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Prepared on behalf of:
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Site Investigation Report
Highway 537 Llaves Oil Pipeline Spill

Benson Montin Greer
NW¼ NE¼ of Section 18, T25N, R3W
Los Ojitos Canyon, Rio Arriba County,
New Mexico

June 23, 2008

Prepared by:
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1.0 Introduction

Animas Environmental Services, LLC (AES), on behalf of Benson Montin Greer Drilling Corporation (BMG), has prepared this Site Investigation Report for BMG's Highway 537 Llaves Pipeline 2008 oil spill, which was discovered on December 31, 2007.

Site investigation work was completed in accordance with a Sampling and Analysis Plan (SAP) prepared by AES and dated January 23, 2008. The SAP was submitted to the New Mexico Oil Conservation Division (NMOCD) for review prior to implementing the proposed scope of work.

2.0 Site Information

2.1 Site Location

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

The spill began on the Schmitz Ranch, on the south side of Highway 537, within the NW¼ NE¼ of Section 18, T25N, R3W (latitude and longitude recorded as N36° 24' 214" and W107° 11' 053") and flowed south and southwest through a small unnamed arroyo for a distance of approximately 920 linear feet. A topographical location map is included as Figure 1, and a map of 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 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 prevent any 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, New Mexico Oil Conservation Division (NMOCD), a voice mail regarding 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 identification number of 860429.

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 lithography consists primarily of the Mesa Verde Formation, 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 of the Los Ojitos Canyon area is predominately 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 from oldest to youngest, include the Graneros Shale, Greenhorn Limestone, and Carlile Shale. 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

The Llaves pipeline transects several unnamed washes that lead to the Los Ojitos Canyon Arroyo, which drains southwest to Largo Canyon and ultimately to the San Juan River.

Locally, shallow groundwater is encountered within the valleys and canyons at depths less than 50 feet and is typically associated with arroyos, which can be incised as much as 20 feet below the valley floor. Depth to groundwater ranges between 28 feet and 35 feet below the ground surface (bgs) in the area where the spill occurred.

4.0 Site Investigation – April and May 2008

From April 14 through 16, 2008, site investigation activities were performed in order to delineate the full extent of petroleum hydrocarbon impact on surface and subsurface soils and groundwater resulting from the spill. The investigation procedures included the installation of 15 soil borings, nine of which were completed as groundwater monitoring wells, along the impacted areas and collection of soil and groundwater samples. Work was completed in accordance with the SAP prepared by AES and dated January 23, 2008, and also in accordance with U.S. Environmental Protection Agency (USEPA) Environmental Response Team's Standard Operating Procedures (SOPs), and applicable American Society of Testing and Materials (ASTM) standards

4.1 Permits and Access Agreements

Prior to initiating the fieldwork, AES obtained a written property access agreement from Craig Schmitz, private property owner. The access agreement has been included as Appendix A.

4.2 Utilities Notification

AES utilized the New Mexico One-Call system to identify and mark all underground utilities at the site before initiating drilling activities.

4.3 Notification

AES notified Mike Dimond of BMG, Brandon Powell of NMOCD, and Craig Schmitz of Schmitz Ranch, via letter before starting field activities.

4.4 Health and Safety Plan

Prior to the start of the site investigation activities, AES prepared and implemented a comprehensive site-specific Health and Safety Plan (HASP) addressing the site investigation activities and associated soil and groundwater sampling. All employees and subcontractors were required to read and sign the HASP to acknowledge their understanding of the information contained within the HASP. The HASP was implemented and enforced on site by the assigned Site Safety and Health Officer. Daily tailgate meetings were held and documented during field activities and addressed site-specific health and safety concerns or issues.

4.5 Installation and Sampling of Soil Borings

From April 14 through April 16, 2008, AES installed 15 soil borings along the route of the spill in order 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 four feet bgs. Nine of the soil borings (TH-3 through TH-11) were completed as 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. The locations of soil borings and monitoring wells are presented on Figure 2.

4.5.1 Drilling Methods

Soil borings TH-1 through TH-15, were advanced with a DT 6620 track-mounted direct push rig, manufactured by Geoprobe®, and equipped with a 2-inch outer diameter (OD) core barrel. Earth Worx, Los Lunas, New Mexico, completed the direct push drilling.

4.5.2 Soil Sample Collection

Soil samples were collected with a 4-foot disposable sleeve and 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). Additionally, soil samples were collected from the borings for laboratory analysis.

For each soil boring, a Soil Boring Log was completed. These logs recorded sample depth and method of collection, as well as observations of soil moisture, 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. Field soil boring logs are included in Appendix B.

4.5.3 Field Screening

Samples were collected at intervals of four feet from each boring, including from just above the capillary fringe. These samples were field screened for volatile organic vapors utilizing a PID-OVM calibrated with isobutylene gas.

Once collected, the soil samples to be field screened were immediately placed in a clean one-gallon Ziploc bag and allowed to warm up to approximately 80°F. Approximately ten minutes was allowed for the soil to be heated and for any VOCs in the soil to accumulate in the headspace of the Ziploc bag. During the initial stages of headspace development, the sample was gently shaken for one minute to promote vapor development and disaggregate the sample. Volatile gases were then measured by carefully opening the Ziploc bag and inserting the sample probe of the PID-OVM. The highest (peak) measurements were recorded onto the Soil Boring Logs. All field screening was completed in strict accordance with the SAP and USEPA Environmental Response Team's SOPs.

4.5.4 Laboratory Analyses - Soil

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

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

Once collected, sample containers were packed with ice in insulated coolers and shipped via Greyhound bus at less than 6°C to the analyzing laboratory. 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.

4.6 Groundwater Monitor Well Installation

4.6.1 Groundwater Monitor Well Installation and Construction

A total of nine monitoring wells were installed at the site. Monitoring wells were positioned around the excavation in order to define any horizontal migration of contaminants in groundwater. Groundwater was encountered between approximately 28 to 35 feet bgs.

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. The screened intervals extend at least 10 feet across the water table in each of the wells. A bentonite seal was placed above the sand pack of each well, and concrete grout with approximately five percent bentonite was poured from the top of the bentonite plug up to within a foot of ground surface. An above grade 4-inch by 4-foot locking steel protective casing, encased with concrete, was installed on the well to prevent unauthorized access and damage. Monitoring wells were installed in strict accordance with the SAP and USEPA Environmental Response Team's SOPs. Monitoring well construction diagrams for MW-1 through MW-9 are included on the Boring Logs in Appendix B.

4.6.2 Groundwater Monitor Well Development

Following monitor well installation and completion, each well was developed in order to remove fine-grained sediments from the sand pack and to increase hydraulic conductivity through the well screen. Monitoring wells were developed in strict accordance with the SAP and USEPA Environmental Response Team's SOPs.

4.6.3 Monitoring Well Survey

The location and elevation of the top of each well casing was surveyed by AES personnel using two mobile Global Positioning System (GPS) units (Magellan eXplorist 100 and 200) by placing both GPS units on top of the well casing and taking the GPS coordinates and elevations when both units were within 10 percent agreement.

4.6.4 Groundwater Monitor Well Monitoring and Sampling

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.

After sample collection, water quality measurements were recorded and included depth to groundwater, pH, temperature, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP). The Chain of Custody Record was then completed, and samples were transported to the analyzing laboratory in chilled and insulated coolers at less than 6°C. All samples were analyzed at Hall in Albuquerque, New Mexico.

4.6.5 Laboratory Analyses - Groundwater

All groundwater analytical samples collected from the monitoring wells were submitted to Hall Environmental Analysis Laboratory, Albuquerque, New Mexico, for analysis of the following parameters:

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

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

5.0 Results

5.1 Soil

5.1.1 Lithology

Soil lithology was observed to consist of interbedded layers of brown silty clay, poorly sorted tan sands, and very moist plastic brown clays throughout the site. Soil boring logs with monitoring well construction details are included in Appendix B.

5.1.2 Field Results

Soil samples collected from the soil borings were field-screened for VOCs with a PID-OVM. 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 28-30 feet bgs to 1,673 ppm at 18-19 feet bgs. The OVM reading at the terminal depth of the boring (32-33 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 (31-32 feet bgs) to 34.0 ppm at 19-20 feet bgs.
- **TH-11/MW-9** OVM readings ranged from 0.7 ppm at the terminal depth of the boring (31-32 feet bgs) to 34.0 ppm at 15-16 feet bgs.
- **TH-12** OVM reading at terminal depth (3-4 feet bgs) was 10.3 ppm.
- **TH-13** OVM reading at terminal depth (3-4 feet bgs) was 1,221 ppm.
- **TH-15** OVM reading at terminal depth (3-4 feet bgs) was 18.6 ppm.

PID readings were recorded on the soil boring logs, which are included in Appendix B.

5.1.3 Analytical Results

Soil samples were collected for laboratory analysis from the terminal depths of the borings and from zones with high OVM readings and/or visible contaminant staining. Remediation action levels promulgated by NMOCD for oil spills and releases (August 13, 1993) were utilized as action levels for soil characterization. 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 remaining soil samples were either below laboratory detection limits or well below the applicable action level of 50 mg/kg total BTEX.

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The NMOCD Action Levels for TPH (100 mg/kg) were exceeded in four samples, TH-1 at 17-19 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 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 collected during well installation have been tabulated and are presented in Table 1 and on Figure 2. Soil analytical laboratory reports are presented in Appendix C.

5.2 Groundwater

AES personnel collected groundwater samples from eight monitor wells for laboratory analysis on May 5, 2008. Laboratory analytical data are included in Appendix C, and Water Sample Collection forms are presented in Appendix D.

5.2.1 Measurement Data

Following depth to water measurement, each well was purged with a disposable bailer until recorded temperature, pH, conductivity, and dissolved oxygen (DO) measurements were stabilized. All data was recorded onto Water Sample Collection Forms. 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. Depth to groundwater measurements and water quality data are summarized in Table 2, and Water Sample Collection forms are presented in Appendix D.

5.2.2 Analytical Results

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

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

WQCC standards have not been established for TPH GRO, DRO, or MRO. 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 have been tabulated and are presented in Table 3 and on Figure 2. Groundwater analytical laboratory reports are presented in Appendix C.

6.0 Conclusion and Recommendations

A total of 15 soil borings and 9 groundwater monitor wells were installed by AES between April 14 and 16, 2008. Soils were found to consist of interbedded layers of brown silty clay, poorly sorted tan sands, and very moist plastic brown clays, and groundwater was found to exist about 28 to 35 feet bgs from the top of the well casing. Soil petroleum hydrocarbon contamination is evident in TH-1 (below the area of excavation) and in TH-2 (between the excavation and the service road). TH-13, located within the small arroyo, is also still impacted by contaminated soils. Soil contaminant concentrations exceeded NMOCD action levels for total BTEX in TH-1 and TH-2 and for total TPH in TH-1, TH-2, and TH-13. The highest total BTEX concentrations and total TPH concentrations were reported at 479 mg/kg and 29,000 mg/kg, respectively, at 34 feet bgs in TH-2.

Depths to groundwater varied across the site and were observed to exist at about 28 to 35 feet bgs from the top of the well casing. A baseline groundwater monitoring and sampling event was conducted by AES on May 5, 2008, and groundwater analytical results showed that groundwater is impacted above the WQCC standard for benzene in MW-8. Monitor wells MW-1, MW-7, MW-8, and MW-9 have TPH-GRO concentrations above laboratory detection limits.

Based upon the results of the May 2008 site investigation associated with the Highway 537 2008 Llaves pipeline spill, it appears that groundwater has been impacted by the release and that some contaminated soil remains on-site. Groundwater is impacted above the WQCC standard for benzene in MW-8. Significant petroleum hydrocarbon vapors or visibly stained soil were observed during soil boring/well installation in TH-1, TH-2 (free oil present), TH-3/MW-1, TH-7/MW-5 (free oil present), and TH-13.

AES recommends remediation of site soils in the vicinity of the excavation via mechanical high vacuum extraction of soil vapors and contaminated groundwater. A corrective action plan (CAP) outlining proposed remedial efforts at the site will be prepared and submitted to NMOCD for review after one additional groundwater monitoring and sampling event, which is scheduled for August 2008.

8.0 References

Animas Environmental Services, LLC (AES). *Sampling and Analysis Plan for Benson-Montin-Greer Drilling Corporation Llaves Pipeline Spill along Highway 537, Rio Arriba County, New Mexico.* January 23, 2008.

District of Conservation Archaeology (DCA). *The Cultural Resources Inventory of a Proposed Soil Remediation Work Area, Three Proposed Access Roads, Four Pipeline Repair Wash Crossings, and a Temporary Use Area Along Benson-Montin-Greer Drilling Corporations's Existing Llaves Pipeline, Rio Arriba County, New Mexico.* DCA Report No. 06-DCA-095, May 11, 2006.

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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.

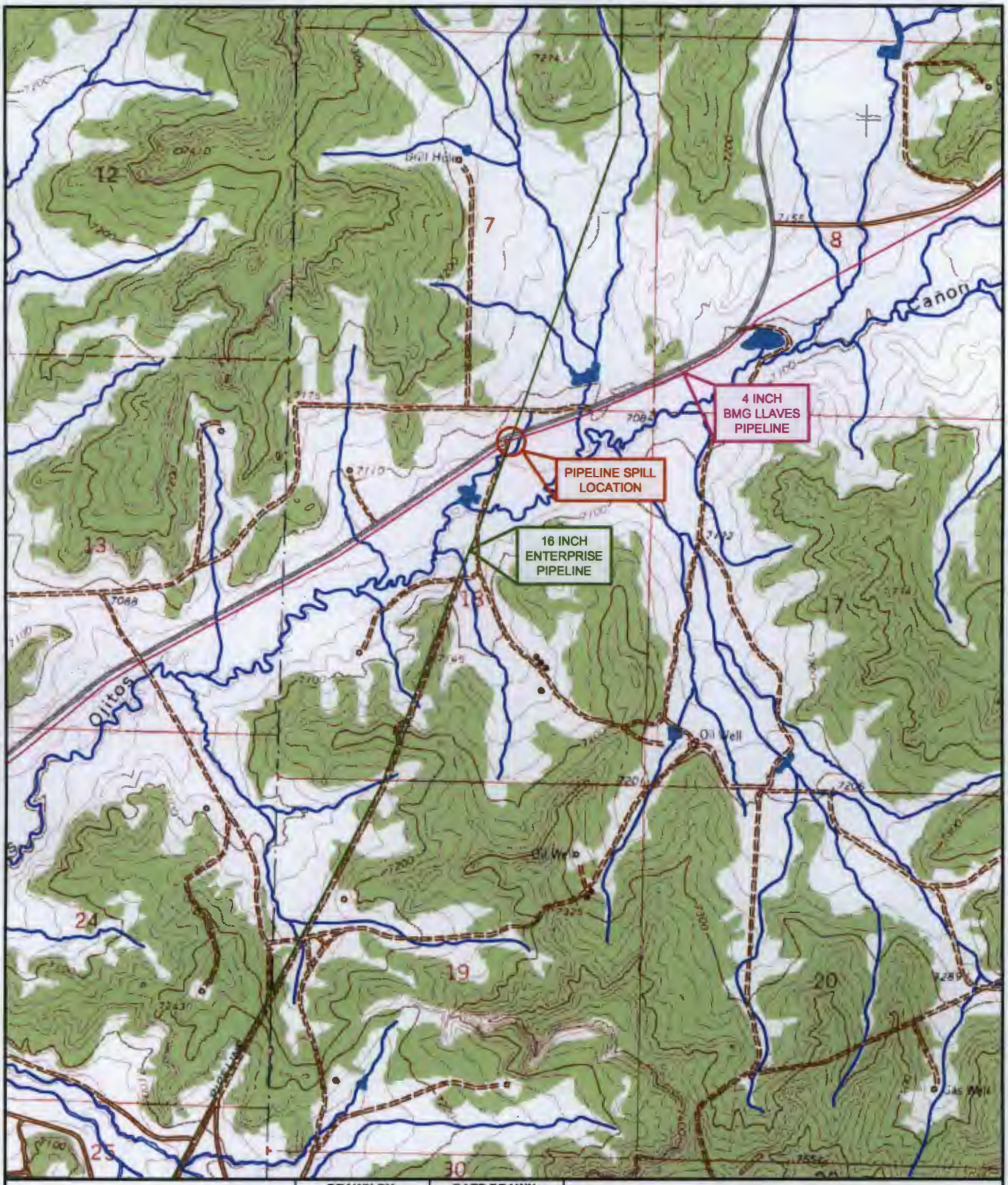
7.0 Certification

I, the undersigned, am personally familiar with the information submitted in this Site Investigation report, prepared on behalf of Benson-Montin-Greer for the April and May 2008 site activities associated with the 2008 Highway 537 Llaves pipeline spill in Rio Arriba County, New Mexico. I attest that it is true and complete to the best of my knowledge.

Lany Cupps
Project Manager

Ross Kennemer
Environmental Scientist

Elizabeth McNally, P.E.



DRAWN BY: Ross Kennemer	**DATE DRAWN:** January 21, 2008
REVISIONS BY: Nathan Willis	**DATE REVISED:** June 6, 2008
CHECKED BY: L. Cupps	**DATE CHECKED:** June 25, 2008
APPROVED BY: R. Kennemer	**DATE APPROVED:** June 25, 2008

AES
Animas Environmental Services, LLC

FIGURE 1
TOPOGRAPHICAL SITE LOCATION MAP
BMG
HIGHWAY 537 LLAVES PIPELINE OIL SPILL
NW ¼, NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO
N36°24'214", W107°11'053"

S:\ANIMAS 2000\2008 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\FIGURE 1 TOPOGRAPHICAL STIE LOCATION MAP

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

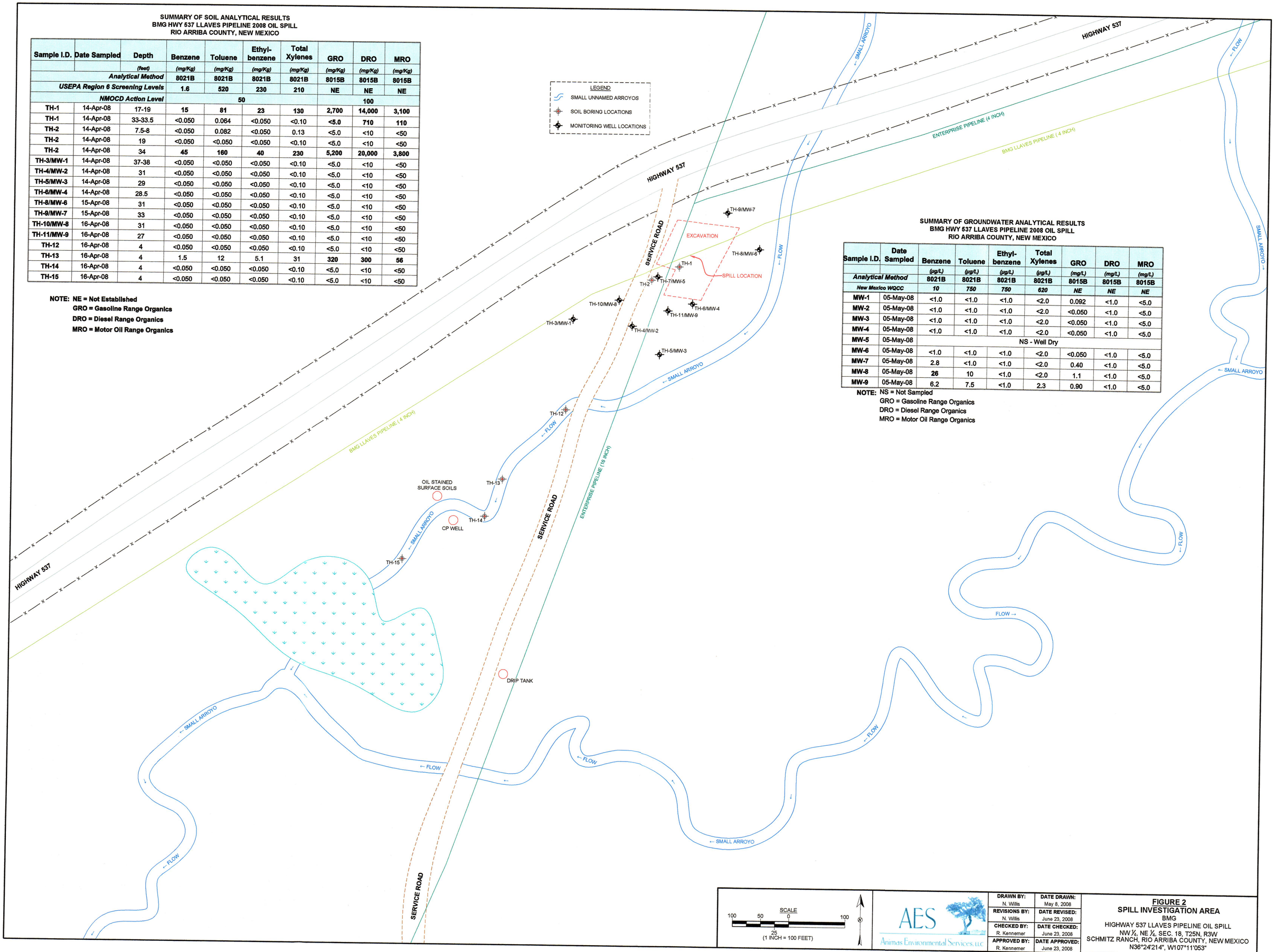
Sample I.D.	Date Sampled	Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
Analytical Method			8021B	8021B	8021B	8021B	8015B	8015B	8015B
USEPA Region 6 Screening Levels			1.6	520	230	210	NE	NE	NE
NMOCD Action Level			50				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

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

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

Sample I.D.	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)
Analytical Method		8021B	8021B	8021B	8021B	8015B	8015B	8015B
New Mexico WQCC		*10*	*750*	*750*	*620*	*NE*	*NE*	*NE*
MW-1	05-May-08	<1.0	<1.0	<1.0	<2.0	0.092	<1.0	<5.0
MW-2	05-May-08	<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-4	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	05-May-08	NS - Well Dry						
MW-6	05-May-08	<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-8	05-May-08	26	10	<1.0	<2.0	1.1	<1.0	<5.0
MW-9	05-May-08	6.2	7.5	<1.0	2.3	0.90	<1.0	<5.0

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



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

N

AES
Animas Environmental Services, LLC

DRAWN BY: N. Willis	DATE DRAWN: May 8, 2008
REVISIONS BY: N. Willis	DATE REVISED: June 23, 2008
CHECKED BY: R. Kennemer	DATE CHECKED: June 23, 2008
APPROVED BY: R. Kennemer	DATE APPROVED: June 23, 2008

FIGURE 2
SPILL INVESTIGATION AREA
BMG
HIGHWAY 537 LLAVES PIPELINE OIL SPILL
NW ¼, NE ¼, SEC. 18, T25N, R3W
SCHMITZ RANCH, RIO ARRIBA COUNTY, NEW MEXICO
N36°24'214", W107°11'053"

S:\ANIMAS 2000\2008 PROJECTS\BMG\HWY. 537 2008 SPILL\MAPS AND DRAWINGS\FIGURE 2 SPILL INVESTIGATION AREA

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

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

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

TABLE 2
SUMMARY OF GROUNDWATER MEASUREMENT AND WATER QUALITY DATA
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

Well ID	Date Sampled	Depth to Water (ft)	Surveyed TOC (ft)	GW Elev. (ft)	pH	Conductivity (mS)	DO (mg/L)	Temperature (C)	ORP (mV)
MW-1	05-May-08	31.45		-31.45	7.62	4.051	1.48	15.57	141.9
MW-2	05-May-08	29.01		-29.01	7.59	2.276	2.21	16.43	90.8
MW-3	05-May-08	29.49		-29.49	7.79	4.083	2.42	15.91	75.7
MW-4	05-May-08	32.74		-32.74	7.70	2.699	2.36	14.62	-37.5
MW-5	05-May-08				NS - WELL DRY				
MW-6	05-May-08	36.03		-36.03	7.73	1.764	2.43	13.95	87.3
MW-7	05-May-08	37.71		-37.71	NM - LOW YIELD				
MW-8	05-May-08	33.71		-33.71	NM - LOW YIELD				
MW-9	05-May-08	31.81		-31.81	7.85	1.955	2.59	15.01	-37.9

NOTE: NS = NOT SAMPLED
NM = NOT MEASURED

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BMG HWY 537 LLAVES PIPELINE 2008 OIL SPILL
Rio Arriba County, New Mexico

Sample I.D.	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	MRO
		(µg/L)	*(µg/L)*	*(µg/L)*	*(µg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
Analytical Method		**8021B**	**8021B**	**8021B**	**8021B**	**8015B**	**8015B**	**8015B**
New Mexico WQCC		***10***	***750***	***750***	***620***	***NE***	***NE***	***NE***
MW-1	05-May-08	<1.0	<1.0	<1.0	<2.0	0.092	<1.0	<5.0
MW-2	05-May-08	<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-4	05-May-08	<1.0	<1.0	<1.0	<2.0	<0.050	<1.0	<5.0
MW-5	05-May-08	NS - Well Dry						
MW-6	05-May-08	<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-8	05-May-08	**26**	10	<1.0	<2.0	1.1	<1.0	<5.0
MW-9	05-May-08	6.2	7.5	<1.0	2.3	0.90	<1.0	<5.0

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

PERMISSION TO ENTER PROPERTY

1. Craig Schmitz ("undersigned"), owner, hereby gives permission to Animas Environmental Services, LLC and its agents and subcontractors to enter the undersigned's property ("the property") located at BMG Hwy 537 2008 Spill, NW¼ NE¼ Sec. 18, T25N, R3W - Schmitz Ranch, Rio Arriba County, NM

2. This permission is contemplated to be used for the following activities which may be performed by Animas Environmental Services, LLC, its agents, representatives or subcontractors:

a. Having access to areas where soil and/or groundwater contamination may exist.

b. Investigation of soil and groundwater including, but not limited to, the installation and sampling of groundwater monitoring wells, the use of geophysical equipment, the use of an auger for collection of soil and sediment samples, the logging of existing wells, video taping, preparation of site sketches, taking photographs and the like.

c. Removal, treatment and/or disposal of contaminated soil and water, which may include the installation of recovery wells or other treatment systems.

3. Upon completion of the investigation, Animas Environmental Services, LLC will restore the property as near as practicable to its condition immediately prior to the commencement of such activities.

4. The granting of this permission by the undersigned is not intended, nor should it be construed, as an admission of liability on the part of the undersigned or the undersigned's successors and assigns for any contamination discovered on the property.

5. Animas Environmental Services, LLC, its agents, representatives or subcontractors may enter the property during normal business hours and may also make special arrangements to enter the property at other times after agreement from the undersigned.

6. Animas Environmental Services, LLC acknowledges and accepts its responsibility for damages caused by the acts of its employees while on the property.

Owner	Witness
2-14-08	
Date	Date

Accepted by Animas Environmental Services, LLC by the following authorized agent:

Company representative	Witness
2/11/08	2/11/08
Date	Date

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Animas Environmental Services, LLC

LOG OF: TH-1

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

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

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

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LOG OF: TH-2

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

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

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

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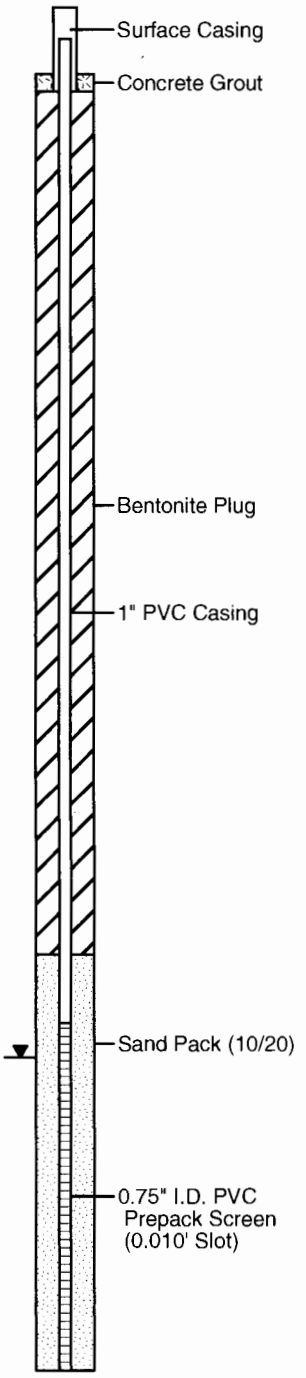
LOG OF: TH-3/MW-1

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

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

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



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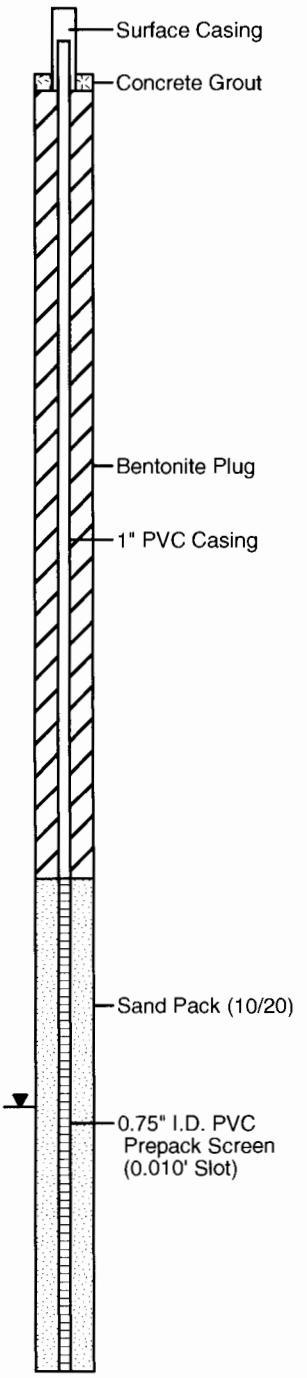
LOG OF: TH-4/MW-2

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

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

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



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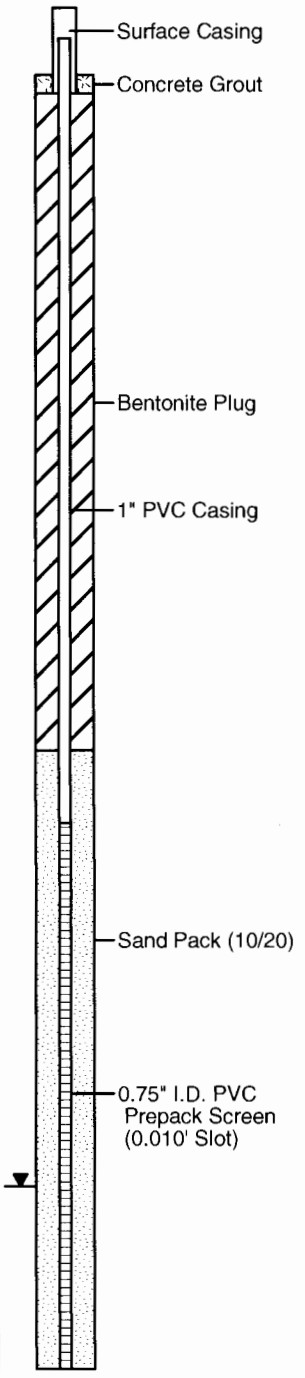
LOG OF: TH-5/MW-3

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

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

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



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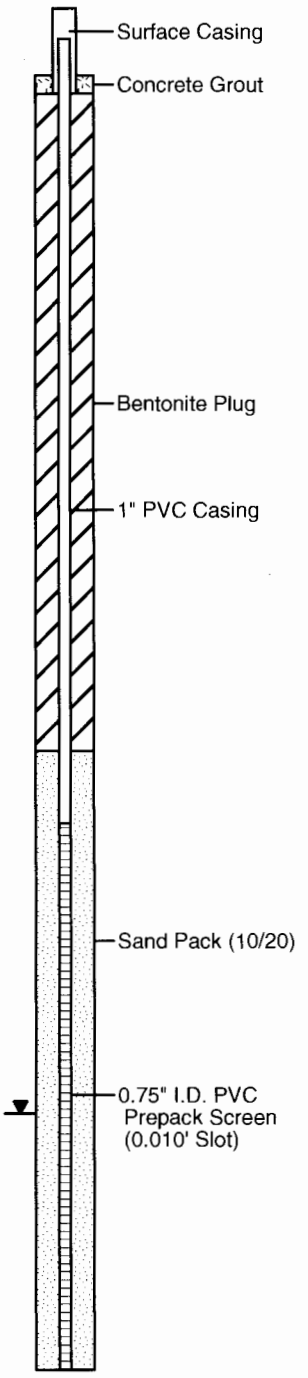
LOG OF: TH-6/MW-4

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

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

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



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Animas Environmental Services, LLC

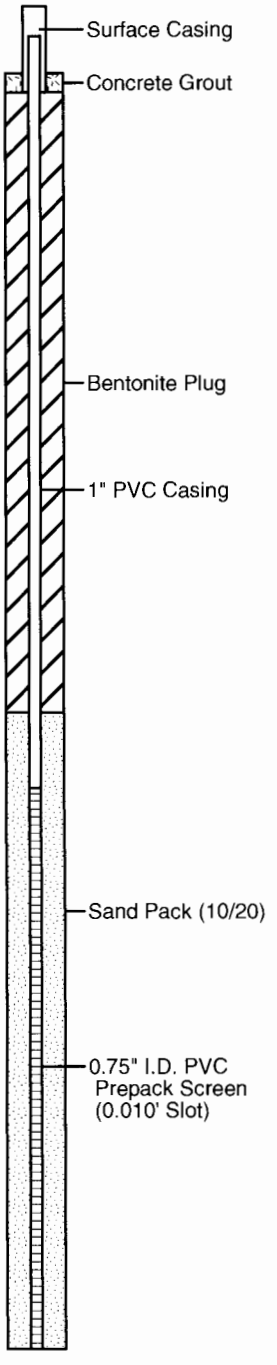
LOG OF: TH-7/MW-5

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

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

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

Well: TH-7/MW-5
Elev.: TBS



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Animas Environmental Services, LLC

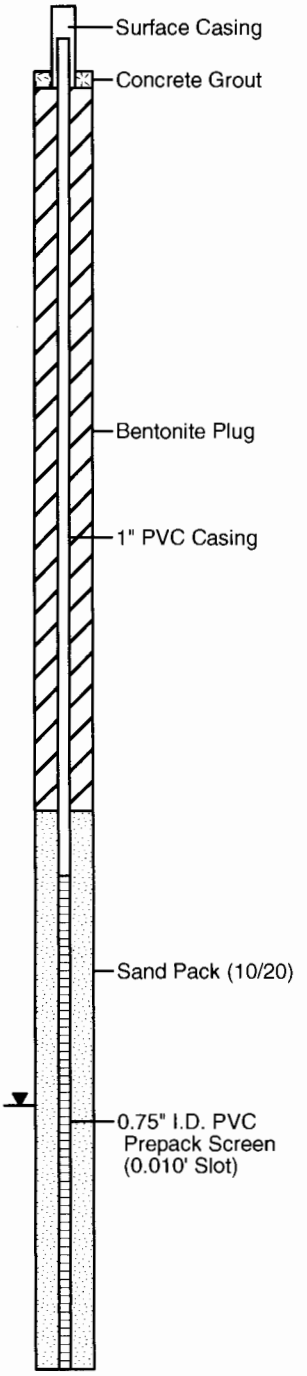
LOG OF: TH-8/MW-6

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

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

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

Well: TH-8/MW-6
Elev.: TBS



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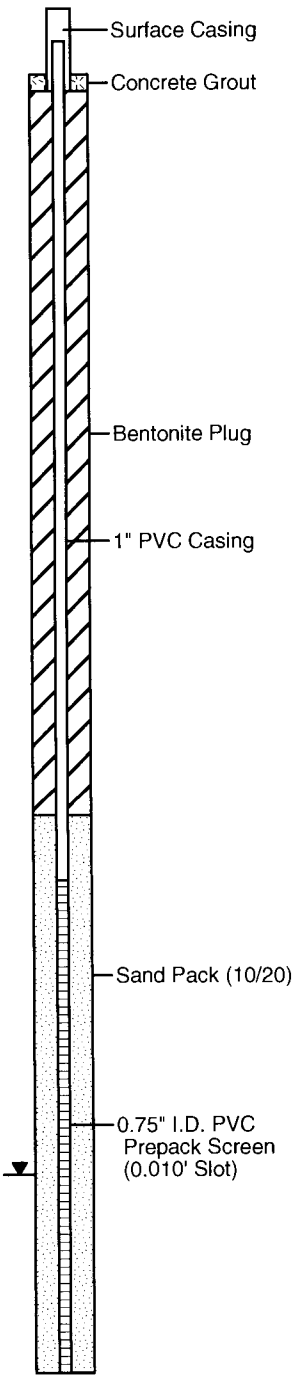
Animas Environmental Services, LLC

LOG OF: TH-9/MW-7

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

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

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



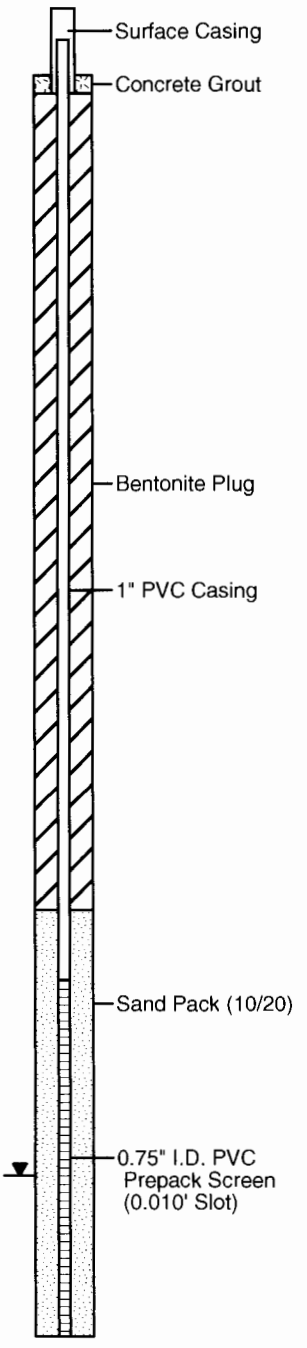
AES
Animas Environmental Services, LLC

LOG OF: TH-10/MW-8

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

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

Depth in Feet	Surf. Elev. 0	USCS	GRAPHIC	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC		SANDY CLAY, brown, loose, dry, no hydrocarbon odor or staining.		
2	-2					
4	-4	CL		CLAY, brown, dry, stiff, no hydrocarbon odor or staining.		
6	-6					
8	-8	SP		SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		6.3
10	-10					
12	-12					6.0
14	-14					
16	-16	SC		SANDY CLAY, tan-red, dry, no hydrocarbon odor or staining.		
18	-18					
20	-20	SP		SAND, well sorted, fine grained, tan-red, loose, dry, no hydrocarbon odor or staining.		34.0
22	-22	SC		SANDY CLAY, red-tan, dry, no hydrocarbon odor or staining.		
24	-24	SP		SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		3.8
26	-26					
28	-28	SP		SAND, well sorted, coarse grained, tan-red, moist, no hydrocarbon odor or staining.		2.5
30	-30	SP		SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		
32	-32	SC		SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		1.9
34	-34	SP		SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		
36		SC		SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		



06-25-2008 S:\Animas 2000\2008 Projects\BMG\Hwy. 537 2008 Spill\Boring Logs\TH-10_MW-8.bor

AES
Animas Environmental Services, LLC

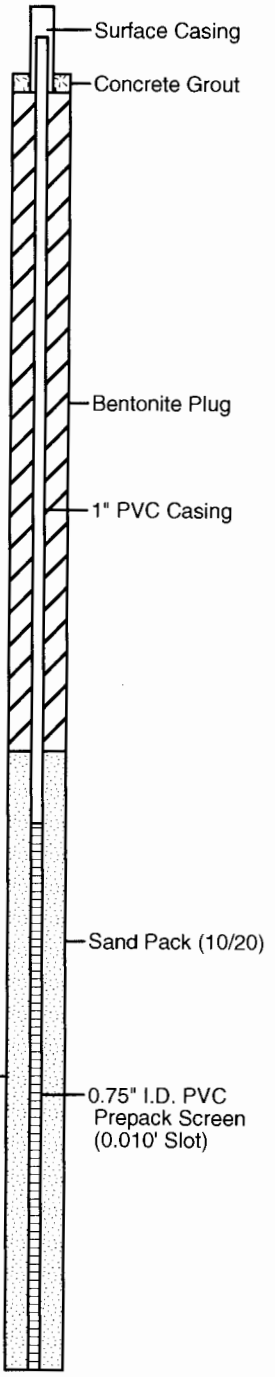
LOG OF: TH-11/MW-9

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

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

Depth in Feet	Surf. Elev. 0	USCS	DESCRIPTION	Blow Count	PID (ppm)
0	0	SC	SANDY CLAY, brown, loose, dry, no hydrocarbon odor or staining.		
6	-6	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		32.7
12	-12	SC	SANDY CLAY, tan-red, dry, no hydrocarbon odor or staining.		32.6
18	-18	SC			34.0
20	-20	SP	SAND, well sorted, coarse grained, tan-red, dry, no hydrocarbon odor or staining.		5.3
22	-22	SP	SAND, well sorted, fine grained, tan-red, dry, no hydrocarbon odor or staining.		2.3
28	-28	SC	SANDY CLAY, brown, saturated, no hydrocarbon odor or staining.		11.2
30	-30	SP	SAND, well sorted, fine grained, tan-red, saturated, no hydrocarbon odor or staining.		0.7
36	-36				

Well: TH-11/MW-9
Elev.: TBS



06-25-2008 S:\Animas 2000\2008 Projects\BMG\Hwy. 537 2008 Spill\Boring Logs\TH-11_MW-9.bor

AES
Animas Environmental Services, LLC

LOG OF: TH-12

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

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

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

AES
Animas Environmental Services, LLC

LOG OF: TH-13

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

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

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

AES
Animas Environmental Services, LLC

LOG OF: TH-14

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

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

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

AES
Animas Environmental Services, LLC

LOG OF: TH-15

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

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

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, April 24, 2008

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

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

RE: BMG Hwy 537 2008 Spill

Order No.: 0804217

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 17 sample(s) on 4/17/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

Hall Environmental Analysis Laboratory, Inc. Date: *24-Apr-08*

CLIENT: Animas Environmental Services
Project: BMG Hwy 537 2008 Spill
Lab Order: 0804217

CASE NARRATIVE

"S" flags denote that the surrogate was recovery was poor, or elevated, due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-10/MW-8 @31'
Lab Order:	0804217	**Collection Date:**	4/16/2008 10:00:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-01	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 1:12:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 1:12:45 AM
Surr: DNOP	97.4	61.7-135		%REC	1	4/23/2008 1:12:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2008 2:52:35 PM
Surr: BFB	109	84-138		%REC	1	4/22/2008 2:52:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/22/2008 2:52:35 PM
Toluene	ND	0.050		mg/Kg	1	4/22/2008 2:52:35 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2008 2:52:35 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2008 2:52:35 PM
Surr: 4-Bromofluorobenzene	94.1	81.4-117		%REC	1	4/22/2008 2:52:35 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-11/MW-9 @ 27'
Lab Order:	0804217	**Collection Date:**	4/16/2008 10:55:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-02	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 1:46:50 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 1:46:50 AM
Surr: DNOP	96.6	61.7-135		%REC	1	4/23/2008 1:46:50 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2008 3:22:39 PM
Surr: BFB	101	84-138		%REC	1	4/22/2008 3:22:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/22/2008 3:22:39 PM
Toluene	ND	0.050		mg/Kg	1	4/22/2008 3:22:39 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2008 3:22:39 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2008 3:22:39 PM
Surr: 4-Bromofluorobenzene	85.5	81.4-117		%REC	1	4/22/2008 3:22:39 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-12 @ 4'
Lab Order:	0804217	**Collection Date:**	4/16/2008 11:20:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-03	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 2:20:55 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 2:20:55 AM
Surr: DNOP	97.7	61.7-135		%REC	1	4/23/2008 2:20:55 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2008 3:52:36 PM
Surr: BFB	112	84-138		%REC	1	4/22/2008 3:52:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/22/2008 3:52:36 PM
Toluene	ND	0.050		mg/Kg	1	4/22/2008 3:52:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2008 3:52:36 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2008 3:52:36 PM
Surr: 4-Bromofluorobenzene	96.4	81.4-117		%REC	1	4/22/2008 3:52:36 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-13 @ 4'
Lab Order:	0804217	**Collection Date:**	4/16/2008 11:26:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-04	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	300	10		mg/Kg	1	4/23/2008 2:55:00 AM
Motor Oil Range Organics (MRO)	56	50		mg/Kg	1	4/23/2008 2:55:00 AM
Surr: DNOP	116	61.7-135		%REC	1	4/23/2008 2:55:00 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	320	50		mg/Kg	10	4/23/2008 12:06:08 PM
Surr: BFB	152	84-138	S	%REC	10	4/23/2008 12:06:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.5	0.50		mg/Kg	10	4/23/2008 12:06:08 PM
Toluene	12	0.50		mg/Kg	10	4/23/2008 12:06:08 PM
Ethylbenzene	5.1	0.50		mg/Kg	10	4/23/2008 12:06:08 PM
Xylenes, Total	31	1.0		mg/Kg	10	4/23/2008 12:06:08 PM
Surr: 4-Bromofluorobenzene	109	81.4-117		%REC	10	4/23/2008 12:06:08 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-14 @ 4'
Lab Order:	0804217	**Collection Date:**	4/16/2008 11:34:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-05	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 7:27:24 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 7:27:24 AM
Surr: DNOP	85.0	61.7-135		%REC	1	4/23/2008 7:27:24 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2008 4:52:35 PM
Surr: BFB	119	84-138		%REC	1	4/22/2008 4:52:35 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/22/2008 4:52:35 PM
Toluene	ND	0.050		mg/Kg	1	4/22/2008 4:52:35 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2008 4:52:35 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2008 4:52:35 PM
Surr: 4-Bromofluorobenzene	94.0	81.4-117		%REC	1	4/22/2008 4:52:35 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-15 @ 4'
Lab Order:	0804217	**Collection Date:**	4/16/2008 11:40:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-06	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 8:01:29 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 8:01:29 AM
Surr: DNOP	99.3	61.7-135		%REC	1	4/23/2008 8:01:29 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/22/2008 5:22:31 PM
Surr: BFB	112	84-138		%REC	1	4/22/2008 5:22:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/22/2008 5:22:31 PM
Toluene	ND	0.050		mg/Kg	1	4/22/2008 5:22:31 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/22/2008 5:22:31 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/22/2008 5:22:31 PM
Surr: 4-Bromofluorobenzene	96.6	81.4-117		%REC	1	4/22/2008 5:22:31 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-1 @ 17'-19'
Lab Order:	0804217	**Collection Date:**	4/14/2008 10:45:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-07	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	14000	200		mg/Kg	20	4/24/2008 9:06:15 AM
Motor Oil Range Organics (MRO)	3100	1000		mg/Kg	20	4/24/2008 9:06:15 AM
Surr: DNOP	0	61.7-135	S	%REC	20	4/24/2008 9:06:15 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	2700	500		mg/Kg	100	4/23/2008 12:36:05 PM
Surr: BFB	162	84-138	S	%REC	100	4/23/2008 12:36:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	15	5.0		mg/Kg	100	4/23/2008 12:36:05 PM
Toluene	81	5.0		mg/Kg	100	4/23/2008 12:36:05 PM
Ethylbenzene	23	5.0		mg/Kg	100	4/23/2008 12:36:05 PM
Xylenes, Total	130	10		mg/Kg	100	4/23/2008 12:36:05 PM
Surr: 4-Bromofluorobenzene	102	81.4-117		%REC	100	4/23/2008 12:36:05 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-1 @ 33'-33.5'
Lab Order:	0804217	**Collection Date:**	4/14/2008 11:00:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-08	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	710	10		mg/Kg	1	4/23/2008 8:35:35 AM
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	4/23/2008 8:35:35 AM
Surr: DNOP	129	61.7-135		%REC	1	4/23/2008 8:35:35 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 1:06:16 PM
Surr: BFB	111	84-138		%REC	1	4/23/2008 1:06:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 1:06:16 PM
Toluene	0.064	0.050		mg/Kg	1	4/23/2008 1:06:16 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 1:06:16 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 1:06:16 PM
Surr: 4-Bromofluorobenzene	92.5	81.4-117		%REC	1	4/23/2008 1:06:16 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-2 @ 7.5'-8'
Lab Order:	0804217	**Collection Date:**	4/14/2008 11:31:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-09	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 9:09:37 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 9:09:37 AM
Surr: DNOP	89.6	61.7-135		%REC	1	4/23/2008 9:09:37 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 1:36:13 PM
Surr: BFB	109	84-138		%REC	1	4/23/2008 1:36:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 1:36:13 PM
Toluene	0.082	0.050		mg/Kg	1	4/23/2008 1:36:13 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 1:36:13 PM
Xylenes, Total	0.13	0.10		mg/Kg	1	4/23/2008 1:36:13 PM
Surr: 4-Bromofluorobenzene	90.9	81.4-117		%REC	1	4/23/2008 1:36:13 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-2 @ 34'
Lab Order:	0804217	**Collection Date:**	4/14/2008 12:00:00 PM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-10	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	20000	500		mg/Kg	50	4/24/2008 10:14:32 AM
Motor Oil Range Organics (MRO)	3800	2500		mg/Kg	50	4/24/2008 10:14:32 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/24/2008 10:14:32 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	5200	500		mg/Kg	100	4/23/2008 2:06:28 PM
Surr: BFB	176	84-138	S	%REC	100	4/23/2008 2:06:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	45	5.0		mg/Kg	100	4/23/2008 2:06:28 PM
Toluene	160	5.0		mg/Kg	100	4/23/2008 2:06:28 PM
Ethylbenzene	40	5.0		mg/Kg	100	4/23/2008 2:06:28 PM
Xylenes, Total	230	10		mg/Kg	100	4/23/2008 2:06:28 PM
Surr: 4-Bromofluorobenzene	98.9	81.4-117		%REC	100	4/23/2008 2:06:28 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-2 @ 19'
Lab Order:	0804217	**Collection Date:**	4/14/2008 11:40:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-11	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 9:43:44 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 9:43:44 AM
Surr: DNOP	94.4	61.7-135		%REC	1	4/23/2008 9:43:44 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 2:36:30 PM
Surr: BFB	117	84-138		%REC	1	4/23/2008 2:36:30 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 2:36:30 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 2:36:30 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 2:36:30 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 2:36:30 PM
Surr: 4-Bromofluorobenzene	99.5	81.4-117		%REC	1	4/23/2008 2:36:30 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-3/ MW-1 @ 37'-38'
Lab Order:	0804217	**Collection Date:**	4/14/2008 1:20:00 PM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-12	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 10:17:51 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 10:17:51 AM
Surr: DNOP	94.6	61.7-135		%REC	1	4/23/2008 10:17:51 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 3:06:36 PM
Surr: BFB	114	84-138		%REC	1	4/23/2008 3:06:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 3:06:36 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 3:06:36 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 3:06:36 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 3:06:36 PM
Surr: 4-Bromofluorobenzene	98.1	81.4-117		%REC	1	4/23/2008 3:06:36 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-4/ MW-2 @ 31'
Lab Order:	0804217	**Collection Date:**	4/14/2008 2:17:00 PM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-13	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 10:52:13 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 10:52:13 AM
Surr: DNOP	102	61.7-135		%REC	1	4/23/2008 10:52:13 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 3:36:45 PM
Surr: BFB	100	84-138		%REC	1	4/23/2008 3:36:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 3:36:45 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 3:36:45 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 3:36:45 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 3:36:45 PM
Surr: 4-Bromofluorobenzene	84.5	81.4-117		%REC	1	4/23/2008 3:36:45 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-5/ MW-3 @ 29'
Lab Order:	0804217	**Collection Date:**	4/14/2008 3:30:00 PM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-14	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 11:26:20 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 11:26:20 AM
Surr: DNOP	96.0	61.7-135		%REC	1	4/23/2008 11:26:20 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 4:06:49 PM
Surr: BFB	104	84-138		%REC	1	4/23/2008 4:06:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 4:06:49 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 4:06:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 4:06:49 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 4:06:49 PM
Surr: 4-Bromofluorobenzene	88.2	81.4-117		%REC	1	4/23/2008 4:06:49 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-6/ MW-4 @ 28.5'
Lab Order:	0804217	**Collection Date:**	4/14/2008 4:43:00 PM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-15	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 12:00:41 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 12:00:41 PM
Surr: DNOP	101	61.7-135		%REC	1	4/23/2008 12:00:41 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 4:36:50 PM
Surr: BFB	92.9	84-138		%REC	1	4/23/2008 4:36:50 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 4:36:50 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 4:36:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 4:36:50 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 4:36:50 PM
Surr: 4-Bromofluorobenzene	78.0	81.4-117	S	%REC	1	4/23/2008 4:36:50 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-8/ MW-6 @ 31'
Lab Order:	0804217	**Collection Date:**	4/15/2008 9:50:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-16	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 12:35:05 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 12:35:05 PM
Surr: DNOP	94.5	61.7-135		%REC	1	4/23/2008 12:35:05 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 5:36:46 PM
Surr: BFB	113	84-138		%REC	1	4/23/2008 5:36:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 5:36:46 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 5:36:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 5:36:46 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 5:36:46 PM
Surr: 4-Bromofluorobenzene	97.5	81.4-117		%REC	1	4/23/2008 5:36:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *24-Apr-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TH-9/ MW-7 @ 33'
Lab Order:	0804217	**Collection Date:**	4/15/2008 10:57:00 AM
Project:	BMG Hwy 537 2008 Spill	**Date Received:**	4/17/2008
Lab ID:	0804217-17	**Matrix:**	MEOH (SOIL)

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/23/2008 2:18:57 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/23/2008 2:18:57 PM
Surr: DNOP	99.0	61.7-135		%REC	1	4/23/2008 2:18:57 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/23/2008 6:06:53 PM
Surr: BFB	107	84-138		%REC	1	4/23/2008 6:06:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	4/23/2008 6:06:53 PM
Toluene	ND	0.050		mg/Kg	1	4/23/2008 6:06:53 PM
Ethylbenzene	ND	0.050		mg/Kg	1	4/23/2008 6:06:53 PM
Xylenes, Total	ND	0.10		mg/Kg	1	4/23/2008 6:06:53 PM
Surr: 4-Bromofluorobenzene	92.1	81.4-117		%REC	1	4/23/2008 6:06:53 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Hwy 537 2008 Spill **Work Order:** 0804217

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-15702		*MBLK*			Batch ID:	**15702**	Analysis Date:		4/22/2008 3:24:11 PM
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: MB-15712		*MBLK*			Batch ID:	**15712**	Analysis Date:		4/22/2008 5:09:03 PM
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-15702		*LCS*			Batch ID:	**15702**	Analysis Date:		4/22/2008 3:59:05 PM
Diesel Range Organics (DRO)	51.14	mg/Kg	10	102	64.6	116			
Sample ID: LCS-15712		*LCS*			Batch ID:	**15712**	Analysis Date:		4/22/2008 5:44:01 PM
Diesel Range Organics (DRO)	51.10	mg/Kg	10	102	64.6	116			
Sample ID: LCSD-15702		*LCSD*			Batch ID:	**15702**	Analysis Date:		4/22/2008 4:34:06 PM
Diesel Range Organics (DRO)	44.94	mg/Kg	10	89.9	64.6	116	12.9	17.4	
Sample ID: LCSD-15712		*LCSD*			Batch ID:	**15712**	Analysis Date:		4/22/2008 6:18:56 PM
Diesel Range Organics (DRO)	57.50	mg/Kg	10	115	64.6	116	11.8	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-15667		*MBLK*			Batch ID:	**15667**	Analysis Date:		4/22/2008 2:22:26 PM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R28224**	Analysis Date:		4/23/2008 9:02:53 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-15667		*LCS*			Batch ID:	**15667**	Analysis Date:		4/22/2008 1:52:15 PM
Gasoline Range Organics (GRO)	25.70	mg/Kg	5.0	103	69.5	120			
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R28224**	Analysis Date:		4/23/2008 11:03:21 AM
Gasoline Range Organics (GRO)	25.98	mg/Kg	5.0	104	69.5	120			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Hwy 537 2008 Spill **Work Order:** 0804217

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: MB-15667		*MBLK*			Batch ID: **15667**		Analysis Date:	4/22/2008 2:22:26 PM	
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: 5ML RB		*MBLK*			Batch ID: **R28224**		Analysis Date:	4/23/2008 9:02:53 AM	
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-15667		*LCS*			Batch ID: **15667**		Analysis Date:	4/22/2008 1:52:15 PM	
Benzene	0.3267	mg/Kg	0.050	117	78.8	132			
Toluene	2.108	mg/Kg	0.050	104	78.9	112			
Ethylbenzene	0.4412	mg/Kg	0.050	110	69.3	125			
Xylenes, Total	2.591	mg/Kg	0.10	113	73	128			
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R28224**		Analysis Date:	4/23/2008 11:03:21 AM	
Benzene	0.3128	mg/Kg	0.050	112	78.8	132			
Toluene	2.148	mg/Kg	0.050	107	78.9	112			
Ethylbenzene	0.4437	mg/Kg	0.050	111	69.3	125			
Xylenes, Total	2.592	mg/Kg	0.10	113	73	128			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL | Date Received: 4/17/2008

Work Order Number 0804217 | Received by: AMF

Checklist completed by: Signature 4/17/08 Date | Sample ID labels checked by: TD Initials

Matrix: | Carrier name Client drop-off

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

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: per LC add (MW#) to Sample ID on labels

AT 4/18/08

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services, LLC

Address: 624 E. Comanche Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: lcupps@animasenvironmental.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name: BMG Hwy 537 2008 Spill

Project #: 080101

Project Manager: Ross Kennemer

Sampler: Ross Kennemer + Lany Cupps

On Ice: ☒ Yes ☐ No

Sample Temperature: 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0804217	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/14/08	1045	TH-1@ 17'-19'	2 vials + 1-4oz bar	MeOH/ice	7	X		X									
	1100	TH-1@ 33'-33.5'			8	X		X									
	1131	TH-2@ 7.5'-8'			9	X		X									
	1200	TH-2@ 34'			10	X		X									
	1140	TH-2@ 19'			11	X		X									
	1320	TH-3/mw-1@ 37'-38'			12	X		X									
	1417	TH-4/mw-2@ 31'			13	X		X									
	1530	TH-5/mw-3@ 29'			14	X		X									
	1643	TH-6/mw-4@ 28.5'			15	X		X									
4/15/08	0950	TH-8/mw-6@ 31'			16	X		X									
"	1057	TH-9/mw-7@ 33'	"	"	17	X		X									

Date:	Time:	Relinquished by:	Received by:	Remarks:
4-17-08	1435		4/17/08 1435	8021 BTEX 8015 TPH (C_6-C_{36})
Date:	Time:	Relinquished by:	Received by:	

Chain-of-Custody Record

Client: Animas Environmental Services, LLC

Address: 624 E. Comanche Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#: lcupps@animasenvironmental.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name: BMG Hwy 537 2008 Spill

Project #: 080101

Project Manager: Ross Kennemer

Sampler: Ross Kennemer + Lany Cupps

On Ice: ☒ Yes ☐ No

Sample Temperature: 5°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0804217	BTEX + ~~MTBE + TMB's (8021)~~	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/16/08	1000	TH-10/MW-8 @31'	2 vials + 1-4oz jar	MeOH/4°C	1	X		X									
	1055	TH-11/MW-9 @27'			2	X		X									
	1120	TH-12 @ 4'			3	X		X									
	1126	TH-13 @ 4'			4	X		X									
	1134	TH-14 @ 4'			5	X		X									
	1140	TH-15 @ 4'			6	X		X									

Date:	Time:	Relinquished by:	Received by:	Remarks:
4/17/08	1435		4/17/08 1435	8021 BTEX 8015 TPH (C6-C36)
Date:	Time:	Relinquished by:	Received by:	

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, May 13, 2008

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

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

RE: BMG Highway 537 2008 Spill

Order No.: 0805088

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 5/7/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-1
Lab Order:	0805088	**Collection Date:**	5/5/2008 11:38:00 AM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 2:40:33 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 2:40:33 PM
Surr: DNOP	117	58-140		%REC	1	5/9/2008 2:40:33 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.092	0.050		mg/L	1	5/8/2008 4:58:16 PM
Surr: BFB	88.0	79.2-121		%REC	1	5/8/2008 4:58:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/8/2008 4:58:16 PM
Toluene	ND	1.0		µg/L	1	5/8/2008 4:58:16 PM
Ethylbenzene	ND	1.0		µg/L	1	5/8/2008 4:58:16 PM
Xylenes, Total	ND	2.0		µg/L	1	5/8/2008 4:58:16 PM
Surr: 4-Bromofluorobenzene	86.7	68.9-122		%REC	1	5/8/2008 4:58:16 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-2
Lab Order:	0805088	**Collection Date:**	5/5/2008 12:42:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 3:14:41 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 3:14:41 PM
Surr: DNOP	120	58-140		%REC	1	5/9/2008 3:14:41 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	5/8/2008 5:28:16 PM
Surr: BFB	98.8	79.2-121		%REC	1	5/8/2008 5:28:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/8/2008 5:28:16 PM
Toluene	ND	1.0		µg/L	1	5/8/2008 5:28:16 PM
Ethylbenzene	ND	1.0		µg/L	1	5/8/2008 5:28:16 PM
Xylenes, Total	ND	2.0		µg/L	1	5/8/2008 5:28:16 PM
Surr: 4-Bromofluorobenzene	99.1	68.9-122		%REC	1	5/8/2008 5:28:16 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-3
Lab Order:	0805088	**Collection Date:**	5/5/2008 1:52:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 3:48:46 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 3:48:46 PM
Surr: DNOP	119	58-140		%REC	1	5/9/2008 3:48:46 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	5/8/2008 10:59:25 PM
Surr: BFB	98.0	79.2-121		%REC	1	5/8/2008 10:59:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/8/2008 10:59:25 PM
Toluene	ND	1.0		µg/L	1	5/8/2008 10:59:25 PM
Ethylbenzene	ND	1.0		µg/L	1	5/8/2008 10:59:25 PM
Xylenes, Total	ND	2.0		µg/L	1	5/8/2008 10:59:25 PM
Surr: 4-Bromofluorobenzene	98.0	68.9-122		%REC	1	5/8/2008 10:59:25 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Value above quantitation range
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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-4
Lab Order:	0805088	**Collection Date:**	5/5/2008 2:35:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-04	**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	5/9/2008 4:56:55 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 4:56:55 PM
Surr: DNOP	107	58-140		%REC	1	5/9/2008 4:56:55 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	5/8/2008 11:29:31 PM
Surr: BFB	96.1	79.2-121		%REC	1	5/8/2008 11:29:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/8/2008 11:29:31 PM
Toluene	ND	1.0		µg/L	1	5/8/2008 11:29:31 PM
Ethylbenzene	ND	1.0		µg/L	1	5/8/2008 11:29:31 PM
Xylenes, Total	ND	2.0		µg/L	1	5/8/2008 11:29:31 PM
Surr: 4-Bromofluorobenzene	94.8	68.9-122		%REC	1	5/8/2008 11:29:31 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-6
Lab Order:	0805088	**Collection Date:**	5/5/2008 3:05:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 5:31:15 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 5:31:15 PM
Surr: DNOP	110	58-140		%REC	1	5/9/2008 5:31:15 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	5/8/2008 11:59:39 PM
Surr: BFB	99.4	79.2-121		%REC	1	5/8/2008 11:59:39 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/8/2008 11:59:39 PM
Toluene	ND	1.0		µg/L	1	5/8/2008 11:59:39 PM
Ethylbenzene	ND	1.0		µg/L	1	5/8/2008 11:59:39 PM
Xylenes, Total	ND	2.0		µg/L	1	5/8/2008 11:59:39 PM
Surr: 4-Bromofluorobenzene	99.4	68.9-122		%REC	1	5/8/2008 11:59:39 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-7
Lab Order:	0805088	**Collection Date:**	5/5/2008 3:35:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-06	**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	5/9/2008 6:05:54 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 6:05:54 PM
Surr: DNOP	125	58-140		%REC	1	5/9/2008 6:05:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.40	0.050		mg/L	1	5/9/2008 12:29:45 AM
Surr: BFB	96.7	79.2-121		%REC	1	5/9/2008 12:29:45 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.8	1.0		µg/L	1	5/9/2008 12:29:45 AM
Toluene	ND	1.0		µg/L	1	5/9/2008 12:29:45 AM
Ethylbenzene	ND	1.0		µg/L	1	5/9/2008 12:29:45 AM
Xylenes, Total	ND	2.0		µg/L	1	5/9/2008 12:29:45 AM
Surr: 4-Bromofluorobenzene	96.6	68.9-122		%REC	1	5/9/2008 12:29:45 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-8
Lab Order:	0805088	**Collection Date:**	5/5/2008 1:12:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 6:40:34 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 6:40:34 PM
Surr: DNOP	127	58-140		%REC	1	5/9/2008 6:40:34 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1.1	0.050		mg/L	1	5/9/2008 12:59:51 AM
Surr: BFB	101	79.2-121		%REC	1	5/9/2008 12:59:51 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	26	1.0		µg/L	1	5/9/2008 12:59:51 AM
Toluene	10	1.0		µg/L	1	5/9/2008 12:59:51 AM
Ethylbenzene	ND	1.0		µg/L	1	5/9/2008 12:59:51 AM
Xylenes, Total	ND	2.0		µg/L	1	5/9/2008 12:59:51 AM
Surr: 4-Bromofluorobenzene	104	68.9-122		%REC	1	5/9/2008 12:59:51 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	MW-9
Lab Order:	0805088	**Collection Date:**	5/5/2008 12:10:00 PM
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	5/9/2008 7:15:14 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	5/9/2008 7:15:14 PM
Surr: DNOP	121	58-140		%REC	1	5/9/2008 7:15:14 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.90	0.050		mg/L	1	5/9/2008 1:29:55 AM
Surr: BFB	103	79.2-121		%REC	1	5/9/2008 1:29:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	6.2	1.0		µg/L	1	5/9/2008 1:29:55 AM
Toluene	7.5	1.0		µg/L	1	5/9/2008 1:29:55 AM
Ethylbenzene	ND	1.0		µg/L	1	5/9/2008 1:29:55 AM
Xylenes, Total	2.3	2.0		µg/L	1	5/9/2008 1:29:55 AM
Surr: 4-Bromofluorobenzene	105	68.9-122		%REC	1	5/9/2008 1:29:55 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-08*

CLIENT:	Animas Environmental Services	**Client Sample ID:**	TRIP BLANK
Lab Order:	0805088	**Collection Date:**	
Project:	BMG Highway 537 2008 Spill	**Date Received:**	5/7/2008
Lab ID:	0805088-09	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/9/2008 2:29:57 AM
Toluene	ND	1.0		µg/L	1	5/9/2008 2:29:57 AM
Ethylbenzene	ND	1.0		µg/L	1	5/9/2008 2:29:57 AM
Xylenes, Total	ND	2.0		µg/L	1	5/9/2008 2:29:57 AM
Surr: 4-Bromofluorobenzene	95.9	68.9-122		%REC	1	5/9/2008 2:29:57 AM

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

QA/QC SUMMARY REPORT

Client: Animas Environmental Services
Project: BMG Highway 537 2008 Spill **Work Order:** 0805088

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-15876		*MBLK*			Batch ID: **15876**		Analysis Date:		5/9/2008 12:24:06 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-15876		*LCS*			Batch ID: **15876**		Analysis Date:		5/9/2008 12:58:12 PM
Diesel Range Organics (DRO)	6.239	mg/L	1.0	125	74	157			
Sample ID: LCSD-15876		*LCSD*			Batch ID: **15876**		Analysis Date:		5/9/2008 1:32:19 PM
Diesel Range Organics (DRO)	6.346	mg/L	1.0	127	74	157	1.70	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0805088-02A MSD		*MSD*			Batch ID: **R28449**		Analysis Date:		5/8/2008 8:59:13 PM
Gasoline Range Organics (GRO)	0.5034	mg/L	0.050	101	80	115	1.40	8.39	
Sample ID: 5ML RB		*MBLK*			Batch ID: **R28449**		Analysis Date:		5/8/2008 8:52:35 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R28449**		Analysis Date:		5/8/2008 9:29:21 PM
Gasoline Range Organics (GRO)	0.5392	mg/L	0.050	108	80	115			
Sample ID: 0805088-02A MS		*MS*			Batch ID: **R28449**		Analysis Date:		5/8/2008 8:29:07 PM
Gasoline Range Organics (GRO)	0.4964	mg/L	0.050	99.3	80	115			
Method: EPA Method 8021B: Volatiles									
Sample ID: 0805088-01A MSD		*MSD*			Batch ID: **R28449**		Analysis Date:		5/8/2008 6:58:49 PM
Benzene	20.52	µg/L	1.0	102	85.9	113	0.439	27	
Toluene	20.63	µg/L	1.0	103	86.4	113	0.466	19	
Ethylbenzene	20.66	µg/L	1.0	103	83.5	118	0.242	10	
Xylenes, Total	62.00	µg/L	2.0	103	83.4	122	0.944	13	
Sample ID: 5ML RB		*MBLK*			Batch ID: **R28449**		Analysis Date:		5/8/2008 8:52:35 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R28449**		Analysis Date:		5/8/2008 7:28:52 PM
Benzene	20.96	µg/L	1.0	105	85.9	113			
Toluene	21.39	µg/L	1.0	107	86.4	113			
Ethylbenzene	21.72	µg/L	1.0	109	83.5	118			
Xylenes, Total	64.83	µg/L	2.0	108	83.4	122			
Sample ID: 0805088-01A MS		*MS*			Batch ID: **R28449**		Analysis Date:		5/8/2008 6:28:38 PM
Benzene	20.43	µg/L	1.0	102	85.9	113			
Toluene	20.53	µg/L	1.0	103	86.4	113			
Ethylbenzene	20.71	µg/L	1.0	103	83.5	118			
Xylenes, Total	62.58	µg/L	2.0	104	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ANIMAS ENVIRONMENTAL | Date Received: 5/7/2008

Work Order Number 0805088 | Received by: TLS

Checklist completed by: Tonya Shomin 5/7/08 (Signature / Date) | Sample ID labels checked by: AS (Initials)

Matrix: | Carrier name Greyhound

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

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Animas Environmental Services

Address: 624 E. Comanche St

Phone #: (505) 564-2281

email or Fax#: (505) 324-2022

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

Turn-Around Time:
☒ Standard ☐ Rush ______

Project Name: BMG
& Hwy 537 2008 spill

Project #:

Project Manager: Ross Kennemer

Sampler: Chad Dawson

On Ice: ☒ Yes ☐ No

Sample Temperature: 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0805088	BTEX [redacted] (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
5-5-08	1138	MW-1	4 x 40mL	HCl	1	X		X													
	1247	MW-2			2	X		X													
	1352	MW-3			3	X		X													
	1435	MW-4			4	X		X													
	1505	MW-6			5	X		X													
	1535	MW-7			6	X		X													
	1312	MW-8			7	X		X													
	1210	MW-9			8	X		X													
	0751	TripBlank	2 x 40mL		9	X															

Date	Time	Relinquished by	Received by
5-6-08	1330	Ross Kennemer	L. Cupps
5/6/08	1800	L. Cupps	Janie S. 5/7/08 810

Remarks:

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

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: Chad Dawson

Project No.: AES 080101
Date: 5-5-08
Time: 1029
Form: 1 of 1

Well I.D.	Time	Depth to NAPL (ft.)	Depth to Water (ft.)	NAPL Thickness (ft.)	Notes / Observations
MW-1	1031	—	31.45		
MW-2	1036	—	29.01		
MW-3	1040	—	29.49		
MW-~~3~~9	1044	—	31.81		
MW-5	1049	—	~~34.90~~		Dry: 34.90 TD
MW-~~3~~4	1055	—	32.74		
MW-~~3~~6	1100	—	36.03		
MW-~~3~~7	1104	—	37.71		
MW-~~3~~8	1112	—	39.71		

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

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-1

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 31.45 **Time:** 1031 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 31.45 **Time:** 1132 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 5-5-08
Arrival Time: 1130
Air Temp: 70°
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1138						SC	
1155	15.57	4.051	1.48	7.62	141.9		

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

Monitor Well No: **MW-2**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 29.01 **Time:** 1036 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.01 **Time:** 1252 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 5-5-08
Arrival Time: 1230
Air Temp: 65° F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1242						5C	
1300	16.43	2.276	2.21	7.59	90.8		

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-3**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: Purge
Well Diameter (in): 2
Initial D.T.W. (ft): 29.49 **Time:** 1040 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 29.49 **Time:** 1343 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 5-5-06
Arrival Time: 1343
Air Temp:
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1352						50	
1405	15.91	4.083	2.42	7.79	75.7		

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: MW-~~3~~ 4

Site:	Highway 537 Station Spill	**Project No.:**	AES 080101
Location:	Rio Arriba County, New Mexico	**Date:**	5-05-08
Project:	Groundwater Monitoring	**Arrival Time:**	1417
Sampling Technician:	Chad Dawson	**Air Temp:**	
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	
Initial D.T.W. (ft):	32.74	**Time:**	1055 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	32.75	**Time:**	1419 *(taken prior to purging well)*
Final D.T.W. (ft):		**Time:**	*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1435						5C	
1450	14.62	2.699	2.36	7.70	-37.5		

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

BTEX per EPA Method 8021 (2 40mL Vials)

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

Disposal of Purged Water:

Collected Samples Stored on Ice in Cooler:

Chain of Custody Record Complete:

Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM

Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: **MW-5**

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): Dry **Time:** 1049 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date:
Arrival Time:
Air Temp:
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

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

No Sample Well Dry

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: MW-2C

Site:	Highway 537 Station Spill	**Project No.:**	AES 080101
Location:	Rio Arriba County, New Mexico	**Date:**	5-5-08
Project:	Groundwater Monitoring	**Arrival Time:**	1455
Sampling Technician:	Chad Dawson	**Air Temp:**	65°F
Purge / No Purge:	No Purge	**T.O.C. Elev. (ft):**	
Well Diameter (in):	0.75	**Total Well Depth (ft):**	
Initial D.T.W. (ft):	36.03	**Time:** 1100	*(taken at initial gauging of all wells)*
Confirm D.T.W. (ft):	36.03	**Time:** 1457	*(taken prior to purging well)*
Final D.T.W. (ft):		**Time:**	*(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1505						SC	
1525	13.95	1.764	2.43	7.73	873		

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

BTEX per EPA Method 8021 (2 40mL Vials)

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

Disposal of Purged Water:

Collected Samples Stored on Ice in Cooler:

Chain of Custody Record Complete:

Analytical Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM

Equipment Used During Sampling: Keck Water Level, YSI Water Quality Meter, and New Disposable Bailer

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-~~8~~ 7

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 37.71 **Time:** 1106 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 37.73 **Time:** 1532 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 5-5-08
Arrival Time: 1530
Air Temp: 60°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1535						3 C	
1545			Low	Yield			
		Bailed Dry					

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Animas Environmental Services

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

Monitor Well No: MW-8

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: No Purge
Well Diameter (in): 0.75
Initial D.T.W. (ft): 33.71 **Time:** 1112 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): **Time:** *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Project No.: AES 080101
Date: 5-5-08
Arrival Time: 1303
Air Temp: 65°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1312						5C	
1328			Low yield				
			Bailed Dry in Attempt to get water quality				

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

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

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

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

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

Show purge volume calculation below:

MONITORING WELL SAMPLING RECORD

Monitor Well No: MW-~~4~~9

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

Site: Highway 537 Station Spill
Location: Rio Arriba County, New Mexico
Project: Groundwater Monitoring
Sampling Technician: Chad Dawson
Purge / No Purge: Purge
Well Diameter (in): 2

Project No.: AES 080101
Date: 5-5-~~0~~8
Arrival Time: 1201
Air Temp: 65°F
T.O.C. Elev. (ft):
Total Well Depth (ft):

Initial D.T.W. (ft): 31.81 **Time:** 1040 *(taken at initial gauging of all wells)*
Confirm D.T.W. (ft): 31.81 **Time:** 1203 *(taken prior to purging well)*
Final D.T.W. (ft): **Time:** *(taken after sample collection)*

Water Quality Parameters - Recorded During Well Purging

Time	Temp (deg C)	Conductivity (µS) (mS)	DO (mg/L)	pH	ORP (mV)	PURGED VOLUME (see reverse for calc.)	Notes/Observations
1210						5C	
1229	15.01	1.955	2.59	7.85	-37.9		

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

BTEX per EPA Method 8021 (2 40mL Vials)
TPH C_6-C_{36} per EPA Method 8015B (2 40mL Vials)

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

Notes/Comments

revised: 05/23/07

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

Well Volume = (h)(cf)

where:

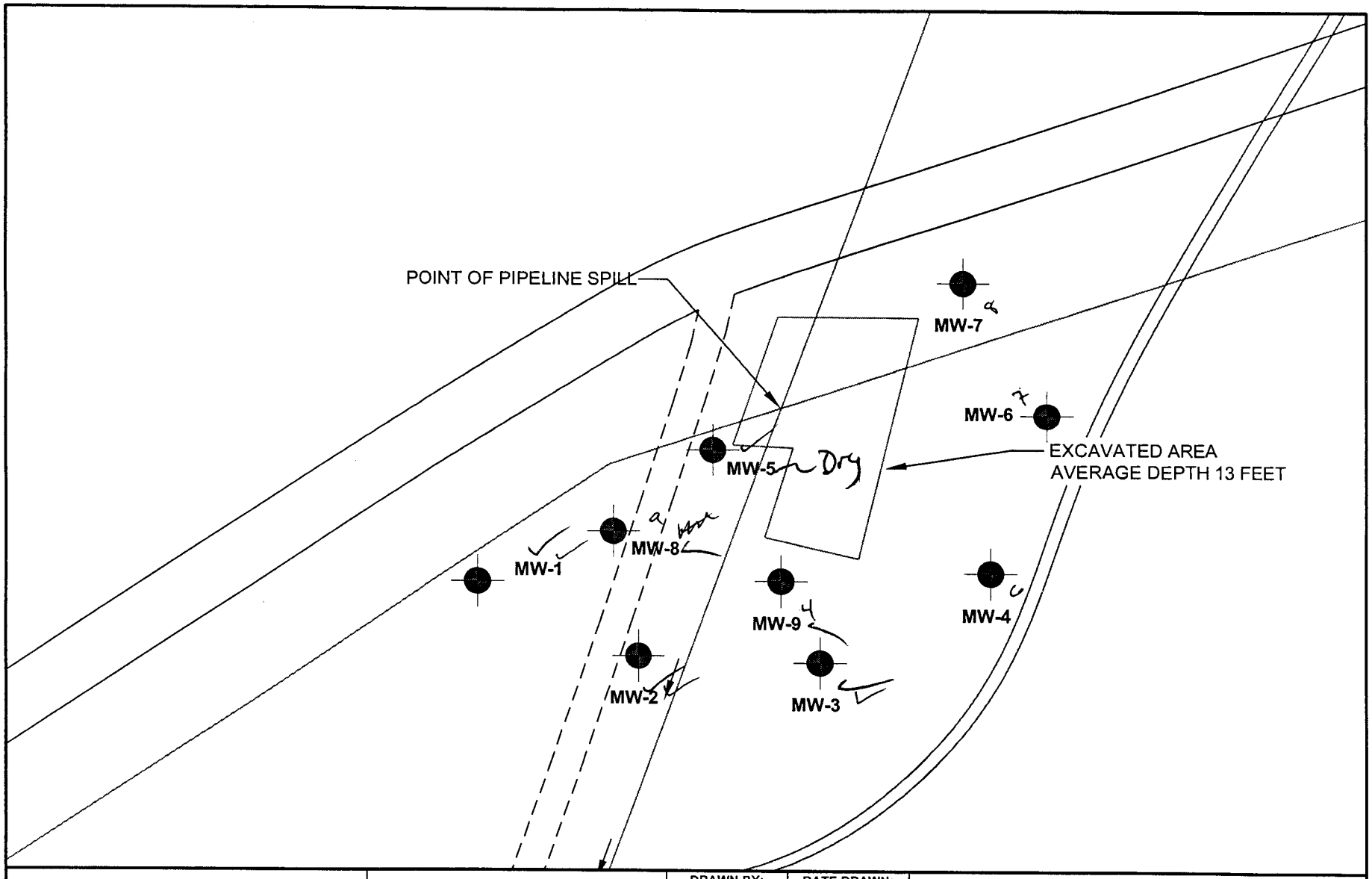
h = height of water column (feet)
cf = gallons/foot based on well diameter shown below

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

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

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

Show purge volume calculation below:



AES
Animas Environmental Services, LLC

DRAWN BY: Nathan Willis	DATE DRAWN: January 2, 2008
REVISIONS BY: Nathan Willis	DATE REVISED: April 28, 2008
CHECKED BY: Ross Kennemer	DATE CHECKED: January 2, 2008
APPROVED BY: Ross Kennemer	DATE APPROVED: January 2, 2008

FIGURE 1
TOPOGRAPHICAL SITE LOCATION MAP
JAYNES CORP
BLOOMFIELD FIRE STATION
915 NORTH FIRST STREET
SE ¼, SW ¼, SEC. 15, T29N, R11W
BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO
N36°43'07.606", W107°58'43.838"

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