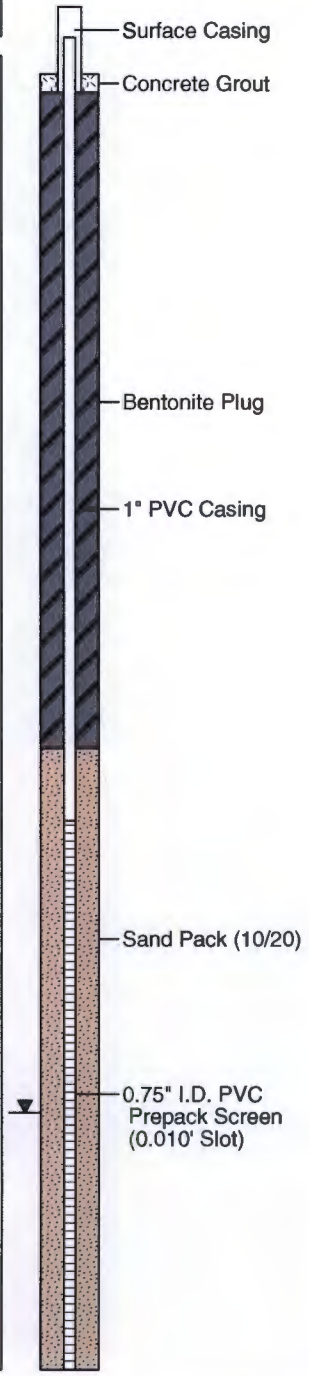
Farmington, NM 87401

LOG OF: TH-6/MW-4

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.205'
Date Completed	: 4/14/08	Longitude	: W107°11.046'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, dry, loose, no hydrocarbon odor or staining.		
3	-3	SP	SAND, well sorted, coarse grained, tan-red, no hydrocarbon odor or staining.		0.8
6	-6				
9	-9				
12	-12				
15	-15	CL	CLAY, brown, stiff, moist, no hydrocarbon odor or staining.		0.8
18	-18	SC	SANDY CLAY, tan-red, moist, no hydrocarbon odor or staining.		
21	-21	SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		0.6
24	-24				0.7
27	-27				0.7
30	-30	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		0.8
33	-33	SC	SANDY CLAY, tan-red, stiff, saturated, no hydrocarbon odor or staining.		
36		CL	CLAY, brown, stiff, saturated, no hydrocarbon odor or staining.		
		SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		



Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-7/MW-5

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/14/08	Latitude	: N36°24.214'
Date Completed	: 4/14/08	Longitude	: W107°11.057'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, dry, loose, no hydrocarbon odor or staining.		
5	-5				
10	-10	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		
15	-15	SP	SAND, well-sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		
20	-20	CL	CLAY, brown, stiff, moist, no hydrocarbon odor or staining.		
		SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		
25	-25	SP	SAND, well sorted, coarse grained, tan-red, moist, no hydrocarbon odor or staining.		
30	-30	SP	SAND, well sorted, coarse grained, tan-red, mosit, slight hydrocarbon odor, no hydrocarbon staining.		
		SP	SAND, well sorted, coarse grained, tan-brown, moist, strong hydrocarbon, free oil present.		
35		SS	SANDSTONE, tan-red, hard, strong hydrocarbon odor, free oil present.		

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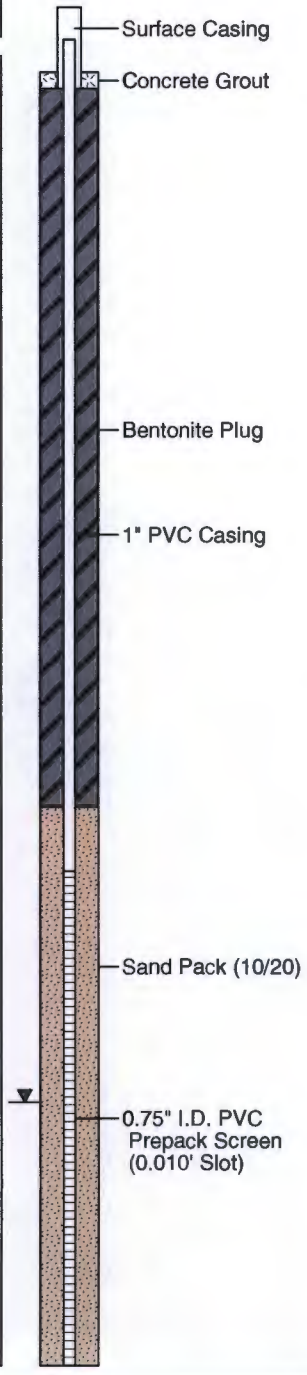
Farmington, NM 87401

LOG OF: TH-8/MW-6

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/15/08	Latitude	: N36°24.222'
Date Completed	: 4/15/08	Longitude	: W107°11.024'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, loose, moist, no hydrocarbon odor or staining.		
5	-5	SP	SAND, well sorted, fine grained, tan-red, loose, moist, no hydrocarbon odor or staining.		0.1
10	-10	SP	SAND, well sorted, coarse grained, tan-red, moist, no hydrocarbon odor or staining.		0.0
		SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		
15	-15	SC	SANDY CLAY, brown, soft, moist, no hydrocarbon odor or staining.		0.1
		SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		0.1
20	-20	SP	SAND, well sorted, coarse grained, tan-red, moist, no hydrocarbon odor or staining.		0.2
25	-25	SP	SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.		0.1
30	-30	SP	SAND, well sorted, fine grained, tan-red, wet, very minor clay content, no hydrocarbon odor or staining.		0.0
		SC	SANDY CLAY, brown, soft, saturated, no hydrocarbon odor or staining.		
35	-35	SP	SAND, well sorted, coarse grained, tan-red, saturated, no hydrocarbon odor or staining.		0.0
40					



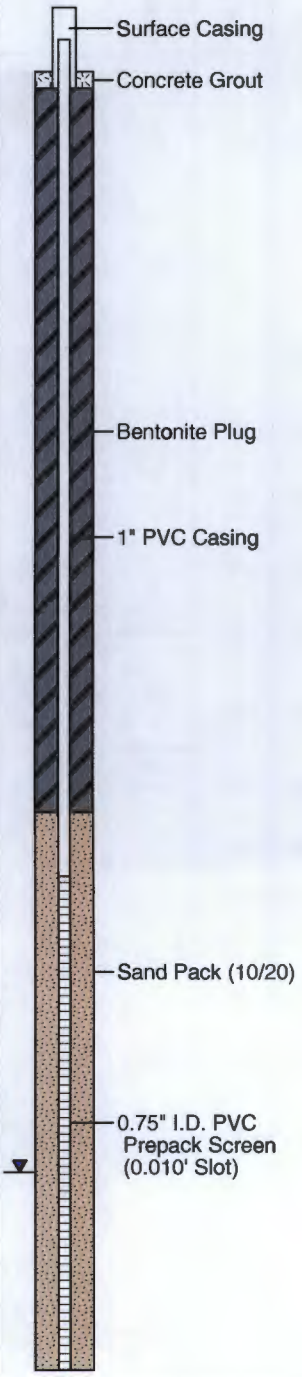
Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-9/MW-7

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/15/08	Latitude	: N36°24.234'
Date Completed	: 4/15/08	Longitude	: W107°11.034'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, loose, dry, no hydrocarbon odor or staining.		
5	-5	CL	CLAY, brown, dry, stiff, no hydrocarbon odor or staining.		0.0
10	-10	SP	SAND, well sorted, fine grained, tan-red, dry, loose, no hydrocarbon odor or staining.		0.0
15	-15	CL	CLAY, brown, dry, stiff, no hydrocarbon odor or staining.		0.0
20	-20	SP	SAND, well sorted, coarse grained, tan-red, loose, dry, no hydrocarbon odor or staining.		0.1
25	-25	SP	SAND, well sorted, fine grained, tan-red, loose, dry, no hydrocarbon odor or staining.		0.0
30	-30	SC	SANDY CLAY, brown, stiff, moist, no hydrocarbon odor or staining.		0.0
		SP	SAND, well sorted, coarse grained, tan-red, moist, loose, no hydrocarbon odor or staining.		0.0
35	-35	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		0.0
40					



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Animas Environmental Services, LLC.
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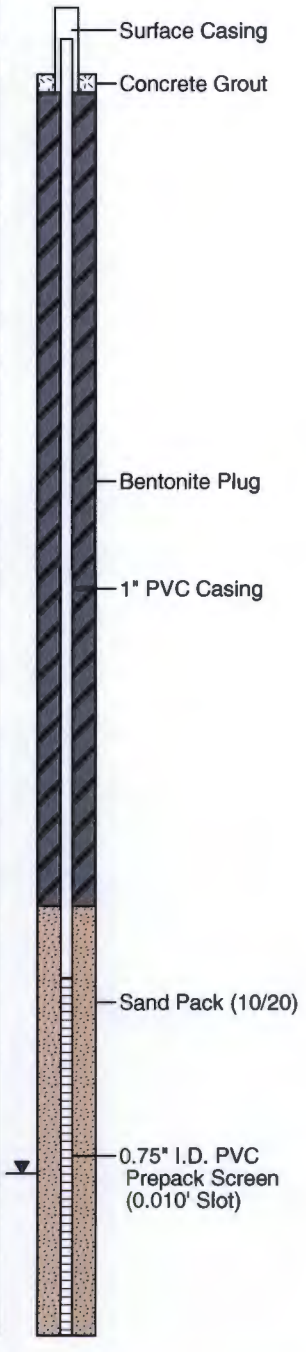
Farmington, NM 87401

LOG OF: TH-10/MW-8

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.206'
Date Completed	: 4/16/08	Longitude	: W107°11.068'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, loose, dry, no hydrocarbon odor or staining.		
4	-4	CL	CLAY, brown, dry, stiff, no hydrocarbon odor or staining.		
8	-8	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		6.3
12	-12				6.0
16	-16	SC	SANDY CLAY, tan-red, dry, no hydrocarbon odor or staining.		
20	-20	SP	SAND, well sorted, fine grained, tan-red, loose, dry, no hydrocarbon odor or staining.		34.0
		SC	SANDY CLAY, red-tan, dry, no hydrocarbon odor or staining.		
24	-24	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		3.8
28	-28	SP	SAND, well sorted, coarse grained, tan-red, moist, no hydrocarbon odor or staining.		2.5
30	-30	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		
32	-32	SC	SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		1.9
34	-34	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		
36		SC	SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		



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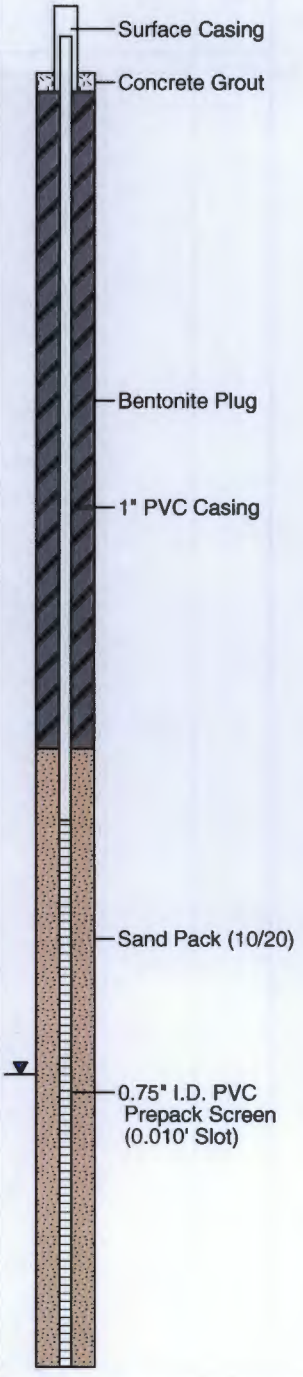
Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-11/MW-9

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.203'
Date Completed	: 4/17/08	Longitude	: W107°11.054'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0 – 2	0 – -2	SC	SANDY CLAY, brown, loose, dry, no hydrocarbon odor or staining.		
2 – 6	-2 – -6				
6 – 12	-6 – -12	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		32.7
12 – 18	-12 – -18	SC	SANDY CLAY, tan-red, dry, no hydrocarbon odor or staining.		32.6 34.0
18 – 20	-18 – -20	SP	SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		5.3
20 – 28	-20 – -28	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		2.3
28 – 30	-28 – -30	SC	SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		11.2
30 – 36	-30 – -36	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		0.7



Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-12

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.172'
Date Completed	: 4/16/08	Longitude	: W107°11.088'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0					
				SANDY CLAY, brown, traces of silt, moist, stiff, no hydrocarbon odor or staining.		
2	-2	SC				10.3
4						

Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-13

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.150'
Date Completed	: 4/16/08	Longitude	: W107°11.109'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0					
				SANDY CLAY, brown, traces of silt, moist, stiff, no hydrocarbon odor or staining.		
2	-2	SC				1,221
4						

Animas Environmental Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-14

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.138'
Date Completed	: 4/16/08	Longitude	: W107°11.115'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0					
				SANDY CLAY, brown, traces of silt, moist, stiff, no hydrocarbon odor or staining.		
2	-2	SC				1.7
4						

Animas
Environmental
Services, LLC.
624 East Comanche
Farmington, NM 87401

LOG OF: TH-15

BENSON MONTIN GREER
HIGHWAY 537 2008 PIPELINE SPILL
RIO ARRIBA COUNTY, NEW MEXICO

Date Started	: 4/16/08	Latitude	: N36°24.125'
Date Completed	: 4/16/08	Longitude	: W107°11.142'
Hole Diameter	: 2.25 in.	Survey By	: GPS
Drilling Method	: Geoprobe	Logged By	: Ross Kennemer
Sampling Method	: Split Spoon		

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0					
		SC		SANDY CLAY, brown, traces of silt, moist, stiff, no hydrocarbon odor or staining.		
2	-2					18.6
4						

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-1

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
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): 31.90 **Time:** 1050 *(taken prior to purging well)*
Final D.T.W. (ft): ____ **Time:** ____ *(taken after sample collection)*

Project No.: AES 080101
Date: 1-2-09
Arrival Time: 1040
Air Temp: 40°F
T.O.C. Elev. (ft): ____
Total Well Depth (ft): ____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1117							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI malfunction, no water quality taken.

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
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): 29.52 **Time:** 1137 *(taken prior to purging well)*
Final D.T.W. (ft): ____ **Time:** ____ *(taken after sample collection)*

Project No.: AES 080101
Date: 1-2-09
Arrival Time: 1133
Air Temp: 40°F
T.O.C. Elev. (ft): ____
Total Well Depth (ft): ____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1144						1/16	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, no Water Quality taken.

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
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): 30.01 **Time:** 1250 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 1-2-09
Arrival Time: 1245
Air Temp: 40°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1300	~~~~	~~~~	~~~~	~~~~	~~~~	~~~~	1/16 Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken.

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-4

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
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): 33.29 **Time:** 1320 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 1-2-09
Arrival Time: 1313
Air Temp: 40°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1327	~	~	~	~	~	1/16	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

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

Monitor Well No: MW-5

Site:	Highway 537 Station Spill	**Project No.:**	AES 080101
Location:	Rio Arriba County, New Mexico	**Date:**	1-2-09
Project:	Groundwater Monitoring	**Arrival Time:**	1340
Sampling Technician:	N. Wills	**Air Temp:**	40°F
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	
Initial D.T.W. (ft):		**Time:**	(taken at initial gauging of all wells)
Confirm D.T.W. (ft):	Dry	**Time:** 1345	(taken prior to purging well)
Final D.T.W. (ft):		**Time:**	(taken after sample collection)

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
						1/16	Samples Collected

No Samples Collected, Well DRY

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: MW-6

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 36.50 **Time:** 1350 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 1-2-09
Arrival Time: 1348
Air Temp: 40°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1358	—	—	—	—	—	1/16	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-7

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

Site:	Highway 537 Station Spill	**Project No.:**	AES 080101
Location:	Rio Arriba County, New Mexico	**Date:**	1-2-09
Project:	Groundwater Monitoring	**Arrival Time:**	1411
Sampling Technician:	N. Willis	**Air Temp:**	40°F
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	

Initial D.T.W. (ft):		**Time:**		*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	38.21	**Time:**	1413	*(taken prior to purging well)*
Final D.T.W. (ft):		**Time:**		*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1420						1/16	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken.

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-8**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician:
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): Time: *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 34.21 Time: 1151 *(taken prior to purging well)*
Final D.T.W. (ft): Time: *(taken after sample collection)*

Project No.: AES 080101
Date: 1-5-09
Arrival Time: 1148
Air Temp: 20°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1158						1/16	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

YSI Malfunction, No Water Quality Taken

revised: 05/23/07

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 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician:
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): Time: *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): DRY Time: 1218 *(taken prior to purging well)*
Final D.T.W. (ft): Time: *(taken after sample collection)*

Project No.: AES 080101
Date: 1-5-09
Arrival Time: 1215
Air Temp: 22°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

NO SAMPLE WELL DRY

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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 2008 Spill
Location: Llaves, Rio Arriba County, New Mexico
Tech: Nathan Willis

Project No.: AES 080101
Date: 4-7-09
Time: 1116
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1125	—	31.92	—	
MW-2	1152	—	29.50	—	
MW-3	1217	—	30.02	—	
MW-4	1239	—	33.27	—	
MW-5	1257	—	Dry	—	
MW-6	1307	—	36.46	—	
MW-7	1331	—	38.16	—	
MW-8	1351	—	34.28	—	
MW-9	1411	—	32.34	—	

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

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-1**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): ~~2~~ 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 31.92 **Time:** 1125 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1116
Air Temp: 52°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1127	13.86	4,536	3.19	7.31	16.8	1/16	
1132							Sample Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): ~~1~~ 0.75
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): 29.50 **Time:** 1152
Final D.T.W. (ft): _____ **Time:** _____

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1146
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____
(taken at initial gauging of all wells)
(taken prior to purging well)
(taken after sample collection)

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1156	13.38	2.560	1.93	6.93	21.5	1/16	
1201							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): @ 0.75

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1215
Air Temp: 58°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 30.02 **Time:** 1217 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1218	12.19	4.596	2.08	6.86	24.7	1/16	
1223							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-4

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): ~~2~~ 0.75
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): 33.27 **Time:** 1239
Final D.T.W. (ft): _____ **Time:** _____

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1235
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____
(taken at initial gauging of all wells)
(taken prior to purging well)
(taken after sample collection)

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1241	11.90	2.779	1.35	6.91	21.1	1/16	
1246							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-5**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): DRY **Time:** 1257 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1255
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-6

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 36.46 **Time:** 1307 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1303
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1310	11.98	1.854	2.21	7.00	22.2	1/16	
1315							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-7**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 38.16 **Time:** 1331 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: ~~3~~ 4-7-09
Arrival Time: 1327
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1333	12.80	1.955	1.46	6.87	22.0	1/16	
1338	~~~~	~~~~	~~~~	~~~~	~~~~	~~~~	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-8**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 34.28 **Time:** 1351 *(taken prior to purging well)*
Final D.T.W. (ft): _____ **Time:** _____ *(taken after sample collection)*

Project No.: AES 080101
Date: 4-7-09
Arrival Time: 1345
Air Temp: 58°F
T.O.C. Elev. (ft): _____
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1353	13.30	2.061	1.81	6.98	-108.8	1/16	
1358	—					—	Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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 Station Spill	**Project No.:**	AES 080101
Location:	Rio Arriba County, New Mexico	**Date:**	4-7-09
Project:	Groundwater Monitoring	**Arrival Time:**	1408
Sampling Technician:	Nathan Willis	**Air Temp:**	58°F
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	
Initial D.T.W. (ft):		**Time:**	*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	32.34	**Time:** 1411	*(taken prior to purging well)*
Final D.T.W. (ft):		**Time:**	*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1416	12.85	1.876	1.11	6.89	7.0	1/16	
1421							Samples Collected

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)

TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)

TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

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 2008 Spill
Location: Llaves, Rio Arriba County, New Mexico
Tech: Nathan Willis

Project No.: AES 080101
Date: 7-7-09
Time: 0925
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1014		31.95		
MW-2	1114		29.65		
MW-3	1128		30.16		
MW-4	1058		33.32		
MW-5	1008		Dry		
MW-6	0951		36.67		
MW-7	0931		38.29		
MW-8	1029		34.31		
MW-9	1045		32.41		

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

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-1**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: ~~Purge~~ No Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 31.95 **Time:** 1014 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 1010
Air Temp: 76°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1015	16.43	3.161	1.48	7.31	52.6	—	
1021	—	—	—	—	—	TC	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-2

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 29.65 **Time:** 1114 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 1112
Air Temp: 80°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1117	15.28	2.067	1.07	7.22	45.9	—	
1124	—	—	—	—	—	5C	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-3

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 30.16 **Time:** 1128 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-08
Arrival Time: 1126
Air Temp: 80°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

No Sample Filled with Sediment.

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments Well was Filled with Sediment. was unable to get Bailer to fill with water.

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-4**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 33.32 **Time:** 1058 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 1055
Air Temp: 78°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1101	17.17	2.124	0.80	7.20	-41.5	—	
1108	—	—	—	—	—	5 C	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-5**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): Dry **Time:** 1008 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-1-06
Arrival Time: 1004
Air Temp: 75°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

NO Sample Well Dry

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-6

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 36.67 **Time:** 0951 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 945
Air Temp: 75°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
0954	17.51	1.557	1.35	7.27	51.8	—	
1005						5C	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-7**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 58.29 **Time:** 0931 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 0925
Air Temp: 75°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
0934	16.48	1.599	2.27	7.06	92.6	—	
0940	—	—	—	—	—	SC —	—

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-8**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 34.31 **Time:** 1029 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 1024
Air Temp: 72°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1031	16.26	1.811	1.17	7.11	~~-44.0~~ → -74.0		
1037						5C	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Nathan Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 32.41 **Time:** 1045 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 7-7-09
Arrival Time: 1040
Air Temp: 77°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1047	16.77	1.672	1.14	7.19	-9.7		
1054						SC	

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

BTEX per EPA Method 8021 (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials w/ HCl preserve)
TPH C_6-C_{36} 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, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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 2008 Spill
Location: Rio Arriba County, New Mexico
Tech: N. Willis

Project No.: AES 080101
Date: 10-12-09
Time: 1045
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1051	—	32.20	—	
MW-2	1055	—	29.93	—	
MW-3	1058	—	30.41	—	
MW-4	1102	—	33.56	—	
MW-5	1104	—	Dry	—	
MW-6	1112	—	36.78	—	
MW-7	1114	—	38.49	—	
MW-8	1109	—	34.54	—	
MW-9	1107	—	32.63	—	

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 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 32.20 **Time:** 1051 *(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 080101
Date: 10-12-09
Arrival Time: 1154
Air Temp: 68°F
T.O.C. Elev. (ft): 7082.57
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1204	13.97	2.553	5.91	7.43	293.3	0.125	
1209	—	—	—	—	—	—	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: _____
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-2

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.93 **Time:** 1055 *(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 080101
Date: 10-12-09
Arrival Time: 1222
Air Temp: 73°F
T.O.C. Elev. (ft): 7079.94
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1230	14.10	1.665	5.63	7.37	178.1	0.125	
1235							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: _____
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-3

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 30.41 **Time:** 1058 *(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 080101
Date: 10-12-09
Arrival Time: 1250
Air Temp: 73°F
T.O.C. Elev. (ft): 7081.1
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1259	13.88	2.316	2.24	7.23	8.3	0.125	
1304	—	—	—	—	—	—	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: _____
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-4

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 33.56 **Time:** 1102 *(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 080101
Date: 10-12-09
Arrival Time: 1320
Air Temp: 72°F
T.O.C. Elev. (ft): 7084.79
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1328	13.70	1.792	2.00	7.29	43.7	0.125	
1333							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: _____
Chain of Custody Record Complete: _____
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer

Notes/Comments:

MONITORING WELL SAMPLING RECORD	Animas Environmental Services
Monitor Well No: MW-5	624 E. Comanche, Farmington NM 87401 Tel. (505) 564-2281 Fax (505) 324-2022

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): Dry **Time:** 1104 *(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 080101
Date: 10-12-09
Arrival Time: ~~1119~~ 1103
Air Temp: 65°F
T.O.C. Elev. (ft): 7087.98
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

No Sample

Well Dry

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-6

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 36.78 **Time:** 1112 *(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 080101
Date: 10-12-09
Arrival Time: 1349
Air Temp: 72°F
T.O.C. Elev. (ft): 7088.43
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1359	13.11	1.297	2.06	7.43	66.0	0.125	
1404							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: _____
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-7

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 38.49 **Time:** 1114 *(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 080101
Date: 10-12-09
Arrival Time: 1416
Air Temp: 71°F
T.O.C. Elev. (ft): 7090.15
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1421	13.48	1.365	4.64	7.18	77.0	0.125	
1426							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: _____
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-8

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 34.54 **Time:** 1109 *(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 080101
Date: 10-12-09
Arrival Time: 1501
Air Temp: 75°F
T.O.C. Elev. (ft): 7085.2
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1507	13.27	1.416	1.48	7.00	-102.1	0.125	
1512	—						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: _____
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 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. Willis
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 32.63 **Time:** 1107 *(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 080101
Date: 10-12-09
Arrival Time: 1439
Air Temp: 71°F
T.O.C. Elev. (ft): 7083.64
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1445	13.78	1.352	2.10	7.22	72.9	0.125	
1450	—	—	—	—	—	—	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: _____
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:

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 2008 Spill
Location: Rio Arriba County, New Mexico
Tech: Nathan Willis

Project No.: AES 080101
Date: 01-12-2010
Time: 1030
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1045	—	32.41	—	
MW-2	1114	—	30.01	—	
MW-3	1144	—	30.50	—	
MW-4	1215	—	33.68	—	
MW-5	1239	—	Dry	—	
MW-6	1247	—	36.92	—	
MW-7	1313	—	38.64	—	
MW-8	1339	—	34.69	—	
~~MW-9~~					
MW-9	1430	32.43	34.80	2.37	

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 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N. W.
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): 1045 (Time) **Time:** 32.41 (DTW)
Final D.T.W. (ft): _____ **Time:** _____
If NAPL Present: D.T.P.: _____ **D.T.W.:** _____ **Thickness:** _____ **Time:** _____

Project No.: AES 080101
Date: 1-12-2010
Arrival Time: 1035
Air Temp: 32°F
T.O.C. Elev. (ft): 7082.57
Total Well Depth (ft): _____
(taken at initial gauging of all wells)
(taken prior to purging well)
(taken after sample collection)

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1043	11.12	4.035	3.35	7.72	-11.2	1/6	
1053							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: _____
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-2

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: NW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 30.01 **Time:** 1114 *(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 080101
Date: 1-12-10
Arrival Time: 1107
Air Temp: 32°F
T.O.C. Elev. (ft): 7079.94
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1117	10.88	2.297	2.82	7.51	-2.9	1/16	
1122							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: _____
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: Roots In Sample

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 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: N.W.
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 30.50 **Time:** 1144 *(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 080101
Date: 1-12-10
Arrival Time: 1135
Air Temp: 32°F
T.O.C. Elev. (ft): 7081.1
Total Well Depth (ft): [redacted]

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	11.75	2.985	2.87	7.35	-27.2	1/16	
1153							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: _____
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-4

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: MW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 33.68 **Time:** 1215 *(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 080101
Date: 1-12-10
Arrival Time: 1208
Air Temp: 32°F
T.O.C. Elev. (ft): 7084.79
Total Well Depth (ft): [illegible]

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
1218	11.53	2.374	2.03	7.36	-26.7	1/6	
1223							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: _____
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-5

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: MW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): Dry **Time:** 1239 *(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 080101
Date: 1-12-10
Arrival Time: 1234
Air Temp: 32°F
T.O.C. Elev. (ft): 7087.98
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations

NO Samples Well Dry

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-6

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: NJ
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 36.92 **Time:** 1247 *(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 080101
Date: 1-12-10
Arrival Time: 1240
Air Temp: 32°F
T.O.C. Elev. (ft): 7088.43
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1251	11.82	1.615	2.24	7.44	-19.2	1/16	
1256							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: _____
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-7

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: NW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 38.64 **Time:** 1313 *(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 080101
Date: 1-12-10
Arrival Time: 1305
Air Temp: 32°F
T.O.C. Elev. (ft): 7090.15
Total Well Depth (ft): _____

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1316	11.02	1.679	1.97	7.22	-6.5	1L	
1321							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: _____
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-8

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

Site: Highway 537 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: NW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____ *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 34.69 **Time:** 1339 *(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 080101
Date: 1-12-10
Arrival Time: 1332
Air Temp: 32°F
T.O.C. Elev. (ft): 7085.2
Total Well Depth (ft): [redacted]

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
1344	11.13	1.699	1.73	7.02	-159.8	1/16	
1349							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: _____
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 2008 Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring and Sampling
Sampling Technician: MW
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): _____ **Time:** _____
Confirm D.T.W. (ft): _____ **Time:** _____
Final D.T.W. (ft): _____ **Time:** _____
If NAPL Present: **D.T.P.:** 32.43 **D.T.W.:** 34.80 **Thickness:** 2.37 **Time:** 1430

Project No.: AES 080101
Date: 1-12-10
Arrival Time: 1402
Air Temp: 32°F
T.O.C. Elev. (ft): 7083.64
Total Well Depth (ft): _____
(taken at initial gauging of all wells)
(taken prior to purging well)
(taken after sample collection)

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
	No Sample						
	2.37 feet of						
	Crude Oil						

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: Informed Ross Kennemer of Crude Oil on water. He said to note the depth.

revised: 08/10/09

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, January 12, 2009

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

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

RE: BMG Highway 537 '08 Spill

Order No.: 0901068

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 1/6/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0901068	**Collection Date:**	1/2/2009 11:17:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	127	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 1:10:08 AM
Surr: BFB	79.5	59.9-122		%REC	1	1/10/2009 1:10:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 1:10:08 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 1:10:08 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 1:10:08 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 1:10:08 AM
Surr: 4-Bromofluorobenzene	81.6	65.9-130		%REC	1	1/10/2009 1:10:08 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0901068	**Collection Date:**	1/2/2009 11:44:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	119	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 1:40:25 AM
Surr: BFB	80.0	59.9-122		%REC	1	1/10/2009 1:40:25 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 1:40:25 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 1:40:25 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 1:40:25 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 1:40:25 AM
Surr: 4-Bromofluorobenzene	82.6	65.9-130		%REC	1	1/10/2009 1:40:25 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0901068	**Collection Date:**	1/2/2009 1:00:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	122	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 2:10:53 AM
Surr: BFB	83.7	59.9-122		%REC	1	1/10/2009 2:10:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 2:10:53 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 2:10:53 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 2:10:53 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 2:10:53 AM
Surr: 4-Bromofluorobenzene	88.7	65.9-130		%REC	1	1/10/2009 2:10:53 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0901068	**Collection Date:**	1/2/2009 1:27:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	116	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 7:46:01 AM
Surr: BFB	81.4	59.9-122		%REC	1	1/10/2009 7:46:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 7:46:01 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 7:46:01 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 7:46:01 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 7:46:01 AM
Surr: 4-Bromofluorobenzene	84.5	65.9-130		%REC	1	1/10/2009 7:46:01 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0901068	**Collection Date:**	1/2/2009 1:58:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	129	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 8:16:26 AM
Surr: BFB	79.2	59.9-122		%REC	1	1/10/2009 8:16:26 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 8:16:26 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 8:16:26 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 8:16:26 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 8:16:26 AM
Surr: 4-Bromofluorobenzene	81.9	65.9-130		%REC	1	1/10/2009 8:16:26 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0901068	**Collection Date:**	1/2/2009 2:20:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	118	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 8:46:50 AM
Surr: BFB	77.0	59.9-122		%REC	1	1/10/2009 8:46:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	1/10/2009 8:46:50 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 8:46:50 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 8:46:50 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 8:46:50 AM
Surr: 4-Bromofluorobenzene	78.7	65.9-130		%REC	1	1/10/2009 8:46:50 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	0901068	**Collection Date:**	1/5/2009 11:58:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/7/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/7/2009
Surr: DNOP	121	58-140		%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	1.0	0.050		mg/L	1	1/10/2009 9:17:13 AM
Surr: BFB	84.1	59.9-122		%REC	1	1/10/2009 9:17:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	45	1.0		µg/L	1	1/10/2009 9:17:13 AM
Toluene	25	1.0		µg/L	1	1/10/2009 9:17:13 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 9:17:13 AM
Xylenes, Total	2.2	2.0		µg/L	1	1/10/2009 9:17:13 AM
Surr: 4-Bromofluorobenzene	87.5	65.9-130		%REC	1	1/10/2009 9:17:13 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jan-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	Trip Blank
Lab Order:	0901068	**Collection Date:**	
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/6/2009
Lab ID:	0901068-08	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/10/2009 9:47:42 AM
Surr: BFB	77.9	59.9-122		%REC	1	1/10/2009 9:47:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/10/2009 9:47:42 AM
Benzene	ND	1.0		µg/L	1	1/10/2009 9:47:42 AM
Toluene	ND	1.0		µg/L	1	1/10/2009 9:47:42 AM
Ethylbenzene	ND	1.0		µg/L	1	1/10/2009 9:47:42 AM
Xylenes, Total	ND	2.0		µg/L	1	1/10/2009 9:47:42 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2009 9:47:42 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	1/10/2009 9:47:42 AM
Surr: 4-Bromofluorobenzene	80.7	65.9-130		%REC	1	1/10/2009 9:47:42 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 '08 Spill **Work Order:** 0901068

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-18033		*MBLK*			Batch ID:	**18033**	Analysis Date:		1/7/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18033		*LCS*			Batch ID:	**18033**	Analysis Date:		1/7/2009
Diesel Range Organics (DRO)	4.841	mg/L	1.0	96.8	74	157			
Sample ID: LCSD-18033		*LCSD*			Batch ID:	**18033**	Analysis Date:		1/7/2009
Diesel Range Organics (DRO)	5.196	mg/L	1.0	104	74	157	7.07	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0901068-05A MSD		*MSD*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 4:43:23 AM
Gasoline Range Organics (GRO)	0.4646	mg/L	0.050	92.9	80	115	3.72	8.39	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31961**	Analysis Date:		1/9/2009 8:54:30 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 5ML RB II		*MBLK*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 5:44:25 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R31961**	Analysis Date:		1/9/2009 7:04:46 PM
Gasoline Range Organics (GRO)	0.5454	mg/L	0.050	109	80	115			
Sample ID: 2.5UG GRO LCS II		*LCS*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 5:13:55 AM
Gasoline Range Organics (GRO)	0.5124	mg/L	0.050	102	80	115			
Sample ID: 0901068-05A MS		*MS*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 4:12:44 AM
Gasoline Range Organics (GRO)	0.4822	mg/L	0.050	96.4	80	115			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 '08 Spill **Work Order:** 0901068

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0901068-04A MSD		*MSD*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 3:11:48 AM
Methyl tert-butyl ether (MTBE)	20.27	µg/L	2.5	101	51.2	138	0.649	28	
Benzene	22.08	µg/L	1.0	110	85.9	113	1.11	27	
Toluene	20.38	µg/L	1.0	102	86.4	113	1.07	19	
Ethylbenzene	20.04	µg/L	1.0	100	83.5	118	1.31	10	
Xylenes, Total	59.97	µg/L	2.0	100	83.4	122	0.767	13	
1,2,4-Trimethylbenzene	19.11	µg/L	1.0	95.2	83.5	115	0.0209	21	
1,3,5-Trimethylbenzene	18.74	µg/L	1.0	93.7	85.2	113	0.458	10	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R31961**	Analysis Date:		1/9/2009 8:54:30 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 5ML RB II		*MBLK*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 5:44:25 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BREX LCS		*LCS*			Batch ID:	**R31961**	Analysis Date:		1/9/2009 5:33:24 PM
Methyl tert-butyl ether (MTBE)	20.24	µg/L	2.5	101	51.2	138			
Benzene	22.46	µg/L	1.0	112	85.9	113			
Toluene	21.22	µg/L	1.0	106	86.4	113			
Ethylbenzene	20.65	µg/L	1.0	103	83.5	118			
Xylenes, Total	61.87	µg/L	2.0	103	83.4	122			
1,2,4-Trimethylbenzene	19.63	µg/L	1.0	97.8	83.5	115			
1,3,5-Trimethylbenzene	19.29	µg/L	1.0	95.5	85.2	113			
Sample ID: 100NG LCS II		*LCS*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 3:42:09 AM
Methyl tert-butyl ether (MTBE)	21.43	µg/L	2.5	107	51.2	138			
Benzene	22.96	µg/L	1.0	114	85.9	113			S
Toluene	21.96	µg/L	1.0	108	86.4	113			
Ethylbenzene	21.46	µg/L	1.0	107	83.5	118			
Xylenes, Total	64.70	µg/L	2.0	108	83.4	122			
1,2,4-Trimethylbenzene	20.90	µg/L	1.0	104	83.5	115			
1,3,5-Trimethylbenzene	20.33	µg/L	1.0	102	85.2	113			
Sample ID: 0901068-04A MS		*MS*			Batch ID:	**R31961**	Analysis Date:		1/10/2009 2:41:16 AM
Methyl tert-butyl ether (MTBE)	20.41	µg/L	2.5	102	51.2	138			
Benzene	21.83	µg/L	1.0	109	85.9	113			
Toluene	20.16	µg/L	1.0	101	86.4	113			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 '08 Spill **Work Order:** 0901068

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0901068-04A MS		*MS*			Batch ID: **R31961**		Analysis Date:	1/10/2009 2:41:16 AM	
Ethylbenzene	19.78	µg/L	1.0	98.9	83.5	118			
Xylenes, Total	59.51	µg/L	2.0	99.2	83.4	122			
1,2,4-Trimethylbenzene	19.11	µg/L	1.0	95.2	83.5	115			
1,3,5-Trimethylbenzene	18.82	µg/L	1.0	94.1	85.2	113			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL Date Received: 1/6/2009

Work Order Number 0901068 Received by: ARS

Checklist completed by: _____ 1/6/09 Sample ID labels checked by: _____

Signature Date Initials

Matrix: Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	4°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services, LLC

Mailing Address: 624 E Comanche Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#:

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

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: BMG HWY 537 '08 Spill

Project #:

Project Manager: Ross Kennemer

Sampler: Nathan Willis

On Ice: ☑ Yes ☐ No

Sample Temperature: 4°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Analysis Request: BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
1/2/09	1117	Aq	MW-1	5-40 mL glass	4-HCL 1-none	1	X		X													
1/2/09	1144		MW-2			2	X		X													
1/2/09	1300		MW-3			3	X		X													
1/2/09	1327		MW-4			4	X		X													
1/2/09	1358		MW-6			5	X		X													
1/2/09	1420		MW-7			6	X		X													
1/5/09	1158	↓	MW-8	↓	↓	7	X		X													
			Trip Blank	2-40 mL glass	HCL	8																

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/5/09	1600	Nathan Willis	Deborah Watson	1/5/09	1600
1/6/09	0845	Deborah Watson		1/6/09	16:15

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 15, 2009

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

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

RE: HWY 537 '08 Spill

Order No.: 0904125

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 4/8/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0904125	**Collection Date:**	4/7/2009 11:32:00 AM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	103	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 12:03:00 PM
Surr: BFB	86.9	59.9-122		%REC	1	4/14/2009 12:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 12:03:00 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 12:03:00 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 12:03:00 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 12:03:00 PM
Surr: 4-Bromofluorobenzene	86.7	65.9-130		%REC	1	4/14/2009 12:03:00 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0904125	**Collection Date:**	4/7/2009 12:01:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	105	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 12:33:35 PM
Surr: BFB	88.5	59.9-122		%REC	1	4/14/2009 12:33:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 12:33:35 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 12:33:35 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 12:33:35 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 12:33:35 PM
Surr: 4-Bromofluorobenzene	89.1	65.9-130		%REC	1	4/14/2009 12:33:35 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0904125	**Collection Date:**	4/7/2009 12:23:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	114	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 1:04:05 PM
Surr: BFB	86.9	59.9-122		%REC	1	4/14/2009 1:04:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 1:04:05 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 1:04:05 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 1:04:05 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 1:04:05 PM
Surr: 4-Bromofluorobenzene	86.8	65.9-130		%REC	1	4/14/2009 1:04:05 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0904125	**Collection Date:**	4/7/2009 12:46:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	105	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 1:34:24 PM
Surr: BFB	82.7	59.9-122		%REC	1	4/14/2009 1:34:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 1:34:24 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 1:34:24 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 1:34:24 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 1:34:24 PM
Surr: 4-Bromofluorobenzene	81.0	65.9-130		%REC	1	4/14/2009 1:34:24 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0904125	**Collection Date:**	4/7/2009 1:15:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	107	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 2:04:46 PM
Surr: BFB	89.3	59.9-122		%REC	1	4/14/2009 2:04:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 2:04:46 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 2:04:46 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 2:04:46 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 2:04:46 PM
Surr: 4-Bromofluorobenzene	89.7	65.9-130		%REC	1	4/14/2009 2:04:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0904125	**Collection Date:**	4/7/2009 1:38:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	106	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 2:35:14 PM
Surr: BFB	82.9	59.9-122		%REC	1	4/14/2009 2:35:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 2:35:14 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 2:35:14 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 2:35:14 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 2:35:14 PM
Surr: 4-Bromofluorobenzene	80.7	65.9-130		%REC	1	4/14/2009 2:35:14 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	0904125	**Collection Date:**	4/7/2009 1:58:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	108	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.89	0.050		mg/L	1	4/14/2009 3:05:50 PM
Surr: BFB	98.4	59.9-122		%REC	1	4/14/2009 3:05:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	25	1.0		µg/L	1	4/14/2009 3:05:50 PM
Toluene	20	1.0		µg/L	1	4/14/2009 3:05:50 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 3:05:50 PM
Xylenes, Total	2.9	2.0		µg/L	1	4/14/2009 3:05:50 PM
Surr: 4-Bromofluorobenzene	102	65.9-130		%REC	1	4/14/2009 3:05:50 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-9
Lab Order:	0904125	**Collection Date:**	4/7/2009 2:21:00 PM
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/10/2009
Surr: DNOP	104	58-140		%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.32	0.050		mg/L	1	4/14/2009 3:36:17 PM
Surr: BFB	85.1	59.9-122		%REC	1	4/14/2009 3:36:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	12	1.0		µg/L	1	4/14/2009 3:36:17 PM
Toluene	6.2	1.0		µg/L	1	4/14/2009 3:36:17 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 3:36:17 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 3:36:17 PM
Surr: 4-Bromofluorobenzene	88.5	65.9-130		%REC	1	4/14/2009 3:36:17 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Apr-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	Trip Blank
Lab Order:	0904125	**Collection Date:**	
Project:	HWY 537 '08 Spill	**Date Received:**	4/8/2009
Lab ID:	0904125-09	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/14/2009 4:06:49 PM
Surr: BFB	85.1	59.9-122		%REC	1	4/14/2009 4:06:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Benzene	ND	1.0		µg/L	1	4/14/2009 4:06:49 PM
Toluene	ND	1.0		µg/L	1	4/14/2009 4:06:49 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2009 4:06:49 PM
Xylenes, Total	ND	2.0		µg/L	1	4/14/2009 4:06:49 PM
Surr: 4-Bromofluorobenzene	85.1	65.9-130		%REC	1	4/14/2009 4:06:49 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

lient: Animas Environmental Services
roject: HWY 537 '08 Spill **Work Order:** 0904125

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-18790		*MBLK*			Batch ID:	**18790**	Analysis Date:		4/10/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: MB-18809		*MBLK*			Batch ID:	**18809**	Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18790		*LCS*			Batch ID:	**18790**	Analysis Date:		4/10/2009
Diesel Range Organics (DRO)	5.660	mg/L	1.0	113	74	157			
Sample ID: LCS-18809		*LCS*			Batch ID:	**18809**	Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.228	mg/L	1.0	105	74	157			
Sample ID: LCSD-18790		*LCSD*			Batch ID:	**18790**	Analysis Date:		4/10/2009
Diesel Range Organics (DRO)	5.123	mg/L	1.0	102	74	157	9.96	23	
Sample ID: LCSD-18809		*LCSD*			Batch ID:	**18809**	Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.455	mg/L	1.0	109	74	157	4.25	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0904125-01A MSD		*MSD*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 5:07:45 PM
Gasoline Range Organics (GRO)	0.5334	mg/L	0.050	107	80	115	3.54	8.39	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 9:30:26 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 6:38:55 PM
Gasoline Range Organics (GRO)	0.5620	mg/L	0.050	112	80	115			
Sample ID: 0904125-01A MS		*MS*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 4:37:21 PM
Gasoline Range Organics (GRO)	0.5526	mg/L	0.050	111	80	115			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: HWY 537 '08 Spill **Work Order:** 0904125

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0904125-02A MSD		*MSD*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 6:08:36 PM
Benzene	20.61	µg/L	1.0	103	85.9	113	0.339	27	
Toluene	20.68	µg/L	1.0	103	86.4	113	3.02	19	
Ethylbenzene	20.65	µg/L	1.0	103	83.5	118	0.897	10	
Xylenes, Total	61.24	µg/L	2.0	102	83.4	122	0.952	13	
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 9:30:26 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 7:09:20 PM
Benzene	20.70	µg/L	1.0	103	85.9	113			
Toluene	21.19	µg/L	1.0	106	86.4	113			
Ethylbenzene	20.63	µg/L	1.0	103	83.5	118			
Xylenes, Total	61.39	µg/L	2.0	102	83.4	122			
Sample ID: 0904125-02A MS		*MS*			Batch ID:	**R33239**	Analysis Date:		4/14/2009 5:38:11 PM
Benzene	20.68	µg/L	1.0	103	85.9	113			
Toluene	21.32	µg/L	1.0	107	86.4	113			
Ethylbenzene	20.84	µg/L	1.0	104	83.5	118			
Xylenes, Total	61.82	µg/L	2.0	103	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL | Date Received: 4/8/2009

Work Order Number 0904125 | Received by: AT

Checklist completed by: _____ 4/8/09 | Sample ID labels checked by: AT | AS

Signature | Date | Initials

Matrix: | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche
Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-2022

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

Accreditation
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time:
☒ Standard ☐ Rush ______

Project Name: Hwy 537 '08 Spill

Project #: 080101

Project Manager: Ross Kennemer

Sampler: Nathan Willis

[illegible]

[illegible]

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	[illegible]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	8015 TPH (C_6-C_{36})			Air Bubbles (Y or N)
4-7-09	1132	H_2O	MW-1	5-40mL glass	4-HCl 1-Non Pre.	-1												X	X			
↓	1201	↓	MW-2	↓	↓	-2												X	X			
	1223		MW-3			-3												X	X			
	1246		MW-4			-4												X	X			
			~~MW-5~~ NW															~~X~~	~~X~~			
	1315		MW-6			-5												X	X			
	1338		MW-7			-6												X	X			
	1358		MW-8			-7												X	X			
4-7-09	1421	H_2O	MW-9	5-40mL glass	4-HCl 1-Non Pre.	-8												X	X			
			Trip Blank	2-40mL glass	HCl	-9												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-7-09	1650	Nathan Willis	Debrah Watson	4-7-09	1650
4-8-09	0840	Debrah Watson	[illegible]	4/8/09	1520

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, July 16, 2009

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

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

RE: Highway 537 08' Spill

Order No.: 0907135

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 7/9/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TRIP BLANK
Lab Order:	0907135	**Collection Date:**	
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-01	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 9:58:17 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 9:58:17 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 9:58:17 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 9:58:17 AM
Surr: 4-Bromofluorobenzene	78.7	65.9-130		%REC	1	7/11/2009 9:58:17 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0907135	**Collection Date:**	7/7/2009 10:21:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	130	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 10:28:41 AM
Surr: BFB	75.9	59.9-122		%REC	1	7/11/2009 10:28:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 10:28:41 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 10:28:41 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 10:28:41 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 10:28:41 AM
Surr: 4-Bromofluorobenzene	76.7	65.9-130		%REC	1	7/11/2009 10:28:41 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0907135	**Collection Date:**	7/7/2009 11:24:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	118	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 10:59:04 AM
Surr: BFB	81.5	59.9-122		%REC	1	7/11/2009 10:59:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 10:59:04 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 10:59:04 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 10:59:04 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 10:59:04 AM
Surr: 4-Bromofluorobenzene	83.9	65.9-130		%REC	1	7/11/2009 10:59:04 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0907135	**Collection Date:**	7/7/2009 11:08:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	118	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 11:29:28 AM
Surr: BFB	77.5	59.9-122		%REC	1	7/11/2009 11:29:28 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 11:29:28 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 11:29:28 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 11:29:28 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 11:29:28 AM
Surr: 4-Bromofluorobenzene	79.1	65.9-130		%REC	1	7/11/2009 11:29:28 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0907135	**Collection Date:**	7/7/2009 10:05:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	125	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 11:59:51 AM
Surr: BFB	76.9	59.9-122		%REC	1	7/11/2009 11:59:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 11:59:51 AM
Toluene	ND	1.0		µg/L	1	7/11/2009 11:59:51 AM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 11:59:51 AM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 11:59:51 AM
Surr: 4-Bromofluorobenzene	78.2	65.9-130		%REC	1	7/11/2009 11:59:51 AM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0907135	**Collection Date:**	7/7/2009 9:40:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	116	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	7/11/2009 12:30:14 PM
Surr: BFB	77.7	59.9-122		%REC	1	7/11/2009 12:30:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/11/2009 12:30:14 PM
Toluene	ND	1.0		µg/L	1	7/11/2009 12:30:14 PM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 12:30:14 PM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 12:30:14 PM
Surr: 4-Bromofluorobenzene	79.3	65.9-130		%REC	1	7/11/2009 12:30:14 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	0907135	**Collection Date:**	7/7/2009 10:37:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	120	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.21	0.050		mg/L	1	7/11/2009 1:00:33 PM
Surr: BFB	81.2	59.9-122		%REC	1	7/11/2009 1:00:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	7.5	1.0		µg/L	1	7/11/2009 1:00:33 PM
Toluene	4.5	1.0		µg/L	1	7/11/2009 1:00:33 PM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 1:00:33 PM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 1:00:33 PM
Surr: 4-Bromofluorobenzene	83.6	65.9-130		%REC	1	7/11/2009 1:00:33 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *16-Jul-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-9
Lab Order:	0907135	**Collection Date:**	7/7/2009 10:54:00 AM
Project:	Highway 537 08' Spill	**Date Received:**	7/9/2009
Lab ID:	0907135-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	7/15/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	7/15/2009
Surr: DNOP	118	58-140		%REC	1	7/15/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.28	0.050		mg/L	1	7/11/2009 1:30:54 PM
Surr: BFB	81.1	59.9-122		%REC	1	7/11/2009 1:30:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	7.0	1.0		µg/L	1	7/11/2009 1:30:54 PM
Toluene	5.3	1.0		µg/L	1	7/11/2009 1:30:54 PM
Ethylbenzene	ND	1.0		µg/L	1	7/11/2009 1:30:54 PM
Xylenes, Total	ND	2.0		µg/L	1	7/11/2009 1:30:54 PM
Surr: 4-Bromofluorobenzene	82.8	65.9-130		%REC	1	7/11/2009 1:30:54 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: Highway 537 08' Spill **Work Order:** 0907135

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19596		*MBLK*			Batch ID: **19596**		Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19596		*LCS*			Batch ID: **19596**		Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	6.584	mg/L	1.0	132	74	157			
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCSD-19596		*LCSD*			Batch ID: **19596**		Analysis Date:		7/15/2009
Diesel Range Organics (DRO)	6.672	mg/L	1.0	133	74	157	1.33	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R34474**		Analysis Date:		7/10/2009 9:38:44 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: b 29		*MBLK*			Batch ID: **R34474**		Analysis Date:		7/10/2009 11:50:11 PM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R34474**		Analysis Date:		7/10/2009 7:44:13 PM
Gasoline Range Organics (GRO)	0.4212	mg/L	0.050	84.2	80	115			
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R34474**		Analysis Date:		7/10/2009 9:38:44 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: b 22		*MBLK*			Batch ID: **R34474**		Analysis Date:		7/10/2009 8:14:41 PM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R34474**		Analysis Date:		7/10/2009 7:13:39 PM
Benzene	19.24	µg/L	1.0	96.2	85.9	113			
Toluene	20.29	µg/L	1.0	101	86.4	113			
Ethylbenzene	21.16	µg/L	1.0	106	83.5	118			
Xylenes, Total	64.36	µg/L	2.0	107	83.4	122			
Sample ID: 100NG BTEX LCS-II		*LCS*			Batch ID: **R34474**		Analysis Date:		7/11/2009 6:25:25 AM
Benzene	20.32	µg/L	1.0	102	85.9	113			
Toluene	19.95	µg/L	1.0	99.8	86.4	113			
Ethylbenzene	19.63	µg/L	1.0	97.9	83.5	118			
Xylenes, Total	57.91	µg/L	2.0	96.5	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

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

Work Order Number **0907135** Received by: **TLS**

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

Matrix: Carrier name: Greyhound

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

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services LLC

Mailing Address: 624 E Comanche Farmington, NM 87401

Phone #: 505 564 2281

email or Fax#: 505 324 2022

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: HWY 537 '08 Spill

Project #: 080101

Project Manager: Ross Kennemer

Sampler: N Willis

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.6

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. 090755	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	8015 TPH (C6-C36)			Air Bubbles (Y or N)
		H_2O	Trip Blank	2-40mL glass	HCl	1												X				
7-7-09	1021	H_2O	MW-1	5-40mL glass	1-NON 4-HCl	2												X	X			
	1124		MW-2			3												X	X			
	1108		MW-4			4												X	X			
	1005		MW-5			5												X	X			
	0940		MW-7			6												X	X			
	1037		MW-8			7												X	X			
	1054		MW-9			8												X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
7-7-09	1600	N Willis	Deborah Watson	7-7-09	1600
7-8-09	1635	Deborah Watson		7/9/08	855

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, October 20, 2009

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

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

RE: Highway 537 08 Spill

Order No.: 0910271

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 10/15/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TRIP BLANK
Lab Order:	0910271	**Collection Date:**	
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-01	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						**Analyst: NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 5:41:58 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 5:41:58 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 5:41:58 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 5:41:58 PM
Surr: 4-Bromofluorobenzene	99.4	65.9-130		%REC	1	10/16/2009 5:41:58 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0910271	**Collection Date:**	10/12/2009 12:09:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 12:24:32 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 12:24:32 AM
Surr: DNOP	113	58-140		%REC	1	10/19/2009 12:24:32 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/16/2009 6:12:29 PM
Surr: BFB	92.4	55.2-107		%REC	1	10/16/2009 6:12:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 6:12:29 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 6:12:29 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 6:12:29 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 6:12:29 PM
Surr: 4-Bromofluorobenzene	91.5	65.9-130		%REC	1	10/16/2009 6:12:29 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0910271	**Collection Date:**	10/12/2009 12:35:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 12:59:42 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 12:59:42 AM
Surr: DNOP	118	58-140		%REC	1	10/19/2009 12:59:42 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/16/2009 6:42:52 PM
Surr: BFB	97.7	55.2-107		%REC	1	10/16/2009 6:42:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 6:42:52 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 6:42:52 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 6:42:52 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 6:42:52 PM
Surr: 4-Bromofluorobenzene	98.3	65.9-130		%REC	1	10/16/2009 6:42:52 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0910271	**Collection Date:**	10/12/2009 1:04:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 1:34:49 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 1:34:49 AM
Surr: DNOP	114	58-140		%REC	1	10/19/2009 1:34:49 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/19/2009 5:10:41 PM
Surr: BFB	102	55.2-107		%REC	1	10/19/2009 5:10:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/19/2009 5:10:41 PM
Toluene	ND	1.0		µg/L	1	10/19/2009 5:10:41 PM
Ethylbenzene	ND	1.0		µg/L	1	10/19/2009 5:10:41 PM
Xylenes, Total	ND	2.0		µg/L	1	10/19/2009 5:10:41 PM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	1	10/19/2009 5:10:41 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0910271	**Collection Date:**	10/12/2009 1:33:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 2:45:37 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 2:45:37 AM
Surr: DNOP	121	58-140		%REC	1	10/19/2009 2:45:37 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/16/2009 7:46:21 PM
Surr: BFB	92.7	55.2-107		%REC	1	10/16/2009 7:46:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 7:46:21 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 7:46:21 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 7:46:21 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 7:46:21 PM
Surr: 4-Bromofluorobenzene	91.9	65.9-130		%REC	1	10/16/2009 7:46:21 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0910271	**Collection Date:**	10/12/2009 2:04:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 3:21:13 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 3:21:13 AM
Surr: DNOP	123	58-140		%REC	1	10/19/2009 3:21:13 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/16/2009 8:16:38 PM
Surr: BFB	92.7	55.2-107		%REC	1	10/16/2009 8:16:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 8:16:38 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 8:16:38 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 8:16:38 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 8:16:38 PM
Surr: 4-Bromofluorobenzene	92.1	65.9-130		%REC	1	10/16/2009 8:16:38 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0910271	**Collection Date:**	10/12/2009 2:26:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 3:55:06 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 3:55:06 AM
Surr: DNOP	112	58-140		%REC	1	10/19/2009 3:55:06 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/16/2009 8:46:51 PM
Surr: BFB	94.4	55.2-107		%REC	1	10/16/2009 8:46:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/16/2009 8:46:51 PM
Toluene	ND	1.0		µg/L	1	10/16/2009 8:46:51 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 8:46:51 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 8:46:51 PM
Surr: 4-Bromofluorobenzene	94.0	65.9-130		%REC	1	10/16/2009 8:46:51 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	0910271	**Collection Date:**	10/12/2009 3:12:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 6:16:48 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 6:16:48 AM
Surr: DNOP	113	58-140		%REC	1	10/19/2009 6:16:48 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.52	0.050		mg/L	1	10/16/2009 9:17:11 PM
Surr: BFB	97.8	55.2-107		%REC	1	10/16/2009 9:17:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	15	1.0		µg/L	1	10/16/2009 9:17:11 PM
Toluene	11	1.0		µg/L	1	10/16/2009 9:17:11 PM
Ethylbenzene	ND	1.0		µg/L	1	10/16/2009 9:17:11 PM
Xylenes, Total	ND	2.0		µg/L	1	10/16/2009 9:17:11 PM
Surr: 4-Bromofluorobenzene	96.6	65.9-130		%REC	1	10/16/2009 9:17:11 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Oct-09*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-9
Lab Order:	0910271	**Collection Date:**	10/12/2009 2:50:00 PM
Project:	Highway 537 08 Spill	**Date Received:**	10/15/2009
Lab ID:	0910271-09	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/19/2009 6:52:15 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/19/2009 6:52:15 AM
Surr: DNOP	112	58-140		%REC	1	10/19/2009 6:52:15 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.31	0.050		mg/L	1	10/17/2009 12:51:13 AM
Surr: BFB	86.0	55.2-107		%REC	1	10/17/2009 12:51:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	26	1.0		µg/L	1	10/17/2009 12:51:13 AM
Toluene	2.0	1.0		µg/L	1	10/17/2009 12:51:13 AM
Ethylbenzene	ND	1.0		µg/L	1	10/17/2009 12:51:13 AM
Xylenes, Total	ND	2.0		µg/L	1	10/17/2009 12:51:13 AM
Surr: 4-Bromofluorobenzene	80.4	65.9-130		%REC	1	10/17/2009 12:51:13 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: Highway 537 08 Spill **Work Order:** 0910271

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range											
Sample ID: MB-20344		*MBLK*				**Batch ID: 20344**		**Analysis Date:** 10/18/2009 1:53:39 PM			
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Motor Oil Range Organics (MRO)	ND	mg/L	5.0								
Sample ID: MB-20345		*MBLK*				**Batch ID: 20345**		**Analysis Date:** 10/19/2009 4:30:32 AM			
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Motor Oil Range Organics (MRO)	ND	mg/L	5.0								
Sample ID: LCS-20344		*LCS*				**Batch ID: 20344**		**Analysis Date:** 10/18/2009 2:28:43 PM			
Diesel Range Organics (DRO)	5.768	mg/L	1.0	5	0	115	74	157			
Sample ID: LCS-20345		*LCS*				**Batch ID: 20345**		**Analysis Date:** 10/19/2009 5:05:54 AM			
Diesel Range Organics (DRO)	6.111	mg/L	1.0	5	0	122	74	157			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 5ML RB		*MBLK*				**Batch ID: R35776**		**Analysis Date:** 10/16/2009 11:37:36 AM			
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		*LCS*				**Batch ID: R35776**		**Analysis Date:** 10/16/2009 9:47:56 PM			
Gasoline Range Organics (GRO)	0.5056	mg/L	0.050	0.5	0	101	80	115			
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		*MBLK*				**Batch ID: R35776**		**Analysis Date:** 10/16/2009 11:37:36 AM			
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS R		*LCS*				**Batch ID: R35776**		**Analysis Date:** 10/16/2009 5:11:35 PM			
Benzene	19.81	µg/L	1.0	20	0	99.1	85.9	113			
Toluene	21.13	µg/L	1.0	20	0	106	86.4	113			
Ethylbenzene	21.53	µg/L	1.0	20	0.116	107	83.5	118			
Xylenes, Total	63.71	µg/L	2.0	60	0	106	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*				**Batch ID: R35776**		**Analysis Date:** 10/16/2009 10:18:23 PM			
Benzene	19.42	µg/L	1.0	20	0	97.1	85.9	113			
Toluene	20.61	µg/L	1.0	20	0	103	86.4	113			
Ethylbenzene	20.41	µg/L	1.0	20	0.116	101	83.5	118			
Xylenes, Total	61.22	µg/L	2.0	60	0	102	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **ANIMAS ENVIRONMENTAL** Date Received: **10/15/2009**

Work Order Number **0910271** Received by: **TLS**

Checklist completed by: _____ 10/15/09 Sample ID labels checked by: _____

Signature Date Initials

Matrix: Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**0.8°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services, LLC.

Mailing Address: 624 E. Comanche Farmington NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-2022

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

Accreditation: ☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time: ☒ Standard ☐ Rush ______

Project Name: Highway 537 08 Spill

Project #: 080161

Project Manager: Ross Kennemer

Sampler: N. Willis

On Ice: Yes ☐ No

Sample Temperature: [illegible]

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.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 (BTEX)	8015B (TPH C_6–C_{36})			Air Bubbles (Y or N)
		H_2O	Trip Blank	2-40 mL Glass	HCl	1												X				
10-12-09	1209		MW-1	5-40 mL Glass	5-HCl 1-Non	2												X	X			
	1235		MW-2			3												X	X			
	1304		MW-3			4												X	X			
	1333		MW-4			5												X	X			
	1404		MW-6			6												X	X			
	1426		MW-7			7												X	X			
	1512		MW-8			8												X	X			
10-12-09	1450	H_2O	MW-9	5-40 mL glass	5-HCl 1-NON	9												X	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/12/09	1730	Natt Willis	Deborah Watson	10/12/09	1730
10/14/09	1430	Deborah Watson	[signature]	10/15/09	940

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, January 22, 2010

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

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

RE: BMG Highway 537 '08 Spill

Order No.: 1001166

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 8 sample(s) on 1/14/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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

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

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	1001166	**Collection Date:**	1/12/2010 10:53:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 11:58:26 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 11:58:26 AM
Surr: DNOP	122	58-140		%REC	1	1/15/2010 11:58:26 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 12:40:42 PM
Surr: BFB	85.0	55.2-107		%REC	1	1/21/2010 12:40:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 12:40:42 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 12:40:42 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 12:40:42 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 12:40:42 PM
Surr: 4-Bromofluorobenzene	89.6	65.9-130		%REC	1	1/21/2010 12:40:42 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	1001166	**Collection Date:**	1/12/2010 11:22:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 12:34:43 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 12:34:43 PM
Surr: DNOP	114	58-140		%REC	1	1/15/2010 12:34:43 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 1:10:57 PM
Surr: BFB	92.7	55.2-107		%REC	1	1/21/2010 1:10:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 1:10:57 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 1:10:57 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 1:10:57 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 1:10:57 PM
Surr: 4-Bromofluorobenzene	99.5	65.9-130		%REC	1	1/21/2010 1:10:57 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	1001166	**Collection Date:**	1/12/2010 11:53:00 AM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 1:10:55 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 1:10:55 PM
Surr: DNOP	116	58-140		%REC	1	1/15/2010 1:10:55 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 1:41:09 PM
Surr: BFB	93.2	55.2-107		%REC	1	1/21/2010 1:41:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 1:41:09 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 1:41:09 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 1:41:09 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 1:41:09 PM
Surr: 4-Bromofluorobenzene	100	65.9-130		%REC	1	1/21/2010 1:41:09 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	1001166	**Collection Date:**	1/12/2010 12:23:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 1:47:25 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 1:47:25 PM
Surr: DNOP	121	58-140		%REC	1	1/15/2010 1:47:25 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 2:11:28 PM
Surr: BFB	92.0	55.2-107		%REC	1	1/21/2010 2:11:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 2:11:28 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 2:11:28 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 2:11:28 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 2:11:28 PM
Surr: 4-Bromofluorobenzene	99.1	65.9-130		%REC	1	1/21/2010 2:11:28 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	1001166	**Collection Date:**	1/12/2010 12:56:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 3:00:25 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 3:00:25 PM
Surr: DNOP	117	58-140		%REC	1	1/15/2010 3:00:25 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 2:41:46 PM
Surr: BFB	92.6	55.2-107		%REC	1	1/21/2010 2:41:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 2:41:46 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 2:41:46 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 2:41:46 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 2:41:46 PM
Surr: 4-Bromofluorobenzene	99.8	65.9-130		%REC	1	1/21/2010 2:41:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	1001166	**Collection Date:**	1/12/2010 1:21:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 3:36:21 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 3:36:21 PM
Surr: DNOP	118	58-140		%REC	1	1/15/2010 3:36:21 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	1/21/2010 3:12:10 PM
Surr: BFB	96.2	55.2-107		%REC	1	1/21/2010 3:12:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 3:12:10 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 3:12:10 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 3:12:10 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 3:12:10 PM
Surr: 4-Bromofluorobenzene	105	65.9-130		%REC	1	1/21/2010 3:12:10 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	1001166	**Collection Date:**	1/12/2010 1:49:00 PM
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/15/2010 4:13:06 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/15/2010 4:13:06 PM
Surr: DNOP	117	58-140		%REC	1	1/15/2010 4:13:06 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.088	0.050		mg/L	1	1/21/2010 3:42:29 PM
Surr: BFB	94.5	55.2-107		%REC	1	1/21/2010 3:42:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 3:42:29 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 3:42:29 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 3:42:29 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 3:42:29 PM
Surr: 4-Bromofluorobenzene	98.8	65.9-130		%REC	1	1/21/2010 3:42:29 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Jan-10*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TRIP BLANK
Lab Order:	1001166	**Collection Date:**	
Project:	BMG Highway 537 '08 Spill	**Date Received:**	1/14/2010
Lab ID:	1001166-08	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	1/21/2010 4:12:50 PM
Toluene	ND	1.0		µg/L	1	1/21/2010 4:12:50 PM
Ethylbenzene	ND	1.0		µg/L	1	1/21/2010 4:12:50 PM
Xylenes, Total	ND	2.0		µg/L	1	1/21/2010 4:12:50 PM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	1	1/21/2010 4:12:50 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 '08 Spill **Work Order:** 1001166

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range											
Sample ID: MB-21130		*MBLK*				Batch ID:	**21130**	Analysis Date:		1/15/2010 8:22:38 AM	
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Motor Oil Range Organics (MRO)	ND	mg/L	5.0								
Sample ID: LCS-21130		*LCS*				Batch ID:	**21130**	Analysis Date:		1/15/2010 8:58:36 AM	
Diesel Range Organics (DRO)	4.621	mg/L	1.0	5	0	92.4	74	157			
Sample ID: LCSD-21130		*LCSD*				Batch ID:	**21130**	Analysis Date:		1/15/2010 9:34:36 AM	
Diesel Range Organics (DRO)	5.036	mg/L	1.0	5	0	101	74	157	8.61	23	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1001166-01A MSD		*MSD*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 6:14:09 PM	
Gasoline Range Organics (GRO)	0.4610	mg/L	0.050	0.5	0	92.2	80	115	3.08	8.39	
Sample ID: 5ML RB		*MBLK*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 9:38:32 AM	
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		*LCS*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 6:44:25 PM	
Gasoline Range Organics (GRO)	0.4818	mg/L	0.050	0.5	0	96.4	80	115			
Sample ID: 1001166-01A MS		*MS*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 5:43:47 PM	
Gasoline Range Organics (GRO)	0.4754	mg/L	0.050	0.5	0	95.1	80	115			
Method: EPA Method 8021B: Volatiles											
Sample ID: 1001166-02A MSD		*MSD*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 7:45:09 PM	
Benzene	18.37	µg/L	1.0	20	0	91.9	85.9	113	13.1	27	
Toluene	17.67	µg/L	1.0	20	0	88.3	86.4	113	19.5	19	R
Ethylbenzene	18.09	µg/L	1.0	20	0	90.4	83.5	118	17.3	10	R
Xylenes, Total	54.97	µg/L	2.0	60	0	91.6	83.4	122	16.2	13	R
Sample ID: 5ML RB		*MBLK*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 9:38:32 AM	
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 8:15:33 PM	
Benzene	19.98	µg/L	1.0	20	0	99.9	85.9	113			
Toluene	19.44	µg/L	1.0	20	0	97.2	86.4	113			
Ethylbenzene	19.76	µg/L	1.0	20	0	98.8	83.5	118			
Xylenes, Total	60.05	µg/L	2.0	60	0	100	83.4	122			
Sample ID: 1001166-02A MS		*MS*				Batch ID:	**R37065**	Analysis Date:		1/21/2010 7:14:52 PM	
Benzene	20.94	µg/L	1.0	20	0	105	85.9	113			
Toluene	21.49	µg/L	1.0	20	0	107	86.4	113			
Ethylbenzene	21.51	µg/L	1.0	20	0	108	83.5	118			
Xylenes, Total	64.66	µg/L	2.0	60	0	108	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **ANIMAS ENVIRONMENTAL** Date Received: **1/14/2010**

Work Order Number **1001166** Received by: TLS

Checklist completed by: _____ 1/14/10 Sample ID labels checked by: _____
Signature Date Initials

Matrix: Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	**1.2°**	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services, LLC

Mailing Address: 624 E. Comanche Farmington NM 87401

Phone #: 505-564-2281

email or Fax#: 505-324-2022

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: BMG HWY 537 '08 Spill

Project #: 080101

Project Manager: Ross Kennemar

Sampler: Nathan Willis

On Ice: [redacted] ☐ No

Sample Temperature: [redacted]

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + [redacted] (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel) (Gas only)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12-10	1053	H_2O	MW-1	6-40mL glass	5-HCl 1-unpres.	1	X		X									
	1122		MW-2			2	X		X									
	1153		MW-3			3	X		X									
	1223		MW-4			4	X		X									
	1256		MW-6			5	X		X									
	1321		MW-7			6	X		X									
	1349		MW-8			7	X		X									
			[redacted]															
			Trip Blank			8	X											

Date:	Time:	Relinquished by:	Received by:	Date	Time
12-10	1615	Nathan Willis	[signature]	1-12-10	1615
Date:	Time:	Relinquished by:	Received by:	Date	Time
1-13-10	1630	[signature]	[signature]	1/14/10	940

Remarks: MW-2 has roots in sample.

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.