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Animas Environmental Services, LLC

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

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January 18, 2011

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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



Animas Environmental Services, LLC

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

Prepared for: Glenn Von Gotten New Mexico Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

Prepared on behalf of:
Mike Dimond
Benson-Montin-Greer Drilling Corporation
4900 College Blvd
Farmington, New Mexico 87402

Corrective Action Plan

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

January 18, 2011

Prepared by:
Animas Environmental Services, LLC
624 E. Comanche
Farmington, New Mexico 87401
www.animasenvironmental.com



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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 NE¾ 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) (C₆-C₃₆) 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 (C₆-C₃₆) 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 μ g/L in MW-8 (26 μ g/L). Two wells, MW-7 and MW-9, had benzene concentrations of 2.8 μ g/L and 6.2 μ g/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 (C₆-C₃₆) GRO, DRO, and MRO EPA Method 8015 Modified

Benzene concentrations were above the applicable New Mexico WQCC standard of 10 μ g/L in MW-8 (65 μ g/L) and MW-9 (17 μ g/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 μ g/L) in MW-8 with 45 μ g/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 μ g/L) in two wells, MW-8 (25 μ g/L) and MW-9 (12 μ g/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 μ g/L) in MW-8 (15 μ g/L) and MW-9 (26 μ g/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
			WQCC/ NMED -
Benzene	10	0.0201	Groundwater
			Leaching DAF 20
			WQCC/ NMED -
Toluene	750	21.7	Groundwater
			Leaching DAF 20
			WQCC/ NMED -
Ethylbenzene	750	20.2	Groundwater
			Leaching DAF 20
			WQCC/ NMED -
Xylene	620	2.06	Groundwater
			Leaching DAF 20
		-	WQCC/ NMED -
Naphthalene	30	0.394	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 precleanup 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 NE¾ 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

WellID	Date	Depth to	Surveyed	GW Elev.		Conductivity	DO	Temperature	ORP
	Sampled	Water (ft)	TOC (ft)	(ft)	Н	(mS)	(mg/L)	(c)	(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	08'9	3.588	2.97	15.32	18.1
MW-1	02-Jan-09	31.90	7082.57	7050.67			ΣN		
MW-1	07-Apr-09	31.92	7082.57	7050.65	7.31	4.536	3.19	13.86	16.8
MW-1	60-Inf-70	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	8.06
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			ΣZ		
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			ΝN		
MW-3	07-Apr-09	30.02	7081.10	7051.08	98.9	4.596	2.08	12.19	24.7
MW-3	60-Int-70	30.16	7081.10	7050.94		NM - F	NM - FILLED WITH SEDIMENT	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			ΣN		

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SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL TABLE 1

Rio Arriba County, New Mexico

Sampled Water (ft) TOC (ft) (ft) PH (ms) (mg/l) (f) 07-Apr-09 33.27 7084.79 7051.52 6.91 2.779 1.35 11.90 07-Jul-09 33.32 7084.79 7051.13 7.29 2.124 0.80 17.17 12-Jan-10 33.58 7084.79 7051.13 7.29 1.792 2.00 13.70 12-Jan-10 33.58 7087.98 NA NA NA NM-WELL DRY 05-May-08 7087.98 NA NA NA NM-WELL DRY 07-Jul-09 7087.98 NA NA NM-WELL DRY 12-Jan-10 7087.98 NA NM-WELL DRY 12-Jan-10 7088.43 7051.99 7.00 1.464 </th <th>CI IIOW</th> <th>Date</th> <th>Denth to</th> <th>Pavavail</th> <th>GW Flev</th> <th></th> <th>Conductivity</th> <th>DO</th> <th>Temperature</th> <th>ORP</th>	CI IIOW	Date	Denth to	Pavavail	GW Flev		Conductivity	DO	Temperature	ORP
07-Apr-09 33.27 7084.79 7051.25 6.91 2.779 1.35 11.90 17-Jul-09 33.32 7084.79 7051.47 7.20 2.124 0.80 17.17 12-Jul-09 33.35 7084.79 7051.13 7.36 2.374 2.00 13.70 12-Jan-10 33.68 7087.98 NA NA NA NM-WELL DRY 24-Sep-08 7087.98 NA NA NA NA NA 07-Jul-09 7087.98 NA NA NA NA NA 12-Jan-10 7087.98 NA NA NA NA NA 12-Jan-10 7087.98 NA NA NA NA NA 12-Jan-10 7087.98 NA NA NA NA NA NA 12-Jan-10 7087.98 NA NA NA NA NA NA 12-Jan-10 7087.98 NA NA NA NA NA </th <th></th> <th>Sampled</th> <th>Water (ft)</th> <th>TOC (ft)</th> <th>(ft)</th> <th>рН</th> <th>(mS)</th> <th>(mg/L)</th> <th>(c)</th> <th>(mV)</th>		Sampled	Water (ft)	TOC (ft)	(ft)	рН	(mS)	(mg/L)	(c)	(mV)
12-Oct-09 33.35 7084.79 7051.47 7.20 2.124 0.80 17.17 17.0ct-09 33.56 7084.79 7051.13 7.29 1.792 2.00 13.70 13.70 12Oct-09 33.56 7087.98 NA NA - WELL DRY NA	MW-4	07-Apr-09	33.27	7084.79	7051.52	6.91	2.779	1.35	11.90	21.1
12-Oct-09 33.56 7084.79 7051.13 7.29 1.792 2.00 13.70 12-Jan-10 33.68 7087.98 NA NA NA NM-WELL DRY 24-Sep-08 7087.98 NA NA NM-WELL DRY 02-Jan-09 7087.98 NA NA NM-WELL DRY 07-Jul-09 7087.98 NA NA NM-WELL DRY 07-Jul-09 7087.98 NA NA NM-WELL DRY 07-Jul-09 7087.98 NA NA NM-WELL DRY 12-Jan-10 7087.98 NA NA NM-WELL DRY 12-Jan-10 7088.43 7051.99 7.00 1.464 3.95 14.19 05-May-08 36.03 7088.43 7051.99 7.00 1.464 3.95 14.19 07-Jul-09 36.44 7088.43 7051.99 7.00 1.464 3.95 14.19 07-Jul-09 36.45 7088.43 7051.95 7.00 1.854 2.13	MW-4	60-Inf-70	33.32	7084.79	7051.47	7.20	2.124	08.0	17.17	-41.5
11-Jan-10 33.68 7084.79 7051.11 7.36 2.374 2.03 11.53 11.53 11.54 11.55 11.54 11.55	MW-4	12-Oct-09	33.56	7084.79	7051.23	7.29	1.792	2.00	13.70	43.7
05-May-08 7087-98 NA NAM - WELL DRY 24-Sep-08 7087-98 NA NAM - WELL DRY 02-Jan-09 7087-98 NA NAM - WELL DRY 07-Jan-09 7087-98 NA NAM - WELL DRY 12-Oct-09 7087-98 NA NAM - WELL DRY 12-Jan-10 7087-98 NA NAM - WELL DRY 05-May-08 36.03 7088-43 7051-99 7.00 1.464 3.95 14.19 07-Jan-09 36.57 7088-43 7051-93 7.00 1.854 1.35 17.51 12-Jan-10 36.78 7088-43 7051-65 7.43 1.57 1.35 11.18 07-Jan-09 36.77 7088-43 7051-65 7.44 1.615 2.24	MW-4	12-Jan-10	33.68	7084.79	7051.11	7.36	2.374	2.03	11.53	-26.7
05-May-08 NA NA NM - WELL DRY 24-Sep-08 7087.98 NA NA -WELL DRY 02-Jan-09 7087.98 NA NA -WELL DRY 07-Jul-09 7087.98 NA NA -WELL DRY 12-Oct-09 7087.98 NA NA -WELL DRY 12-Jan-10 7087.98 NA										
24-Sep-08 NA NA NM-WELL DRY 02-Jan-09 7087-98 NA NA-WELL DRY 07-Apr-09 7087-98 NA NA-WELL DRY 12-Oct-09 7087-98 NA NA-WELL DRY 12-Jan-10 7087-98 NA NA-WELL DRY 12-Jan-10 7088-43 7052-40 7.73 1.764 2.43 12-Jan-10 36.50 7088-43 7051.99 7.00 1.464 3.95 14.19 07-Jul-09 36.50 7088-43 7051.99 7.00 1.854 2.21 11.98 07-Jul-09 36.50 7088-43 7051.97 7.00 1.854 2.21 11.98 12-Jan-10 36.50 7088-43 7051.95 7.00 1.854 2.24 11.82 12-Jan-10 36.50 7088-43 7051.65 7.43 1.557 1.35 17.51 12-Jan-10 36.71 7098-43 7051.65 7.43 1.572 2.24 11.82 12-Jan-10 </th <th>MW-5</th> <th>05-May-08</th> <th></th> <th>7087.98</th> <th>NA</th> <th></th> <th></th> <th>NM - WELL</th> <th>JRY</th> <th></th>	MW-5	05-May-08		7087.98	NA			NM - WELL	JRY	
02-Jan-09 7087.98 NA NA-WELL DRY 07-Apr-09 7087.98 NA NA-WELL DRY 12-Oct-09 7087.98 NA NA-WELL DRY 12-Jan-10 7087.98 NA NM-WELL DRY 12-Jan-10 36.03 7088.43 7051.99 7.00 1.464 3.95 14.19 07-Apr-09 36.67 7088.43 7051.93 7.00 1.854 1.198 17.51 12-Jan-10 36.57 7088.43 7051.95 7.00 1.854 11.82 11.82 12-Jan-10 36.57 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10 36.57 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10	MW-5	24-Sep-08		7087.98	NA			NM - WELL	JRY	
07-Apr-09 7087.98 NA NA NM- WELL DRY 12-Oct-09 7087.98 NA NM- WELL DRY 12-Jan-10 7087.98 NA NM- WELL DRY 05-May-08 36.03 7088.43 7051.99 7.00 1.464 3.95 14.19 02-Jan-09 36.04 7088.43 7051.97 7.00 1.854 2.21 11.98 07-Jul-09 36.07 7088.43 7051.97 7.00 1.854 17.51 12-Jan-10 36.07 7088.43 7051.65 7.43 1.615 2.24 11.82 12-Jan-10 36.07 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10 36.02 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10 36.02	MW-5	02-Jan-09		7087.98	NA			NM - WELL I	JRY	
07-Jul-09 7087-98 NA NM-VELL DRY 12-Oct-09 7087-98 NA NM-VELL DRY 12-Jan-10 7087-98 NA NM-VELL DRY 12-Jan-10 7087-98 NA NM-VELL DRY 05-May-08 36.03 7088-43 7052-40 7.73 1.764 2.43 13.95 02-Jan-09 36.04 7088-43 7051-99 7.00 1.464 3.95 14.19 07-Apr-09 36.46 7088-43 7051-99 7.00 1.854 2.21 11.98 07-Jul-09 36.67 7088-43 7051-65 7.43 1.297 2.06 13.11 12-Jan-10 36.92 7088-43 7051-65 7.43 1.615 2.24 11.82 12-Jan-10 36.92 7088-43 7051-65 7.44 1.615 2.24 11.82 05-May-08 37.71 7090.15 7052-44 1.615 2.24 11.82 02-Jan-09 38.16 7090.15 708 1.572<	MW-5	07-Apr-09		7087.98	ΑN			NM - WELL I	ORY	
12-Oct-09 NA NA IMM - WELL DRY 12-Jan-10 7087.98 NA IMM - WELL DRY 12-Jan-10 7087.98 NA IMM - WELL DRY 05-May-08 36.03 7088.43 7051.99 7.00 1.464 2.43 13.95 24-Sep-08 36.44 7088.43 7051.99 7.00 1.464 3.95 14.19 02-Jan-09 36.50 7088.43 7051.93 7.00 1.854 2.21 11.98 07-Apr-09 36.67 7088.43 7051.96 7.27 1.854 2.21 11.98 12-Oct-09 36.67 7088.43 7051.65 7.43 1.297 2.06 13.11 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 05-May-08 37.71 7090.15 7051.99 7.08 1.572 6.11 13.99	MW-5	07-Jul-09		7087.98	ΑN			NM - WELL	DRY	
12-Jan-10 7087-98 NA NA NM- WELL DRY 05-May-08 36.03 7088.43 7052.40 7.73 1.764 2.43 13.95 24-Sep-08 36.44 7088.43 7051.93 7.00 1.464 3.95 14.19 02-Jan-09 36.50 7088.43 7051.93 7.00 1.854 2.21 11.98 07-Apr-09 36.67 7088.43 7051.97 7.00 1.854 2.21 11.98 07-Jul-09 36.67 7088.43 7051.65 7.43 1.257 1.35 17.51 12-Oct-09 36.78 7088.43 7051.51 7.43 1.615 2.24 11.82 12-Jan-10 36.92 7088.43 7051.51 7.43 1.615 2.24 11.82 05-May-08 37.71 7090.15 7051.99 7.08 1.572 6.11 13.99 07-Jan-09 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 0	MW-5	12-Oct-09		7087.98	ΑN			NM - WELL	DRY	
05-May-08 36.03 7088.43 7052.40 7.73 1.764 2.43 13.95 24-Sep-08 36.44 7088.43 7051.99 7.00 1.464 3.95 14.19 02-Jan-09 36.50 7088.43 7051.97 7.00 1.854 2.21 11.98 07-Apr-09 36.46 7088.43 7051.97 7.00 1.854 2.21 11.98 07-Jul-09 36.67 7088.43 7051.65 7.43 1.297 2.06 13.11 12-Oct-09 36.78 7088.43 7051.51 7.44 1.615 2.24 11.82 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 05-May-08 37.71 7090.15 7051.99 7.08 1.572 6.11 13.99 02-Jan-09 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 07-Jul-09 38.29 7090.15 7051.99 7.06 1.599 <	MW-5	12-Jan-10		7087.98	NA			NM - WELL I	DRY	
05-May-08 36.03 7088.43 7052.40 7.73 1.764 2.43 13.95 14.19 24-Sep-08 36.44 7088.43 7051.93 7.00 1.464 3.95 14.19 14.19 02-Jan-09 36.50 7088.43 7051.97 7.00 1.854 2.21 11.98 11.98 07-Jul-09 36.67 7088.43 7051.65 7.43 1.297 2.06 13.11 11.82 12-Oct-09 36.78 7088.43 7051.65 7.43 1.615 2.24 11.82 11.82 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 11.82 05-May-08 37.71 7090.15 7052.44 7.08 7.08 1.572 6.11 13.99 1.280 02-Jan-09 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 1.280 07-Jul-09 38.16 7090.15 7051.99 7.06 1.559										
24-Sep-08 36.44 7088.43 7051.99 7.00 1.464 3.95 14.19 1.198 02-Jan-09 36.50 7088.43 7051.97 7.00 1.854 2.21 11.98 11.98 07-Apr-09 36.67 7088.43 7051.97 7.07 1.854 2.21 11.98 11.98 12-Oct-09 36.67 7088.43 7051.65 7.43 1.297 2.06 13.11 11.82 12-Oct-09 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 11.82 05-May-08 37.71 7090.15 7051.99 7.08 1.572 6.11 13.99 1.39 02-Jan-09 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 1.39 07-Jul-09 38.26 7090.15 7051.99 7.06 1.559 2.27 16.48 12.80 07-Jul-09 38.29 7090.15 7051.66 7.06 1.559 4.64 13	MW-6	05-May-08	36.03	7088.43	7052.40	7.73	1.764	2.43	13.95	87.3
02-Jan-09 36.50 7088.43 7051.97 7.00 1.854 2.21 11.98 07-Apr-09 36.46 7088.43 7051.97 7.00 1.854 2.21 11.98 11.98 07-Jul-09 36.78 7088.43 7051.65 7.43 1.297 2.06 13.11 13.11 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 11.82 05-May-08 37.71 7090.15 7052.44 7.08 1.572 6.11 13.99 13.99 02-Jan-09 38.16 7090.15 7051.94 7.08 1.572 6.11 13.99 12.80 07-Jul-09 38.29 7090.15 7051.94 7.06 1.595 1.46 12.80 16.48 12.80 12-Oct-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 13.48	MW-6	24-Sep-08	36.44	7088.43	7051.99	7.00	1.464	3.95	14.19	50.3
07-Apr-09 36.46 7088.43 7051.97 7.00 1.854 2.21 11.98 12-Oct-09 36.67 7088.43 7051.76 7.27 1.557 1.35 17.51 12-Oct-09 36.78 7088.43 7051.51 7.44 1.615 2.06 13.11 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 05-May-08 37.71 7090.15 7052.44 American Converse Convers	9-MW	02-Jan-09	36.50	7088.43	7051.93			NN		
07-Jul-09 36.67 7088.43 7051.76 7.27 1.557 1.35 17.51 7.51 12-Oct-09 36.78 7088.43 7051.65 7.43 1.297 2.06 13.11 7.11 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 7.18 05-May-08 37.71 7090.15 7052.44 7.08 1.572 6.11 13.99 7.08 24-Sep-08 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 7.08 07-Apr-09 38.16 7090.15 7051.99 6.87 1.955 1.46 12.80 7.08 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12.0ct-09 4.64 13.48 13.48	9-MW	07-Apr-09	36.46	7088.43	7051.97	7.00	1.854	2.21	11.98	22.2
12-Oct-09 36.78 7088.43 7051.65 7.43 1.297 2.06 13.11 1.82 12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 11.82 05-May-08 37.71 7090.15 7052.44 NM - LOW YIELD 13.99 13.99 24-Sep-08 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 13.99 07-Jan-09 38.16 7090.15 7051.99 6.87 1.955 1.46 12.80 12.80 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12.0ct-09 12-Oct-09 38.49 7090.15 7.18 7.18 1.365 4.64 13.48 13.48	MW-6	07-Jul-09	36.67	7088.43	7051.76	7.27	1.557	1.35	17.51	57.8
12-Jan-10 36.92 7088.43 7051.51 7.44 1.615 2.24 11.82 05-May-08 37.71 7090.15 7052.44 AM-LOW YIELD 24-Sep-08 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 02-Jan-09 38.21 7090.15 7051.94 AM-LOW YIELD NM 07-Apr-09 38.16 7090.15 7051.94 AM-LOW YIELD NM 07-Apr-09 38.16 7090.15 7051.94 AM-LOW YIELD NM 07-Jul-09 38.29 7090.15 7051.86 7.06 1.552 1.46 12.80 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-6	12-Oct-09	36.78	7088.43	7051.65	7.43	1.297	5.06	13.11	0.99
05-May-08 37.71 7090.15 7052.44 AM - LOW YIELD 24-Sep-08 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 02-Jan-09 38.21 7090.15 7051.94 AM AM 07-Apr-09 38.16 7090.15 7051.99 6.87 1.955 1.46 12.80 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-6	12-Jan-10	36.92	7088.43	7051.51	7.44	1.615	2.24	11.82	-19.2
05-May-08 37.71 7090.15 7052.44 7080.15 7051.99 7.08 1.572 6.11 13.99 24-Sep-08 38.16 7090.15 7051.94 7.08 1.572 6.11 13.99 13.99 07-Apr-09 38.16 7090.15 7051.99 6.87 1.955 1.46 12.80 12.80 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12.0c 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48										
24-Sep-08 38.16 7090.15 7051.99 7.08 1.572 6.11 13.99 13.99 02-Jan-09 38.21 7090.15 7051.94 A.87 1.955 1.46 12.80 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-7	05-May-08	37.71	7090.15	7052.44			NM - LOW Y	IELD	
02-Jan-09 38.21 7090.15 7051.94 6.87 1.955 1.46 12.80 07-Apr-09 38.16 7090.15 7051.86 7.06 1.599 2.27 16.48 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-7	24-Sep-08	38.16	7090.15	7051.99	7.08	1.572	6.11	13.99	36.3
07-Apr-09 38.16 7090.15 7051.99 6.87 1.955 1.46 12.80 07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-7	02-Jan-09	38.21	7090.15	7051.94			NM		
07-Jul-09 38.29 7090.15 7051.86 7.06 1.599 2.27 16.48 12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-7	07-Apr-09	38.16	7090.15	7051.99	28.9	1.955	1.46	12.80	22.0
12-Oct-09 38.49 7090.15 7051.66 7.18 1.365 4.64 13.48	MW-7	60-Jn[-C0	38.29	7090.15	7051.86	7.06	1.599	2.27	16.48	97.6
	MW-7	12-Oct-09	38.49	7090.15	7051.66	7.18	1.365	4.64	13.48	77.0

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Corrective Action Plan January 18, 2011

Labs 011210

SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL TABLE 1

Rio Arriba County, New Mexico

Well ID	Date	Depth to	Surveyed	GW Elev.		Conductivity	00	Temperature	ORP
	Sampled	Water (ft)	TOC (ft)	(ft)	ЬH	(mS)	(mg/L)	(c)	(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	ELD	
MW-8	24-Sep-08	34.20	7085.20	7051.00	88.9	1.672	3.06	15.24	9.6-
MW-8	05-Jan-09	34.21	7085.20	7050.99			ΝN		
MW-8	07-Apr-09	34.28	7085.20	7050.92	86.9	2.061	1.81	13.30	-108.8
MW-8	60-Inf-70	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
6-MM	05-May-08	31.81	7083.64	7051.83	7.85	1.955	2.59	15.01	-37.9
6-MM	24-Sep-08	32.26	7083.64	7051.38	7.08	1.515	2.84	14.03	43.3
6-MM	05-Jan-09		7083.64	NA			NM - WELL DRY	JRY	
6-MW	07-Apr-09	32.34	7083.64	7051.30	68.9	1.876	1.11	12.85	7.0
6-WW	60-Int-70	32.41	7083.64	7051.23	7.19	1.672	1.14	16.77	-9.7
WW-9	12-Oct-09	32.63	7083.64	7051.01	7.22	1.352	2.10	13.78	72.9
6-MM	12-Jan-09	34.80	7083.64	NA		- MN	NM - 2.37 feet of Crude oil	Crude oil	

NOTE:

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

Labs 011210

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

Rio Arriba County, New Mexico

	Date			Ethyl-	Total			
Well ID	Sampled	Benzene	Toluene	benzene	Xylenes	GRO	DRO	MRO
	-	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)
Analytica	al Method	8021B	8021B	8021B	8021B	8015B	8015B	8015B
	ico 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		1	1	filled with se		1	T
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
DAVA F	OF Marrico				IC Mall D	<u></u>		
MW-5	05-May-08				IS - Well Dry			
MW-5	24-Sep-08				IS - Well Dry			
MW-5	02-Jan-09				IS - Well Dry			
MW-5	07-Apr-09				IS - Well Dry			
MW-5	07-Jul-09		 	N	IS - Well Dry			

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

Rio Arriba County, New Mexico

	Date			Ethyl-	Total			
Well ID	Sampled	Benzene	Toluene	benzene	Xylenes	GRO	DRO	MRO
		(μg/L)	(μg/L)	(μg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)
Analytica	l Method	8021B	8021B	8021B	8021B	8015B	8015B	8015B
New Mex	ico WQCC	10	750	750	620	NE	NE	NE
MW-5	12-Oct-09			N	S - Well Dry			
MW-5	12-Jan-10			N	S - 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				S - 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 CRU	JDE OIL		

NOTE: NS = Not Sampled

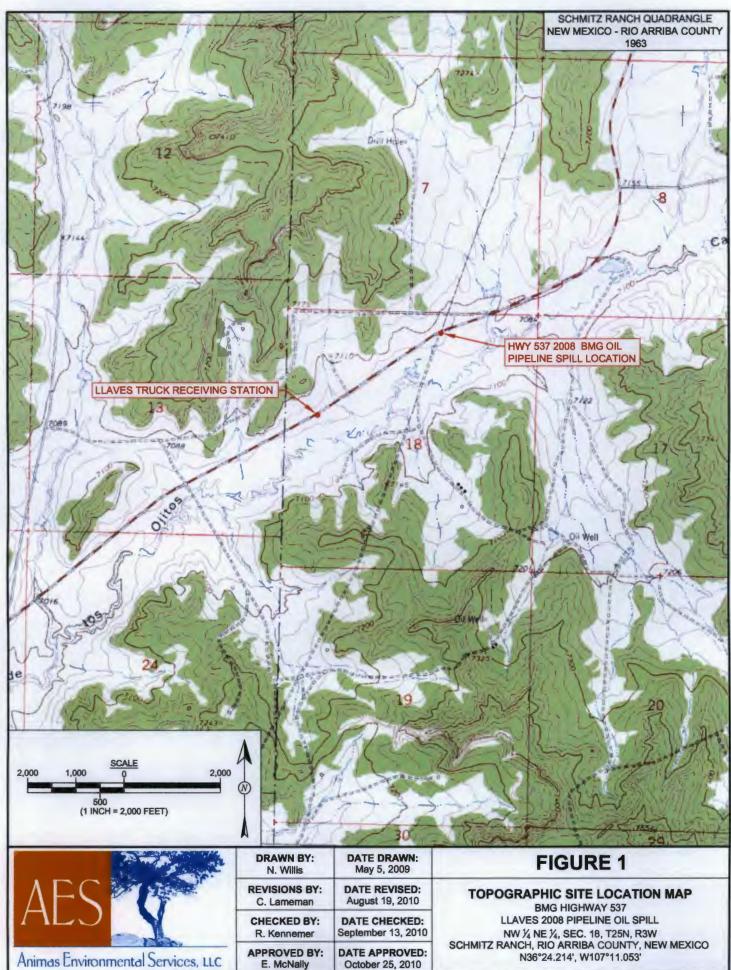
GRO = Gasoline Range Organics DRO = Diesel Range Organics

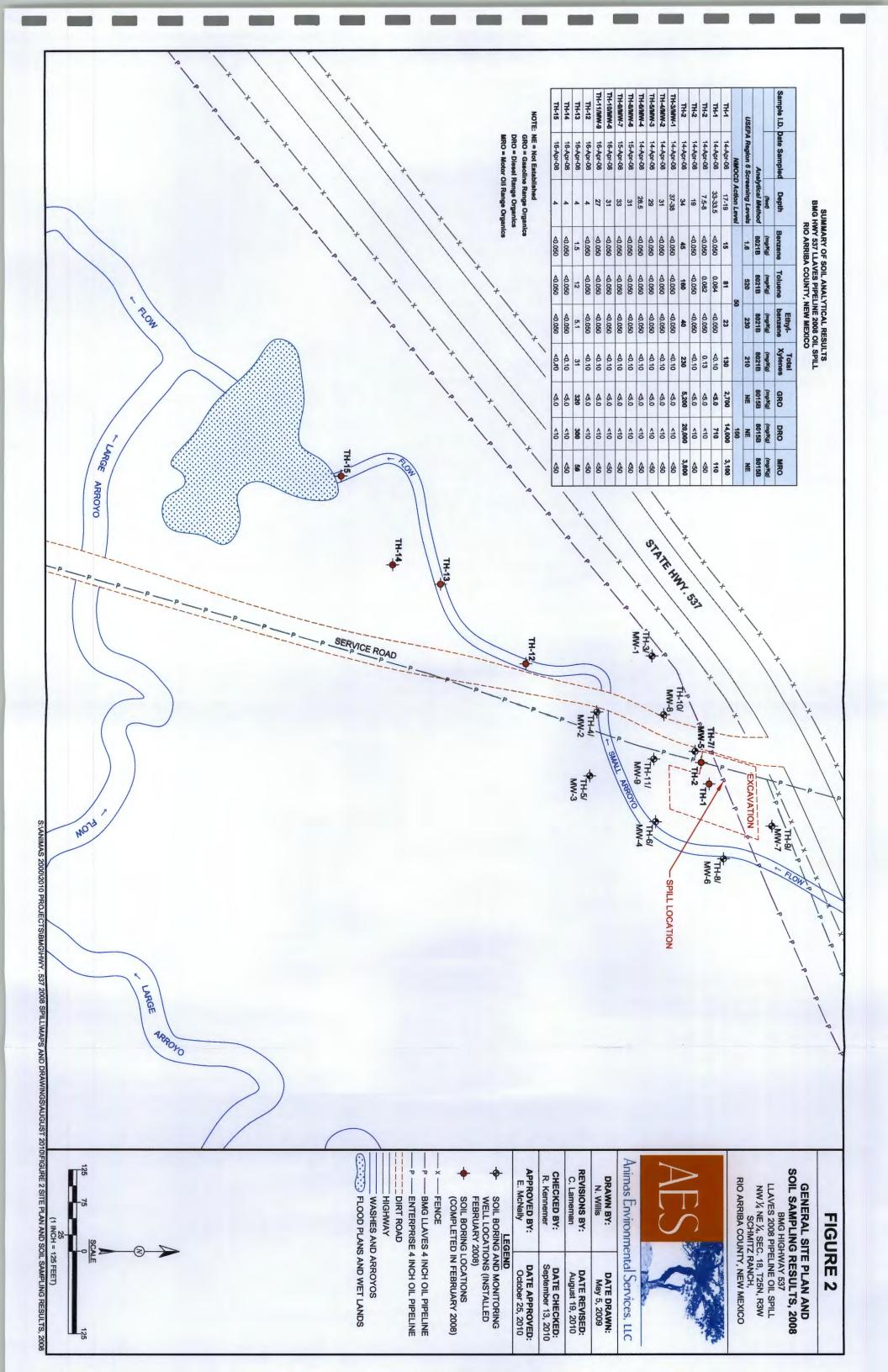
TABLE 2 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL

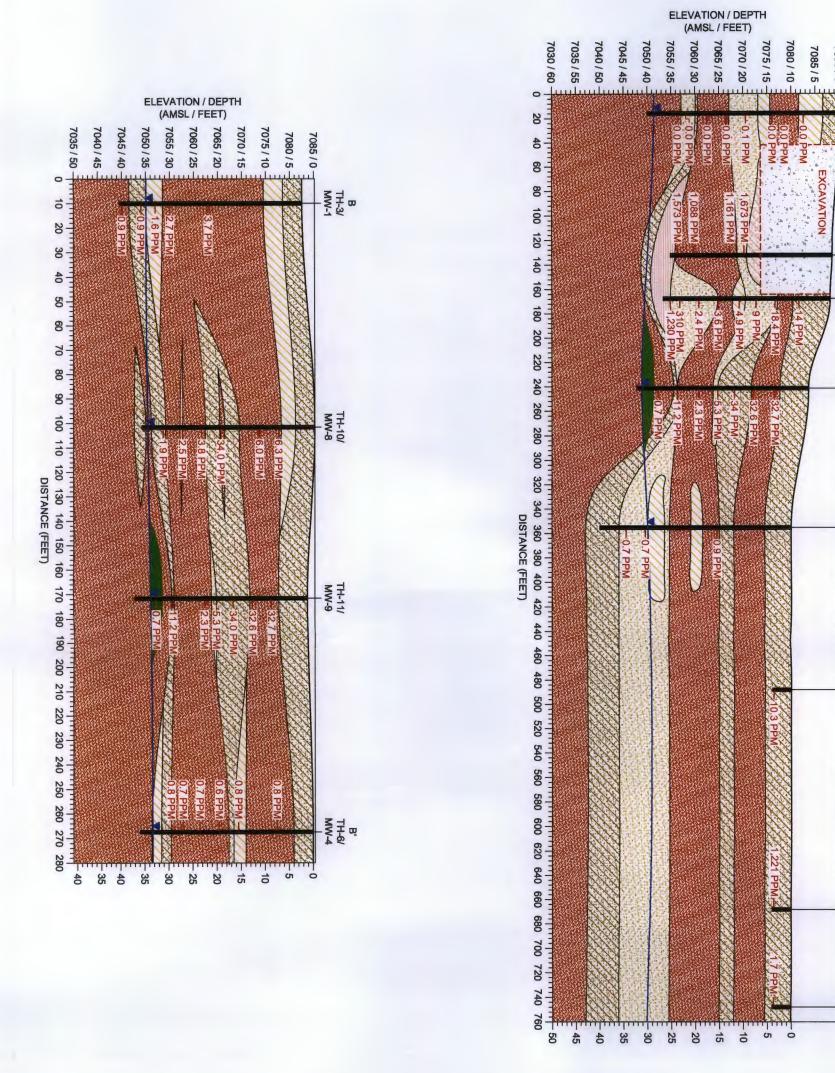
Rio Arriba County, New Mexico

	Date			Ethyl-	Total			
Well ID	Sampled	Benzene	Toluene	benzene	Xylenes	GRO	DRO	MRO
****		(μg/L)	(μg/L)	(μg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)
Analytica	l Method	8021B	8021B	8021B	8021B	8015B	8015B	8015B
New Mex	ico WQCC	10	750	750	620	NE	NE	NE

MRO = Motor Oil Range Organics







NOT TO SCALE

SANDY CLAY

SANDSTONE

FINE GRAINED SANDS

COARSE GRAINED SANDS

DRAWINGSVAUGUST 2010/FIGURE 3 GEOLOGICAL X SECTIONS AND SOIL SCREENING RESULTS, 2008

FIGURE 3

GEOLOGICAL CROSS SECTIONS AND SOIL SCREENING RESULTS

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

-0.0 PPM OVM/PID READINGS
(PARTS PER MILLION)

CLAY

BACKFILL

FREE PRODUCT

GROUNDWATER ELEVATION

CLAYEY SAND

APPROVED BY: E. McNally

October 25, 2010

CHECKED BY:
R. Kennemer

DATE CHECKED: September 13, 2010 REVISIONS BY: N. Willis

July 26, 2010

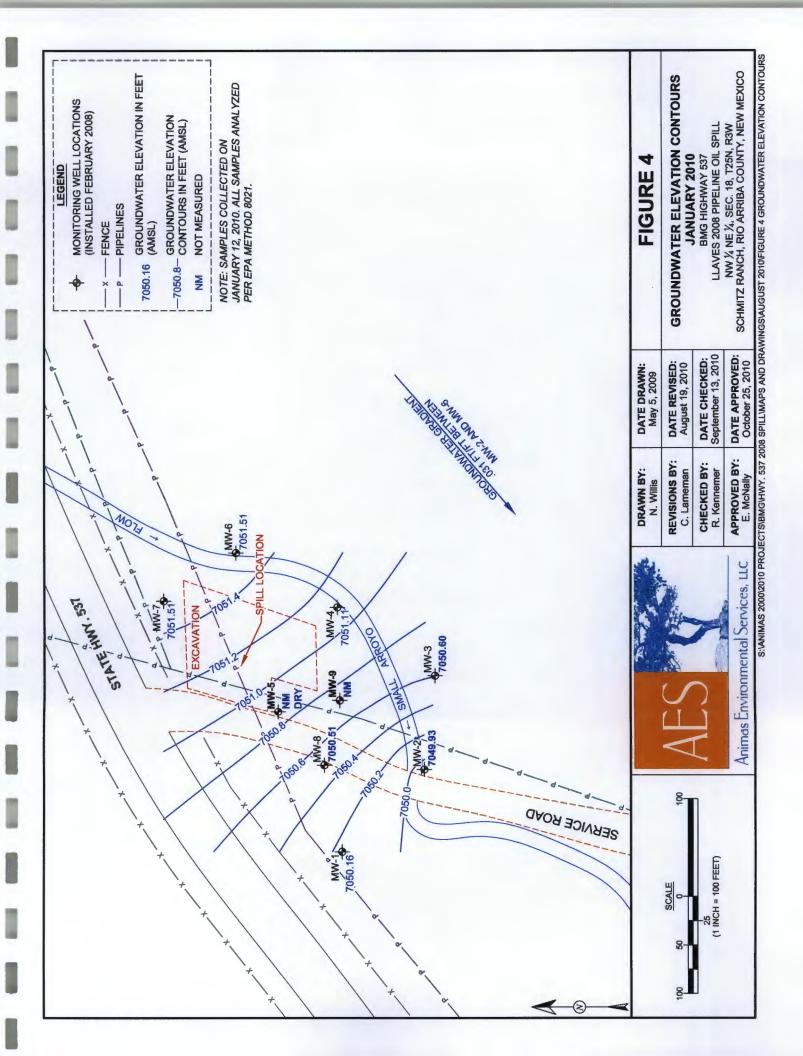
DRAWN BY: N. Willis

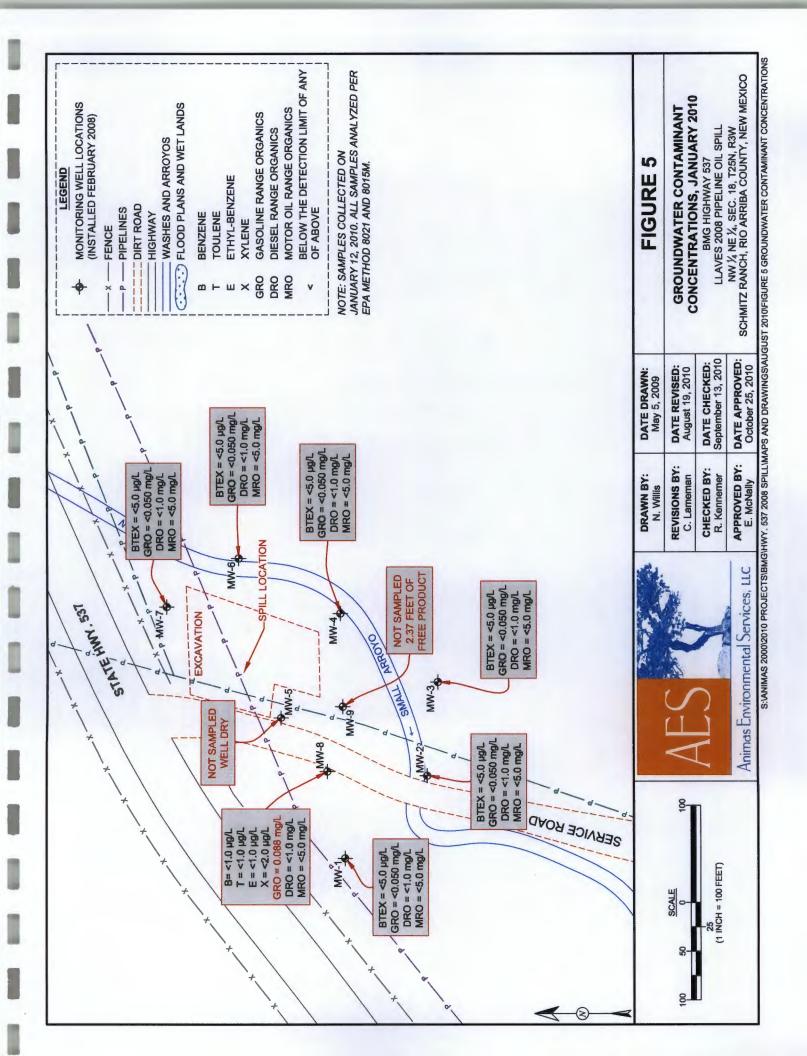
July 26, 2010

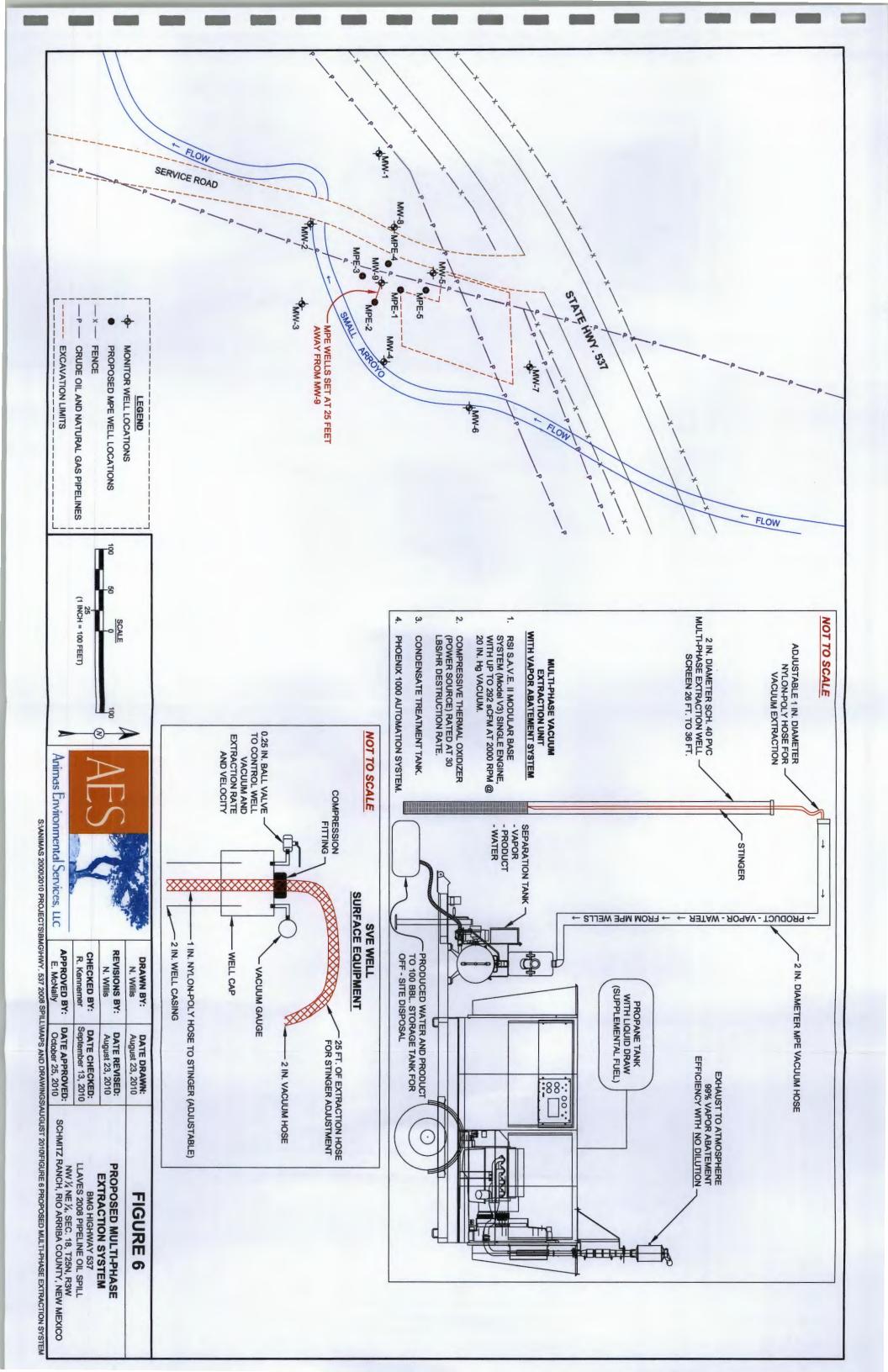
TH-14

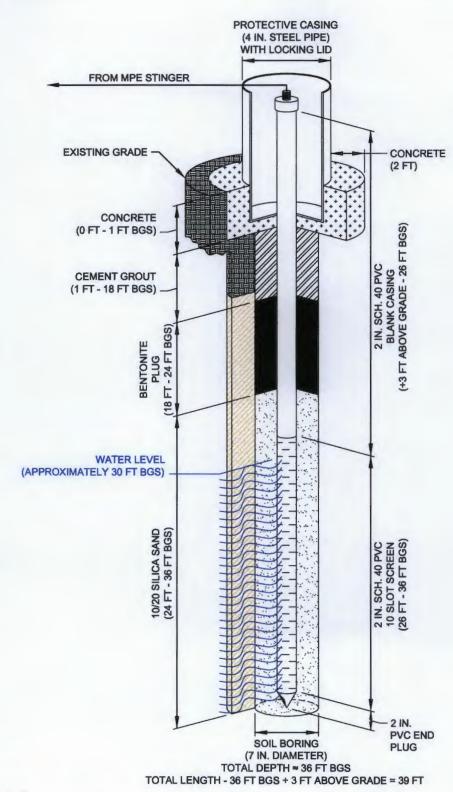
TH-2

TH-4/

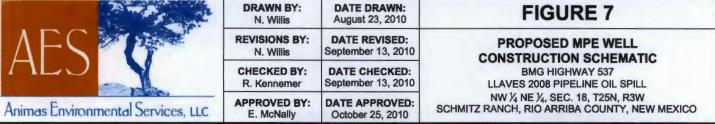


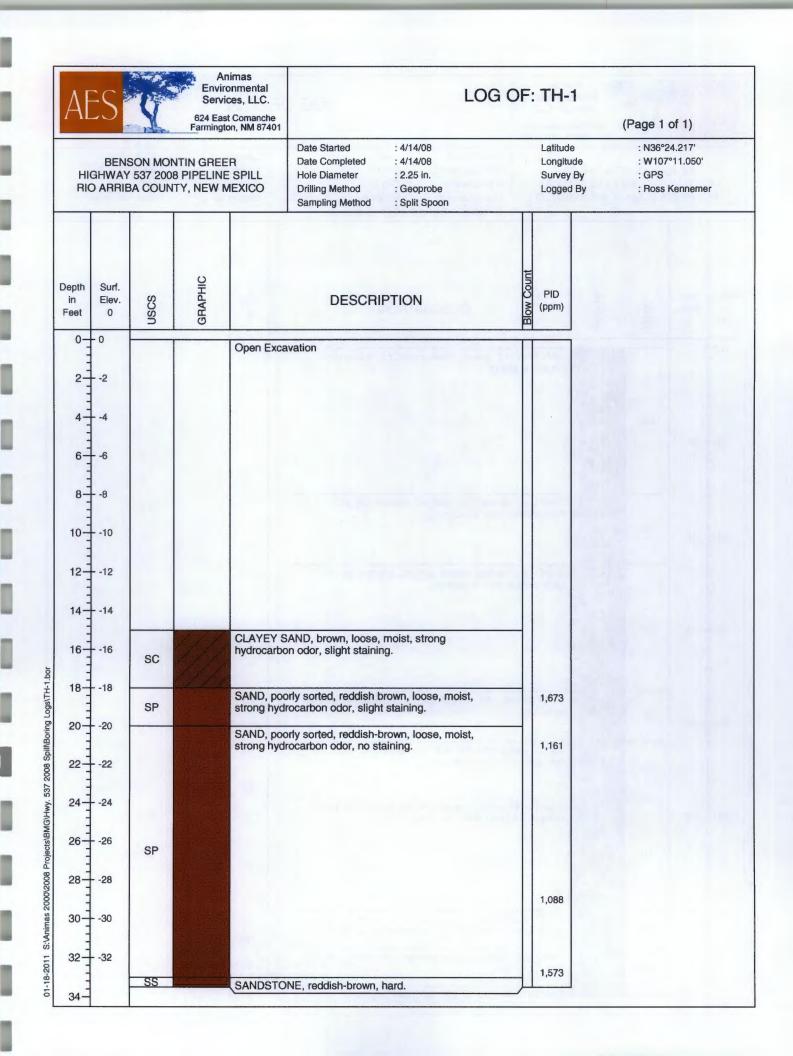


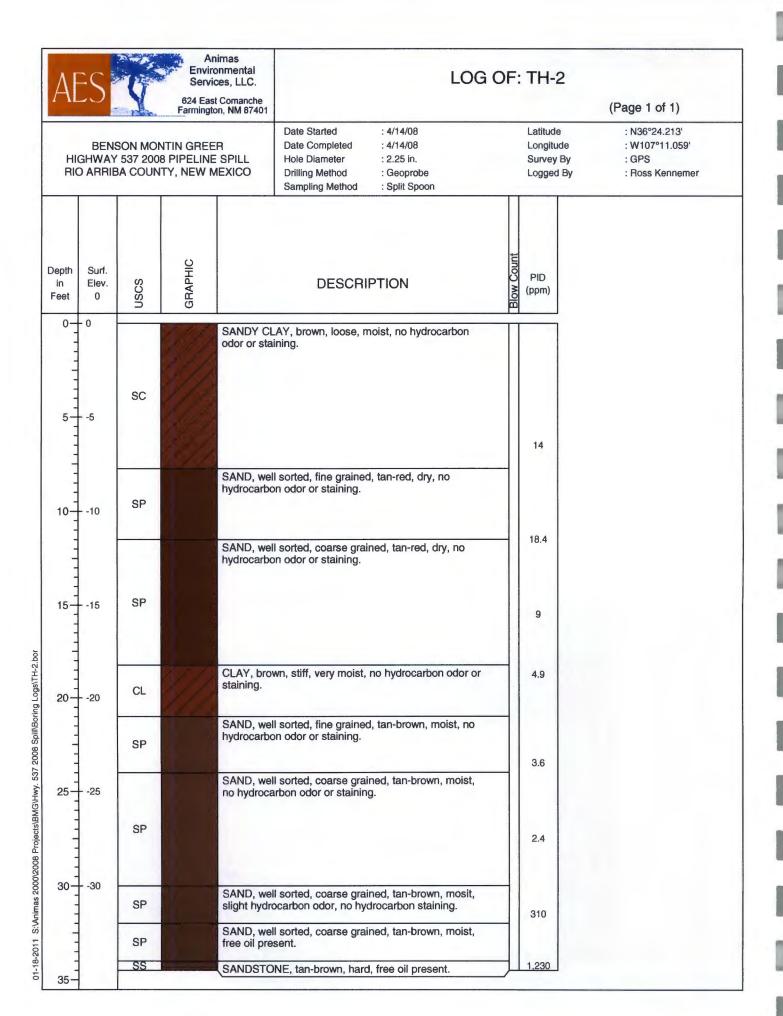


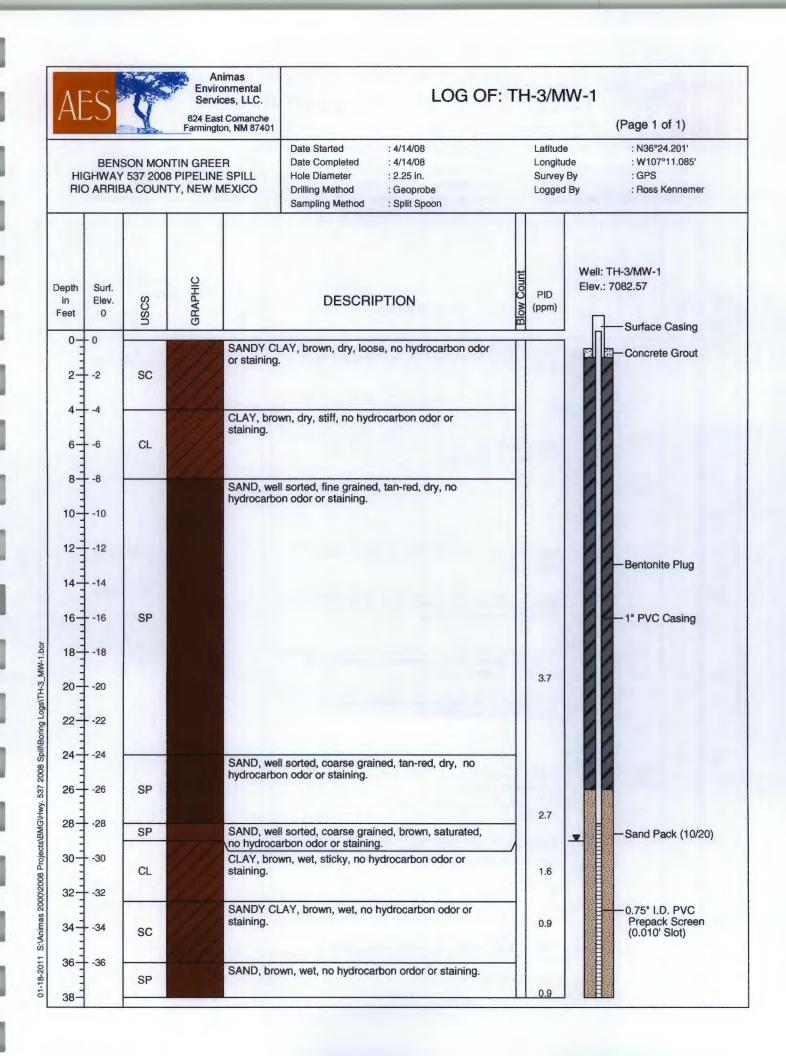


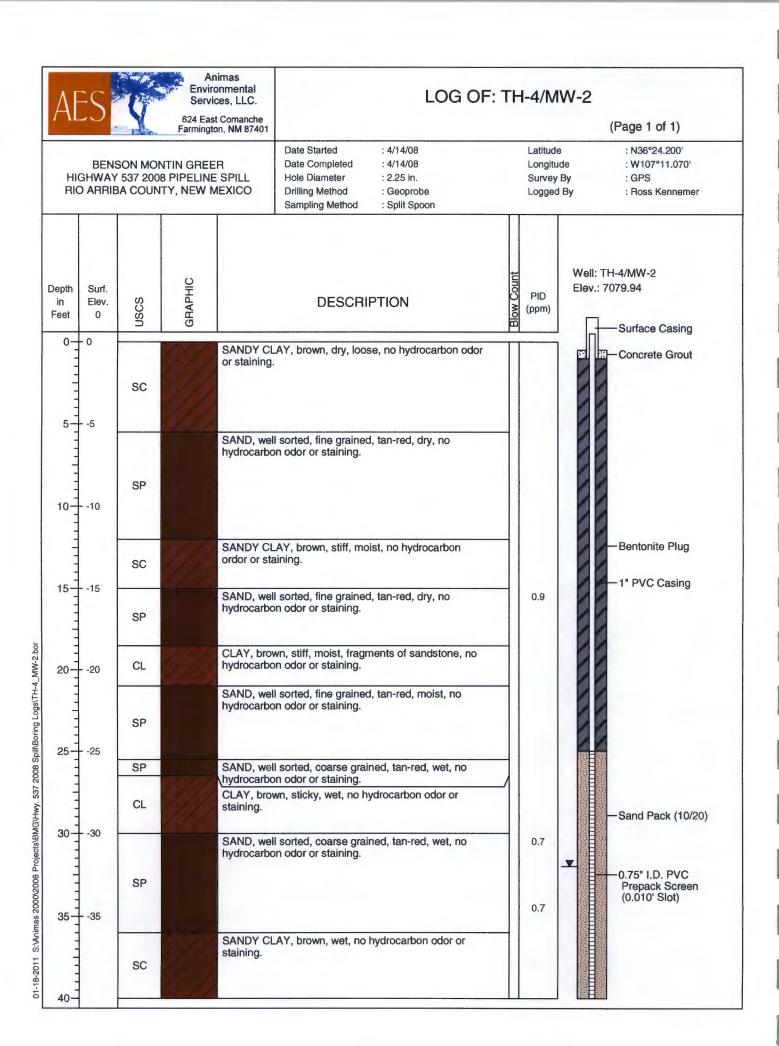
NOT TO SCALE

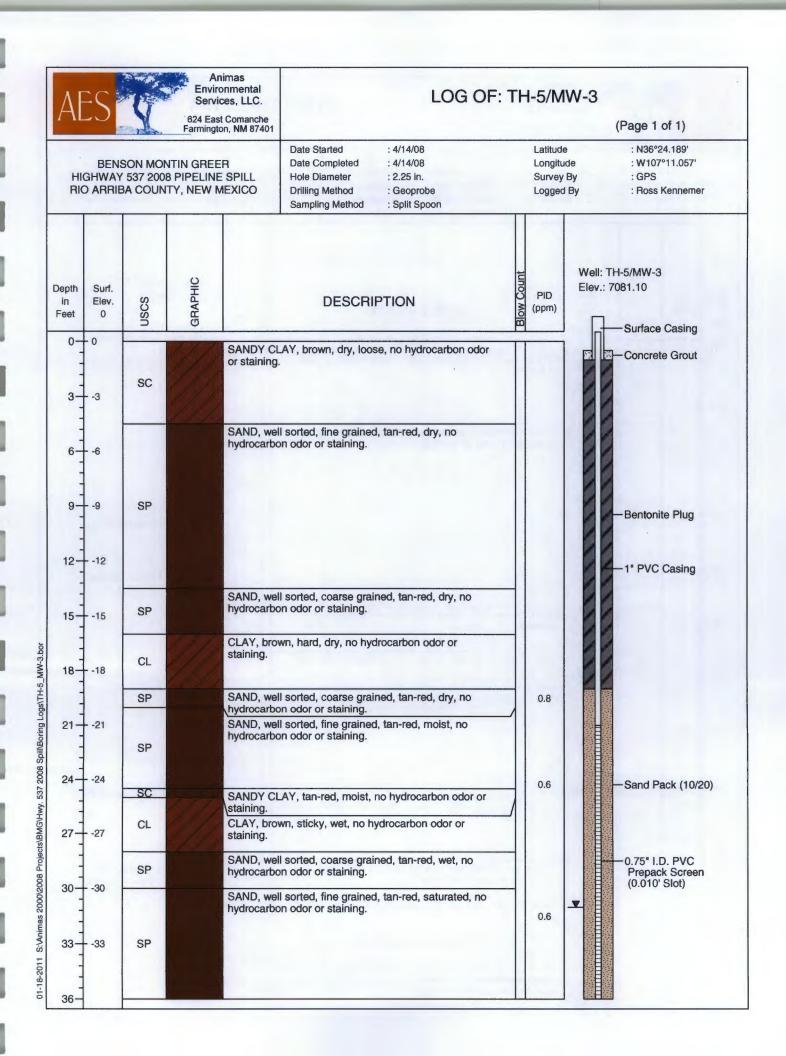


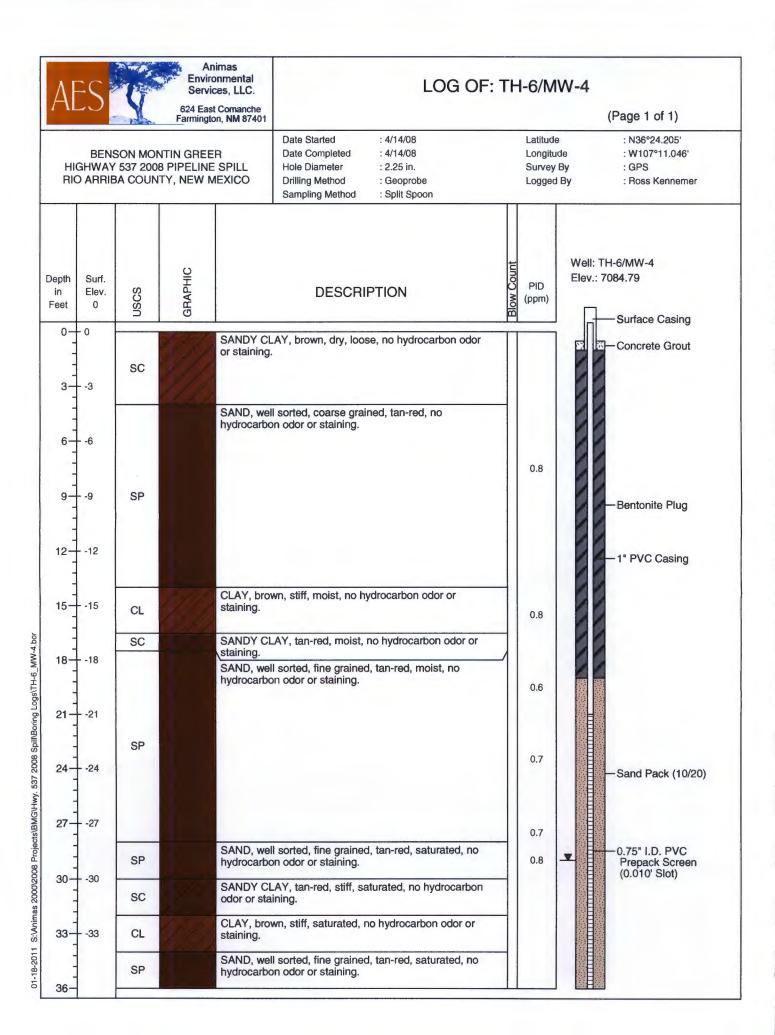


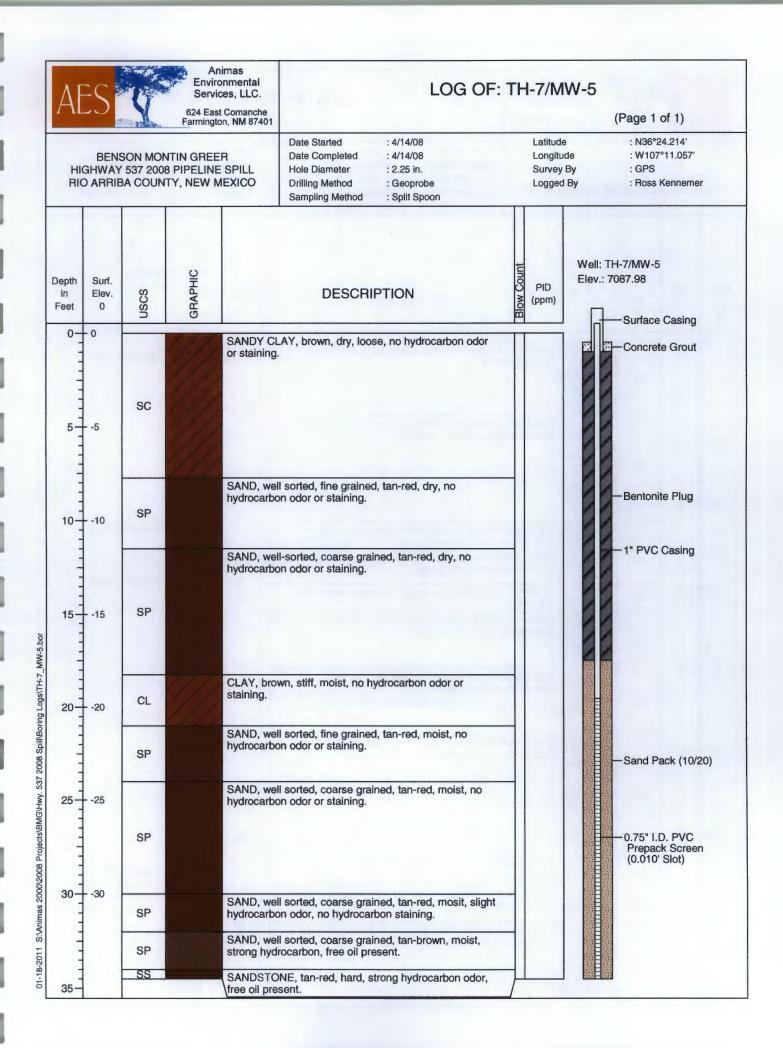


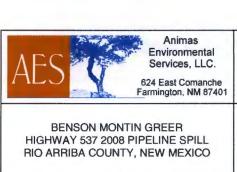












LOG OF: TH-8/MW-6

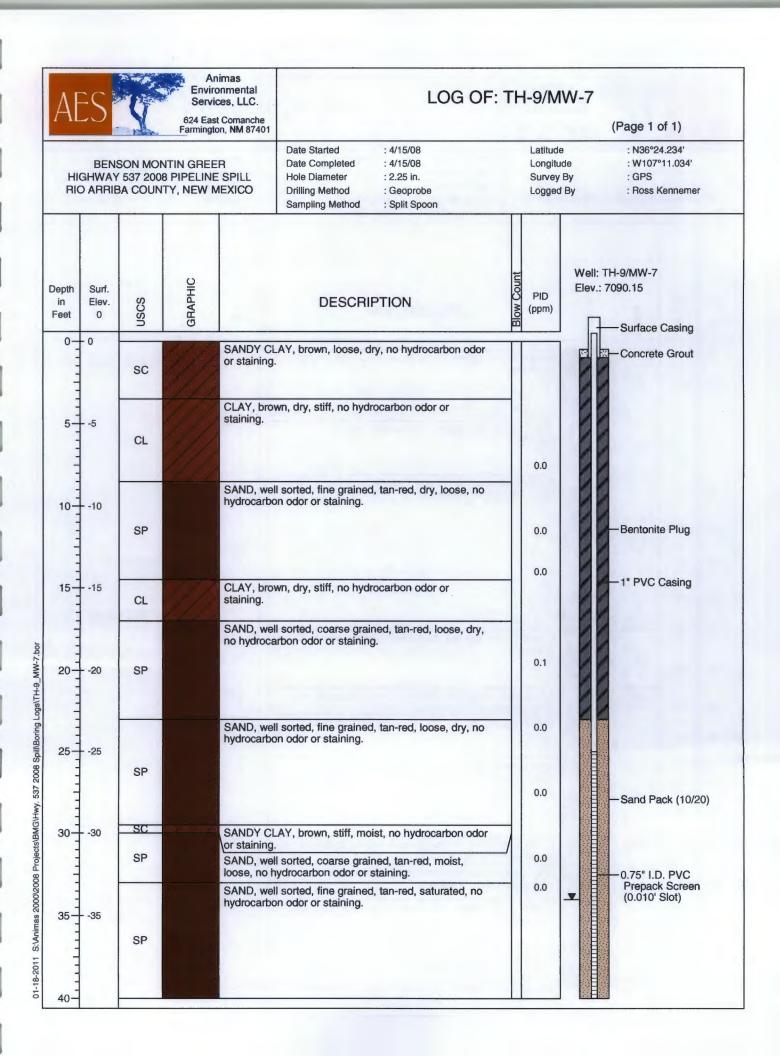
(Page 1 of 1)

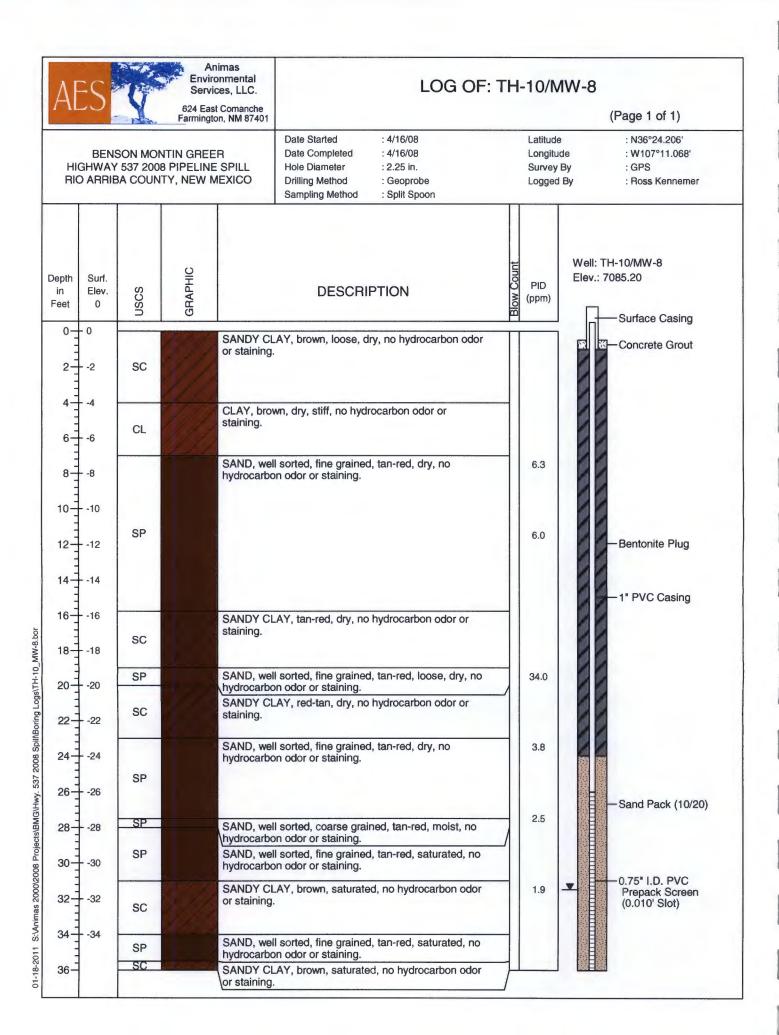
Date Started Date Completed Hole Diameter

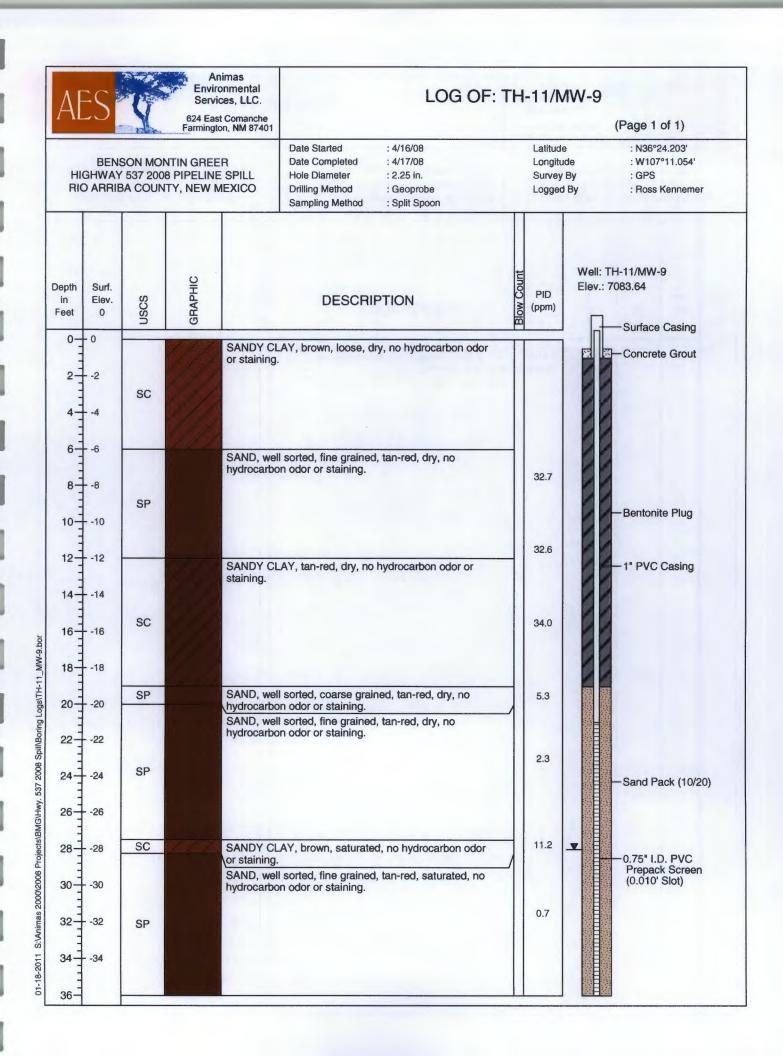
: 4/15/08 : 4/15/08 : 2.25 in. : Geoprobe Latitude Longitude Survey By : N36°24.222' : W107°11.024'

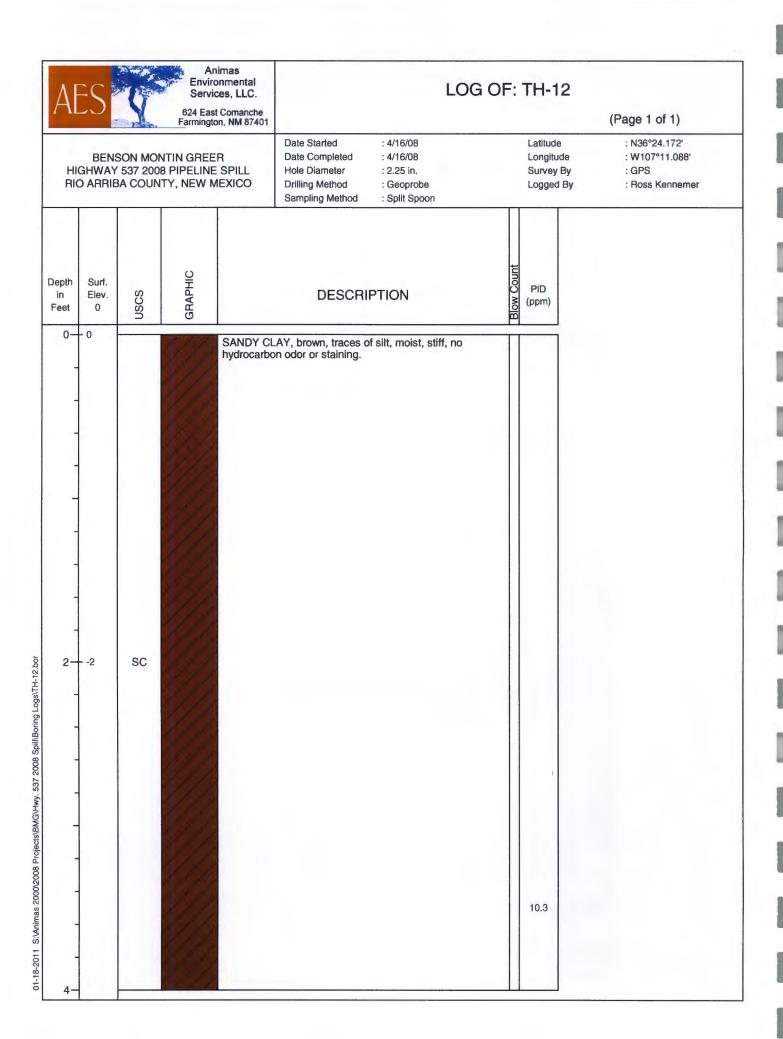
: GPS

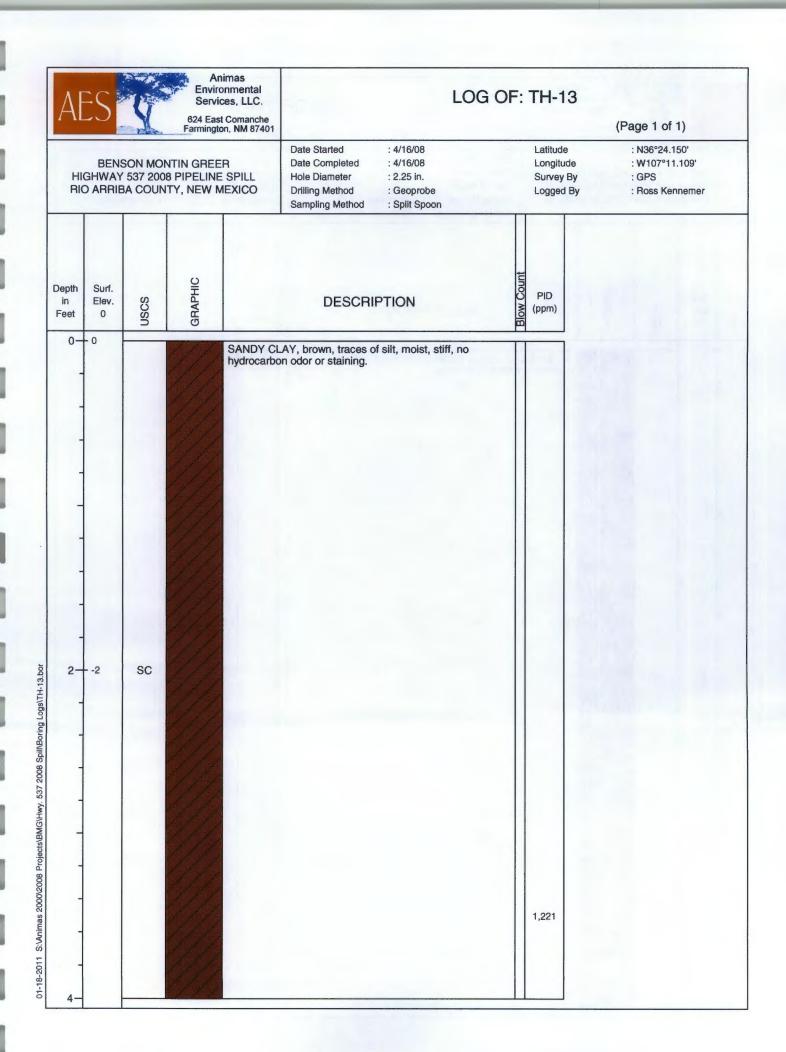
			TY, NEW I	EXICO Drilling Method : Geoprobe Sampling Method : Split Spoon	Logged By : Ross Kennemer
Depth in Feet	Surf. Elev. 0	nscs	GRAPHIC	DESCRIPTION	Well: TH-8/MW-6 Elev.: 7088.43 PID (ppm) Surface Casing
0-	- 0	sc		SANDY CLAY, brown, loose, moist, no hydrocarb odor or staining.	
5		SP		SAND, well sorted, fine grained, tan-red, loose, mono hydrocarbon odor or staining.	noist,
-		SP		SAND, well sorted, coarse grained, tan-red, moist	t, no 0.0 Bentonite Plug
-		SP		hydrocarbon odor or staining. SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.	10
15	15	SC		SANDY CLAY, brown, soft, moist, no hydrocarbor or staining.	on odor 0.1 PVC Casing
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 hydrocarbon odor or staining.	
25	25			SAND, well sorted, fine grained, tan-red, moist, no hydrocarbon odor or staining.	0.2
		SP			0.1 Sand Pack (10/20)
30-	30				0.0
		SP		SAND, well sorted, fine grained, tan-red, wet, ven minor clay content, no hydrocarbon odor or staining	y ing. 0.75" I.D. PVC
35-	35	SC	77	SANDY CLAY, brown, soft, saturated, no hydroca odor or staining.	arbon Prepack Screen (0.010' Slot)
3	00	SP		SAND, well sorted, coarse grained, tan-red, satur no hydrocarbon odor or staining.	o.1 o.0 o.0 o.0 o.0 o.0 o.75" I.D. PVC Prepack Screen (0.010' Slot) o.0
40-					

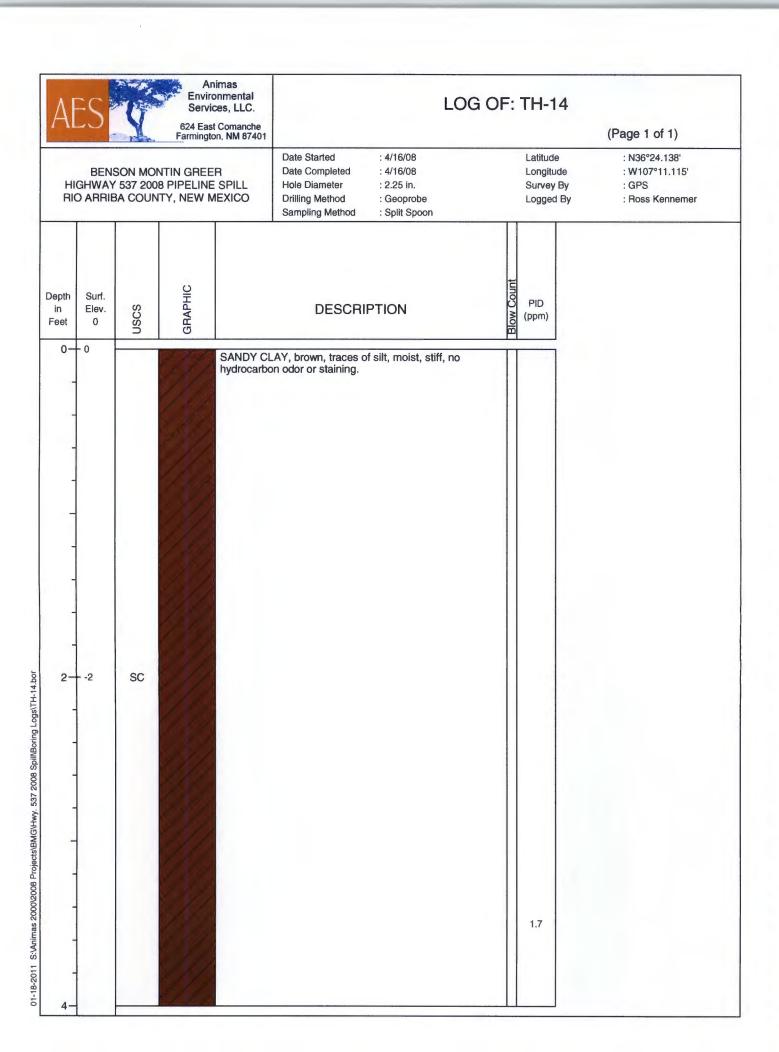


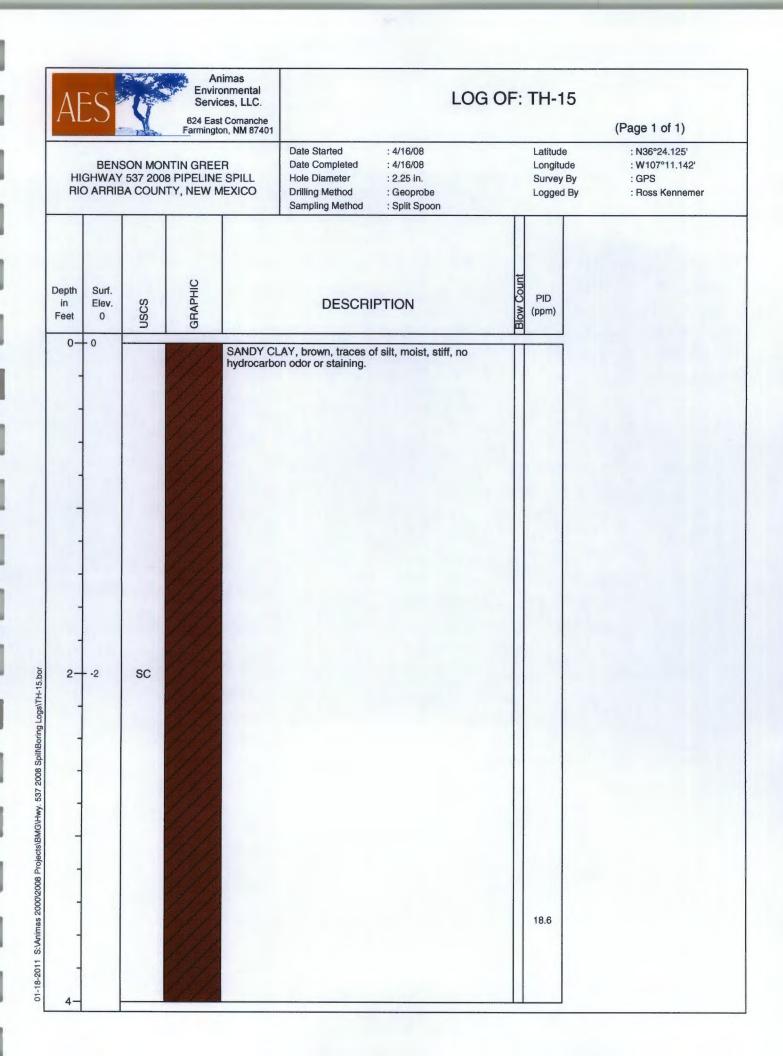












MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services									
Monitor W	ell No:	MW-1		624 E. Comanche, Farmington NM 87401						
			•		Tel. (50	5) 564-2281 Fax (505)	324-2022			
Site:	Highway 53	37 Station Spill			Proje	ct No.: AES 080101	_			
4		County, New Me	xico	-		Date: 1-2-09	-			
		er Monitoring		-		Time: 1040	-			
		N. Willis				Temp: <u>40°</u> Г	-			
_	/ No Purge:			-		ev. (ft):	-			
	ameter (in): D.T.W. (ft):		Time:	. Total v	Vell Dep	ιτη (π): (taken at initial gauging	- r of all wells)			
	D.T.W. (ft):		Time:	1050	<u> </u>	taken prior to purging (taken prior to				
	D.T.W. (ft):		Time:	1035		(taken after sample co	-			
		Water Quality	Paramete	ers - Rec	orded	During Well Purging	1			
Temp Conductivity DO ORP PURGED VOLUME										
Time	·			, LI		(and reverse for calc.)	Notes/Observations			
	(deg C)	(μS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	/ d . / ()			
1)17							Damples Colorida			
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA I	Method 802	21 (2 40m	L Vials w	v/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)				
	TPH C ₆ -C ₃₆ per EPA Method 8015B (40mL Vial w/ no preservative)									
		isposal of Purg								
Collect	ed Samples	Stored on Ice	in Cooler: ₋							
	Chain of Custody Record Complete:									
		Analytical La	aboratory:	Hall Envi	ronmenta	al Analysis Laboratory,	Albuquerque, NM			
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,										
	and New Disposable Bailer									
Notes/Com	ments									
Y51	كامم	function, n	مايد ، م	:r A:	nlite	In kan				
10	- Maur	ukrian, n	U WALL	-1 4 ,	~~iiiy	anon.				

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services									
Monitor W	ell No:	MW-2		624 E. Comanche, Farmington NM 87401						
			•		Tel. (50	5) 564-2281 Fax (505)	324-2022			
4		37 Station Spill		_	Proje	ct No.: AES 080101	_			
	Location: Rio Arriba County, New Mexico Project: Groundwater Monitoring					Date: 1-2-09	-			
	er Monitoring いんいは		-		Time: 33	-				
	/ No Purge:			- т	O.C. Ele	Temp: <u>Чо°</u> F	-			
_	ameter (in):	2		-	Vell Dep	` '	-			
1	D.T.W. (ft):		Time:	•		(taken at initial gauging	g of all wells)			
	D.T.W. (ft):		Time:	113	7	(taken prior to purging				
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)			
		Water Quality	Paramete	ers - Rec	orded	During Well Purging	J			
, , , , , , , , , , , , , , , , , , , ,	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	рH	(mV)	(see reverse for calc.)	Notes/Observations			
1144						716	Samples Collected			
1, 7						73.6	-amples whiteha			
					-					
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA N	Method 802	1 (2 40m	L Vials w	// HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)				
	D	isposal of Purg	ed Water							
Callact		Stored on Ice	-				ì			
	-		•							
	Chain of Cu	stody Record (
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM										
Equipment	Used Durin	g Sampling:		Keck Wa	ter Level	, YSI Water Quality Met	ter,			
				and New	Disposa	ble Bailer				
Notes/Com	ments									
751	M.L.	anction -	Whiter	6.1	1. +	a k en				
103	YSI Malfunction, no Water Quality taken.									

MONITO	RING WEI	LL SAMPLIN	G RECO	RD	Anim	as Environmenta	l Services	1	
Monitor W	ell No:	MW-3			624 E. (Comanche, Farmington	NM 87401		
			=		Tel. (50	5) 564-2281 Fax (505)	324-2022	İ	
Site:	Highway 53	7 Station Spill			Proje	ct No.: AES 080101			
Location:	Rio Arriba C	County, New Me	xico	_		Date: 1- Z-09			
		er Monitoring		_		Time: 1245	-		
	Technician:		5			Temp: 40°F	-		
Purge / No Purge: Purge T.O.C. Elev. (ft):									
Well Diameter (in): 2 Total Well Depth (ft):									
Initial D.T.W. (ft): Time: (taken at initial gauging of all wells) Confirm D.T.W. (ft): 30.01 Time: (250 (taken prior to purging well)									
I	D.T.W. (ft):	30.01	Time:		<u>N</u>	_(taken phor to purging _(taken after sample coi	,		
	· · · · · · · · · · · · · · · · · · ·	Water Quality	Paramete	ers - Red	corded	During Well Purging	ı		
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
	(ucg o)	(µo) (mo)	(mg/L/	P17	(/			4 . 0	
1300						•	- 1/16 Samples Co	rected	
								l	
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA	Method 802	21 (2 40m	L Vials v	v/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Collect	ed Samples	Stored on Ice	in Cooler:						
	Chain of Cu	stody Record	Complete:						
		Analytical La	aboratory:	Hall Envi	ronment	al Analysis Laboratory,	Albuquerque, NM		
Equipment	Used Durin	g Sampling:		Keck Wa	ter Leve	I, YSI Water Quality Me	ter,		
				and New	Disposa	ıble Bailer			
Notes/Com									
Y 5	I Mal	function, 1	Jo Wa	tor (Quali-	ty Taken.			
						,			

MONITO	DING WE	I I CAMPI IN	0 DE00		A i		10			
MONITO	KING WE	LL SAMPLIN	G RECO	RD Animas Environmental Services						
Monitor W	/ell No:	MW-4	_	624 E. Comanche, Farmington NM 87401						
						5) 564-2281 Fax (505)	324-2022	100/01/20 20 20 20 20 20 20 20 20 20 20 20 20 2		
		37 Station Spill		_	Proje	ct No.: AES 080101	_			
		County, New Me	xico	Date: 1-2-09						
		er Monitoring		-	Arrival Time: 1313					
	/ No Purge:			Air Temp: 4のド T.O.C. Elev. (ft):						
, -	iameter (in):			Total Well Depth (ft):						
	I D.T.W. (ft):		Time:	_		(taken at initial gauging	g of all wells)			
	D.T.W. (ft):		Time:	132	<u>20</u>	_(taken prior to purging	•			
Fina	D.T.W. (ft):		Time:			_(taken after sample col	llection)			
	,	Water Quality	Paramete	ers - Rec	corded	During Well Purging	J			
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Obse	rvations		
1327						1/16	Samples	Colaid		
Analyti	cal Parame	eters (include	analysis ı	method	and nu	mber and type of sa	mple conta	iners)		
		BTEX per EPA	Method 802	1 (2 40m	L Vials w	// HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCI preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect		Stored on Ice i	-							
		stody Record C	-							
	5, 50		•	Hall Fnvi	ronment	al Analysis Laboratory, A	Albuquerque	NM		
Fauinment	Used Durin	g Sampling:	٠-			, YSI Water Quality Met				
Equipment	. OSCU DUIIII	ig camping				ble Bailer				
Notes/Com	mente			CITO 146VV	Disposa	DIS DUILO!				
NOTES/COM	V/~	11 10 14			\ ^	1.1-1 4-6.				
	151	Malfunct:	on, Ne) Ma	19t.	watty laken				

MONITO	RING WE	LL SAMPLIN	G RECO	RD Animas Environmental Services						
Monitor W	ell No:	MW-5		624 E. Comanche, Farmington NM 87401						
			•		Tel. (50	5) 564-2281 Fax (505)	324-2022			
Site:	Highway 53	37 Station Spill			Proje	ct No.: AES 080101	_			
Location:	Rio Arriba (County, New Me	xico	Date: 1-2 09						
_		er Monitoring		-		Time: 1340	<u> </u>			
		N. Willis		_		Temp: 40°F	_			
	/ No Purge:			-	O.C. Ele	· ·	_			
l .	ameter (in):			Total V	Vell Dep		- 			
	D.T.W. (ft):		Time:	- 1-	. 40	(taken at initial gauging				
1	D.T.W. (ft): D.T.W. (ft):		Time: Time:	134	15	_(taken prior to purging _(taken after sample co	•			
rinai			· · · · · · · · · · · · · · · · · · ·			• `				
Water Quality Parameters - Recorded During Well Purging										
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations			
	7-			- A manufactural		116	Samoles coberta			
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					1.1					
					- / \					
						'				
Analyti	cal Parame	eters (include	analysis ı	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA I	Method 802	1 (2 40m	L Vials w	v/ HCI preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect		Stored on Ice	-							
	Chain of Cu	stody Record (Complete:							
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM									
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,										
				and New	Disposa	ble Bailer				
Notes/Com	ments									
¥.	72 120	BACKOR A	a Vater	2 GRa	who >	Falson				
		•			'					

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services										
			G RECOI	Κυ							
Monitor W	ell No:	MW-6			624 E. Comanche, Farmington NM 87401 Tel. (505) 564-2281 Fax (505) 324-2022						
Cito	Highway 53	37 Station Spill				5) 564-228 ct No.: AE		324-2022			
		County, New Me	xico	-	Projec		· Z - 09	-			
		er Monitoring	X100	-							
	Sampling Technician: <u>الكن</u> كارَانِي					Temp:	1348 40°F	•			
	/ No Purge:			Т.	O.C. Ele	ev. (ft):		•			
	ameter (in):		7	Total V	Vell Dep	` '					
	D.T.W. (ft):		Time:			• '	initial gauging	*			
Confirm	D. I.W. (π): D.T.W. (ft):	36.50	Time: Time:	135	<u> </u>	• '	or to purging t er sample coll	•			
Tillai	D.1. vv . (II.).		Tillie.			(taken and	or sample con	iection)			
	,	Water Quality	Paramete	ers - Rec	orded						
	Temp	Conductivity	DO		ORP	PURGE	OVOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reve	rse for calc.)	Notes/Observations			
1358						1 1	16	Sanoles Lalestad			
	1.0										
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and	type of sa	mple containers)			
		BTEX per EPA	Method 802	21 (2 40m	L Vials w	// HCl pres	erve)				
		TPH C ₆ -C ₃₆ per									
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	'ial w/ no p	reservative)				
	D	isposal of Purg	ed Water:								
Collect	ed Samples	s Stored on Ice	in Cooler:								
	Chain of Cu	ustody Record (Complete:								
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM										
Equipment	Used Durin	ng Sampling:		Keck Wa	ter Level	, YSI Wate	er Quality Met	er,			
				and New	Disposa	ble Bailer					
Notes/Com	otes/Comments										
	YSI 1	Malfunction	1. No	Wate	x Q1	ality :	Taken				
			1								

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services										
Monitor W	ell No:	MW-7			624 E. 0	Comanche, Farmington	NM 87401				
				Tel. (505) 564-2281 Fax (505) 324-2022							
		37 Station Spill			Proje	ct No.: AES 080101	_				
1		County, New Me	xico	-		Date: 1-2-09	_				
		er Monitoring		-		Time:	-				
	Sampling Technician: <u> ທ. ຝິ່ນໃ</u> ວ Purge / No Purge: No Purge					Temp: 40%	-				
-	ameter (in):			-	Vell Dep		-				
	D.T.W. (ft):	0.70	Time:	. 10.01.1	ren bep	(taken at initial gauging	of all wells)				
l .	D.T.W. (ft):	38,21	Time:	141	3	(taken prior to purging	•				
Final	D.T.W. (ft):		Time:			(taken after sample col	llection)				
Water Quality Parameters - Recorded During Well Purging											
	Temp	Conductivity	DO		ORP	PURGED VOLUME					
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations				
1420						YNo	Samples Collected				
						, ne					
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)				
		BTEX per EPA I	Method 802	1 (2 40m	L Vials w	v/ HCl preserve)					
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)					
		TPH C ₆ -C ₃₆ per	EPA Metho	d 8015B	(40mL V	/ial w/ no preservative)					
	D	isposal of Purg	ed Water:								
Collect	ed Samples	Stored on Ice	in Cooler:								
	Chain of Cu	stody Record (Complete:								
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM										
Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,											
•						ble Bailer					
Notes/Com	ments										
	YSI	Male	lion A	h (1)	1/01 (Quality Taker	1				
	YSI Malfundian, No Water Quality Taken.										

MONITO	RING WE	LL SAMPLIN	G RECOI	RD	Anim	as Environmenta	I Services			
Monitor W	ell No:	MW-8		624 E. Comanche, Farmington NM 87401						
			•		Tel. (505) 564-2281 Fax (505) 324-2022					
		37 Station Spill			Proje	ct No.: AES 080101				
	County, New Mex	xico	-	Date: 1-5 - 09						
	er Monitoring		-		Time: 48 Temp: 20°F					
Sampling Technician: Purge / No Purge: No Purge					O.C. Ele		-			
_	ameter (in):			-	Vell Dep	` '	-			
	D.T.W. (ft):		Time:		,	(taken at initial gauging	g of all wells)			
ľ	D.T.W. (ft):		Time:	1151		(taken prior to purging	*			
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)			
Water Quality Parameters - Recorded During Well Purging										
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
1158						1/16	Samples Collected			
						4.4	ì			
			-							
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA	Method 802	1 (2 40m	L Vials w	// HCl preserve)				
						Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect	ed Samples	Stored on Ice i	in Cooler:							
	Chain of Cu	stody Record (Complete:							
		Analytical La	boratory:	Hall Envi	ronmenta	al Analysis Laboratory,	Albuquerque, NM			
Equipment	Used Durin	g Sampling:		Keck Wa	ter Level	, YSI Water Quality Met	ter,			
				and New	Disposa	ble Bailer				
Notes/Com	ments									
YSI	Malfun	ction, No	Water	Qualit	iy ta	hen				

MONITO	RING WEI	LL SAMPLIN	G RECO	RD	Anim	as Environmenta	I Services				
Monitor W	ell No:	MW- 9		624 E. Comanche, Farmington NM 87401							
			<u>-</u>		Tel. (50	5) 564-2281 Fax (505)	324-2022				
		7 Station Spill		_	Proje	ct No.: AES 080101	_				
	County, New Me	xico	-	A	Date: 1-5-09	-					
	Project: Groundwater Monitoring Sampling Technician:					Time: 1215 Temp: 22°F	-				
	No Purge		- т	.O.C. Ele		-					
Well Di	0.75		_	Nell Dep		-					
Initial		Time:			(taken at initial gauging	g of all wells)					
Confirm D.T.W. (ft): DRY Time:					8	(taken prior to purging	-				
Final	D.T.W. (ft):		Time:			_(taken after sample co	(lection)				
Water Quality Parameters - Recorded During Well Purging											
	Temp	Conductivity	DO		ORP	PURGED VOLUME					
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations				
٨											
			7								
			7	\	. \						
			1	1							
						7					
			1	10		~ ~					
			\ λ								
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)				
		BTEX per EPA I	Method 802	21 (2 40m	L Vials w	v/ HCl preserve)					
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)					
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)					
	Di	isposal of Purg	ed Water:								
Collect	ed Samples	Stored on Ice	in Cooler:								
	Chain of Cu	stody Record (Complete:								
		Analytical La	aboratory:	Hall Envi	ronmenta	al Analysis Laboratory,	Albuquerque, NM				
Equipment	g Sampling:		Keck Wa	ter Level	, YSI Water Quality Met	er,					
			and New	Disposa	ble Bailer						
Notes/Com	ments										
					A						

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

Nathan Willis Tech:

Project No.: AES 080101

Date: 4-7-09

Time: 1/16 **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		68 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.

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services										
Monitor W		MW-1		624 E. Comanche, Farmington NM 87401							
MOTILOT VV	en No.	141 4 4 - 1	-			5) 564-2281 Fax (505)					
Site	Highway 53	37 Station Spill				ct No.: AES 080101	324-2022				
	Location: Rio Arriba County, New Mexico					Date: 4-7-09	-				
1		er Monitoring	X100	-	Arrival Time: 1//						
		Nathan Willis		-		Temp: 52°F	•				
Purge	/ No Purge:	Marge No Pu	rap	Т	O.C. Ele		•				
Well Dia	2 0.76			Well Dep		•					
	Initial D.T.W. (ft): Time: Confirm D.T.W. (ft): 31.92 Time:					(taken at initial gauging	g of all wells)				
	31.92	Time:	112	5	(taken prior to purging	•					
Final D.T.W. (ft): Time:						(taken after sample co	llection)				
	•	Water Quality	Paramete	ers - Re	corded	During Well Purging					
	Temp	Conductivity	DO		ORP	PURGED VOLUME					
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations				
1127	13.86	4,536	3.19	7.31	16.8	1/16					
1132							Sample Collected				
, .							Ser the English				
											
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)				
		BTEX per EPA I	Method 802	21 (2 40m	L Vials w	// HCl preserve)					
						Vials w/ HCl preserve)					
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)					
	ח	isposal of Purg	ed Water:								
Collect		Stored on Ice									
	-										
(Chain of Cu	stody Record (
		-	٠.			al Analysis Laboratory, A					
Equipment	Used Durin	g Sampling:				, YSI Water Quality Met	er,				
				and New	Disposa	ble Bailer					
Notes/Com	ments										

MONITORING WELL SAMPLING RECORD Animas Environmental Services									
Monitor Well No: MW-2 624 E. Comanche, Farmington NM 87401									
				Tel. (505) 564-2281 Fax (505) 324-2022					
		37 Station Spill			Proje	ct No.: AES 080101			
		County, New Mex	xico	_	Date: 4-7-09				
	Groundwate			_		Time: 1146			
Sampling	/ No Durge:	Nathan Willis		- т	Air O.C. Ele	Temp: 58°F			
Well Di	ameter (in):	1 D.7		_	.O.C. Ele Well Dep	` '			
	D.T.W. (ft):		Time:		(taken at initial gauging of all wells)				
	D.T.W. (ft):		Time:	11 5Z (taken prior to purging well)					
Final	D.T.W. (ft):		Time:	-		(taken after sample col	llection)		
		Water Quality	Paramete	ers - Red	corded	During Well Purging	1		
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1156	13.38	2.560	1.93	6.93	21.5	1/16			
1201							Samples Collected		
.,									
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA M	Method 802	21 (2 40m	L Vials v	v/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)			
	Di	isposal of Purg	ed Water:						
Collect		Stored on Ice i							
	Chain of Cu	stody Record C	Complete:						
		Analytical La	boratory:	Hall Envi	ronmenta	al Analysis Laboratory, A	Albuquerque, NM		
Equipment	Used Durin	g Sampling: _		Keck Wa	Keck Water Level, YSI Water Quality Meter,				
				and New	Disposa	ble Bailer			
Notes/Com	ments								

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services								
Monitor W	Monitor Well No: MW-3 624 E. Comanche, Farmington NM 87401								
					Tel. (505) 564-2281 Fax (505) 324-2022				
Site:	37 Station Spill				ct No.: AES 080101				
Location:	Rio Arriba C	County, New Me	xico	_		Date: 4-7-09			
		er Monitoring		-	Arrival Time: 1215				
		Nathan Willis				Temp: 58°F	-		
		Parge No P		_		ev. (ft):	-		
	ameter (in): D.T.W. (ft):		Time:	I Otal v	Total Well Depth (ft):				
		30.02	Time:	121	(taken prior to purging well)				
	D.T.W. (ft):		Time:		(taken after sample collection)				
	1	Water Quality	Paramete	ers - Red	corded	During Well Purging			
	Temp	Conductivity	DO		ORP PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1218	12,19	4.596	Z.08	6.86	24.7	1/16			
	1211	1,710	2.00	6.00	7.1	/10	6 0 (111		
1223							Samples Collected		
				-					
Analyti	cal Paramo	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA	Method 802	21 (2 40m	ıL Vials v	w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)			
	D	isposal of Purg	jed Water:						
Collect		s Stored on Ice							
	•	ustody Record (•						
		-	٠.		ronment	al Analysis Laboratory,	Albuquerque, NM		
Equipment	Used Durir	ng Sampling:				I, YSI Water Quality Met			
		•				able Bailer			
Notes/Com	ments		- N						

MONITORING WELL CAMPLING PROOPS Asigns Francisco									
IMONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services								
Monitor Well No: MW-4 624 E. Comanche, Farmington NM 87401									
					Tel. (50	5) 564-2281 Fax (505)	324-2022		
1		37 Station Spill		_	Proje	ct No.: AES 080101	-		
		County, New Me	xico	_	Date: 4-7-09				
-		er Monitoring		_	Arrival Time: 235				
		Nathan Willis				Temp: <u>58°F</u>	-		
	/ No Purge: ameter (in):	Parge No Pu		_	O.C. Ele	` '	-		
•	D.T.W. (ft):		5 Time:	- Total	Well Dep	(taken at initial gauging	r of all walls)		
1	D.T.W. (ft):		Time:	123	<u>a</u>	_(taken prior to purging			
1	D.T.W. (ft):		Time:	123		(taken after sample co	*		
						- `	·		
		1		ers - Ke		During Well Purging) r		
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1241	11.90	2.779	1,35	6.91	21.1	/16			
1246							Samples Collected		
1-14					 		-umples (anceled)		
				,					
							:		
A 1 4:		1 11			L				
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA	Method 802	21 (2 40m	nL Vials w	// HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)			
	D	isposal of Purg	ad Water:						
Callaga		-							
	-	Stored on Ice							
(Chain of Cu	stody Record (Complete:						
		Analytical La	boratory:	Hall Envi	ronmenta	al Analysis Laboratory, A	Albuquerque, NM		
Equipment Used During Sampling: Ke					iter Level	, YSI Water Quality Met	er,		
		_			and New Disposable Bailer				
Notes/Com	ments				·				
10103/00111									

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services								
Monitor W	ell No:	MW-5			624 E. Comanche, Farmington NM 87401				
			Tel. (505) 564-2281 Fax (505) 324-2022						
Site:	Highway 53	37 Station Spill				ct No.: AES 080101			
		County, New Mex	xico	-		Date: 4-7-09	-		
L.		ter Monitoring		-	Arrival	I Time: 1255	-		
		: Nathan Willis		-		Temp: 58°F	-		
	/ No Purge:			T.	.O.C. Ele		-		
	ameter (in):			Total V	Nell Dep				
	D.T.W. (ft):		Time:			_(taken at initial gauging	-		
	D.T.W. (ft):		Time:	175	7	(taken prior to purging	-		
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)		
	,	Water Quality	Paramete	ers - Rec	corded	During Well Purging]		
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations		
	\ <u></u>		(*** 5** /						
Analyti	cal Param	eters (include	analysis	method	and nu	ımber and type of sa	ample containers)		
	•	BTEX per EPA I	Method 802	21 (2 40m	ıL Vials v	w/ HCl preserve)			
						Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL \	/ial w/ no preservative)			
	D	Disposal of Purg	ed Water:			-			
Collect	ed Sample:	s Stored on Ice	in Cooler:						
	Chain of Cı	ustody Record (Complete:						
		Analytical La	aboratory:	Hall Envi	ronment	al Analysis Laboratory,	Albuquerque, NM		
Equipment	Used Durin	ng Sampling:	•		Keck Water Level, YSI Water Quality Meter,				
				and New	Disposa	able Bailer			
Notes/Com	ments								
					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services							
Monitor W	ell No:	MW-6			624 E. (Comanche, Farmington	NM 87401	
						5) 564-2281 Fax (505)	324-2022	
		37 Station Spill				ct No.: AES 080101		
		County, New Me	xico	<u>.</u>	-	Date: 4-7-09	-	
		ter Monitoring		- -		Time:	<u>-</u>	
		: Nathan Willis				Temp: #58°F	- -	
	/ No Purge:				O.C. Ele		_	
	ameter (in):			_ Total v	Well Dep		<u> </u>	
	D.T.W. (ft):		Time:			(taken at initial gauging		
	D.T.W. (ft):		Time:	130	7	_(taken prior to purging _(taken after sample co	•	
ГШаі	D.T.W. (ft):		_ Time: -			_(taken after sample co	llection)	
	1	Water Quality	Paramete	ers - Rec	corded	During Well Purging]	
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1310	11.98	1.854	2,21	7.00	22.2	1/16		
		1.00		1,,00		(10	/ 1 / 11 1	
1315	<u> </u>						Samples Collected	
	 '	<u> </u>	<u> </u>		 '			
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	<u> </u>		L		<u> </u>			
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	, <u> </u>							
					<u> </u>			
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)	
		BTEX per EPA	Method 802	21 (<u>2 40m</u>	L Vials w	v/ HCl preserve)		
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)		
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)	A	
	D	isposal of Purg	ed Water:			AC-198-1-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		
Collecte		s Stored on Ice i	-	· · · · · · · · · · · · · · · · · · ·				
		ustody Record (-				NAME OF THE OWNER OWNER OF THE OWNER OWNE	
		_	-	Hall Envi	ronmenta	al Analysis Laboratory, A	Albuquerque, NM	
Equipment	Used Durir	ng Sampling:	-			, YSI Water Quality Met		
• •				and New			,	
Notes/Comr	ments				·······			
	110,,,,							

Animan Fundamental Continue									
	MONITORING WELL SAMPLING RECORD Animas Environmental Services								
Monitor W	ell No:	MW-7	_			Comanche, Farmington			
Sitor	Lishway 5	OZ OL-Fran Chill				05) 564-2281 Fax (505) 3	324-2022		
		37 Station Spill County, New Mex		_	Projec	Pate: 85 4-1-09	-		
		ter Monitoring	XICO	_	∆rriva	Date: 3-4-7-09 Il Time: 1327	<u>1</u>		
		: Nathan Willis		-		Temp: 58°F	_		
	/ No Purge:			- т	O.C. Ele		-		
_	iameter (in):				Well Dep	, ,	-		
	D.T.W. (ft):		Time:	-	VOII 2 -	(taken at initial gauging	a of all wells)		
	D.T.W. (ft):		Time:	133	1	(taken prior to purging	•		
1	D.T.W. (ft):		Time:		(taken after sample collection)				
		Water Quality	Paramete	ers - Re	corded	During Well Purging	j		
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1333	12.80	1.955	1.46	6.87	22.0	716			
1338							Samples Collected		
700				 			samples with		
				 					
			 	<u> </u>	 '				
	[!								
					'				
Analyti	cal Parame	eters (include	analysis	method	and nu	ımber and type of sa	imple containers)		
		BTEX per EPA	Method 802	21 (2 40m	nL Vials v	w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)			
						Vial w/ no preservative)			
	D	Disposal of Purg	ed Water:						
Collect		s Stored on Ice i							
	-	ustody Record C							
		•	٠.		ironment	al Analysis Laboratory, A	Albuquerque, NM		
Equipment	Used Durir	ng Sampling:			Keck Water Level, YSI Water Quality Meter,				
						able Bailer			
Notes/Com	ments								

	IONITORING WELL SAMPLING RECORD Animas Environmental Services									
MONITO	RING WE	LL SAMPLIN	G RECO	RD	Anim	as Environmenta	I Services			
Monitor W	ell No:	MW- 8			624 E. 0	Comanche, Farmington	NM 87401			
			-		Tel. (50	5) 564-2281 Fax (505)	324-2022			
		37 Station Spill		_	Proje	ct No.: AES 080101	_			
		County, New Me	xico	-		Date: 4-7-09	-			
		er Monitoring		_		Time: 1345	-			
	l echnician: / No Purge:	Nathan Willis				Temp: 58°F	-			
	ameter (in):			-	.O.C. Ele Vell Dep		-			
Initial		Time:	- Total I	ven beb	(taken at initial gauging	g of all wells)				
Confirm		Time:	135	51	(taken prior to purging					
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)			
	,	Water Quality	Paramete	ers - Red	corded	During Well Purging	J			
	Temp	Conductivity	DO	<u> </u>	ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
1353	13.30	2.061	1.81	6.98	-108.8	1/14				
1358	10.00	2.001	1,01	6,10	100.0	714	/ al a / d 0			
1300					 		Samples Collected			

Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA l	Method 802	21 (2 40m	L Vials w	/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)				
	D	isposal of Purg	ed Water:			St				
Collecte	ed Samples	Stored on Ice	in Cooler:							
(Chain of Cu	stody Record (Complete:							
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM									
Equipment	uipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,									
	and New Disposable Bailer									
Notes/Com	ments									
							-			

revised: 05/23/07

TO	IONITORING WELL SAMPLING RECORD Animas Environmental Services									
MONITO	RING WE		G RECO	RD						
Monitor W	ell No:	MW-9			624 E. Comanche, Farmington NM 87401					
					Tel. (50	5) 564-2281 Fax (505)	324-2022			
		37 Station Spill			Project No.: AES 080101					
		County, New Me	xico	_	Date: 4-7-09					
_		er Monitoring		-	Arrival Time: 1408					
		Nathan Willis			Air O.C. Ele.	Temp: 58°F	_			
	/ No Purge: ameter (in):			-	.∪.∪. ⊑i€ Neli Dep	` '	-			
	D.T.W. (ft):		Time:	- 10141 1	ven bep	(taken at initial gauging	g of all wells)			
	, ,	32.34	Time:	1411		(taken prior to purging				
	D.T.W. (ft):		Time:			(taken after sample co	-			
		Water Quality	Paramete	ers - Red	corded	During Well Purging				
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(coo royarsa for calc.)	Notes/Observations			
				T	_``		Notes/Observations			
1416	12.85	1.876	1.[1	6.89	7.0	1/16				
1421							Samples Collected			
					<u></u>					
Analyti	aal Param	otors (include	analysis	mothod	and nu	mber and type of sa	emple containers)			
Analyti	cai Palaili						imple containers)			
						v/ HCl preserve)				
						Vials w/ HCl preserve) /ial w/ no preservative)				
					(TOINE V	rial W/ No preservative)				
		isposal of Purg								
	-	s Stored on Ice								
	Chain of Custody Record Complete:									
		-	aboratory:			al Analysis Laboratory,				
Equipment	ng Sampling:				I, YSI Water Quality Me	ter,				
				and New	Disposa	ble Bailer				
Notes/Com	ments									

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: <u>0925</u> -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		29.05		
MW-3	1128		30.16 33.32		
MW-4	1058		33.32		
MW-5	1008		Dry 36.67		
MW-6	095-1				
MW-7	0931		38. 2 9		
MW-8	1029		34.31		
MW-9	10\$5		32.41		
					
<u> </u>				<u> </u>	
					

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

MONITO	MONITORING WELL SAMPLING RECORD Animas Environmental Services									
		MW-1	G KLCO	ΝD						
Monitor W	ell No:	10100-1				Comanche, Farmington 5) 564-2281 Fax (505)				
Site:	Highway 53	7 Station Spill				ct No.: AES 080101	324-2022			
		County, New Me	xico	-	1 10,0	Date: 7 - 7 - 09	-			
		er Monitoring		-	Arrival Time: 10 (0					
Sampling	Technician:	Nathan Willis		- -	Air	Temp: → → 6°				
Purge	/ No Purge:	Purge No Pu	-56	_	.O.C. Ele	` '	•			
Well Di	ameter (in):	2		_	Well Dep		· of all walls)			
	D.T.W. (ft): D.T.W. (ft):		Time:	1014		_(taken at initial gauging _(taken prior to purging				
	D.T.W. (ft):		Time:			(taken after sample col	•			
		Water Quality	Paramete	ers - Red	corded	During Well Purging				
	1	Conductivity	DO	1	ORP	PURGED VOLUME				
	Temp									
Time	(deg C)	(μS) (mS)	(mg/L)	pH	(mV)	(see reverse for calc.)	Notes/Observations			
1015	16.43	3.161	1.48	7.31	52.6					
1021						15-				
						,				
		- 18								
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
, -						v/ HCl preserve)				
						Vials w/ HCl preserve)				
						/ial w/ no preservative)				
Collect	ted Samples	Stored on Ice	in Cooler:							
	Chain of Cu	stody Record	Complete:							
		Analytical La	ironment	al Analysis Laboratory,	Albuquerque, NM					
Equipment	Used Durin	g Sampling:		Keck Wa	ter Leve	l, YSI Water Quality Met	er,			
				and New	Disposa	ble Bailer				
Notes/Com	ments									

MONITO	ONITORING WELL SAMPLING RECORD Animas Environmental Services									
Monitor W	ell No:	MW-2		624 E. Comanche, Farmington NM 87401						
			•		Tel. (50	5) 564-2281 Fax (505) 3	324-2022			
Site:	Highway 53	37 Station Spill			Proje	ct No.: AES 080101				
Location:	Rio Arriba (County, New Me	xico	-		Date: 7 - 7 - 09	-			
Project:	Groundwate	er Monitoring		-	Arrival	Time: 1112	-			
		Nathan Willis		-		Temp: 80°	•			
	/ No Purge:			т.	O.C. Ele	ev. (ft):	•			
	ameter (in):				Vell Dep		•			
		29.65	Time:		•	(taken at initial gauging	of all wells)			
Confirm	D.T.W. (ft):		Time:	- 1113	((taken prior to purging	•			
	D.T.W. (ft):		Time:			(taken after sample col	•			
	Water Quality Parameters - Recorded During Well Purging									
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	pH	(mV)	(see reverse for calc.)	Notes/Observations			
1117	15.28	2.067	1.07	7.22						
1124		7.00	1.0 +	7.00	10.1	5(
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA I	Method 802	21 (2 40m	L Vials w	v/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect	ed Samples	Stored on Ice	in Cooler:							
	Chain of Cu	stody Record (Complete:							
		Analytical La	aboratory:	Hall Envi	ronment	al Analysis Laboratory, <i>i</i>	Albuquerque, NM			
Equipment	uipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,									
				and New	Disposa	ble Bailer				
Notes/Com	ments									

revised: 05/23/07

MONITO	RING WE	LL SAMPLIN	G RECO	RD	Anim	as Environmenta	I Services			
Monitor W	ell No:	MW- 3		624 E. Comanche, Farmington NM 87401						
					Tel. (50	5) 564-2281 Fax (505)	324-2022			
		7 Station Spill			Project No.: AES 080101					
		County, New Mex	xico		A	Date: 7-7-08	-			
		er Monitoring Nathan Willis		-		Time: <u> 20e</u> Temp: 40 0	-			
	/ No Purge:			Т.	O.C. Ele		_			
	ameter (in):	2			Vell Dep		-			
Initial	D.T.W. (ft):	30.16	Time:	1128		(taken at initial gauging				
	D.T.W. (ft):		Time:			(taken prior to purging	*			
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)			
Water Quality Parameters - Recorded During Well Purging										
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations			
			\sim t o			1				
			mp		(; mil	N+ '				
	. 10			Seg	,(`					
	N									
		1	<u> </u>							
		(112								
		4								
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA i	Method 802	1 (2 40m	L Vials w	// HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect		Stored on Ice					ı			
	Chain of Cu	stody Record (Complete:							
		Analytical La	aboratory:	Hall Envi	ronmenta	al Analysis Laboratory,	Albuquerque, NM			
Equipment	quipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,									
-	and New Disposable Bailer									
Notes/Com	ments (ථ	ell was	Filled	with	Sedi	ment was un	able to			
get	Bailer	to fill o	on Hic	ater.		ment was un				
ر										

MONITO	RING WE	LL SAMPLIN	G RECO	RD Animas Environmental Services					
Monitor W		MW-4		624 E. Comanche, Farmington NM 87401					
WICHROI W	en No.	10100 -	-			5) 564-2281 Fax (505) 3			
Site:	Highway 53	37 Station Spill			Project No.: AES 080101				
B		County, New Me	xico	-	Date: 7-7-09				
		er Monitoring		_	Arrival	Time: 1055			
		Nathan Willis				Temp: <u>48°</u>	-		
	/ No Purge: ameter (in):					ev. (ft):	•		
1	33.32	Time:	1058	Vell Dep	(taken at initial gauging	n of all wells)			
	D.T.W. (ft):		Time:	1030		(taken prior to purging			
B .	D.T.W. (ft):		Time:			(taken after sample col	•		
		Water Quality	Paramete	ers - Rec	orded	During Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1101	17.17	2.124	0.80	7.20	<u> </u>	(000 (010100 (01 04101)			
	17.17	21129	0.80	102	711.5	50 -			
1108) (
Analytic	cal Param	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA	Method 802	1 (2 40m	L Vials w	// HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Collect	ed Samples	s Stored on Ice	in Cooler:						
(Chain of Cu	ıstody Record (Complete:						
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM									
Equipment	Used Durir	ng Sampling:		Keck Wa	ter Level	, YSI Water Quality Met	er,		
				and New	Disposa	ble Bailer			
Notes/Com	ments								

MONITO	RING WE	LL SAMPLING	G RECO	RD	Anim	ias Environmenta	I Services			
Monitor W	ell No:	MW-5			624 E. (Comanche, Farmington	NM 87401			
						05) 564-2281 Fax (505) 3	324-2022			
		37 Station Spill			Project No.: AES 080101					
		County, New Mex	xico	_	Date: 7-1-06					
_		ter Monitoring : Nathan Willis		-		I Time: <u>1004</u> Temp: 15 0	_			
	/ No Purge:			Т.	O.C. Ele	ev. (ft):	-			
Well Dia	ameter (in):	0.75		Total V	Well Dep	oth (ft):	-			
Initial	D.T.W. (ft):	Dry	Time:	_	<u> </u>	_(taken at initial gauging				
Confirm	D.T.W. (ft):	:	Time:			_(taken prior to purging	,			
Finai	D.T.W. (ft):		Time:			_(taken after sample col	lection)			
	Water Quality Parameters - Recorded During Well Purging									
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations			
				1.						
			20	W						
		50	L War							
	10	0								
			TIF	7						
	,		×							
		IN VI								
		ļ								
Analytic	cal Param	eters (include	analysis	method	and nu	ımber and type of sa	imple containers)			
		BTEX per EPA N								
				· · · · · · · · · · · · · · · · · · ·		Vials w/ HCl preserve)				
						Vial w/ no preservative)	ms, carried to seeds that office destroying			
	С	Disposal of Purg	ed Water:							
Collect		s Stored on Ice i								
	•	ustody Record C	-							
	Ollani or oc		_		ranment	tal Analysis Laboratory, /	Albuquerque NM			
inment	Used Durit		-			el, YSI Water Quality Met				
Equipment	Usea Darii	ng Sampling: _				able Bailer	.er,			
	1 -			and men	Disposa	Die Dallei	,			
Notes/Com	ments									

MONITO	RING WE	LL SAMPLIN	G RECOI	RD	Anim	as Environmenta	l Services		
Monitor W	ell No:	MW-6			624 E. Comanche, Farmington NM 87401				
	10 1 50	7 01 11 0 11				5) 564-2281 Fax (505) 3	324-2022		
		37 Station Spill		-	Project No.: AES 080101				
		County, New Me er Monitoring	XICO	-	Arrival	Date: 7-7-09	-		
		Nathan Willis		-	Allivai	Time: 9 45 Temp: 75°			
	/ No Purge:			т.		ev. (ft):	•		
_	ameter (in):				Well Dep		•		
	D.T.W. (ft):		Time:			(taken at initial gauging	of all wells)		
	D.T.W. (ft):		Time:			(taken prior to purging			
Final	D.T.W. (ft):		Time:			(taken after sample col	lection)		
:	1	Water Quality	Paramete	ers - Red	corded	During Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
0954	17.51	1.557	1.35	7.27	51.8				
1005						50-			
			,						
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)		
		BTEX per EPA	Method 802	21 (2 40m	L Vials v	v/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(2 40mL	. Vials w/ HCl preserve)			
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL √	/ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Collect	ed Samples	Stored on Ice	in Cooler:						
	Chain of Cu	stody Record	Complete:						
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM								
Equipment	quipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,								
	and New Disposable Bailer								
Notes/Com	ments								

revised: 05/23/07

MONITO	RING WE	LL SAMPLIN	G RECO	RD	RD Animas Environmental Services					
Monitor W	ell No:	MW-7			624 E. (Comanche, Farmington	NM 87401			
						05) 564-2281 Fax (505)	324-2022			
		37 Station Spill		_	Proje	ct No.: AES 080101				
ŀ		County, New Me	xico	_	Date: 7-7-09					
-		ter Monitoring			Arrival	Time 3 9 75	-			
	/ No Purge:	: Nathan Willis		- т	AIF	Temp: 75°	-			
_	ameter (in):			Total	O.C. Ele. Well Dep	ev. (ft):	-			
	D.T.W. (ft):		Time:			_(taken at initial gauging	a of all wells)			
	D.T.W. (ft):		Time:	0.101		_(taken prior to purging	well)			
	D.T.W. (ft):		Time:			_(taken after sample co	•			
	,	Water Quality	Paramet	ers - Re	corded	During Well Purging				
	Temp	Conductivity	1		ORP PURGED VOLUME					
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
					- `	(See levelse for calc.,	NOLES/ODSEI VALIONS			
0934	16.48	1.599	2.27	7.06	92.6					
0940					<u> </u>	30-				
					1					
		 			 					
		'								
				<u> </u>						
				<u> </u>						
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA	Method 80:	21 (2 40m	nL Vials v	v/ HCl preserve)				
						Vials w/ HCl preserve)				
						/ial w/ no preservative)				
	Đ	isposal of Purg	jed Water:							
Collect	ed Samples	s Stored on Ice	in Cooler:							
	Chain of Cu	ustody Record (Complete:							
		-	•		ironment	al Analysis I aboratory	Albuquerque, NM			
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM									
Equipment	uipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer									
Notes/Com	ments									

MONITO	RING WE	LL SAMPLIN	G RECO	RD	Animas Environmental Services					
Monitor W	ell No:	MW- 8			624 E. Comanche, Farmington NM 87401					
					Tel. (50	5) 564-2281 Fax (505)	324-2022			
		37 Station Spill		-	Project No.: AES 080101					
		County, New Me	xico	-	Date: <u>フ-フ-09</u> Arrival Time: ノンンソ					
•		er Monitoring Nathan Willis		-		Temp: 772	-			
	/ No Purge:			т.	O.C. Ele		-			
	ameter (in):			_	Total Well Depth (ft):					
Initial	D.T.W. (ft):	34.31	Time:	1029	-	(taken at initial gauging	g of all wells)			
	D.T.W. (ft):		Time:			(taken prior to purging	•			
Final	D.T.W. (ft):		Time:			(taken after sample co	llection)			
		Water Quality	Paramete	ers - Rec	orded l	During Well Purging]			
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations			
1031	16.26	1.811	1.17	7.11	440	7-74.0				
1037						-50-				
Analyti	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA	Method 802	21 (2 40m	L Vials w	// HCl preserve)				
						Vials w/ HCl preserve)				
		TPH C ₆ -C ₃₆ per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect		Stored on Ice					i			
1	Chain of Cu	stody Record (Complete:							
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM									
Equipment	quipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,									
		- · • _				ble Bailer				
Notes/Com	ments									

MONITO	RING WE	LL SAMPLIN	G RECO	RD	Anim	as Environmenta	l Services			
Monitor W	ell No:	MW-9				Comanche, Farmington 5) 564-2281 Fax (505) 3				
Site:	Site: Highway 537 Station Spill					ct No.: AES 080101	-			
		County, New Me	xico	-		Date: 7-7-09	_			
		er Monitoring Nathan Willis		-		Time: ၂၀५०	-			
	l echnician: / No Purge:			. т		Temp: 구구의 ev. (ft):	-			
_	ameter (in):				Vell Dep		-			
		32.41	Time:			(taken at initial gauging	g of all wells)			
Confirm	D.T.W. (ft):		Time:			(taken prior to purging	well)			
Final	D.T.W. (ft):		Time:		· · · · · · · · · · · · · · · · · · ·	(taken after sample col	llection)			
	Water Quality Parameters - Recorded During Well Purging									
	Temp	Conductivity	DO		ORP	PURGED VOLUME				
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations			
1047	16.77	1.672	1.14	7.19	-9.7					
1054						50-				
10										
			:							
	'									
Analytic	cal Parame	eters (include	analysis	method	and nu	mber and type of sa	mple containers)			
		BTEX per EPA								
						Vials w/ HCl preserve)				
						/ial w/ no preservative)				
	D	isposal of Purg	ed Water:							
Collect		s Stored on Ice	•							
	-	ustody Record	•							
		-	•	Hall Envi	ronmenta	al Analysis Laboratory,	Albuquerque, NM			
Equipment	quipment Used During Sampling: Keck Water Level, YSI Water Quality Meter,									
and New Disposable Bailer										
Notes/Com	ments									

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
 Project No.:
 AES 080101

Site: Hwy 537 2008 Spill Date: 10 - 12 - 09
Location: Rio Arriba County, New Mexico Time: 1045

Tech: N. Willis 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		79.93		
MW-3	1058	-	30,41		
MW-4	1102		33.56		
MW-5	1104		Dry 36.78		
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.

MONI	TORING W	ELL SAMPL	ING REC	ORD	Animas Environmental Services			
Mon	itor Well No:	MW	-1		624 E. Comanche, Farmington NM 87401			
				-	i	Tel. (505) 564-2281 Fax (505) 324-2022		
1	Highway 537					Project No.: AES 0801	101	
Location: Rio Arriba County, New Mexico					_	Date: 10-12-	-09	
		Monitoring and	Sampling		_ ^	Arrival Time: 115° Air Temp: 68°	4	
Sampling	Technician:	N. Willis				Air Temp: 68°	<u>F</u>	
Purg	e / No Purge:	No Pu	rge		T.O	.C. Elev. (ft): 7082	2.57	
well L	Jiameter (in):	No Pul	Time:	-	iotai we	ell Depth (ft): (taken at initial gauging	of all walls)	
Confire	mDTW (ft).	32. 20	Time:	100		_(taken at initial gauging _(taken prior to purging	i or air weirs) woll)	
Fina	al D.T.W. (ft):	32, 20	. Time:	1051		taken after sample col	Veil) Tection)	
If N	APL Present:	D.T.P.:	D.T.W	/.:	Th	(taken after sample col ickness:Ti	ime:	
						Ouring Well Purging		
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
							Notes/Observations	
1204	13.97	Z.553	5.91	7,43	293.3	0.125	-	
1209							Samples Collected	
							,	
Analyti	ical Parame	ters (include a	analysis n	nethod a	and nun	nber and type of san	nple containers)	
		BTEX per EP	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)		
	Ti	PH C6-C36 per	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)		
					`	ial w/ no preservative)		
	Đ	isposal of Purg	ed Water:	~~~				
Colle	cted Samples	Stored on Ice	in Cooler:					
	Chain of Cu	stody Record	Complete:					
		Analytical La	aboratory:	Hall Envi	ronmenta	al Analysis Laboratory, A	Albuquerque, NM	
Equipme	ent Used Dur	ing Sampling:	Keck Water	Level or	Keck Int	erface Level, YSI Water	Quality Meter	
		and	New Dispos	sable Bail	er			
Notes/Com	ments:							
							{	

revised. 00/10/09

MONI	TORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services			
Moni	itor Well No:	MW-	-2		ϵ	624 E. Comanche, Farm	inaton NM 87401	
	itor train			_	1	Tel. (505) 564-2281 Fax	•	
	Highway 537					Project No.: AES 0801	101	
Location:	Rio Arriba Co	ounty, New Mexic				Date: 10 - 12		
		Monitoring and	Sampling		/	Arrival Time: 22	Z	
Sampling	Technician:	N. Willis				Air Temp: 73°	F	
Purge	e / No Purge:	No Pur	ge			O.C. Elev. (ft): 7079	9.94	
Well D	Diameter (in):	0.75)	_ '	Total vve	ell Depth (ft): (taken at initial gauging	-f - IIalla)	
Confirm	al D.T.W. (ft):	29.93	Time:			taken at initial gauging] _ taken prior to purging]	,	
Fina	ח D. I. vv. (וון. הוח T W (ft):	29.93	_ Time: Time:	1055		_(taken prior to purging 		
If N/	ΔPI Present:	DTP:	D.T.W	J -	Th	ickness:Ti		
••								
Water Quality Parameters - Recorded During Well Purging								
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1230	14.10	1.665	5.63	7.37	178.1	0.125		
1235							Samples Collected	
							,	
		 						
			<u> </u>					
			<u> </u>					
		. "						
Analyti	ical Paramet	ters (include a	analysis n	nethod a	and nun	mber and type of san	nple containers)	
		BTEX per EP	A Method 8	3021 (3 4C	mL Vials	s w/ HCl preserve)		
V	TI	PH C6-C36 per [EPA Metho	<u>id 8015B (</u>	(2 40mL	Vials w/ HCl preserve)		
	T	PH C6-C36 per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)		
	D	isposal of Purg	jed Water:					
Collec		s Stored on Ice i						
	Chain of Cu	ustody Record C	Complete:				and the second s	
		•			ronment	al Analysis Laboratory, A	Albuquerque, NM	
Equipmo	ent Used Dur		-			terface Level, YSI Water		
	,,,,	- ·	New Dispos			011000 20.5.,	and the same of th	
Notes/Comr	monte:		1011 = 1-1-	500.0	<u>.</u>			
NOTES COM.	nems.							

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MONI	TORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services			
Mon	itor Well No:	MW	-3		6	24 E. Comanche, Farm	inaton NM 87401	
				-	1	Tel. (505) 564-2281 Fax	•	
Site:	Highway 537	2008 Spill			Project No.: AES 080101			
Location: Rio Arriba County, New Mexico						Date: 10-12	-09	
Project: Groundwater Monitoring and Sampling						Arrival Time: 12.5	70	
Sampling	Technician:	N. Willis			Air Temp: 73	°F		
Purge	e / No Purge:	No Pui	rge	_		.C. Elev. (ft):708	1.1	
) Well L	Diameter (in):	0.75)	_ 7	Γotal We	ell Depth (ft):		
Initia	al D.T.W. (ft):		Time:			_(taken at initial gauging		
Confir	m D.T.W. (ft):	30.41	Time:	1058	}	(taken prior to purging		
Fina	al D.T.W. (ft):		Time:			(taken after sample col		
If N	Final D.T.W. (ft): Time: (taken after sample collection) If NAPL Present: D.T.P.: D.T.W.: Thickness: Time:							
	V	Vater Quality	Paramete	rs - Rec	orded D	Ouring Well Purging		
Temp Conductivity DO ORP PURGED VOLU						PURGED VOLUME		
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations	
1259	13.88	2.316	2.24	7.23	8.3	0.125		
1304				1.00)		5 d c 11	
1207							Samples Collected	
			;					
				ļ				
Analyti	ical Parame	ters (include	analysis n	nethod a	and nur	nber and type of sar	nple containers)	
		BTEX per EP	A Method 8	3021 (3 40	mL Vials	s w/ HCl preserve)		
	T					Vials w/ HCl preserve)		
						ial w/ no preservative)		
			'					
Colle	•	Stored on Ice						
	Chain of Cu	ustody Record	•			1.01	NIE NIM	
			,			al Analysis Laboratory, A		
Equipm	ent Used Dur					terface Level, YSI Water	Quality Meter	
		and	New Dispo	sable Bail	er			
Notes/Com	Notes/Comments:							

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MONITORING WELL SAMPLING RECORD						Animas Environmental Services		
Mon	itor Well No:	MW	-4		6	624 E. Comanche, Farm	inaton NM 87401	
				-	Tel. (505) 564-2281 Fax (505) 324-2022			
Site:	Site: Highway 537 2008 Spill					Project No.: AES 080101		
Location:	Rio Arriba Co	ounty, New Mexi	СО		-	Date: 10 - 12	- 09	
Project: Groundwater Monitoring and Sampling					-	Arrival Time: 132	0	
Sampling	Technician:	N. Willis			-	Air Temp: 7-2	°F	
Purg	e / No Purge:	No Pui 0.75	rge	_	T.O	.C. Elev. (ft): 708	4.79	
Well [Diameter (in):	0.75)	_	Total We	ell Depth (ft):		
Initia	al D. I.W. (ft):		lime:			(taken at initial gauging		
Confir	m D.T.W. (ft):	33.56	Time:	1102		(taken prior to purging		
Fina	al D.T.W. (ft):		Time:			_(taken after sample col	•	
If N	APL Present:	D.T.P.:	D.T.W	!: <u> </u>	Th	ickness:T	ime:	
	V	Vater Quality	Paramete	rs - Rec	orded E	Ouring Well Purging		
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1328	13.70	1.792	7.00	7.29	43.7	0.125		
1333							< 01 04 10	
1222							Samples Collected	
		:						
Analyti	ical Parame	ters (include a	analysis n	nethod a	nd nun	nber and type of san	nple containers)	
	**************************************	BTEX per EP	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)		
	T					Vials w/ HCl preserve)		
				`		ial w/ no preservative)		
0 - 11 -		isposal of Purg	-					
Collec	-	Stored on Ice	•				741	
	Chain of Cu	stody Record (
		Analytical La	aboratory:	Hall Envir	ronmenta	al Analysis Laboratory, A	Albuquerque, NM	
Equipme	ent Used Dur	ing Sampling:	Keck Water	Level or	Keck Int	erface Level, YSI Water	Quality Meter	
		and	New Dispos	sable Bail	er			
Notes/Com	ments:							
								

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MON	TORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services				
Mon	itor Well No:	MW-	-5		6	624 E. Comanche, Farm	inaton NM 87401		
				-	Tel. (505) 564-2281 Fax (505) 324-2022				
Site:	Highway 537	2008 Spill			Project No.: AES 080101				
Location:	Rio Arriba Co	ounty, New Mexic				Date: 10-12			
Project:	Groundwater	Monitoring and	Sampling		,	Arrival Time: H	1103		
Sampling	Sampling Technician: N. Willis					Air Temp:	5°F		
Purg	e / No Purge:	No Pur	ge		.C. Elev. (ft): 708	7.98			
Well L	Diameter (in):	0.75	T:	-	Total Well Depth (ft): (taken at initial gauging of all wells)				
Confir	al D. I.W. (π): D. T.M. (#):		Time: Time:	11 0/1		_(taken at initial gauging _(taken prior to purging			
Fin	m D. r.w. (ft): al D.T.W. (ft):	Dry	Time:	1104		_(taken phor to purging _(taken after sample coi	•		
				· 	Th	ickness: T			
						Ouring Well Purging			
	Temp Conductivity DO ORP PURGED VOLUME								
- .		1				[Nata al Ohaamatia na		
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
	\		4		- 10	h () 1			
		(')							
	1								
				_					
		1	1						
	+		1	+	1	/			
	\ A		\	 					
	\/\			1	,				
	V (\						
						/			
Analyt	ical Parame	ters (include a	analysis n	nethod a	and nur	nber and type of sar	nple containers)		
		BTEX per EP.	A Method 8	3021 (3 40	mL Vials	s w/ HCl preserve)			
	Т	PH C6-C36 per l	EPA Metho	d 8015B ((2 40mL	Vials w/ HCl preserve)			
	Т	PH C6-C36 per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Colle	cted Samples	s Stored on Ice	in Cooler:						
	Chain of Cu	ustody Record (Complete:						
		Analytical La	aboratory:	Hall Envi	ronment	al Analysis Laboratory,	Albuquerque, NM		
Equipm	ent Used Dui					terface Level, YSI Water			
• •			New Dispos						
Notes/Com	ments:		· · · · ·						

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MONITORING WELL SAMPLING RECORD						Animas Environmental Services		
Mon	itor Well No:	MW	-6		6	624 E. Comanche, Farmi	ington NM 87401	
Site: Highway 537 2008 Spill					Tel. (505) 564-2281 Fax (505) 324-2022			
		2008 Spill ounty, New Mexi	CO		-	Project No.: AES 080		
Project: Groundwater Monitoring and Sampling					- -	Arrival Time: 34	9	
Sampling Technician: N. Willis					- то	Air Temp: 72.	• <u>F</u>	
	e / No Purge: Diameter (in):		ge	- ,		.C. Elev. (ft): 7088	3.43	
Initia	al D.T.W. (ft):		Time:	_		(taken at initial gauging	of all wells)	
Confir	m D.T.W. (ft):	36.78	Time:	1112		(taken prior to purging		
		D.T.P.:		/.:	Th	_(taken after sample col ickness:Ti		
				·		Ouring Well Purging		
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1359	13.11	1.297	2,06	7.43	66.0	0.125	Trotes/Observations	
1404	10.11	11211	2700	1.13	06.0	0,163	Samples Collected	
,,,,							Marchies Collegad	
Analyt	ical Parame	ters (include a	analysis n	nethod a	and nun	nber and type of san	nple containers)	
		BTEX per EP	A Method 8	8021 (3 40	mL Vials	s w/ HCl preserve)		
	Tı	PH C6-C36 per l	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)		
	Т	PH C6-C36 per	EPA Metho	d 8015B	(40mL V	ial w/ no preservative)		
	D	isposal of Purg	ed Water:				<u> </u>	
Collec	cted Samples	Stored on Ice	in Cooler:					
	Chain of Cu	stody Record (Complete:					
		Analytical La	aboratory:	Hall Envir	ronmenta	al Analysis Laboratory, A	Albuquerque, NM	
Equipme	ent Used Dur	ing Sampling:	Keck Water	r Level or	Keck Int	erface Level, YSI Water	Quality Meter	
		and	New Dispos	sable Bail	er			
Notes/Com	ments:							
	· · · · · · · · · · · · · · · · · · ·							
							i	

Tevised: 00/10/09

MONI	TORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services			
Moni	itor Well No:	MW-	-7		6	624 E. Comanche, Farm	ington NM 87401	
				-	-	Tel. (505) 564-2281 Fax	(505) 324-2022	
	Highway 537				_	Project No.: AES 080		
		ounty, New Mexic			_	Date: 10 - 12		
	Groundwater Technician:	Monitoring and	Sampling		- *	Arrival Time: <u> 4 (</u> Air Temp: ユ _! 。		
	e / No Purge:				- то	Air Temp: 710 0.C. Elev. (ft): 7090	<u>F</u> n 15	
1 -	Diameter (in):					ell Depth (ft):	3.13	
4	al D.T.W. (ft):		Time:	-		(taken at initial gauging	of all wells)	
•	m D.T.W. (ft):		Time:	1114		(taken prior to purging	well)	
	al D.T.W. (ft):		Time:			(taken after sample col		
If N	APL Present:	D.T.P.:	D.T.W	/.:	I hi	ickness:T	ime:	
	V	Vater Quality	Paramete	rs - Rec	orded D	Ouring Well Purging		
	Temp	Conductivity	DO		ORP	PURGED VOLUME		
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1421	13.48	1.365	4.64	7.18	77.0	0.125		
1426				ļ'			Semples Collected	
							f •	
					 			
					 			
			 	 	 			
			<u> </u>					
					!			
								
								
Analyt	ical Parame	•	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	mber and type of sar	nple containers)	
		BTEX per EP	A Method 8	3021 (3 40	mL Vials	s w/ HCl preserve)		
	Ţſ	PH C6-C36 per l	EPA Metho	id 8015B	(2 40mL	Vials w/ HCI preserve)		
	<u></u>	PH C6-C36 per	EPA Metho	od 8015B	(40mL V	/ial w/ no preservative)		
	D	isposal of Purg	jed Water:					
Colle	cted Samples	s Stored on Ice	in Cooler:					
	Chain of Cu	ustody Record (Complete:					
		Analytical La	aboratory:	Hall Envi	ronment	al Analysis Laboratory, <i>i</i>	Albuquerque, NM	
Equipm	ent Used Dur	ring Sampling:	Keck Wate	r Level or	Keck Int	terface Level, YSI Water	r Quality Meter	
-		and	New Dispos	sable Bai	ler			
Notes/Com	ments:							
110100/ 0 3								
	 							

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MON	TORING W	ELL SAMPL	NG REC	Animas Environmental Services				
Mon	itor Well No:	MW	-8	_	624 E. Comanche, Farmington NM 87401			
All this control of						Tel. (505) 564-2281 Fax (505) 324-2022		
Site: Highway 537 2008 Spill Location: Rio Arriba County, New Mexico					-	Project No.: AES 080		
					-	Date: 10-12 Arrival Time: 150		
Project: Groundwater Monitoring and Sampling Sampling Technician: N. Willis					- '	Air Temp: 75		
	e / No Purge:		ge	_	T.O	.C. Elev. (ft): 708	5.2	
Well	Diameter (in):	0.75			Total We	ell Depth (ft):		
Initi	al D.T.W. (ft):		Time:			_(taken at initial gauging		
Confir	m D. Γ.W. (π): al D.T.W. (ft):	34.54	Time: Time:	_1109		_ (taken prior to purging _ (taken after sample col	well) Vaction)	
		D.T.P.:		/.:	Th	ickness:T		
	V	Vater Quality	Paramete	rs - Rec		Ouring Well Purging		
Temp Conductivity DO						PURGED VOLUME		
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations	
1507	13.27	1.416	1.48	7.00	-102.1	0.125		
1512							Simples Collected	
							<u>'</u>	
Analyt	ical Parame	ters (include a	nalysis n	nethod a	and nun	nber and type of san	nple containers)	
		BTEX per EP	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)		
	TF	PH C6-C36 per I	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)		
	T	PH C6-C36 per	EPA Metho	d 8015B	(40mL V	ial w/ no preservative)		
	Di	isposal of Purg	ed Water:					
Colle	cted Samples	Stored on Ice	in Cooler:					
	Chain of Cu	stody Record (Complete:					
		Analytical La	boratory:	Hall Envi	ronmenta	al Analysis Laboratory, A	Albuquerque, N M	
Equipme	ent Used Duri	ing Sampling: <u>l</u>	Keck Water	Level or	Keck Int	erface Level, YSI Water	Quality Meter	
		and	New Dispos	sable Bail	er			
Notes/Com	ments:							

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MONITORING WELL SAMPLING RECORD Animas Environmental Service	Animas Environmental Services		
Monitor Well No: MW-9 624 E. Comanche, Farmington NM 874			
	Project No.: AES 080101		
Project: Groundwater Monitoring and Sampling Arrival Time: 1439			
Sampling Technician: N. Willis Air Temp: 71°F			
Purge / No Purge: No Purge T.O.C. Elev. (ft): 7083.64			
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): 32.63 Time: 1107 (taken prior to purging well)			
Final D.T.W. (π): Time: (taken after sample collection)			
Final D.T.W. (ft): Time: (taken after sample collection) If NAPL Present: D.T.P.: D.T.W.: Thickness: Time:			
Water Quality Parameters - Recorded During Well Purging			
Temp Conductivity DO ORP PURGED VOLUME			
Time (deg C) (μS) (mS) (mg/L) pH (mV) (see reverse for calc.) Notes/Obser	vations		
1445 13.78 1.352 2.10 7.22 72.9 0.125			
1450 Samples C	llected		
Analytical Parameters (include analysis method and number and type of sample contained	ers)		
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)	\dashv		
Disposal of Purged Water:			
Collected Samples Stored on Ice in Cooler:			
Chain of Custody Record Complete:			
Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, N	М		
Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter			
and New Disposable Bailer			
Notes/Comments:			

Tevised: 08/10/09

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 Project No.: AES 080101 Site:

Date: 01 - 12 - 2010 Hwy 537 2008 Spill

Time: 1030 Location: Rio Arriba County, New Mexico Tech: Nathan Willio **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		3692		
MW-7	1313		38,64		
MW-8	13.39		34.69		
W₩ /- 9	1				
MW-9	1430	32.43	34.80	2.37	
	-				
			1		
					<u> </u>

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

MON	ITORING W	ELL SAMPL	NG REC	ORD	Animas Environmental Services				
Mon	itor Well No:	MW	-1	_		624 E. Comanche, Farm	•		
					Tel. (505) 564-2281 Fax (505) 324-2022				
	Highway 537				Project No.: AES 080101				
Location: Rio Arriba County, New Mexico Project: Groundwater Monitoring and Sampling						Date: 1-12 Arrival Time: 1033	- <u>2010</u>		
Sampling Technician: N. C.						Air Temp: 32	2		
	Purge / No Purge: No Purge				- то	C. Elev. (ft): 708	2.57		
_	Diameter (in):					ell Depth (ft):	2.01		
	al D.T.W. (ft):		Time:	-	i Otal We	(taken at initial gauging	n of all wells)		
	, ,	1045 Ame)		77	41/100/20	(taken prior to purging			
Fin	al D.T.W. (ft):	12 (1114)	Time:		11(1)100	(taken after sample col			
		D.T.P.:		l.:	Th	ickness:T			
	V	Vater Quality	Paramete	rs - Rec	orded [Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1044	11.12	4.035	3.35	7.72	-11.2	716			
1053							Samples (deelal		
							1		
Analyt	ical Paramet	ters (include a	nalysis n	nethod a	nd nun	nber and type of san	nple containers)		
		BTEX per EP.	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)			
	TF	· · · · · · · · · · · · · · · · · · ·				Vials w/ HCl preserve)			
						ial w/ no preservative)			
	Di	isposal of Purg	ed Water:						
Colle	cted Samples	Stored on Ice	in Cooler:						
	Chain of Cu	stody Record (Complete:						
		Analytical La	boratory:	Hall Envir	onmenta	al Analysis Laboratory, A	Albuquerque, NM		
Equipm	ent Used Duri	ing Sampling:	- Keck Water	Level or	Keck Int	erface Level, YSI Water	Quality Meter		
		and	New Dispos	sable Bail	er				
Notes/Comments:									
					ليائيد خوري و با داده د د و بودود د دودود د دو				

revised: 00/10/09

MON	ITORING W	ELL SAMPL	ING REC	ORD	Animas Environmental Services				
Mon	nitor Well No:	MW	-2		624 E. Comanche, Farmington NM 87401				
				_	1	Tel. (505) 564-2281 Fax	-		
Site	: Highway 537	2008 Spill			1	Project No.: AES 080			
Location:	Rio Arriba Co	ounty, New Mexi	co		_	Date: - 2-	12		
Project:	Groundwater	Monitoring and	Sampling		-	Arrival Time: 110			
Sampling	g Technician:	NW			_	Air Temp: 32.9	F		
Purg	je / No Purge:	No Pu			T.O.C. Elev. (ft): 7079.94				
Well	Diameter (in):	0.75	j		Total We	ell Depth (ft):			
Initi	al D.T.W. (ft):		Time:	_		(taken at initial gauging	g of all wells)		
Confir	m D.T.W. (ft):	30.01	Time:	1114		(taken prior to purging	well)		
	al D.T.W. (ft):	•	Time:			(taken after sample co			
If N	APL Present:	D.T.P.:	D.T.W	/.: <u></u>	Th	ickness:T	ime:		
	V	Vater Quality	Paramete	rs - Rec	orded [Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1117	10.88	2.297	Z 82		-2.9	16	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	10:00	L	12.02	1.51	4.1	/16	/ 0/ 1/0		
1122							Samples Colected		
							1		
					!				
							4 • • • • • • • • • • • • • • • • • • •		
Analyt	ical Parame	ters (include a	analysis n	nethod a	and nun	nber and type of sar	nple containers)		
		BTEX per EP.	A Method 8	3021 (3 40	mL Vials	s w/ HCI preserve)			
	TI	PH C6-C36 per I	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)			
					`	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Colle		Stored on Ice	-						
	Chain of Cu	stody Record (Complete:						
		Analytical La	boratory:	Hall Envi	ronmenta	al Analysis Laboratory, /	Albuquerque, NM		
Equipme	ent Used Dur	ing Sampling: I	- Keck Water	Level or	Keck Int	erface Level, YSI Water	· Quality Meter		
		-	New Dispos		·	<u> </u>	Quality motor		
Notes/Com	montai D		/ L O	Jabic Daii					
10162/00111	ments. [/(oots In	(Xun)	16					
	-,								

revised: 08/10/09

MONI	TORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services				
Moni	itor Well No:	MW-	.3	_	624 E. Comanche, Farmington NM 87401				
						Tel. (505) 564-2281 Fax			
	Highway 537			····		Project No.: AES 080			
		ounty, New Mexic				Date: - 2-	<u> 10</u>		
		Monitoring and			. /	Arrival Time: 135			
Sampling	j Technician:	_N,N.				Air Temp: 32° F			
Purg	e / No Purge:	No Pur	g e	_		.C. Elev. (ft): 708			
Well D	Diameter (in):	0.75		_ 1	Γotal We	ell Depth (ft):			
Initia	al D.T.W. (ft):		Time:			(taken at initial gauging	•		
Confirm D.T.W. (ft): 30.50 Time:						(taken prior to purging			
Fina	al D.T.W. (ft):		Time:			(taken after sample col	lection)		
If NA	APL Present:	D.T.P.:	D.T.W	!.: <u></u>	Thi	(taken after sample colickness:T	me:		
Water Quality Parameters - Recorded During Well Purging									
	Temp	Conductivity	ĐO		ORP	PURGED VOLUME			
Time	(deg C)	(μS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1148	11.75	2.985	2.87	7.35	~27.2	1/16			
1153							Samples Collected		
							1		
			-						
Analyti	ical Parame	ters (include a	nalysis n	nethod a	nd nur	nber and type of san	nple containers)		
		BTEX per EP.	A Method 8	8021 (3 40	mL Vials	s w/ HCl preserve)			
	TI	PH C6-C36 per I	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)			
	Т	PH C6-C36 per	EPA Metho	d 8015B	(40mL V	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Colle	cted Samples	Stored on Ice	in Cooler:						
	Chain of Cu	stody 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 Dispo	sable Bail	er				
Notes/Com	ments:								
		,,							
									

evised. 00/10/0

MONI	TORING W	ELL SAMPLI	NG REC	ORD	A	nimas Environme	ental Services		
Mon	itor Well No:	MW-	-4		6	624 E. Comanche, Farmington NM 87401			
				~	ı	Tel. (505) 564-2281 Fax	x (505) 324-2022		
	Highway 537					Project No.: AES 080			
		ounty, New Mexic			-	Date: 1-12-			
	Technician:	Monitoring and :	Sampling		-	Arrival Time: 1708 Air Temp: 32			
	e / No Purge:		rae		- T.O		4.79		
_	Diameter (in):					ell Depth (ft):			
Initia	al D.T.W. (ft):		Time:			(taken at initial gauging	g of all wells)		
		33.68		121	<u> </u>	_(taken prior to purging	,		
	al D.T.W. (ft):		Time:			(taken after sample col			
If N	APL Present:	D.T.P.:	D.1.W	/.:	In	ickness:T	ime:		
	v	Vater Quality I	Paramete	rs - Rec	orded D	During Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1218	11.53	2.374	7.03	7.36	-26.7	1/16			
1223	,						Samples Collected		
							Jest the S CAME KOV		
		-							
Analyti	cal Paramet	ters (include a	ınalysis m	nethod a	ind nun	mber and type of san	nple containers)		
		BTEX per EP/	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)			
	TF	PH C 6-C36 per E	EPA Methor	d 8015B (2 40mL	Vials w/ HCI preserve)			
	T	PH C6-C36 per l	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)			
	Di	isposal of Purg	ed Water:						
Collec		Stored on Ice i							
	Chain of Cu	stody Record C	Complete:						
		Analytical La	aboratory:	Hall Envir	ronmenta	al Analysis Laboratory, A	Albuquerque, NM		
Equipme	Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter								
		_	New Dispos			J. 100 2010, 100 100 100 100 100 100 100 100 100	accounty control		
Notes/Comr	ments:								
10100,001111	- I I I I I I I I I I I I I I I I I I I								

revised: 00/10/03

MON	ITORING W	ELL SAMPLI	NG REC	ORD	Animas Environmental Services				
Mon	itor Well No:	MW-	-5		624 E. Comanche, Farmington NM 87401				
				-	1	Tel. (505) 564-2281 Fax	-		
Site:	Highway 537	2008 Spill			Project No.: AES 080101				
Location:	Rio Arriba Co	ounty, New Mexic	CO		-	Date: 1-12			
Project:	Groundwater	Monitoring and	Sampling		-	Arrival Time: 234			
Sampling	Technician:	NW	· · · · · · · · · · · · · · · · · · ·		-	Air Temp: 32			
Purg	e / No Purge:	No Pur	ge		T.O	.C. Elev. (ft): 708			
Well I	Diameter (in):	0.75		-		ell Depth (ft):			
Initi	al D.T.W. (ft):		Time:	-	(taken at initial gauging of all wells)				
Confir	al D. I.W. (π): m D.T.W. (ft):	_Dry	Time:	1239		(taken prior to purging	well)		
	ai D. 1. VV. (11).		Time:			(taken after sample co			
If N	APL Present:	D.T.P.:	_ D.T.W	'.:	Th	ickness:T	ime:		
	٧	Vater Quality I	Paramete	rs - Rec	orded D	Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
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						1			
Analyt	ical Paramet	ters (include a	ınalysis n	nethod a	and nun	nber and type of sar	mple containers)		
		BTEX per EP	A Method 8	021 (3 40	mL Vials	s w/ HCl preserve)			
	TI				~	Vials w/ HCl preserve)			
						ial w/ no preservative)			
		isposal of Purg					·		
Colle	cted Samples	Stored on Ice i	in Cooler:						
	•	stody Record (-						
	0.14 0. 04	•	•	Hall Envi	ronments	al Analysis Laboratory,	Albuquerque NM		
Emilian	ont Hood Dead	-	٠.	· · · · · · · · · · · · · · · · · · ·					
Equipm	Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter and New Disposable Bailer								
		and I	New Dispos	sable Ball	er				
Notes/Com	ments:								

revised: 00/10/09

MONI	MONITORING WELL SAMPLING RECORD			ORD	Animas Environmental Services				
Mon	itor Well No:	MW-	-6		6	624 E. Comanche, Farmington NM 87401			
				_		Tel. (505) 564-2281 Fax			
	Highway 537				-	Project No.: AES 080			
		ounty, New Mexic Monitoring and			- ,	Date: 1-12- Arrival Time: 124			
	Technician:		Sampling		-	Air Temp: 32°	F		
	e / No Purge:		rge		Т.О	T.O.C. Elev. (ft): 7088.43			
Well [Diameter (in):	0.75)		Total Well Depth (ft):				
Initi	al D.T.W. (ft):		Time:			_(taken at initial gauging			
Confir	m D.T.W. (ft):	36.92		124	}	_(taken prior to purging			
	al D.T.W. (ft):	D.T.P.:	Time: D.T.W	, 	Th	_(taken after sample col ickness:T	ime:		
11 14/									
	V	Vater Quality I	Paramete	rs - Rec	orded D	Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1251	11.82	1.615	2.24	7.44	-19.2	1/16			
1256							San) les Collected		
							1		
Analyt	ical Parame	ters (include a	ınalysis n	nethod a	and nun	nber and type of san	nple containers)		
		BTEX per EP	A Method 8	3021 (3 40	mL Vials	s w/ HCl preserve)			
	TF	PH C6-C36 per l	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)			
	Т	PH C6-C36 per	EPA Metho	od 8015B	(40mL V	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Collec	cted Samples	Stored on Ice i	in Cooler:						
	Chain of Cu	stody Record C	Complete:						
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM								
Equipme	Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter								
•		_	New Dispos			7700			
Notes/Com	ments:				•				

evised: 08/10/09

MONITORING WELL SAMPLING RECORD						Animas Environmental Services			
Mon	itor Well No:	MW-	-7	_	624 E. Comanche, Farmington NM 87401				
						Tel. (505) 564-2281 Fax			
	Highway 537					Project No.: AES 080			
Location: Rio Arriba County, New Mexico						Date: 1-12-10			
Project: Groundwater Monitoring and Sampling						Arrival Time: 30 Air Temp: 32	<u> </u>		
	g Technician:	NU							
	e / No Purge: Diameter (in):		ge			` ' 	0.15		
	al D.T.W. (ft):		Time:	-	iotai vve	ell Depth (ft): (taken at initial gauging	r of all wells)		
Confir	m D.T.W. (ft):	38,64	Time:	1313		_(taken prior to purging	•		
	al D.T.W. (ft):		Time:			_(taken after sample col			
		D.T.P.:		:	Th	ickness:T			
	٧	Vater Quality I	Paramete	rs - Rec	orded E	Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	рН	(mV)	(see reverse for calc.)	Notes/Observations		
1316	11.02	1.679	1.97	F.22	-6.5	/16			
1321							Samples Collected		
Analyt	ical Parame	ters (include a	nalysis n	nethod a	nd nur	nber and type of sar	nple containers)		
		BTEX per EP	A Method 8	3021 (3 40	mL Vials	s w/ HCl preserve)			
	Т.	PH C6-C36 per l	EPA Metho	d 8015B (2 40mL	Vials w/ HCl preserve)			
	Т	PH C6-C36 per	EPA Metho	d 8015B	(40mL V	ial w/ no preservative)			
	D	isposal of Purg	ed Water:						
Colle	cted Samples	Stored on Ice	in Cooler:						
	Chain of Cu	stody Record (
	Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM								
Equipm	Equipment Used During Sampling: Keck Water Level or Keck Interface Level, YSI Water Quality Meter								
		and	New Dispos	sable Bail	er				
Notes/Com	ments:								

revised. 08/10/05

MONI	MONITORING WELL SAMPLING RECORD Animas Environmental Services								
Mon	itor Well No:	MW	-8		1	24 E. Comanche, Farm	•		
2'1		2222 0 111				Tel. (505) 564-2281 Fax			
	Highway 537	2008 Spill ounty, New Mexi			-	Project No.: AES 080			
		Monitoring and			-	Arrival Time: 332	10		
	Technician:	NW			Air Temp: 32°F				
	e / No Purge:	No Pur				.C. Elev. (ft): 708			
	Diameter (in):			_ 7	Γotal We	ell Depth (ft):	6.11		
	al D.T.W. (ft):	34.69	Time: Time:	13.39	<u></u>	(taken at initial gauging (taken prior to purging			
	al D.T.W. (ft):		Time:	15.5	1	(taken phor to purging (taken after sample col			
	, ,	D.T.P.:	-	1.:	Thi	ickness:T			
	V	Vater Quality	Paramete	rs - Rec	orded D	Ouring Well Purging			
	Temp	Conductivity	DO		ORP	PURGED VOLUME			
Time	(deg C)	(µS) (mS)	(mg/L)	pН	(mV)	(see reverse for calc.)	Notes/Observations		
1344	11,13	1,699	1,73	7,02	-159.9	1/16			
1349	-						Samples Colleted		
Analyt	ical Paramet	ters (include a	analysis n	nethod a	ind nun	nber and type of san	nple containers)		
		BTEX per EP	A Method 8	021 (3 40	mL Vials	w/ HCl preserve)			
				· · · · · · · · · · · · · · · · · · ·		Vials w/ HCl preserve)			
	Ti	PH C6-C36 per	EPA Metho	d 8015B ((40mL Vi	ial w/ no preservative)			
	Di	isposal of Purg	ed Water:						
Collec	cted Samples	Stored on Ice	in Cooler: ₋						
	Chain of Cu	stody Record (Complete:						
		Analytical La	boratory:	Hall Envir	onmenta	al Analysis Laboratory, A	Albuquerque, NM		
Equipme	ent Used Duri	ing Sampling: _	Keck Water	Level or	Keck Inte	erface Level, YSI Water	Quality Meter		
		and	New Dispos	sable Bail	er				
Notes/Com	ments:								
					4.4				

evised: 00/10/09

MONITORING WELL SAMPLING RECORD				ORD	Animas Environmental Services		
Mon	itor Well No:	MW-	-9		1	624 E. Comanche, Farmi	•
						Tel. (505) 564-2281 Fax	
	Highway 537					Project No.: AES 0801	
		ounty, New Mexic			- ,	Date: - 2-	
		Monitoring and	Sampling		- *	Arrival Time: 1402	
	g Technician: e / No Purge:		-22		- то	Air Temp: 32° C. Elev. (ft): 7083	264
	Diameter (in):					ell Depth (ft):	3.04
		0.13		-	TOTAL TTO	(taken at initial gauging	of all wells)
	m D.T.W. (ft):		Time:			(taken prior to purging	
Fin	al D.T.W. (ft):		Time:			(taken after sample col	llection)
		D.T.P.: <u>32,43</u>	D.T.W	1:34.80	<u>∂</u> Thi	ickness: Z.37 Ti	ime: <u>1430</u>
	V	Vater Quality I	Paramete	rs - Rec	orded D	Ouring Well Purging	
	Temp	Conductivity	DO		ORP	PURGED VOLUME	
Time	(deg C)	(μS) (mS)	(mg/L)	рH	(mV)	(see reverse for calc.)	Notes/Observations
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							1
Analyt	ical Parame					nber and type of san	nple containers)
		BTEX per EP	A Method 8	3021 (3 40)mL Vials	s w/ HCl preserve)	
	TI	PH C6-C36 per I	EPA Metho	d 8015B ((2 40mL)	Vials w/ HCl preserve)	
	T	PH C6-C36 per	EPA Metho	od 8015B	(40mL V	'ial w/ no preservative)	
	D	isposal of Purg	jed Water:				
Colle	cted Samples	s Stored on Ice	in Cooler:				
	Chain of Cu	ustody Record (Complete:				
		_	-		ronmenta	al Analysis Laboratory, A	Albuaueraue, NM
Equipm	ont Head Dur		-			terface Level, YSI Water	
Equipin	ent Oseu Dui	•				elidoe Level, 101 viator	Quality Motor
Nata al Com	and New Disposable Bailer Notes/Comments: To Comed Ross Kennener of Crude Cil on						
Notes/Com	; /	Hormed 1	2055			of Crude	Oil on
Water	· He	said k	2 (10)	te 7	he c	deptu.	

revised: 08/10/09



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

presented in the following report.

Dear Ross Kennemer:

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

Order No.: 0901068

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

Lab Order:

0901068

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-01

Client Sample ID: MW-1

Collection Date: 1/2/2009 11:17:00 AM

Date Received: 1/6/2009

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 RAN	IGE				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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-02

Client Sample ID: MW-2

Collection Date: 1/2/2009 11:44:00 AM

Date Received: 1/6/2009

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 RAI	NGE				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

E Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 8

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-03

Client Sample ID: MW-3

Collection Date: 1/2/2009 1:00:00 PM

Date Received: 1/6/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF ·	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE	<u> </u>		· · · · · · · · · · · · · · · · · · ·	Minimum Maria	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 RANG	GE				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:

Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

Reporting Limit

Page 3 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-04

Client Sample ID: MW-4

Collection Date: 1/2/2009 1:27:00 PM

Date Received: 1/6/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				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 RA	NGE				Analyst: DAN
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	μġ/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

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

090100

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-05

Client Sample ID: MW-6

Collection Date: 1/2/2009 1:58:00 PM

Date Received: 1/6/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGI	_			·	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 RAI	NGE				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	μ g/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

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

BMG Highway 537 '08 Spill

Lab Order:

0901068

Project: Lab ID:

0901068-06

Client Sample ID: MW-7

Collection Date: 1/2/2009 2:20:00 PM

Date Received: 1/6/2009

Matrix: AQUEOUS

Result	PQL	Qual	Units	DF	Date Analyzed
					Analyst: SCC
ND	1.0		mg/L	1	1/7/2009
ND	5.0		mg/L	1	1/7/2009
118	58-140		%REC	1	1/7/2009
E					Analyst: DAM
ND	0.050		mg/L	1	1/10/2009 8:46:50 AM
77.0	59.9-122		%REC	1	1/10/2009 8:46:50 AM
					Analyst: DAM
ND	1.0		µg/L	1	1/10/2009 8:46:50 AM
ND	1.0		μg/L	. 1	1/10/2009 8:46:50 AM
ND	1.0		μg/L	1	1/10/2009 8:46:50 AM
ND	2.0		μg/L	1	1/10/2009 8:46:50 AM
78.7	65.9-130		%REC	1	1/10/2009 8:46:50 AM
	ND ND 118 E ND 77.0 ND ND ND	ND 1.0 ND 5.0 118 58-140 E ND 0.050 77.0 59.9-122 ND 1.0 ND 1.0 ND 1.0 ND 1.0	ND 1.0 ND 5.0 118 58-140 E ND 0.050 77.0 59.9-122 ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 2.0	ND 1.0 mg/L ND 5.0 mg/L 118 58-140 %REC E ND 0.050 mg/L 77.0 59.9-122 %REC ND 1.0 μg/L	ND 1.0 mg/L 1 ND 5.0 mg/L 1 118 58-140 %REC 1 E ND 0.050 mg/L 1 77.0 59.9-122 %REC 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1 ND 1.0 μg/L 1

Qualifiers:

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

0901068-07

Client Sample ID: MW-8

Collection Date: 1/5/2009 11:58:00 AM

Project:

Lab ID:

BMG Highway 537 '08 Spill

Date Received: 1/6/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	. 1	1/7/2009
Motor Oll Range Organics (MRO)	N D	5.0	mg/L	1	1/7/2009
Surr: DNOP	121	58-140	%REC	1	1/7/2009
EPA METHOD 8015B: GASOLINE RA	NGE				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

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

Date: 12-Jan-09

CLIENT:

Animas Environmental Services

Lab Order:

0901068

BMG Highway 537 '08 Spill

Project: Lab ID:

0901068-08

Client Sample ID: Trip Blank

Collection Date:

Date Received: 1/6/2009

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RAN	IGE	o de la companya de l			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	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

Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

Reporting Limit

Page 8 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

Analyte detected below quantitation limits

NDNot Detected at the Reporting Limit

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

QA/QC SUMMARY REPORT

Client:

Animas Environmental Services

Project: BMG Highway 537 '08 Spill

Work Order:

0901068

									• 0501000
Analyte	Result	Units	PQL	%Rec	LowLimit 1	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: C	Diesel Range	MBLK			Batch ID	: 18033	Analysis Da	10:	1/7/2009
Sample ID: MB-18033					Batch ID	. 18033	Analysis Da	IC.	1772009
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 Da	te:	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 Da	te:	1/7/2009
Diesel Range Organics (DRO)	5.196	mg/L	1.0	104	74	157	7.07	23	
Method: EPA Method 8015B: G	asoline Ran	g e							
Sample ID: 0901068-05A MSD		MSD			Batch ID:	R31961	Analysis Da	te: 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 Da	te: 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 Dat	te: 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 Dat	te: 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 Dat	e: 1/10/2	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 Dat	e: 1/10/2	2009 4:12:44 AM
Gasoline Range Organics (GRO)	0.4822	mg/L	0.050	96.4	80	115			

Qualifiers:

R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

E Estimated value

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

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	RPDL	imit Qual
Method: EPA Method 8021B:	Volatiles				3 <u></u>	41.1.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.		· · ·	
Sample ID: 0901068-04A MSD		MSD			Batch	D: R31961	Analysis Da	te:	1/10/2009 3:11:48 Af
Methyl tert-butyl ether (MTBE)	20.27	μ g/L	2.5	10 1	51.2	138	0.649	28	
Benzene	22.08	μg/L	1.0	110	85.9	113	1.11	27	
Toluene	20.38	μ g/L	1.0	102	86.4	1 13	1.07	19	
Ethylbenzene	20.04	μg/L	1.0	1.00	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 I	D: R31 961	Analysis Da	te:	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 I	D: R3196 1	Analysis Da	te: 1	/10/2009 5:44:25 AM
Methyl tert-butyl ether (MTBE)	ND	μ g/L	2.5						
Dansens	ND	μg/L	1.0						
Foluene ,	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	1.0		Batch II	D: R31961	Analysis Dat	e:	1/9/2009 5:33:24 PM
•	20.24		2.5	101	51.2	138	,	•	
Methyl tert-butyl ether (MTBE) Benzene	20.24	μg/L	2.5 1.0	112	85.9	113			
		μg/L	1.0	106	86.4	113			
Toluene	21.22 20.65	µg/L	1.0	103	83.5	113			
Ethylbenzene		μg/L	2.0		83.4	122			
(ylenes, Total	61.87 19.63	μg/L μg/L	1.0	103 97.8	83.5	115			
,2,4-Trimethylbenzene ,3,5-Trimethylbenzene	19.03	μց/∟ μg/L	1.0	97.6 95.5	85.2	113			
Sample ID: 100NG LCS II	19,29	LCS	1.0	33.5	Batch II		Analysis Dat	e· 1	/10/2009 3:42:09 AM
•	04.40		0.5				riidiyala Dat	c. ,	710/2000 0.42.00 / 11
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
oluene	21.96	μg/L.	1.0	108	86.4	113			
thylbenzene	21.46	μg/L	1.0	107	83.5	118			
lylenes, Total	64.70	μg/L	2.0	108	83.4	122			
,2,4-Trimethylbenzene	20.90	μg/L	1.0	104	83.5	115			,
,3,5-Trimethylbenzene	20.33	µg/L MC	1.0	102	85.2	113	Analysis D-4	A. 4	/4.0/2000 2:44:4£ ^ \$4
ample ID: 0901068-04A MS		MS			Batch II		Analysis Dat	e. 1.	/10/2009 2:41:16 AM
lethyl tert-butyl ether (MTBE)	20.41	μg/l.	2.5	102	51.2	138			
enzene	21.83	μg/L	1.0	109	85.9	113			
oluene	20.16	μg/L	1.0	101	86.4	113			

Qualifiers:

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 2

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

Date: 12-Jan-09

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 R	PDLimit Qual
				701100	LOWEITHE	r ngn Einnic	7011112	. Delinik dedil
Method: EPA Method 8021B: \	/olatiles							
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

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 3

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL	J.,,,p.,	,,,,,		Date Receiv	ved:		1/6/2009	
Work Order Number 0901068				Received l	y: ARS		\	
				Sample ID	labels checked	by:		
Checklist completed by: V	\		Date	<u> </u>			Initials	
Matrix:	Carrier name	Grev	yhound					
·	Camer name	0.6	ynoung					
Shipping container/cooler in good condition?		Yes	\checkmark	No 🗌	Not Present			
Custody seals intact on shipping container/coo	ler?	Yes	\checkmark	No 🗀	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark		
Chain of custody present?		Yes	\checkmark	No 🗌				
Chain of custody signed when relinquished and	d received?	Yes	V	No 🗌				
Chain of custody agrees with sample labels?		Yes	✓	No 🗌				
Samples in proper container/bottle?		Yes	✓	No 🗔				
Sample containers intact?		Yes	\checkmark	No 🗀				
Sufficient sample volume for indicated test?		Yes	\checkmark	No 🗆				
All samples received within holding time?		Yes	\checkmark	No 🗌				
Water - VOA vials have zero headspace?	No VOA vials subm	itted		Yes 🗹	No 🗀			
Water - Preservation labels on bottle and cap n	natch?	Yes		No 🗌	N/A 🗸			
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗸			
Container/Temp Blank temperature?			4°	<6° C Acceptal				
COMMENTS:				If given sufficien	t time to cool.			
Client contacted	Data contested:			Daw				
Cheff Confacted	Date contacted:			Pers	son contacted			
Contacted by:	Regarding:							
Comments:								

							and the same	
	4.1							
Corrective Action								
y								
							22	

HALL ENVIRONMENTAL	<u>a</u>	4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107	Analysis	(\f\)(\f\)(\f\)	eid/ses	10 ⁵	T + 36 36108 1819. 1819. 1819. 1819. 1819. 1819. 1819. 1819. 1819. 1819.	X + MTE Method (Method (Method (Method) (PNA of) (POA	TPH TPH 8310 RCR Anioi 8081	X	X X	₹ ×	X	X	· ×	*		me Remarks:
d Standard □ Rush	Project Name:	Project #:		Project Manager:	doss Kenne mer	Sampler Nathan Will's	Signification (Section 2)	Container Preservative	lype and # lype	5-40 ml 4-40L	5 1 7	3	7	5	٥	E 7 T	2-40 m/2/459 HCL 8	Received by: Re
Client: Animas Envivonmental	Services, LLC	Farminaton NM 87401	-22		: Level 4 (Full Validation)			Matrix Sample Request ID	D	1 - MM - 1	- MW-2		MW-4	MW-6	MW	WW -8	Trip Blank	Relinquished by:
Client: Antwa	Sevvi Mailing Address:	Farm	Phone #: 505 -	email or Fax#:	OA/OC Package:	□ Other	□ EDD (Type)	Date Time	韓	1111 60/2	12/09 1144	12/09 1300	12/09 1327	2/09 1358	1/2/09 1420	8511 60/5/		Date: Time:



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

Dear Ross Kennemer:

Order No.: 0904125

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



Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

0904125

HWY 537 '08 Spill

Project: Lab ID:

0904125-01

Client Sample ID: MW-1

Collection Date: 4/7/2009 11:32:00 AM

Date Received: 4/8/2009

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 RAN	GE					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	ĺ	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

Qualiflers:

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

Page 1 of 9

Date: 15-Apr-09

CLIENT:

Project:

Animas Environmental Services

Lab Order:

0904125

0,01125

HWY 537 '08 Spill

Lab ID:

0904125-02

Client Sample ID: MW-2

Collection Date: 4/7/2009 12:01:00 PM

Date Received: 4/8/2009

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 RAN	IGE					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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

0904125

Project:

HWY 537 '08 Spill

Lab ID:

0904125-03

Client Sample ID: MW-3

Collection Date: 4/7/2009 12:23:00 PM

Date Received: 4/8/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg	g/L	1	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0	mg	g/L	1	4/13/2009
Surr: DNOP	114	58-140	%F	REC	1 .	4/13/2009
EPA METHOD 8015B: GASOLINE RAN	NGE					Analyst: DAM
Gasoline Range Organics (GRO)	ND	0.050	mg	J/L	1	4/14/2009 1:04:05 PM
Surr: BFB	86.9	59.9-122	%F	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	μga	/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	%F	REC	1	4/14/2009 1:04:05 PM

Qualiflers:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 3 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

Client Sample ID: MW-4

0904125

Collection Date: 4/7/2009 12:46:00 PM

Project: Lab ID: HWY 537 '08 Spill

Date Received: 4/8/2009

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	Ē					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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

0904125

HWY 537 '08 Spill

Project: Lab ID:

0904125-05

Client Sample ID: MW-6

Collection Date: 4/7/2009 1:15:00 PM

Date Received: 4/8/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	n	ng/L	1	4/10/2009
Motor Oil Range Organics (MRO)	ND	5.0	n	ng/L	1	4/10/2009
Surr: DNOP	107	58-140	9	%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANG	GE .					Analyst: DAM
Gasoline Range Organics (GRO)	. ND	0.050	n	ng/L	1	4/14/2009 2:04:46 PM
Surr: BFB	89.3	59.9-122	%	%REC	1	4/14/2009 2:04:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0	μ	g/L	1	4/14/2009 2:04:46 PM
Toluene	ND	1.0	μ	g/L	1	4/14/2009 2:04:46 PM
Ethylbenzene	ND	1.0	μ	g/L	1	4/14/2009 2:04:46 PM
Xylenes, Total	ND	2.0	μ	g/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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 5 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

0904125

Client Sample ID: MW-7

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:

Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 6 of 9

Value exceeds Maximum Contaminant Level

Estimated value E

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order:

0904125

HWY 537 '08 Spill

Project: Lab ID:

0904125-07

Client Sample ID: MW-8

Collection Date: 4/7/2009 1:58:00 PM

Date Received: 4/8/2009

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E		· · · · · · · · · · · · · · · · · · ·		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 RA	NGE				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

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 7 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT:

Animas Environmental Services

Lab Order: Project: 0904125

HWY 537 '08 Spill

Lab ID:

0904125-08

Client Sample ID: MW-9

Collection Date: 4/7/2009 2:21:00 PM

Date Received: 4/8/2009

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	9	%REC	1	4/10/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	0.32	0.050	r	mg/L	1	4/14/2009 3:36:17 PM
Surr: BFB	85.1	59.9-122	Q	%REC	1	4/14/2009 3:36:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	12	1.0	μ	ıg/L	1	4/14/2009 3:36:17 PM
Toluene	6.2	1.0	μ	ıg/L	1	4/14/2009 3:36:17 PM
Ethylbenzene	ND	1.0	μ	ıg/L	1	4/14/2009 3:36:17 PM
Xylenes, Total	ND	2.0	μ	ıg/L	1	4/14/2009 3:36:17 PM
Surr: 4-Bromofluorobenzene	88.5	65.9-130	9	%REC	1	4/14/2009 3:36:17 PM

Qualifiers:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 8 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 15-Apr-09

CLIENT: Lab Order: Animas Environmental Services

0904125

Project: Lab ID: HWY 537 '08 Spill

0904125-09

Client Sample ID: Trip Blank

Collection Date:

Date Received: 4/8/2009

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RA	NGE				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

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

Page 9 of 9

Date: 15-Apr-09

QA/QC SUMMARY REPORT

lient:

Animas Environmental Services

roject:

HWY 537 '08 Spill

Work Order:

0904125

									- 0701123
Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: D Sample ID: MB-18790	lesel Range	MBLK			Batch ID	: 18790	Analysis Da	ito.	4/10/2009
Diesel Range Organics (DRO)	· ND	mg/L	1.0		Daterro	. 10130	Analysis De		4/10/2000
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: MB-18809	110	MBLK	0.0		Batch ID	: 18809	Analysis Da	ite:	4/13/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Viotor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18790		LCS			Batch ID	: 18790	Analysis Da	te:	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 Da	te:	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 Da	te:	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 Da	te:	4/13/2009
Diesel Range Organics (DRO)	5.455	mg/L	1.0	109	74	157	4.25	23	
Method: EPA Method 8015B: G	asoline Ran	ge					•		
Sample ID: 0904125-01A MSD		MSD			Batch ID:	R33239	Analysis Da	te: 4/14/2	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 Dat	te: 4/14/2	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 Dal	e: 4/14/2	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 Dat	e: 4/14/2	2009 4:37:21 PM
Gasoline Range Organics (GRO)	0.5526	mg/L	0.050	111	80	115			

Qualifiers:

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

E Estimated value

J Analyte detected below quantitation limits

Date: 15-Apr-09

QA/QC SUMMARY REPORT

Client:

Animas Environmental Services

Project:

HWY 537 '08 Spill

Work Order:

0904125

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLir	nit Qual
Method: EPA Method 8021B: V	olatiles							- · · · · · ·	
Sample ID: 0904125-02A MSD		MSD			Batch I	D: R33239	Analysis Da	ite: 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 !	D: R33239	Analysis Da	te: 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 I	D: R33239	Analysis Da	te: 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 II	D: R33239	Analysis Da	te: 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:

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 2

E Estimated value

J Analyte detected below quantitation limits

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL	_			Date Receive	ed:		4/8/2009			
Work Order Number 0904125	()			Received b	_	NIAS				
Checklist completed by:			4	Sample ID	labels checked		Initials			
Signature Signature	900	1	Date	/ 4/0/	-					
latrix:	Carrier name	Gre	yhound							
hipping container/cooler in good condition?		Yes	\checkmark	No 🗌	Not Present					
sustody seals intact on shipping container/cooler	?	Yes	\checkmark	No 🗌	Not Present		Not Shipped			
ustody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark				
hain of custody present?		Yes	V	No 🖂						
hain of custody signed when relinquished and re	eceived?	Yes	V	No 🗀						
hain of custody agrees with sample labels?		Yes	\mathbf{V}	No 🗌						
amples in proper container/bottle?		Yes	\checkmark	No 🗌						
ample containers intact?		Yes	\square	No 🗌						
ufficient sample volume for indicated test?		Yes	\checkmark	No 🗌						
samples received within holding time?		Yes	V	No 🗀						
ater - VOA vials have zero headspace?	No VOA vials subm	itted		Yes 🗹	No 🗌					
ater - Preservation labels on bottle and cap mat	ch?	Yes		No 🗀	N/A 🗹					
ater - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹					
ntainer/Temp Blank temperature?			3°	<6° C Acceptab						
DMMENTS:				If given sufficien	t time to cool.					
				•						
ont contested	nin anni-st-d			5						
ent contacted D	ate contacted:			Pers	on contacted					
ntacted by:	egarding:									
mments:										
				Alap						
orrective Action	A A A A A A A A A A A A A A A A A A A									
OTTECTIVE ACTION										

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Time:	Rush		537 '08			0	ager:	` '	S Kennemo	1	33	Preservative Type		17- 150 PR.	/			1	_		>	4-HG Mc.			1, vot.	www	//
Turn-Around Time:	X Standard	Project Name:	Hwy 5	Project #		080101	Project Manager:	C	H055					5-40 Labor	2			+			>	5-40 AL akes	2-40 Lakes	0	Received by:	MANNER	Received by:
Chain-of-Custody Record	Client: Animas Environmental Services		Comarche		87491	505-564-2281	324-2022		☐ Level 4 (Full Validation)			Sample Request ID		Mr)-1	MW-2	MW-3	MW-4	MIN S MW	9-MW	ナーグツ	MW-8	NW-4	Trip Blank	****	d by:	NOWN WILL	Relinquished by:
of-Cu	Envir		624 E		Arminaton, N.M.	05-5	505-			Other		Matrix		140	1)		1		/	>	H20			-	-	Relinquishe
nain	D'ME		ddress		d or	2	-ax#:	ckage:	ard	ntion	Time	Time		132	1201	1223	1246		1315	1338	1358	1421			Time:	1650	Time:
さ	Client		Mailing Address: 624	1	ATE	Phone #:	email or Fax#:	QA/QC Package:	X Standard	Accreditation	(A) (T)	Date		4-7-09	/	1		+	_		>	1-7-09				2	Date: 1



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

Dear Ross Kennemer:

Order No.: 0907135

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



Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Project:

Highway 537 08' Spill

Lab ID:

0907135-01

Client Sample ID: TRIP BLANK

Collection Date:

Date Received: 7/9/2009

Matrix: TRIP BLANK

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES	· · · · · · · · · · · · · · · · · · ·				Analyst: NSB
Benzene	ND	1.0	μ g/ L	1	7/11/2009 9:58:17 AM
Toluene	ND	1.0	μ g/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

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

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Highway 537 08' Spill

Project: Lab ID:

0907135-02

Client Sample ID: MW-1

Collection Date: 7/7/2009 10:21:00 AM

Date Received: 7/9/2009

Matrix: AQUEOUS

Analyses	Result	Result PQL Qual U		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 RAN	GE				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

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Project:

Highway 537 08' Spill

Lab ID:

0907135-03

Client Sample ID: MW-2

Collection Date: 7/7/2009 11:24:00 AM

Date Received: 7/9/2009

Matrix: AQUEOUS

Analyses	Result	PQL	PQL Qual		DF	Date Analyzed		
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range Organics (DRO)	· ND	1.0	1	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 RAN	GE					Analyst: NSB		
Gasoline Range Organics (GRO)	ND	0.050	1	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	ı	μg/L	1	7/11/2009 10:59:04 AM		
Toluene	ND	1.0	1	ug/L	1	7/11/2009 10:59:04 AM		
Ethylbenzene	ND	ND 1.0		ug/L	1	7/11/2009 10:59:04 AM		
Xylenes, Total	ND	2.0	ı	ug/L	1	7/11/2009 10:59:04 AM		
Surr: 4-Bromofluorobenzene	83.9	65.9-130	9	%REC	1	7/11/2009 10:59:04 AM		

Qualifiers:

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

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

070713

Highway 537 08' Spill

Project: Lab ID:

0907135-04

Client Sample ID: MW-4

Collection Date: 7/7/2009 11:08:00 AM

Date Received: 7/9/2009

Matrix: AQUEOUS

Analyses	Result	PQL Qua	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:

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Page 4 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Project:

Highway 537 08' Spill

Lab ID:

0907135-05

Client Sample ID: MW-6

ment sumple 19. 10.11 o

Collection Date: 7/7/2009 10:05:00 AM

Date Received: 7/9/2009

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 RAN	GE				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		

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 5 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Highway 537 08' Spill

Project: Lab ID:

0907135-06

Client Sample ID: MW-7

Collection Date: 7/7/2009 9:40:00 AM

Date Received: 7/9/2009

Matrix: AQUEOUS

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

Page 6 of 8

Date: 16-Jul-09

CLIENT:

Project:

Lab ID:

Animas Environmental Services

Highway 537 08' Spill

Lab Order:

0907135

0907135-07

Surr: 4-Bromofluorobenzene

83.6

Client Sample ID: MW-8

Collection Date: 7/7/2009 10:37:00 AM

%REC

onection Date: 17/12

Date Received: 7/9/2009

Matrix: AQUEOUS

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

65.9-130

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

Page 7 of 8

7/11/2009 1:00:33 PM

Date: 16-Jul-09

CLIENT:

Animas Environmental Services

Lab Order:

0907135

Highway 537 08' Spill

Project: Lab ID:

0907135-08

Client Sample ID: MW-9

Collection Date: 7/7/2009 10:54:00 AM

Date Received: 7/9/2009

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 RAN	NGE				Analyst: NSB		
Gasoline Range Organics (GRO)	0.28	0.050	mg/L	1	7/11/2009 1:30:54 PM		
Sum: 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	μ g/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:

Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 8 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 16-Jul-09

QA/QC SUMMARY REPORT

Client:

Animas Environmental Services

Project:

Highway 537 08' Spill

Work Order:

0907135

Analyte Result Units PQL %R Method: EPA Method 8015B: Diesel Range Sample ID: MB-19596 MBLK Diesel Range Organics (DRO) ND mg/L 1.0 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCS-19696 LCS Diesel Range Organics (DRO) 6.584 mg/L 1.0 132 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD Diesel Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD	Batch ID: Batch ID: 74 157 Batch ID:	19596 Analysis Date: 7/15/2 19596 Analysis Date: 7/15/2
Sample ID: MB-19596 Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Sample ID: LCS-19596 Diesel Range Organics (DRO) Motor Oil Range Organics (DRO) Motor Oil Range Organics (MRO) Motor Oil Range Organics (MRO) Sample ID: LCSD-19596 LCSD MBLK 1.0 1.0 132 LCS LCS LCSD	Batch ID: 74 157 Batch ID:	19596 Analysis Date: 7/15/2
Diesel Range Organics (DRO) ND mg/L 1.0 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCS-19696 LCS Diesel Range Organics (DRO) 6.584 mg/L 1.0 132 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD	Batch ID: 74 157 Batch ID:	19596 Analysis Date: 7/15/2
Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCS-19596 LCS Diesel Range Organics (DRO) 6.584 mg/L 1.0 132 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD	74 157 Batch ID:	
Sample ID: LCS-19596 LCS Diesel Range Organics (DRO) 6.584 mg/L 1.0 132 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD LCSD	74 157 Batch ID:	
Diesel Range Organics (DRO) 6.584 mg/L 1.0 132 Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD	74 157 Batch ID:	
Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCSD-19596 LCSD	Batch ID:	
Sample ID: LCSD-19596 LCSD		
Diesel Range Organics (DRO) 6.672 mg/L 1.0 133		19596 Analysis Date: 7/15/2
	74 157	1.33 23
Method: EPA Method 8016B: Gasoline Range		
Sample ID: 5ML RB MBLK	Batch ID: R	34474 Analysis Date: 7/10/2009 9:38:44
Gasoline Range Organics (GRO) ND mg/L 0.050		
Sample ID: b 29 MBLK	Batch ID: R	34474 Analysis Date: 7/10/2009 11:50:11
Gasoline Range Organics (GRO) ND mg/L 0.050		
Sample ID: 2.5UG GRO LCS LCS	Batch ID: R	34474 Analysis Date: 7/10/2009 7:44:13
Gasoline Range Organics (GRO) 0.4212 mg/L 0.050 84.2		, , , , , , , , , , , , , , , , , , ,
Method: EPA Method 8021B; Volatiles		
Sample ID: 5ML RB MBLK	Batch ID: R	34474 Analysis Date: 7/10/2009 9:38:44
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: R3	34474 Analysis Date: 7/10/2009 8:14:41
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: R3	34474 Analysis Date: 7/10/2009 7:13:39
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: R3	4474 Analysis Date: 7/11/2009 6:25:25 /
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	

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(D	18	lif	ĩe	re

E Estimated value

Page 1

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Date Receiv	ved:	7/9/2009
Work Order Number 0907135		Received	by: TLS	A
Checklist completed by:	7/	9/03	labels checked by:	Initials
Matrix: Carrier nan	ne: <u>Greyhound</u>			
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
Water - VOA vials have zero headspace? No VOA vials st	ubmitted	Yes 🗹	No 🗌	bottles checked for pH:
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 Accepta		below.
COMMENTS:		If given sufficie	nt time to cool.	
•				
Client contacted Date contacted:		Per	son contacted	
Contacted by: Regarding:				
Comments:			•	
Corrective Action				
Constitute Action			110	

HALL ENVIRONMENTAL	LABORATORY									Air Bubble							~	V			+				report.
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Turn-Around Time:	tr Standard	Project Name	HWV 537	Project #:	0801	Project Manager:	Ross	Sampler:		Container Type and #	740.1 dags	5-40 at size	-		_			1					Received by:	Received by:	boontracter to othe
Chain-of-Custody Record	Client: Animas FAVIONIMMENTAL	110.	4 Elomanche	7	•	\sim	☐ Level 4 (Full Validation)	□ Other		rix Sample Request ID	Trip Right	¥ 14 X	┼	カーにて	A11.7 - 6	1 '	00-17-17	P-17W -					Relinquished by:	Pilinquished by: Alburh Muton	If necessary, samples submitted to Hall Environmental may be subcontracted to the
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ပ	Client:		Mailing	1-4-	Phone #	email or	QA/QC Packa V	Accreditation	□ EDD (Type	Date		80 F-7											Date: 7-7-09	Date: 1-8-09	



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

Dear Ross Kennemer:

Order No.: 0910271

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



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
Benzené	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	μ g/ 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

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

Highway 537 08 Spill

Project: Lab ID:

0910271-02

Client Sample ID: MW-1

Collection Date: 10/12/2009 12:09:00 PM

Date Received: 10/15/2009

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 Oll 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

Qualiflers:

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

0910271-03

Client Sample ID: MW-2

Collection Date: 10/12/2009 12:35:00 PM

Project: Lab ID: Highway 537 08 Spill

Date Received: 10/15/2009

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 Oll 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 RANG	GE				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	μ g/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	μ g/ 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

Е Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

0910271-04

Client Sample 1D: MW-3

Collection Date: 10/12/2009 1:04:00 PM

Project: Lab ID: Highway 537 08 Spill

Date Received: 10/15/2009

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE		1511			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:

Spike recovery outside accepted recovery limits

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

Project:

Highway 537 08 Spill

Lab ID:

0910271-05

Client Sample ID: MW-4

Collection Date: 10/12/2009 1:33:00 PM

Date Received: 10/15/2009

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 RAN	GE				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:

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

Project: Highway 537 08 Spill

Lab ID:

0910271-06

Client Sample ID: MW-6

Collection Date: 10/12/2009 2:04:00 PM

Date Received: 10/15/2009

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

Qualiflers:

S Spike recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 6 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

Project:

Lab ID:

0910271

Highway 537 08 Spill

0910271-07

Client Sample ID: MW-7

Collection Date: 10/12/2009 2:26:00 PM

Date Received: 10/15/2009

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 RAN	GE				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:

Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Page 7 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

Highway 537 08 Spill

Project: Lab ID:

0910271-08

Client Sample ID: MW-8

Collection Date: 10/12/2009 3:12:00 PM

Date Received: 10/15/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8016B: 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:

S Spike recovery outside accepted recovery limits

MCL Maximum Contaminant Level

RL Reporting Limit

Page 8 of 9

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 20-Oct-09

CLIENT:

Animas Environmental Services

Lab Order:

0910271

Project:

Highway 537 08 Spill

Lab ID:

0910271-09

Client Sample ID: MW-9

Collection Date: 10/12/2009 2:50:00 PM

Date Received: 10/15/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	ı	mg/L	1	10/19/2009 6:52:15 AM
Motor Oil Range Organics (MRO)	ND	5.0	r	ng/L	1	10/19/2009 6:52:15 AM
Surr: DNOP	112	58-140	9	%REC	1	10/19/2009 6:52:15 AM
EPA METHOD 8015B: GASOLINE RANG	E				•	Analyst: NSB
Gasoline Range Organics (GRO)	0.31	0.050	r	ng/L	1	10/17/2009 12:51:13 AM
Surr: BFB	86.0	55.2-107	9	%REC	1	10/17/2009 12:51:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	26	1.0	μ	ıg/L	1	10/17/2009 12:51:13 AM
Toluene	2.0	1.0	μ	ıg/L	1	10/17/2009 12:51:13 AM
Ethylbenzene	ND	1.0	μ	ıg/L	1	10/17/2009 12:51:13 AM
Xylenes, Total	· ND	2.0	μ	g/L	1	10/17/2009 12:51:13 AM
Surr: 4-Bromofluorobenzene	80.4	65.9-130	9	6REC	1	10/17/2009 12:51:13 AM

Qualifiers:

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

Date: 20-Oct-09

QA/QC SUMMARY REPORT

lient:

Animas Environmental Services

'roject: Highway 537 08 Spili

Work Order:

0910271

Analyte	Result	Units	PQL	SPK V	a SPK re	f %Rec	LowLimit H	lighLimit %RP	D RPDLimit	Qual
flethod: EPA Method 8015B: I	Diesel Range	0		·					,	
lample ID: MB-20344		MBLK				Batch ID	20344	Analysis Date:	10/18/2009	1:53:39 F
)lesel Range Organics (DRO)	ND	mg/L	1.0							
flotor Oil Range Organics (MRO)	ND	mg/L	5.0							
Bample ID: MB-20345		MBLK				Batch ID:	20345	Analysis Date:	10/19/2009	4:30:32 A
Diesel Range Organics (DRO)	ND	mg/L	1.0							
Notor Oil Range Organics (MRO)	ND	mg/L	5.0							
Sample ID: LCS-20344		LCS				Batch ID:	20344	Analysis Date:	10/18/2009 2	2:28:43 P
Diesel Range Organics (DRO)	5.768	mg/L	1.0	5	٥	115	74	157		
Sample ID: LCS-20346		LCS				Batch ID:	20345	Analysis Date:	10/19/2009 5	:05:54 A
Diesel Range Organics (DRO)	6.111	mg/L	1.0	5	0	122	74	157		
fethod: EPA Method 8015B: G	asoline Ran	ige .								
sample ID: 5ML RB		MBLK				Batch ID:	R35776	Analysis Date:	10/16/2009 11	:37:36 A
Sasoline Range Organics (GRO)	ND	mg/L	0.050							
iample ID: 2.5UG GRO LCS		LCS				Batch ID:	R35776	Analysis Date:	10/16/2009 9	:47:56 Pl
asoline Range Organics (GRO)	0.5056	mg/L	0.050	0.5	0	101	80	115		
lethod: EPA Method 8021B; Vo	platiles	-				***************************************				
ample ID: 5ML RB		MBLK				Batch ID:	R35776	Analysis Date:	10/16/2009 11	:37:36 AI
enzene	ND	μg/L	1.0							
oluene	ND	µg/L	1.0							
thylbenzene	ND	µg/L	1.0							
ylenes, Total	ND	hā/ŗ	2.0							
ample ID: 100NG BTEX LCS R		LCS				Batch ID:	R35776	Analysis Date:	10/16/2009 5:	11:35 PI
enzene	19.81	µg/L	1.0	20	0	99.1	85. 9	113	•	
oluene	21.13	μg/L	1.0	20	0	106	86.4	113		
hylbenzene	21.53	μg/L	1.0	20	0.116	107	83 .5	118		
lenes, Total	63.71	µ g/ L	2.0	60	0	106	83.4	122		
imple ID: 100NG BTEX LCS		LCS				Batch ID:	R35776	Analysis Date:	10/16/2009 10:	18:23 PN
nzene	19.42	µg/L	1.0	20	0	97.1	85.9	113		
luene	20.61	µg/L	1.0	20	0	103	86.4	113		
hylbenzene	20.41	µg/Ł	1.0	20	0.116	101	83.5	118		
lenes, Total	61.22	µg/L	2.0	60	0	102	83.4	122		

Qua	lifiers
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E Estimated value

R RPD outside accepted recovery limits

S Spike recovery outside accepted recovery limits

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Sample Receipt Checklist

Work Order Number 0910271 Checklist completed by: Signature Carrier name: Greyhound Shipping container/cooler in good condition? Yes No Not Present	
Checklist completed by: Signature Carrier name: Greyhound Shipping container/cooler in good condition? Yes V No Not Present	
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?	
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 pres	erved
Water - VOA vials have zero headspace? No VOA vials submitted ☐ Yes ☑ No ☐ bottles checked pH:	ior
Water - Preservation labels on bottle and cap match? Yes ☐ No ☐ N/A ☑	
Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ✓ <2 >12 unless no below.	oted
Container/Temp Blank temperature? 0.8° <6° C Acceptable	
COMMENTS: If given sufficient time to cool.	
Client contacted Date contacted: Person contacted	
Contacted by: Regarding:	
Comments:	
Corrective Action	
	_

	HALL ENVIKONMENTAL ANALYSTS LABORATORY	www.hallenvironmental.com	ins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107					(H)	Aq sl \ se \ 15	10 este 0,1,1,2 (A) (-V-i	EDB (Meth 8310 (PNA 8310 (PNA 8081 Pestid 8081 Pestid 8080 (VO 8000 (Semi		XX	××	XXX	XX		××	××	X					s serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
			4901 Hawkins NE	Tel. 50								BTEX + Matho												Remarks:		oility. Any su
	_ _					(120	8) s	8MT	+ =	18.	TM + X3T8												Rem		possib
			08 Spill					er			21-76		1	۲,	8	ブ	8	3	7	۲	a			9-	Date Time	es. This serves as notice of this
Time:	□ Rush		537		191080	ager:	>	Kennemei	N. Willis			Preservative Type	171	5- HCI 1-NOH	/					\	12-HC1 AJON			Water	0	accredited laboratorie
Tum-Around Time:	X Standard	Project Name:	Highway	Project #:	7	Project Manager:	0	Koss	Sampler:	0		Container Type and #	1-4047	6.40 m.t	/	<u></u>				->	5-40ml)		Received by:	Received by:	
Chain-of-Custody Record	Environmental	110.	624 E. Comanche	NM 87401	1827 - 495	505-324- 202		☐ Level 4 (Full Validation)	Other			nix Sample Request ID	o Trip Blank	MW-1	MW-2	MW-3	MU-4	/ MW-6	MU-7	MW-8	0 MW-9			Relinquished by: Note: William Willia	Outrak Water	i necessary, samples submitted to Hall Environmental may be subcontracted to cuber
of-(5 6		.73	7	5 - 5	505			C			Matrix	420		\dashv					7	Hz0			Reling	Relinq	sambles
hain-	Client: Animas	Services	Mailing Address:	Farming ton NM	# '568	Fax#:	QA/QC Package:	dard	tation		(Type)	Time		202	1235	1364	1333	1404	14z6	1512	1450			Time:	Тіте: 1430	f necessary, s
ပ	Client:	Se	Mailing	TE	Phone #:	email or Fax#:	QAVQCF	X Standard	Accreditation		= EDD (1ype)	Date		10-12-09	1		_			→	10-12-01			pate:	Date:	



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

Dear Ross Kennemer:

Order No.: 1001166

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



Date: 22-Jan-10

CLIENT: Lab Order:

Project:

Lab ID:

Animas Environmental Services

1001166

BMG Highway 537 '08 Spill

1001166-01

Client Sample ID: MW-1

Collection Date: 1/12/2010 10:53:00 AM

Date Received: 1/14/2010

Matrix: AQUEOUS

Analyses	Result_	PQL Q	ual 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
- E Estimated value
- Analyte detected below quantitation limits
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 8

Date: 22-Jan-10

CLIENT: Lab Order: Animas Environmental Services

1001166

BMG Highway 537 '08 Spill

Project: Lab ID:

1001166-02

Client Sample ID: MW-2

Collection Date: 1/12/2010 11:22:00 AM

Date Received: 1/14/2010

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 RAN	GE				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:

Spike recovery outside accepted recovery limits

Reporting Limit

Page 2 of 8

Value exceeds Maximum Contaminant Level

Estimated value E

j Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

1001166

Lab Order: Project:

BMG Highway 537 '08 Spill

Lab ID:

1001166-03

Client Sample ID: MW-3

Collection Date: 1/12/2010 11:53:00 AM

Date Received: 1/14/2010

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 RAN	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	. ND	0.060	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

Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

Lab Order:

1001166

Project:

BMG Highway 537 '08 Spill

Lab ID:

1001166-04

Client Sample ID: MW-4

Collection Date: 1/12/2010 12:23:00 PM

Date Received: 1/14/2010

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 RANG	3E				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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 4 of 8

^{*} Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

Lab Order:

1001166

BMG Highway 537 '08 Spill

Project: Lab ID:

1001166-05

Client Sample ID: MW-6

Collection Date: 1/12/2010 12:56:00 PM

Date Received: 1/14/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE			v			Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	1	mg/L	1	1/15/2010 3:00:25 PM
Motor Oil Range Organics (MRO)	ND	5.0	r	mg/L	1	1/15/2010 3:00:25 PM
Surr: DNOP	117	58-140	Ģ	%REC	1	1/15/2010 3:00:25 PM
EPA METHOD 8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050	r	m g/L	-1	1/21/2010 2:41:46 PM
Surr: BFB	92.6	55.2-107	9	%REC	1	1/21/2010 2:41:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0	۲	Jg/L	1	1/21/2010 2:41:46 PM
Toluene	ND	1.0	٢	ıg/L	1	1/21/2010 2:41:46 PM
Ethylbenzene	ND	1.0	Į.	Jg/L	1	1/21/2010 2:41:46 PM
Xylenes, Total	ND	2.0	μ	ıg/L	1	1/21/2010 2:41:46 PM
Surr: 4-Bromofluorobenzene	99.8	65.9-130	9	%REC	1	1/21/2010 2:41:46 PM

Qualifiers:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

Lab Order:

1001166

Project:

BMG Highway 537 '08 Spill

Lab ID:

1001166-06

Client Sample ID: MW-7

Collection Date: 1/12/2010 1:21:00 PM

Date Received: 1/14/2010

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual 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 RAN	GE				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:

S Spike recovery outside accepted recovery limits

RL Reporting Limit

Page 6 of 8

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

Lab Order:

1001166

Project:

BMG Highway 537 '08 Spill

Lab ID:

1001166-07

Client Sample ID: MW-8

Collection Date: 1/12/2010 1:49:00 PM

Date Received: 1/14/2010

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 RANG	E				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	μ g/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

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCl. Maximum Contaminant Level

RL Reporting Limit

Date: 22-Jan-10

CLIENT:

Animas Environmental Services

1001166

Lab Order: Project:

BMG Highway 537 '08 Spill

Lab ID:

1001166-08

Client Sample ID: TRIP BLANK

Collection Date:

Date Received: 1/14/2010

Matrix: TRIP BLANK

Analyses	Result	PQL (ual 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

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

Page 8 of 8

QA/QC SUMMARY REPORT

Client:

Animas Environmental Services

Project: BMG Highway 537 '08 Spill

Work Order:

1001166

Analyte	Result	Units	PQL	SPK Va S	SPK ref	%Rec L	owLimit H	ighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: I	Diesel Range)									
Sample ID: MB-21130		MBLK				Batch ID:	21130	Analysis	Date:	1/15/2010 8	3:22:38 AN
Diesel Range Organics (DRO)	ND	mġ/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	8:58:36 AN
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 AN
Diesel Range Organics (DRO)	5.036	mg/L	1.0	5	0	101	74	157	8.61	23	
Method: EPA Method 8015B: 0	Sasoline Ran	ige									
Sample ID: 1001166-01A MSD		MSD				Batch ID:	R37065	Analysis	Date:	1/21/2010 6	:14:09 PN
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 PN
Gasoline Range Organics (GRO)	0.4818	mg/L	0.050	0.5	0	96.4	80	115			
Sample ID: 1001166-01A MS	0.4010	MS	0.000	0.0	Ū	Batch ID:	R37065	Analysis	Date:	1/21/2010 5	:43:47 PN
Gasoline Range Organics (GRO)	0.4754	mg/L	0.050	0.5	0	95.1	80	115			
Method: EPA Method 8021B: V	olatilee										
Sample ID: 1001166-02A MSD	Otatinos	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
(ylenes, 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 AN
Benzene	ND	μg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L .	1.0								
(ylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R37065	Anaiysis	Date:	1/21/2010 8	:15:33 PM
Benzene	19.98	μg/L	1.0	20	0	99.9	85.9	113			
oluene	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			
ylenes, Total	60.05	µg/L	2.0	60	0	100	83.4	122	_		
ample 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			
oluene	21.49	μg/L	1.0	20	0	107	86.4	113			
thylbenzene	21.51	μg/L	1.0	20	0	108	83.5	118			
lylenes, Total	64.66	µg/L	2.0	60	0	108	83.4	122			

Qualifiers:

Page 1

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL			Date Receive	d:	1/14/2010	
Work Order Number 1001166			Received by	: TLS	Λ_{α}	
Checklist completed by:	<u> </u>	Date	Sample ID la	bels checked by	:	
Matrix:	Carrier name:	Greyhound				
Shipping container/cooler in good condition?	,	Yes 🗹	No 🗆	Not Present]	
Custody seals intact on shipping container/o	ooler?	Yes 🗹	No 🗆	Not Present	Not Shipped	
Custody seals intact on sample bottles?		Yes 🗌	No 🗀	N/A	<u> </u>	
Chain of custody present?		Yes 🗹	No 🗆			
Chain of custody signed when relinquished a	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 preser	
Water - VOA vials have zero headspace?	No VOA vials subm	itted	Yes 🗹	No 🔲	bottles checked for pH:	or
Water - Preservation labels on bottle and cap	match?	Yes 🗌	No 🗀	N/A		
Water - pH acceptable upon receipt?		Yes 🗌	No 🗆	N/A 🗹	<2 >12 unless not below.	ed
Container/Temp Blank temperature?		1.2°	<6° C Acceptable		Delow.	
COMMENTS:			If given sufficient	time to cool		
Client contacted	Date contacted:		Perso	n contacted		
Contacted by:	Regarding:					
Comments:						
						_
						_
Corrective Action						_
			ii.			

	KONMENIAL LABORATORY	E	A 87109	4107								imeč) 0728												in sample.		the analytical report.
	_	d)	Albuquerque, NM 87109	Fax 505-345-4107						1O ³	A,I:	RCRA 8 Me Anions (F,C 8081 Pestic 60V)			·								- 1	has roots i		will be dearly notated or
	ANALYSIS	www.halle	vkins NE -	Tel. 505-345-3975	Ar				(1.1	709	ро	TPH (Methorement) EDB (Methorement) ANP) 0168												MW-2 +		contracted data
			4901 Hawkins NE	Tel. 505-		(Ųlr	10 8		Н ЧТ) 88	¥ =	3 p	BTEX + MT	×	×	×	X	X	X	X					Remarks: 🗚		ssibility. Any sub-
Turn-Around Time:	¥ Standard □ Rush	Project Name:	BMG HWY 537 '08 Spill		101080			Ross Kenneman	Sampler. Nathan Willis			Container Preservative + Type and # Type	(b-40 mighes 1-4 moves		X X	x_	5 X	× カ / /	X L A		2			Date Time 1-12-10 1615	Received by: Date Time	ontracted to organizated laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report
Chain-of-Custody Record	Client: Animas Environmental	7	Mailing Address: 624 E. Comanche	NM 8740)		505-324-2022		☐ Level 4 (Full Validation)	54			Matrix Sample Request ID	HLO MW-1	\ MW-2	MW-3	MW-4	/ MM-6	MW-B7		MEMBER	Trip Blank			Relinquished by:	Relinquished by:	If necessary, samples submitted to Hall Environmental may be subcontracted to office
Chain-of	Client: Animas	Services, LLC	Mailing Address:	Farmination NM	Phone #: 505	ax#:	QA/QC Package:	X Standard	Accreditation		= EDD (1ype)	Date Time M	-12-10 1053 H	1111	1153	5221	1256	1321	1349					Date: Time: Reli -12-105 1015 /	Date: Time: Reli -/3-/0 6 30 (If necessary, sam