ExxonMobil Pipeline Company 800 Bell Street Post Office Box 2220 Houston, Texas 77252-2220 Karen R. Bailor Manager Operations Integrity Department

ExonMobil *Pipeline* 

December 29, 2003

Mr. Chris Williams District Supervisor Oil Conservation Division, District 1 1625 N. French Drive Hobbs, New Mexico 88240

Re: 8" Crossroads Loop Line August 2, 1995 Release Site NMOCD Report #: 315-95-058

Dear Mr. Williams:

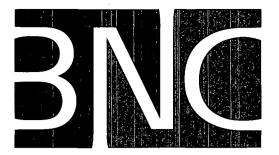
Pursuant to the landowners request to define the vertical and horizontal extent of hydrocarbon impact at the subject property identified above, ExxonMobil Pipeline Company has conducted an additional investigation. The results of this investigation are summarized in the attached report prepared by BNC Environmental. This report indicates the regulatory cleanup standard has been met and hydrocarbon levels at the site are attenuating naturally.

If you have any questions regarding the investigation or findings, please do not hesitate to contact Marshall Smith at (713) 656-4629.

Karn Bailor

Attachment

cc: Mr. Darr Angell, PO Box 190, Lovington, NM 88260 (Attachment sent under separate cover)



# **BNC Environmental Services, Inc.**

# SOIL ASSESSMENT REPORT

EXXONMOBIL PIPELINE COMPANY MARCH 9, 1995 CRUDE OIL PIPELINE RELEASE CROSSROADS TO SEMINOLE RELEASE SITE LEA COUNTY, NEW MEXICO

December 15, 2003



EphenMobil Pipeline OGRID = 193287 Jacility = FPAC 0602027133 Vincident = nPAC 06020271389 application = pPACO 602027632



# SOIL ASSESSMENT REPORT

# EXXONMOBIL PIPELINE COMPANY MARCH 9, 1995 CRUDE OIL PIPELINE RELEASE CROSSROADS TO SEMINOLE RELEASE SITE LEA COUNTY, NEW MEXICO

**PREPARED FOR:** 

Mr. Marshall H. Smith EXXONMOBIL PIPELINE COMPANY 800 Bell Street Houston, Texas 77002

# PREPARED BY:

BNC Environmental Services, Inc. 2135 S Loop 250 West Midland, Texas 79703

Mian H. M.

William H. Murley, P.G., Project Geologist

Aaron M. Hale, P.G., Project Geologist

la

Thomas C. Larson, P.G., Senior Geologist

111.	SUMMARY OF FINDINGS	4
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# **FIGURES**

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FIGURE 1	Site Location Map
	Site Details Map – Soil Boring Locations
	Soil Boring Legend and Notes
	Logs and Details for Soil Borings B-1 through B-4
	Logs and Details for Soil Borings B-5 through B-8
	Logs and Details for Soil Borings B-9 through B-12
	Logs and Details for Soil Borings B-13 through B-15

# TABLES

TABLE I	Summary of Analytical Results –
	Confirmation Soil Samples
TABLE II	95% Upper Confidence Limit

# **APPENDICES**

APPENDIX A Laboratory Analytical Reports APPENDIX B Daily Drilling Sheets The ExxonMobil Pipeline Company Crossroads to Seminole crude oil release site (here after referred to as "Site") is located approximately fifteen miles northeast of Lovington, New Mexico. The site is specifically located in the NW/4 of the SW/4, Section 33, Township 14S, Range 38E, Lea County, New Mexico on property owned by Mr. Darr Angell (FIGURE 1).

BNC understands that a crude oil release originally estimated as seventy-five barrels with no oil recovered was discovered at the Site on March 9, 1995. On November 27, 1995 a Plan of Intent of Remediation was provided to the New Mexico Oil Conservation Division (NMOCD), Hobbs, New Mexico office and a copy sent to the landowner.

In August 1995, R.E. Environmental Services, Inc. (RE) removed soils from the remedial excavation six feet below ground surface (bgs) in a surface area measuring 275 feet by 75 feet. Eight confirmation samples collected from the remedial excavation were analyzed with a field instrument for Total Petroleum Hydrocarbon (TPH) concentrations. The sampled soils exhibited TPH concentrations ranging from 430 parts per million (ppm) to 8,080 ppm, with an average concentration of 3,011 ppm.

The excavated soils were apparently spread out along the remedial excavation and pipeline right-of-way (ROW) in an area measuring 60 feet by 1,350 feet. Twenty-four samples of excavated soils were analyzed for TPH concentrations. Soil samples exhibited TPH concentrations ranging from 1,260 ppm to 4,790 ppm, with an average concentration of 3,604 ppm.

At the request of ExxonMobil Pipeline Company, BNC Environmental Services, Inc. (BNC) was contracted to further investigate the area of the remedial excavation and mixed soils along the ROW. On August 19, 2003 Mr. Tom Larson and Mr. Robbie Walker with BNC conducted a site visit for the purpose of staking out proposed boring locations around the site.

On October 3, 2003 Mr. Aaron Hale of BNC met with personnel from White Drilling Company, Inc. from Clyde, Texas at the site for the purpose of advancing fifteen borings. Samples were collected continuously during the drilling operations (FIGURE 2). The samples were assessed for the presence of hydrocarbons using visual and olfactory screening. A portion of each sample was further evaluated using a Photo-ionization detector (PID). Selected samples were collected for laboratory analyses at SPL Laboratories in Houston, Texas for the presence of TPH using EPA Method SW8015B (modified). Additionally, six selected samples were analyzed for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) using EPA Method SW8021B. Laboratory results are presented in TABLE I. Certified copies of laboratory reports and chain-of-custody documentation are presented in APPENDIX A. Soil Borings Legends and Notes are presented in FIGURE 3, Soil Boring Logs and Details are presented in FIGURES 4 through 7. Daily Drilling Sheets are presented in APPENDIX B.

Analytical results demonstrate crude oil-affected soils above NMOCD clean up goals have been delineated both horizontally and vertically at this site. Of the 15 borings drilled as part of this investigation, one location exhibited soil concentrations above

NMOCD regulatory limits. Boring SB-4 samples at 2-4' and 5-7' had TPH concentrations of 1,500 mg/Kg and 1,000.85 mg/Kg, respectively, that were above the 1,000 mg/Kg clean up goal. Soil samples collected from the remaining 14 soil borings did not exhibit hydrocarbon concentrations above regulatory levels. Comparison of site analytical data from 1995 to 2003 demonstrates that TPH concentrations have decreased significantly over time.

# REGULATORY FRAMEWORK AND SITE CLASSIFICATION

The NMOCD has regulatory jurisdiction over oil and gas production operations, including crude oil pipeline spills and associated closure activities in the State of New Mexico. This project is being conducted under the regulatory guidance of the NMOCD, which requires that soil affected by a crude oil spill be remediated in such a manner that the potential for future affects to groundwater or the environment are minimized. The NMOCD cleanup levels are determined on a site-by-site basis and are based on ranking criteria, which is outlined in the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases", dated August 13, 1993. These ranking criteria guidelines are based on site characteristics consisting of depth to groundwater, wellhead protection (useable water sources), and distance to surface water.

In general, the surface of the subject site and adjacent properties consists of short native range grasses with broken caliche fragments spread across a flat topographic plain (a.k.a. the Llano Estacado, or "staked plains"). Adjacent land use in the immediate area surrounding the site is a combination of rangeland and oil leases. Surface water and wellhead protection areas are greater than 1,000 feet from the release site. Windmills were observed in the vicinity at the approximate locations indicated on the topographic map.

Criteria	Site Characteristics	Ranking Score
Depth to Ground Water	50-99 feet	10
Wellhead Protection Area	>1,000 feet	0
Distance to Surface Water	>1,000 feet	0
	Total Ranking Score	10

The table below illustrates the ranking criteria used by the NMOCD and associated site specific characteristics indicated for this pipeline release site.

Evaluation of the New Mexico Water Resources Atlas, New Mexico State Engineers Office, Framework to a State Water Plan (December 2002) was utilized to assess the depth-to-groundwater at the site. Based on an approximate surface elevation of 3,775 feet (msl) and the published elevation of the underlying Ogallala Aquifer (plate 10) of 3,700 feet, the depth-to-groundwater at the site is calculated at 75 feet below the ground surface. Consequently, interpreted site conditions and the NMOCD ranking criteria (score 10) indicate that maximum soil concentrations of 1,000 ppm TPH, 10 ppm Benzene and 50 ppm total BTEX are appropriate as guidelines for soil assessment and remediation purposes for the Site. At this time, the locations of any wellhead protection areas within 1,000 feet on the site have not been identified.

# Field Sampling and Laboratory Protocol

Soil samples were obtained by personnel utilizing appropriate sampling tools and wearing clean, disposable gloves. The sampling equipment was cleaned with Alconox detergent and rinsed with distilled water between sample locations. Each sample selected for laboratory analysis was placed in a new sterile glass container equipped with a teflon-lined lid furnished by the analytical laboratory. The containers were filled to capacity with soil limiting the amount of head-space present. Each container was labeled, placed on ice in an insulated cooler, and chilled to a temperature of approximately 40°F (4°C). The cooler was sealed for shipment to the laboratory. Proper chain of custody documentation accompanied the samples to the laboratory. Soil samples obtained from the borings were submitted to SPL Laboratories in Houston, Texas for analysis

The laboratory was responsible for proper analytical QA/QC procedures. These procedures are generally transmitted with the laboratory reports or are on file at the laboratory. Soil samples obtained from the borings were analyzed for TPH by EPA Modified Method 8015B (Diesel Range Organics and Gas Range Organics) and selected samples for BTEX by EPA Method 8021B. Soil samples were analyzed within 14 days after their collection.

# **Confirmation Soil Sampling and Analytical Results**

On October 3, 2003 15 soil borings were advanced to depths ranging from five feet below ground surface (bgs) in the soil stockpile areas to 10 to 25 feet bgs in the former remedial excavation (FIGURE 2). The exact location of the former excavation was not visible at the surface. The landowner and EMPCo records disagree with each other as to the location of the former remedial excavation. Borings to a depth of 25' bgs were planned in each location to both identify formerly disturbed soil consistent with an excavation and to vertically delineate any possible hydrocarbon impacts below the former remedial excavation. Field observations determined that the landowner was accurate with his assessment for the location of the remedial excavation.

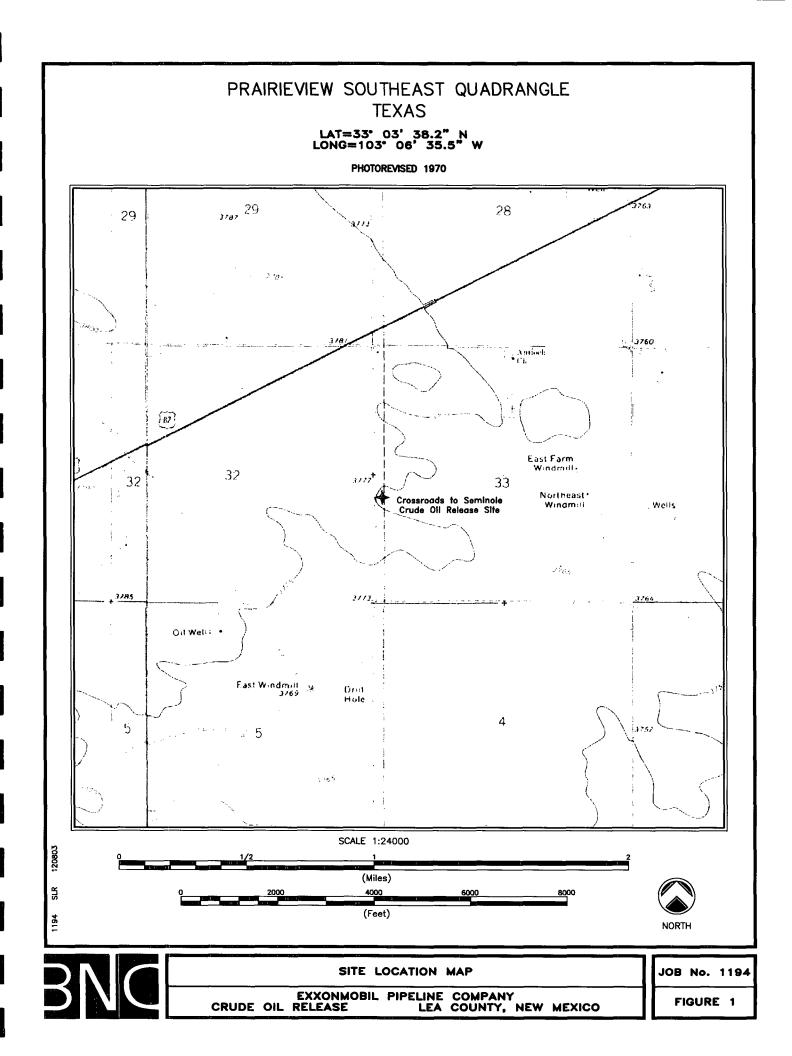
Continuous samples were collected using a 24-inch, stainless steel, split spoon sampler which was hydraulically advanced ahead of the borehole to obtain undisturbed samples. The samples were collected and analyzed in the field using visual and olfactory screening. Additionally the samples were analyzed using a Photo-ionization detector (PID) to test for the presence of hydrocarbons in the soil. Select soil samples were submitted for laboratory analyses for TPH with six of these samples additionally analyzed for BTEX. Samples selected for laboratory analyses were based on elevated PID readings and/or visual and olfactory observations. Laboratory results indicated that all the samples had concentrations of analytes below the NMOCD recommended remediation levels with the exception of sample SB-4 (2-4'), and SB-4 (5-7'). The TPH concentrations in the DRO range in these two samples were 1,500 mg/Kg and 1,000 mg/Kg respectively. Groundwater was not encountered in any of the borings at this Site.

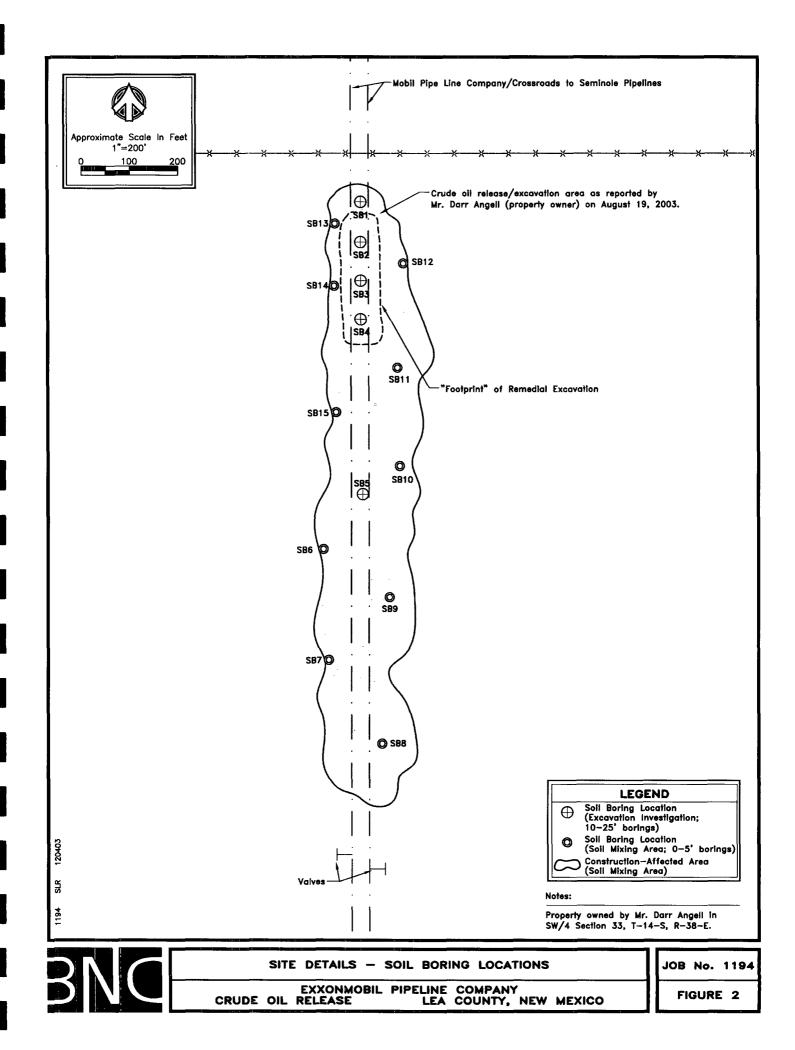
The extent of hydrocarbon impacts were defined both vertically and horizontally. All other samples exhibited TPH and BTEX soil concentrations either below detection limits or below NMOCD regulatory limits. Further statistical analysis determined the 95% upper confidence limit to be 417.37 mg/Kg for Total TPH (TABLE II). Laboratory results

are presented in TABLE I, certified copies of laboratory reports and chain-of-custody documentation is presented in APPENDIX A. Soil borings legends and Notes are presented in FIGURE 3. Logs and Details of the Soil Borings are presented in FIGURES 4 through 7.

Based on soil assessment activities performed to date, BNC presents the following summary of findings.

- A crude oil release was discovered at Mobil Pipe Line Company's Crossroads to Seminole pipeline on March 9, 1995. The leak source was identified and the pipeline was repaired. RE removed soils from a remedial excavation to a depth of six feet bgs in a surface area measuring 275 feet by 75 feet. Eight confirmation samples collected from the remedial excavation were analyzed with a field instrument for TPH concentrations. The sampled soils exhibited TPH concentrations ranging from 470 ppm to 8,080 ppm, with an average concentration of 3,011 ppm.
- ExxonMobil Pipeline Company contracted BNC to advance 15 soil borings to delineate any hydrocarbon impacted soils at the site in October 2003. The boreholes ranged in depth from five feet bgs in the shallow mixing area to 10 to 25 feet bgs in the former remedial excavation area. Samples collected from the October 2003 soil boring activities were examined in the field using visual and olfactory screening. Additionally the samples were screened using an PID. Selected samples were collected for laboratory analyses for TPH and six samples were collected for laboratory BTEX analyses.
- Two soil samples (one soil boring location) were above NMOCD soil assessment and remediation levels for TPH. Soil samples collected from the remaining 14 soil borings did not exhibit hydrocarbon concentrations above regulatory levels. Further statistical calculations determined the 95 percent Upper Confidence Limit for Total TPH to be 417.37 mg/Kg.
- The maximum TPH soil concentration during backfilling activities in 1995 was 4,790 mg/Kg. The maximum TPH soil concentration encountered during the October 2003 soil boring investigation was 1,500 mg/Kg.
- Comparison of site soil analytical data from 1995 to 2003 demonstrates that TPH concentrations have decreased significantly over time.
- Based on the analysis of the soil samples obtained in October 2003, the vertical and horizontal extent of hydrocarbon-affected soils have been delineated to regulatory levels.





X

Silty Sand: fine to very fine grained, moderate to well consolidation (Caliche/Limestone); Very Pale Orange (10YR 8/2)
Sand/Silty Sand/Caliche Nodules: (Backfill) does not appear native, very loose, keeps sluffing
Silty Sand: fine to very fine grained, 10% caliche nodules; Moderate Brown (5YR 4/4)

- Indicates sample interval. Sample was obtained by rock core tool.
  - Indicates sample interval. Sample was obtained by split spoon.

) indicates sample selected for laboratory analysis.

8 Benzene Concentration (mg/Kg)

BTEX Benzene, Toluene, Ethylbenzene and Xylenes Concentration (mg/Kg) TPH Total Petroleum Hydrocarbons Concentration (mg/Kg) (GRO/DRO)

PID Head-space readings in ppm obtained with a photo-ionization detector.

#### NOTES

- 1. The soil borings were drilled on October 3, 2003, using an air rotary drill rig.
- 2. The lines between soil types indicated on the logs represent approximate boundaries. Actual transitions may be gradual.
- 3. The depths indicated are referenced from the ground surface.
- 4. Soil borings were grouted with a cement and bentonite mixture.



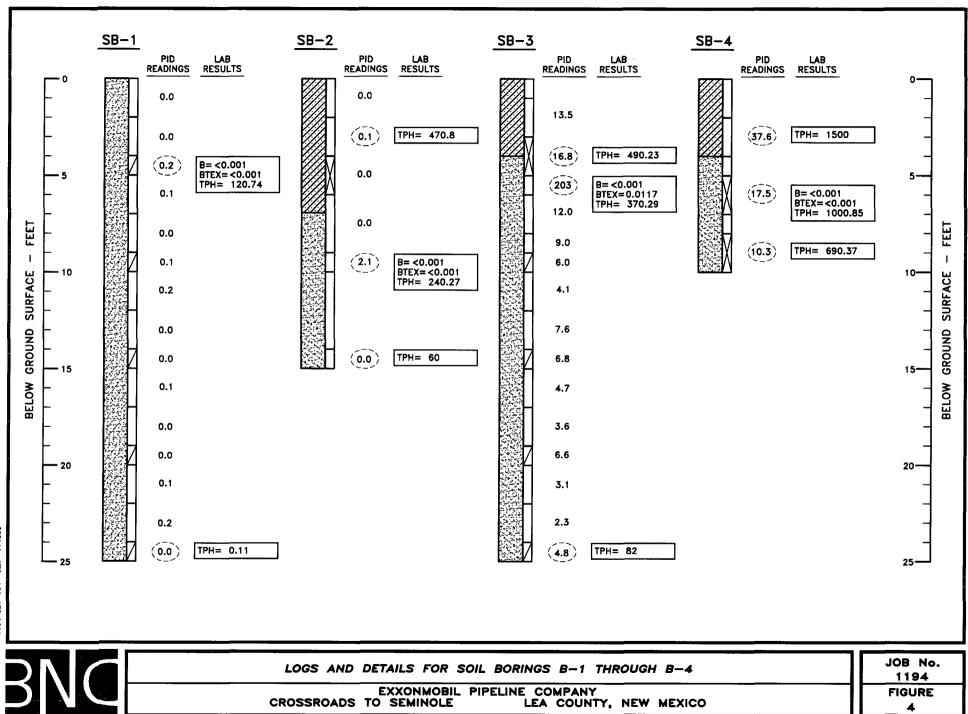
120403

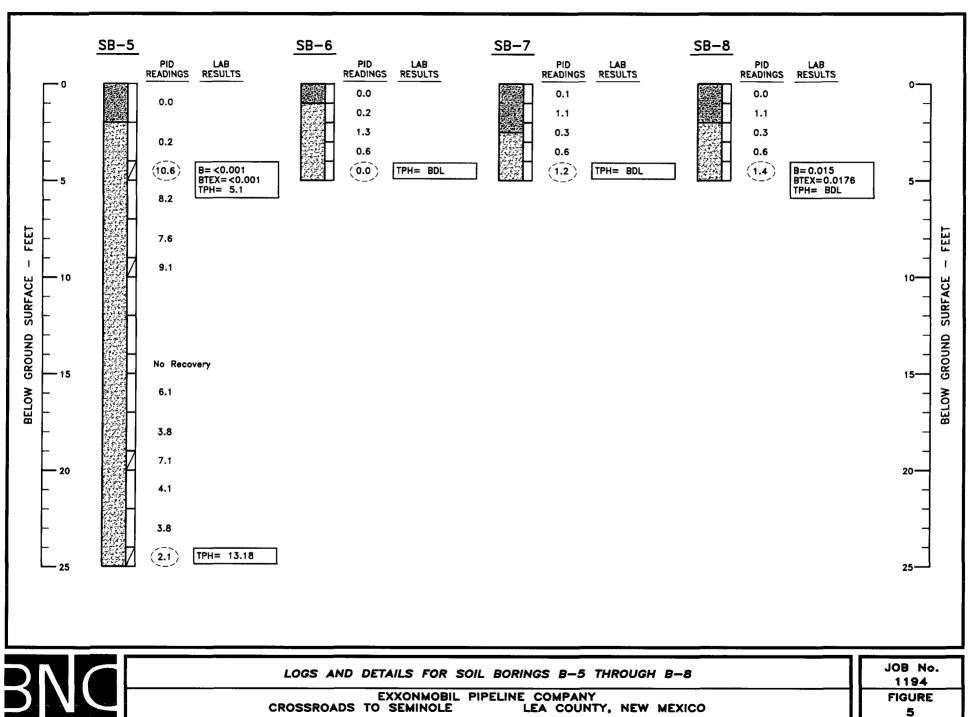
ž

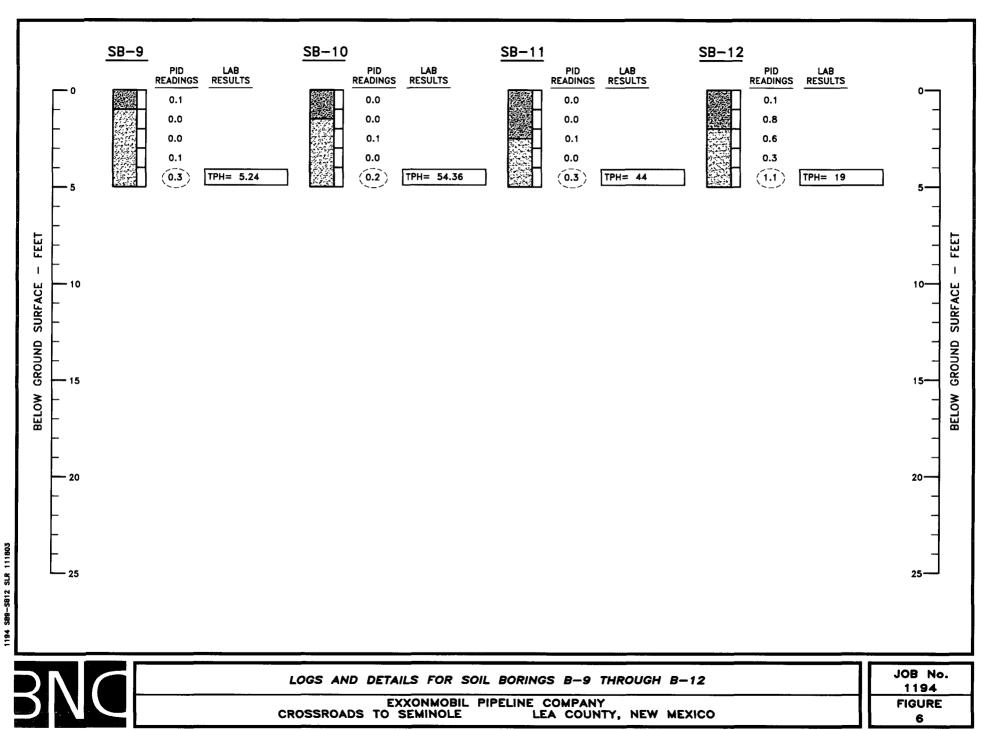
1194 borlog

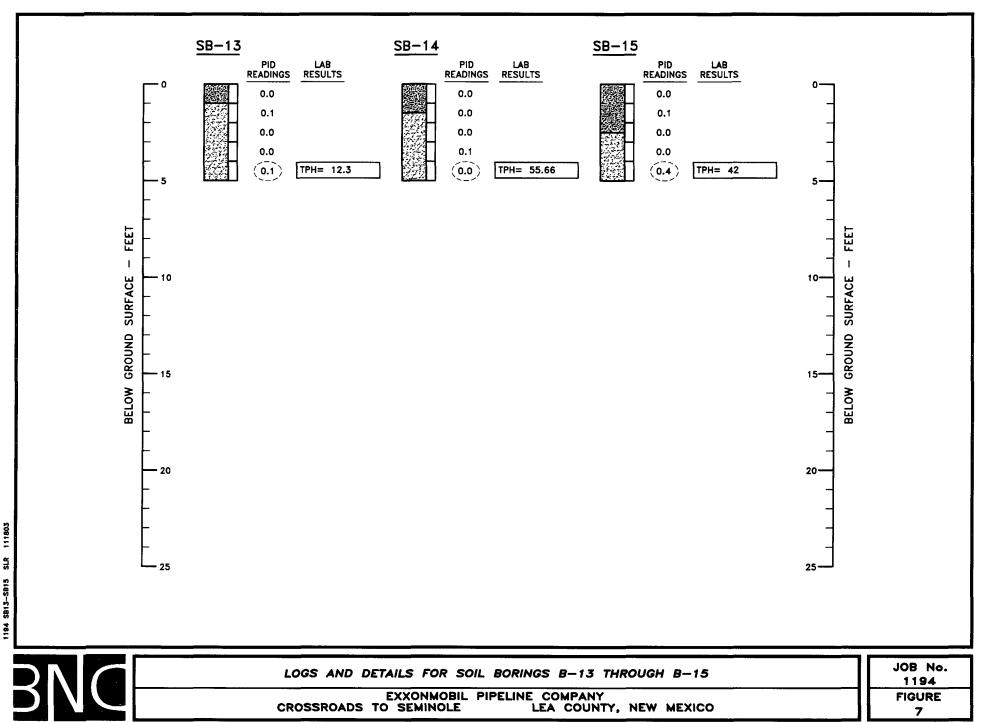
### LEGEND AND NOTES

JOB No. 1194 FIGURE









## TABLE I

### SUMMARY OF SOIL ANALYTICAL DATA – BTEX/TPH EXXONMOBIL PIPELINE COMPANY CROSSROADS TO SEMINOLE LEA COUNTY, NEW MEXICO

, ,		•			ETHYL-		TOTAL	TF	PH (8015 Mo	dified)
SAMPLE	DATE	DEPTH	DEPTH BENZENE	TOLUENE	BENZENE	XYLENES	BTEX	TPH	TPH	ТРН
	l '						Diex	DRO	GRO	(GRO/DRO)
ID ID		(feet)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
	1						<u> </u>			
New Mexico Oil Conservation Division Recommended Remediation Action Levels (Total Ranking Score =10)										
	Í		-10	6988			50.0			1,000
			mg/Kg				mg/Kg			mg/Kg
	1		· ·	Excavation	Confirmatio	n Samples				
SB - 1 (4 - 5)	10/3/2003	4 - 5	<0.001	<0.001	<0.001	<0.001	<0.001	120	0.74	120.74
SB - 1 (24 - 25)	10/3/2003	24 - 25						<5	0.11	0.11
SB - 2 (4 - 6)	10/3/2003	4 - 6						470	0.8	470.8
SB - 2 (9 - 10)	10/3/2003	9 - 10	<0.001	<0.001	<0.001	<0.001	<0.001	240	0.27	240.27
SB - 2 (14 - 15)	10/3/2003	14 - 15						60	<0.1	60
SB - 3 (3 - 5)	10/3/2003	3-5						490	0.23	490.23
SB - 3 (5 - 6)	10/3/2003	5-6	<0.001	<0.001	0.0029	0.0088	0.0117	370	0.29	370.29
SB - 3 (24 - 25)	10/3/2003	24 - 25						82	<0.1	82
SB - 4 (2 - 4)	10/3/2003	2-4						1,500	<0.1	1,500
SB - 4 (5 - 7)	10/3/2003	5 - 7	<0.001	<0.001	<0.001	<0.001	<0.001	1,000	0.85	1,000.85
SB - 4 (8 - 10)	10/3/2003	8 - 10	]					690	0.37	690.37
SB - 5 (4 - 5)	10/3/2003	4 - 5	<0.001	<0.001	<0.001	<0.001	<0.001	5.1	<0.1	5.1
SB - 5 (24 - 25)	10/3/2003	24 - 25						13	0.18	13.18
SB - 6 (4 - 5)	10/3/2003	4 - 5						<5	<0.1	BDL
SB - 7 (4 - 5)	10/3/2003	4 - 5						<5	<0.1	BDL
SB - 8 (4 - 5)	10/3/2003	4 - 5	0.015	<0.001	<0.001	0.0026	0.0176	<5	<0.1	BDL
SB - 9 (4 - 5)	10/3/2003	4 - 5						5.5	0.19	5.24
SB - 10 (4 - 5)	10/3/2003	4 - 5						54	0.36	54.36
SB - 11 (4 - 5)	10/3/2003	4 - 5						44	<0.1	44
SB - 12 (4 - 5)	10/3/2003	4 - 5						19	<0.1	19
SB - 13 (4 - 5)	10/3/2003	4 - 5						8.6	3.7	12.3
SB - 14 (4 - 5)	10/3/2003	4 - 5						55	0.66	55.66
SB - 15 (4 - 5)	10/3/2003	4-5						42	<0.1	42
Notes:	I					-		1		

Notes:

BTEX analysis by EPA Method 8021. TPH analysis by EPA Method 8015 Modified.

BDL- Below Detection Limits.

### TABLE II

#### 95% UPPER CONFIDENCE LIMIT EXXONMOBIL PIPELINE COMPANY CROSSROADS TO SEMINOLE LEA COUNTY, NEW MEXICO

Sample ID	Date Collected	Sample Depth (Feet bgs)	Total TPH (mg/Kg)
SB - 1	10/3/2003	4 - 5	120.74
SB - 1	10/3/2003	24 - 25	0.11
SB - 2	10/3/2003	4 - 6	470.8
SB - 2	10/3/2003	9 - 10	240.27
SB - 2	10/3/2003	14 - 15	60
SB - 3	10/3/2003	3 - 5	490.23
SB - 3	10/3/2003	5-6	370.29
SB - 3	10/3/2003	24 - 25	82
SB - 4	10/3/2003	2 - 4	1,500
SB - 4	10/3/2003	5-7	1,000.85
SB - 4	10/3/2003	8 - 10	690.37
SB - 5	10/3/2003	4 - 5	5.1
SB - 5	10/3/2003	24 - 25	13.18
SB - 9	10/3/2003	4 - 5	5.24
SB - 10	10/3/2003	4 - 5	54.36
SB - 11	10/3/2003	4 - 5	44
SB - 12	10/3/2003	4 - 5	19
SB - 13	10/3/2003	4 - 5	12.30
SB - 14	10/3/2003	4 - 5	55.66
SB - 15	10/3/2003	4 - 5	42
		95% UCL	417.37

Notes:

Analysis by method SW 8015B.

Sample locations shown on attached site map.

Media Type: Soil

Maximum and Minimum Detection Concentration (mg/kg): 208, 18.6.

Description of Statistical Method Used: 95% Upper Confidence Limit (UCL). UCL = mean + t(std deviation/vnumber samples) Statistical Parameters: number of sample points = 20; t = 1.72; Mean = 263.83; Std. deviation = 399.24; 95% UCL = 417.37



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Exxon Mobil Pipelins Co.

	Certificate of Analysis Number: 03100264							
Report To:		Project Name:	Crossroads to Seminole 1194					
BNC Environment	tal Services	<u>Site:</u>	Lea County, NM					
Aaron Hale		Site Address:						
2135 S. Loop 250	West							
Midland		PO Number:						
TX		State:	New Mexico					
79703-		State Cert. No.:						
ph	fax:	Date Reported:	10/23/03					

# This Report Contains A Total Of 37 Pages

# **Excluding This Page**

10/23/03



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

## Case Narrative for: Exxon Mobil Pipelins Co.

	Certi	ficate of Analysis 03100264		
Report To:			Project Name:	Crossroads to Seminole 1194
BNC Environme	ntal Services	4	Site:	Lea County, NM
Aaron Hale			<u>Site Address:</u>	
2135 S. Loop 25	0 West			
Midland			PO Number:	
TX			<u>State:</u>	New Mexico
79703-			<u>State Cert. No.:</u>	
ph	fax:		Date Reported:	10/23/03

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Some West

03100264 Page 1 10/23/03

Sonia West Senior Project Manager

Date



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

# Exxon Mobil Pipelins Co.

Certificate of Analysis Number:

			03100264		
<u>Report To:</u>	BNC Environment Aaron Hale 2135 S. Loop 250 V		<u>-</u> <u>S</u>	Project Name: Bite: Bite Address:	Crossroads to Seminole 1194 Lea County, NM
Fax To:	Midland TX 79703- ph	fax:	<u>S</u>	<u>PO Number:</u> State: State Cert. No.: Date Reported:	New Mexico 10/23/03

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
SB-1 (4-5)	03100264-01	Soil	10/3/03 9:20:00 AM	10/8/03 9:30:00 AM	2017	
SB-1 (24-25)	03100264-02	Soil	10/3/03 9:45:00 AM	10/8/03 9:30:00 AM	2017	
SB-2 (4-6)	03100264-03	Soil	10/3/03 10:20:00 AM	10/8/03 9:30:00 AM	2017	
SB-2 (9-10)	03100264-04	Soil	10/3/03 10:30:00 AM	10/8/03 9:30:00 AM	2017	
SB-2 (14-15)	03100264-05	Soil	10/3/03 10:35:00 AM	10/8/03 9:30:00 AM	2017	
SB-3 (3-5)	03100264-07	Soil	10/3/03 11:10:00 AM	10/8/03 9:30:00 AM	2017	
SB-3 (5-6)	03100264-08	Soil	10/3/03 11:20:00 AM	10/8/03 9:30:00 AM	2017	
SB-3 (24-25)	03100264-09	Soil	10/3/03 11:45:00 AM	10/8/03 9:30:00 AM	2017	
SB-4 (2-4)	03100264-10	Soil	10/3/03 12:00:00 PM	10/8/03 9:30:00 AM	2017	
SB-4 (5-7)	03100264-11	Soil	10/3/03 2:00:00 PM	10/8/03 9:30:00 AM	2018	
SB-4 (8-10)	03100264-12	Soil	10/3/03 2:05:00 PM	10/8/03 9:30:00 AM	2018	
SB-5 (4-5)	03100264-13	Soil	10/3/03 2:35:00 PM	10/8/03 9:30:00 AM	2018	
SB-5 (24-25)	03100264-14	Soil	10/3/03 3:00:00 PM	10/8/03 9:30:00 AM	2018	
SB-6 (4-5)	03100264-15	Soil	10/3/03 3:30:00 PM	10/8/03 9:30:00 AM	2018	
SB-7 (4-5)	03100264-16	Soil	10/3/03 3:45:00 PM	10/8/03 9:30:00 AM	2018	
SB-8 (4-5)	03100264-17	Soil	10/3/03 3:55:00 PM	10/8/03 9:30:00 AM	2018	
SB-9 (4-5)	03100264-18	Soil	10/3/03 4:05:00 PM	10/8/03 9:30:00 AM	2018	
SB-10 (4-5)	03100264-19	Soil	10/3/03 4:15:00 PM	10/8/03 9:30:00 AM	2018	
SB-11 (4-5)	03100264-20	Soil	10/3/03 4:25:00 PM	10/8/03 9:30:00 AM	2018	
SB-12 (4-5)	03100264-21	Soil	10/3/03 4:45:00 PM	10/8/03 9:30:00 AM	2019	
SB-13 (4-5)	03100264-22	Soil	10/3/03 4:50:00 PM	10/8/03 9:30:00 AM	2019	
SB-14 (4-5)	03100264-23	Soil	10/3/03 5:00:00 PM	10/8/03 9:30:00 AM	2019	
SB-15 (4-5)	03100264-24	Soil	10/3/03 4:30:00 PM	10/8/03 9:30:00 AM	2019	

Some West . Х.

Sonia West Senior Project Manager

10/23/03

Date

Joel Grice Laboratory Director

Ted Yen Quality Assurance Officer

> 03100264 Page 2 10/23/03 12:14:25 PM



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-1 (4-5)

Collected: 10/03/2003 9:20

SPL Sample ID: 03100264-01

				Site:	Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					MCL	SW8015B	Units: mg	g/Kg	
Diesel Range Organics		120		25		5	10/22/03 13:16	AR	1920758
Surr: n-Pentacosane		101	%	20-154		5	10/22/03 13:16	AR	1920758
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 14	4:38		WLV					
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: m			
Gasoline Range Organic	s	0.74		0.1		1	10/16/03 9:40	FB	1910930
Surr: 1,4-Difluorobenz	zene	102	%	63-122		1	10/16/03 9:40	FB	1910930
Surr: 4-Bromofluorob	enzene	109	%	39-150		1	10/16/03 9:40	FB	1910930
PURGEABLE AROMATI	CS				MCL	SW8021B	Units: m	g/Kg	
Benzene		ND		0.001		1	10/11/03 2:49	FB	1903850
Ethylbenzene		ND		0.001		1	10/11/03 2:49	FB	1903850
Toluene		ND		0.001		1	10/11/03 2:49	FB	1903850
Xylenes,Total		ND		0.001		1	10/11/03 2:49	FB	1903850
Surr: 1,4-Difluorobenz	zene	90.5	%	77-126		1	10/11/03 2:49	FB	1903850
Surr: 4-Bromofluorob	enzene	99.7	%	66-145		1	10/11/03 2:49	FB	1903850

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: S	B-1 (24-25)			Colle	cted: <sup>^</sup>	10/03/2003 9:45	SPL Sample ID	SPL Sample ID: 0310		
				Site	Lea	County, NM				
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #	
DIESEL RANGE ORGANICS			MCL	SW8015B	Units: mg					
Diesel Range Organi	cs	ND		5		1	10/21/03 4:50	AR	1920748	
Surr: n-Pentacosa	ne	87.8	%	20-154		1	10/21/03 4:50	AR	1920748	
Prep Method	Prep Date			Prep Initials						
SW3550B	10/10/2003 1	4:38		WLV						
GASOLINE RANGE O	GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg	/Kg		
Gasoline Range Orga	anics	0.11		0.1		1	10/16/03 10:07	FB	1910932	
Surr: 1,4-Difluorob	enzene	94.0	%	63-122		1	10/16/03 10:07	FB	1910932	
Surr: 4-Bromofluor	robenzene	104	%	39-150		1	10/16/03 10:07	FB	1910932	

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Sonia West Projec<u>t Manag</u>er

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

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8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-2 (4-6)

Collected: 10/03/2003 10:20 SPL Sample ID:

10:20	SPL Sample ID:	03100264-03

				Site	: Lea	County, N	М			
Analyses/Method		Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					MCL	SW	8015B	Units: mg/Kg		
Diesel Range Organics		470		25		5		10/22/03 13:55	AR	1920759
Surr: n-Pentacosane		165 MI	%	20-154		5	*	10/22/03 13:55	AR	1920759
Prep Method	Prep Date			Prep Initials						
SW3550B	10/10/2003 14:3	38		WLV						
GASOLINE RANGE OR	GANICS				MCL	SW	8015B	Units: m	g/Kg	
Gasoline Range Organi	cs	0.8		0.1		1		10/16/03 10:34	FB	1910934
Surr: 1,4-Difluoroben	zene	97.0	%	63-122		1		10/16/03 10:34	FB	1910934
Surr: 4-Bromofluorob	enzene	109	%	39-150		1		10/16/03 10:34	FB	1910934

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Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

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8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-04

Client Sample ID:	SB-2 (9-10)
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Collected: 10/03/2003 10:30 SPL Sample ID:

			Site	: Lea	County, NM		
Analyses/Method	Resul	t	Rep.Limit		Dil. Factor QUAL	Date Analyzed Analyst	Seq. #
DIESEL RANGE ORGAN	CS			MCL			
Diesel Range Organics 240			25		5	10/21/03 15:59 AR	1920752
Surr: n-Pentacosane 146		%	20-154		5	10/21/03 15:59 AR	1920752
Prep Method	Prep Date		Prep Initials				
SW3550B	10/10/2003 14:38		WLV				
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg	
Gasoline Range Organic	s 0.27		0.1		1	10/16/03 6:33 FB	1910928
Surr: 1,4-Difluorobenz	ene 89.3	%	63-122		1	10/16/03 6:33 FB	1910928
Surr: 4-Bromofluorobe	enzene 171 M	%	39-150		1 *	10/16/03 6:33 FB	1910928
PURGEABLE AROMATI	CS			MCL	SW8021B	Units: mg/Kg	
Benzene	NC	)	0.001		1	10/11/03 3:16 FB	1903851
Ethylbenzene	NC	)	0.001		1	10/11/03 3:16 FB	1903851
Toluene	NC	)	0.001		1	10/11/03 3:16 FB	1903851
Xylenes, Total	0.0013		0.001		1	10/11/03 3:16 FB	1903851
Surr: 1,4-Difluorobenz	ene 93.8	%	77-126		1	10/11/03 3:16 FB	1903851
Surr: 4-Bromofluorobe	enzene 120	) %	66-145		1	10/11/03 3:16 FB	1903851

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Sonia West Project Manager

Qualifiers: NE

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

03100264-05

Client Sample ID: SB-2 (14-15)

Collected: 10/03/2003 10:35 SPL Sample ID:

	······································			Site	Lea	a County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			MCL	SW8015B	Units: m				
<b>Diesel Range Organics</b>		60		5		1	10/22/03 12:37	AR	1920757
Surr: n-Pentacosane		90.6	%	20-154		1	10/22/03 12:37	AR	1920757
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 14	:38		WLV					
GASOLINE RANGE OR	GANICS				MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Organi	cs	ND		0.1		1	10/16/03 11:27	FB	1910937
Surr: 1,4-Difluorobenzene 99		95.0	%	63-122		1	10/16/03 11:27	FB	1910937
Surr: 4-Bromofluorob	enzene	114	%	39-150		1	10/16/03 11:27	FB	1910937

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Sonia West Project Manager

Qualifiers: ND/U

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-07

Client Sample ID:	SB-3 (3-5)
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Collected: 10/03/2003 11:10 SPL Sample ID:

				Site	: Lea	County, NM		
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed Analy	/st Seq. #
DIESEL RANGE ORGANICS					MCL	SW8015B	Units: mg/Kg	
Diesel Range Organics		490		25		5	10/21/03 16:38 AR	1920763
Surr: n-Pentacosane 16		163 MI	%	20-154		5 *	10/21/03 16:38 AR	1920763
Prep Method	Prep Date			Prep Initials				
SW3550B	10/10/2003 1	4:38	_	WLV				
GASOLINE RANGE O	RGANICS				MCL	SW8015B	Units: mg/Kg	
Gasoline Range Orga	inics	0.23		0.1		1	10/16/03 11:54 FB	1910939
Surr: 1,4-Difluorob	enzene	101	%	63-122		1	10/16/03 11:54 FB	1910939
Surr: 4-Bromofluor	obenzene	106	%	39-150	-	1	10/16/03 11:54 FB	1910939

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-3 (	5-6)		Colle	cted: 1	10/03/2003 11:20	SPL Sample ID:	03100264-08
			Site:	Lea	County, NM		
Analyses/Method	Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed A	nalyst Seq. #
DIESEL RANGE ORGANICS				MCL	SW8015B	Units: mg/K	g
Diesel Range Organics	370		25		5	10/21/03 17:17 AI	٦ 1920753
Surr: n-Pentacosane 211 MI		%	20-154		5 *	10/21/03 17:17 AI	٦ 1920753
Prep Method P	rep Date		Prep Initials				
SW3550B 1	0/10/2003 14:38		WLV				
GASOLINE RANGE ORGA	GASOLINE RANGE ORGANICS				SW8015B	Units: mg/K	g
Gasoline Range Organics	0.29		0.1		1	10/16/03 12:21 FE	3 1910941
Surr: 1,4-Difluorobenze	ne 99.0	%	63-122		1	10/16/03 12:21 FE	3 1910941
Surr: 4-Bromofluoroben	zene 301 MI	%	39-150		1 *	10/16/03 12:21 FE	3 1910941
PURGEABLE AROMATICS	3	_		MCL	SW8021B	Units: mg/K	g
Benzene	ND		0.001		1	10/11/03 3:43 FE	3 1903852
Ethylbenzene	0.0029		0.001		1	10/11/03 3:43 FE	3 1903852
Toluene	ND		0.001		1	10/11/03 3:43 Ft	3 1903852
Xylenes,Total 0.0088		_	0.001		1	10/11/03 3:43 FI	3 1903852
Surr: 1,4-Difluorobenze	ne 103	%	77-126		1	10/11/03 3:43 FE	3 1903852
Surr: 4-Bromofluoroben	zene 242 MI	%	66-145		1 *	10/11/03 3:43 Ft	3 1903852

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Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-3 (24-25)

Collected: 10/03/2003 11:45 SPL Sample ID: 03100264-09

				Site	Lea	County, NM		
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed Ana	alyst Seq. #
DIESEL RANGE ORGANICS					MCL	SW8015B	Units: mg/Kg	
Diesel Range Organic	s	82		10		2	10/22/03 13:16 AR	1920769
Surr: n-Pentacosan	e	102	%	20-154		2	10/22/03 13:16 AR	1920769
Prep Method	Prep Date			Prep Initials				
SW3550B	10/10/2003	14:38		WLV				
GASOLINE RANGE OF	RGANICS				MCL	SW8015B	Units: mg/Kg	
Gasoline Range Orga	nics	ND		0.1		1	10/16/03 12:47 FB	1910943
Surr: 1,4-Difluorobe	enzene	93.3	%	63-122		1	10/16/03 12:47 FB	1910943
Surr: 4-Bromofluoro	benzene	102	%	39-150		1	10/16/03 12:47 FB	1910943

Jonea West

Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

03100264-10

Client Sample ID: SB-4 (2-4)

Collected: 10/03/2003 12:00 SPL Sample ID:

				Site	Lea	County, N	M	_		
Analyses/Method		Result		Rep.Limit		Dil. Facto	r QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				MCL	SW8015B		Units: mg/Kg			
Diesel Range Organics		1500		50		10		10/22/03 11:58	AR	1920755
Surr: n-Pentacosane	· · · · · · · · · · · · · · · · · · ·	268 MI	%	20-154		10	*	10/22/03 11:58	AR	1920755
Prep Method	Prep Date			Prep Initials						
SW3550B	10/10/2003 1	4:38		WLV						
GASOLINE RANGE OR	GANICS				MCL	SW	8015B	Units: m	g/Kg	
Gasoline Range Organi	cs	ND		0.1		1		10/16/03 5:56	FB	1911387
Surr: 1,4-Difluorober	zene	95.3	%	63-122		1		10/16/03 5:56	FB	1911387
Surr: 4-Bromofluorot	oenzene	88.7	%	39-150		1		10/16/03 5:56	FB	1911387

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

- \* Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution M1 - Matrix Interference

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### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-4 (5-7)

Collected: 10/03/2003 14:00 SPL Sample ID: 03100264-11

				Site	: Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					MCL	SW8015B	Units: mg/Kg		
Diesel Range Organics		1000		50		10	10/22/03 14:34	٩R	1920760
Surr: n-Pentacosane		207 MI	%	20-154		10 *	10/22/03 14:34	AR	1920760
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003	14:38		WLV					
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/			
Gasoline Range Organics 0.8		0.85		0.1		1	10/16/03 6:26	FB	1911388
Surr: 1,4-Difluorobenzene		90.3	%	63-122		1	10/16/03 6:26	FB	1911388
Surr: 4-Bromofluorob	enzene	87.0	%	39-150		1	10/16/03 6:26	FB	1911388
PURGEABLE AROMATI	CS				MCL	SW8021B	Units: mg/	/Kg	
Benzene		ND		0.001		1	10/11/03 4:36	FB	1903854
Ethylbenzene ND			0.001		1	10/11/03 4:36	FB	1903854	
Toluene ND			0.001		1	10/11/03 4:36	FB	1903854	
Xylenes, Total ND			0.001		1	10/11/03 4:36	FB	1903854	
Surr: 1,4-Difluorobenzene 106		%	77-126		1	10/11/03 4:36	FB	1903854	
Surr: 4-Bromofluorob	enzene	90.3	%	66-145		. 1	10/11/03 4:36	FB	1903854

Some Wet

Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-12

Client Sample ID: SB-4 (8-10)

Collected: 10/03/2003 14:05 SPL Sample ID:

				Site	: Lea	a County, NM		
Analyses/Method DIESEL RANGE ORGANICS		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed Analys	Seq. #
					MCL	SW8015B	Units: mg/Kg	
Diesel Range Organics		690		50		10	10/22/03 13:55 AR	1920770
Surr: n-Pentacosane		213 MI	%	20-154		10 *	10/22/03 13:55 AR	1920770
Prep Method	Prep Date			Prep Initials				
SW3550B	10/10/2003	14:38		WLV				
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg		
Gasoline Range Organics		0.37		0.1		1	10/16/03 6:56 FB	1911389
Surr: 1,4-Difluorobenzene		89.0	%	63-122		1	10/16/03 6:56 FB	1911389
Surr: 4-Bromofluorobenzene		101	%	39-150		1	10/16/03 6:56 FB	1911389

Jone Water Sonia West

Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-13

Client Sample ID: SB-5 (4-5)

Collected: 10/03/2003 14:35 SPL Sample ID:

				Site	Lea	County, NM			
Analyses/Method	Resu	ılt		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					MCL	SW8015B	Units: mg	g/Kg	
Diesel Range Organics	5.	.1		5		1	10/18/03 13:43	AM	1915966
Surr: n-Pentacosane	91.	.0	%	20-154		1	10/18/03 13:43	AM	1915966
Prep Method Pr	ep Date			Prep Initials					
SW3550B 10	/10/2003 14:45			WLV					
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg	g/Kg		
Gasoline Range Organics	N	D		0.1		1	10/16/03 12:26	FB	1911411
Surr: 1,4-Difluorobenzen	ie 88	.7	%	63-122		1	10/16/03 12:26	FB	1911411
Surr: 4-Bromofluorobenz	zene 86	.7	%	39-150		1	10/16/03 12:26	FB	1911411
PURGEABLE AROMATICS					MCL	SW8021B	Units: mg	g/Kg	
Benzene	N	ID		0.001		1	10/11/03 5:03	FB	1903855
Ethylbenzene		ID.		0.001		1	10/11/03 5:03	FB	1903855
Toluene		ID		0.001		1	10/11/03 5:03	FB	1903855
Xylenes, Total		D		0.001		1	10/11/03 5:03	FB	1903855
Surr: 1,4-Difluorobenzene		.7	%	77-126		1	10/11/03 5:03	FB	1903855
Surr: 4-Bromofluorobenz	zene 1(	)4	%	66-145		1	10/11/03 5:03	FB	1903855

Jonea Water

Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

SPL Sample ID:

Client Sample ID: SB-5 (24-25)				Colle	cted: 1	10/03/2003 15:00	SPL Sample ID	): 0310	0264-14
				Site	Lea	County, NM			
Analyses/Method		Result		Rep.Limit	_	Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				MCL	SW8015B	Units: m			
Diesel Range Organics		13		5		1	10/18/03 14:21	AM	1915967
Surr: n-Pentacosane		68.0	%	20-154		1	10/18/03 14:21	АМ	1915967
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 14:4	5		WLV_					
GASOLINE RANGE ORGANICS					MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Organics 0.1		0.18		0.1		1	10/16/03 12:56	FB	1911412
Surr: 1,4-Difluorobenzene 88.3		88.3	%	63-122		1	10/16/03 12:56	FB	1911412
Surr: 4-Bromofluorobenzene		90.0	%	39-150		1	10/16/03 12:56	FB	1911412

Some Wet Sonia West

**Project Manager** 

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank \* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-15

Client Sample ID: SB-6 (4-5)

Collected: 10/03/2003 15:30 SPL Sample ID:

				Site	: Lea	County, NM		
Analyses/Method DIESEL RANGE ORGANICS		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed Analyst	Seq. #
					MCL	SW8015B	Units: mg/Kg	
Diesel Range Organics		ND		5		1	10/18/03 15:00 AM	1915968
Surr: n-Pentacosane		90.0	%	20-154		1	10/18/03 15:00 AM	1915968
Prep Method	Prep Date			Prep Initials				
SW3550B	10/10/2003	14:45		WLV				
GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/Kg		
Gasoline Range Organics		ND		0.1		1	10/16/03 13:26 FB	1911413
Surr: 1,4-Difluorobenzene		90.0	%	63-122		1	10/16/03 13:26 FB	1911413
Surr: 4-Bromofluorobenzene		86.7	%	39-150		1	10/16/03 13:26 FB	1911413

Some West 

Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

> 03100264 Page 16 10/23/03 12:14:55 PM



### HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(740) 000 0004

03100264-16

Client Sample ID: SB-7 (4-5)

(713) 660-0901 45 SPL Sample ID:

				Site	Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORG	ANICS				MCL	SW8015B	Units: m	g/Kg	
Diesel Range Organic	S	ND		5		1	10/18/03 15:39	AM	1915969
Surr: n-Pentacosar	ne	86.2	%	20-154		1	10/18/03 15:39	AM	1915969
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 14	4:45		WLV					
GASOLINE RANGE O	RGANICS				MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Orga	nics	ND		0.1		1	10/16/03 13:55	FB	1911414
Surr: 1,4-Difluorob	enzene	92.7	%	63-122		1	10/16/03 13:55	FB	1911414
Surr: 4-Bromofluor	obenzene	89.7	%	39-150		1	10/16/03 13:55	FB	1911414

Collected: 10/03/2003 15:45

Jone West 

Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

> 03100264 Page 17 10/23/03 12:14:56 PM



### HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-17

Client Sample ID: SB-8 (4-5)

Collected: 10/03/2003 15:55 SPL Sample ID:

				Site	: Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analysi	Seq. #
DIESEL RANGE ORGA	NICS				MCL	SW8015B	Units: mg	g/Kg	
Diesel Range Organics	5	ND		5		1	10/18/03 16:18	AM	1915970
Surr: n-Pentacosane	e	89.4	%	20-154		1	10/18/03 16:18	АМ	1915970
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 1	4:45							
GASOLINE RANGE OR	GANICS				MCL	SW8015B	Units: mg	g/Kg	
Gasoline Range Organ	nics	ND		0.1		1	10/16/03 11:56	FB	1911410
Surr: 1,4-Difluorobe	nzene	89.3	%	63-122		1	10/16/03 11:56	FB	1911410
Surr: 4-Bromofluoro	benzene	90.3	%	39-150		1	10/16/03 11:56	FB	1911410
PURGEABLE AROMA	rics				MCL	SW8021B	Units: m	g/Kg	
Benzene		0.015		0.001		1	10/11/03 5:30	FB	1903856
Ethylbenzene		ND		0.001		1	10/11/03 5:30	FB	1903856
Toluene		ND		0.001		1	10/11/03 5:30	FB	1903856
Xylenes,Total		0.0026		0.001		1	10/11/03 5:30	FB	1903856
Surr: 1,4-Difluorobe	nzene	101	%	77-126		1	10/11/03 5:30	FB	1903856
Surr: 4-Bromofluoro	benzene	114	%	66-145		1	10/11/03 5:30	FB	1903856

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-18

Client Sample ID: SB-9 (4-5)

Collected: 10/03/2003 16:05 SPL Sample ID:

				Site	: Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analysi	Seq. #
DIESEL RANGE ORGAN	NICS				MCL	SW8015B	Units: m	g/Kg	
<b>Diesel Range Organics</b>		5.5		5		1	10/18/03 16:57	AM .	1915971
Surr: n-Pentacosane		87.3	%	20-154		1	10/18/03 16:57	АМ	1915971
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 1	4:45		WLV					
GASOLINE RANGE OR	GANICS				MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Organi	ics	0.19		0.1		1	10/16/03 14:26	FB	1911415
Surr: 1,4-Difluoroben	zene	88.3	%	63-122		1	10/16/03 14:26	FB	1911415
Surr: 4-Bromofluorob	penzene	88.0	%	39-150		1	10/16/03 14:26	FB	1911415

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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### HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SI	B-10 (4-5)			Colle	cted: 1	0/03/2003 16:15	SPL Sample ID	): 031	00264-19
				Site	Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analys	Seq. #
DIESEL RANGE ORG	ANICS				MCL	SW8015B	Units: m	g/Kg	
Diesel Range Organi	cs	54		5		1	10/18/03 19:32	AM	1915981
Surr: n-Pentacosa	ne	105	%	20-154		1	10/18/03 19:32	AM	1915981
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 1	4:45		WLV					
GASOLINE RANGE O	RGANICS				MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Orga	anics	0.36		0.1		1	10/16/03 14:56	FB	1912138
Surr: 1,4-Difluorob	enzene	93.3	%	63-122		1	10/16/03 14:56	FB	1912138
Surr: 4-Bromofluor	robenzene	93.7	%	39-150		1	10/16/03 14:56	FB	1912138

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Sonia West **Project Manager** 

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-11 (4-5)

Collected: 10/03/2003 16:25 SPL Sample ID: 03100264-20

				Site	: Lea	County, NM		
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed Analyst	Seq. #
DIESEL RANGE ORGA	NICS				MCL	SW8015B	Units: mg/Kg	
Diesel Range Organic	s	44		5		1	10/18/03 20:11 AM	1915982
Surr: n-Pentacosan	e	75.1	%	20-154		1	10/18/03 20:11 AM	1915982
Prep Method	Prep Date			Prep Initials				
SW3550B	10/10/2003	14:45		WLV				
GASOLINE RANGE OF	RGANICS				MCL	SW8015B	Units: mg/Kg	
Gasoline Range Organ	nics	ND		0.1		1	10/16/03 15:26 FB	1912139
Surr: 1,4-Difluorobe	enzene	94.0	%	63-122		1	10/16/03 15:26 FB	1912139
Surr: 4-Bromofluoro	obenzene	89.7	%	39-150		1	10/16/03 15:26 FB	1912139

Some West

Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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#### HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-	12 (4-5)			Colle	cted: 1	0/03/2003 16:45	SPL Sample ID	: 0310	0264-21
				Site	Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGAN	NICS				MCL	SW8015B	Units: mg	/Kg	
<b>Diesel Range Organics</b>		19		5		1	10/18/03 18:15	AM	1915973
Surr: n-Pentacosane		77.6	%	20-154		1	10/18/03 18:15	AM	1915973
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 14	:45		WLV					
GASOLINE RANGE OR	GANICS				MCL	SW8015B	Units: mg	j/Kg	
Gasoline Range Organi	cs	ND		0.1		1	10/16/03 16:42	FB	1912141
Surr: 1,4-Difluoroben	zene	91.0	%	63-122		1	10/16/03 16:42	FB	1912141
Surr: 4-Bromofluorob	enzene	94.3	%	39-150		1	10/16/03 16:42	FB	1912141

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Sonia West Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-22

Client Sample ID: SB-13 (4-5)

Collected: 10/03/2003 16:50 SPL Sample ID:

				Site	: Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGA	ANICS				MCL	SW8015B	Units: mg	/Kg	
Diesel Range Organic	:S	8.6		5		1	10/18/03 18:53	AM	1915974
Surr: n-Pentacosar	ie	105	%	20-154		1	10/18/03 18:53	АМ	1915974
Prep Method	Prep Date			Prep Initials					
SW3550B	10/10/2003 1	4:45		WLV					
GASOLINE RANGE O	RGANICS				MCL	SW8015B	Units: mg	/Kg	
Gasoline Range Orga	nics	3.7		0.1		1	10/16/03 17:12	FB	1912142
Surr: 1,4-Difluorobe	enzene	95.3	%	63-122	<u>.</u>	1	10/16/03 17:12	FB	1912142
Surr: 4-Bromofluor	obenzene	94.0	%	39-150		1	10/16/03 17:12	FB	1912142

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Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-23

Client Sample ID: SB-14 (4-5)

Collected: 10/03/2003 17:00 SPL Sample ID:

				Site	: Lea	County, NM			
Analyses/Method		Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORG	ANICS				MCL	SW8015B	Units: m	g/Kg	
Diesel Range Organic	s	55		5		1	10/18/03 18:15	AM	1915979
Surr: n-Pentacosar	ne	95.7	%	20-154		1	10/18/03 18:15	АМ	1915979
Prep Method	Prep Date	·		Prep Initials					
SW3550B	10/10/2003 1	4:45		WLV					
GASOLINE RANGE O	RGANICS				MCL	SW8015B	Units: m	g/Kg	
Gasoline Range Orga	inics	0.66		0.1		1	10/16/03 18:42	FB	1912145
Surr: 1,4-Difluorob	enzene	91.3	%	63-122		1	10/16/03 18:42	FB	1912145
Surr: 4-Bromofluor	obenzene	96.0	%	39-150		1	10/16/03 18:42	FB	1912145

Jonia Witte

Sonia West Project Manager

Qualifiers: ND/U - N

ND/U - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

03100264-24

Seq. #

1915980

1915980

Client Sample ID: SB-15 (4-5)			Coll	ected: 1	0/03/2003 16:30	SPL Sample ID	: 0310
			Site	e: Lea	County, NM		
Analyses/Method	Result		Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst
DIESEL RANGE ORGANICS				MCL	SW8015B	Units: mg	g/Kg
Diesel Range Organics	42		5		1	10/18/03 18:53	AM
Surr: n-Pentacosane	141	%	20-154		1	10/18/03 18:53	AM

Prep Method	Prep Date	Prep Initials
SW3550B	10/10/2003 14:45	WLV

GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg	/Kg	
Gasoline Range Organics	ND		0.1		1	10/16/03 19:12	FB	1912146
Surr: 1,4-Difluorobenzene	91.0	%	63-122		1	10/16/03 19:12	FB	1912146
Surr: 4-Bromofluorobenzene	85.0	%	39-150		1	10/16/03 19:12	FB	1912146

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Sonia West Project Manager

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- \* Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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**Quality Control Documentation** 

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

#### Exxon Mobil Pipelins Co.

**Crossroads to Seminole 1194** 

					o Seminol	• • • • • •						
Analysis:		ge Organics						WorkOrder		100264		
Method:	SW8015B							Lab Batch	ID: 32	390		
		Method Blank			ę	Sample	s in Analytica	Batch:				
RunID:	HP_V_03102	1B-1920745 Units:	mg/Kg		I	.ab Sar	nple ID	Client Sample ID				
Analysis Date:	10/21/2003	3:32 Analyst:	AR		•	310026			(4-5)	—		
Preparation Date	: 10/10/2003	14:38 Prep By:	WLV Meth	od SW35	550B (	0310026	4-02A	SB-1	(24-25)			
					(	0310026	4-03A	SB-2	! (4-6)			
	A	nalyte	Result Rep	Limit	(	0310026	4-04A		! (9-10)			
Die	sel Range Organi		ND	5.0	(	0310026	4-05A		! (14-15)			
	urr: n-Pentacosa			20-154		0310026			(3-5)			
						0310026			(5-6)			
						0310026			3 (24-25)			
						0310026			(2-4)			
						)310026 )310026			(5-7) (8-10)			
					•	510020	14-12M	30-4	(0-70)			
			Laborat	ory Con	trol Sampl	e (LCS)		<u>.</u>				
		RuniD:	HP_V_031021	B-192074	7 Units:	mg/	Kg					
		Analysis Date:	10/21/2003 4	11	Analysi	: AR						
		Preparation Date:	10/10/2003 1	4:38	Prep B	y: WLY	/ Method SW:	3550B				
		Analy	e		oike Re ided			wer Uppe mit Limi				
		Diesel Range Organic	s		83	74	90	65 1	150			
					L		l					
		Matrix S	pike (MS) / N	latrix Sr	ike Duplic	ate (MS	D)					
		Sample Spiked:	03100264-									
		RunID:	HP_V_03102				g/Kg					
		Analysis Date:	10/22/2003		Analy		< LV Method SV					
		Preparation Date:	10/10/2003	14.30	Fiep	⊡у. чч	LV Wethou SV	A0000B				
	Analyto	Sample	MS	MS	MS %	MSD	MSD	MSD %	RPD	RPD	Low	High
· · · · · · · · · · · · · · · · · · ·				esult	Recovery	Spike	Result	Recovery		Limit	Limit	Limi
······	Analyte	Result				Added	1		1	1	1	1
	Analyte		Added			Added						

J - Estimated value between MDL and PQL

\* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

#### **Exxon Mobil Pipelins Co.**

**Crossroads to Seminole 1194** 

Analysis: Method:	Diesel Range Organic SW8015B	S			WorkOrder: Lab Batch ID:	03100264 32392
	Method	Blank		Samples in Analyti	cal Batch:	
RunID:	HP_V_031018B-1915964	Units:	mg/Kg	Lab Sample ID	Client Sa	nple ID
Analysis Date:	10/18/2003 12:25	Analyst:	AM	03100264-13A	SB-5 (4-5)	
Preparation Date	: 10/10/2003 14:45	Prep By:	WLV Method SW3550B	03100264-14A	SB-5 (24-2	25)
·				03100264-15A	SB-6 (4-5)	
			Result         Rep Limit           ND         5.0           86.2         20-154	03100264-16A	SB-7 (4-5)	
	Analyte			03100264-17A	SB-8 (4-5)	
	sel Range Organics			03100264-18A	SB-9 (4-5)	
		L.		03100264-19A	SB-10 (4-5	5)
				03100264-20A	SB-11 (4-5	5)
				03100264-21A	SB-12 (4-5	5)
				03100264-22A	SB-13 (4-5	5)
				03100264-23A	SB-14 (4-5	5)
				03100264-24A	SB-15 (4-5	5)

#### Laboratory Control Sample (LCS)

RunID: Analysis Date:

Preparation Date:

HP\_V\_031018B-1915965 10/18/2003 13:04 10/10/2003 14:45

Units: mg/Kg AM Analyst: Prep By: WLV Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	72	87	65	150

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked:	03100264-22		
RunID:	HP_V_031018B-1915975	Units:	mg/Kg
Analysis Date:	10/18/2003 19:32	Analyst:	AM
Preparation Date:	10/10/2003 14:45	Prep By:	WLV Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	8.6	83	73	77	83	71	75	2.6	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank

J - Estimated value between MDL and PQL

- MI Matrix Interference
- D Recovery Unreportable due to Dilution
- \* Recovery Outside Advisable QC Limits
- N/C Not Calculated Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Surr: 4-Bromofluorobenzene

**Quality Control Report** 

#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

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(713) 660-0901

#### Exxon Mobil Pipelins Co.

**Crossroads to Seminole 1194** 

Analysis: Method:	Purgeable Aromatics SW8021B					WorkOrder: Lab Batch ID:	03100264 R95752	
	Method	Blank			Samples in Analytic	ytical Batch:		
RunID:	HP_R_031010A-1903840	Units:	ug/Kg		Lab Sample ID	Client Sar	nple ID	
Analysis Date:	: 10/10/2003 22:21	Analyst:	FB		03100264-01A	SB-1 (4-5	)	
					03100264-04A	SB-2 (9-10	))	
					03100264-08A	SB-3 (5-6)		
Г	A 1 (	r	D #	Dec. ( Jack)	03100264-11A	SB-4 (5-7)		
Ļ	Analyte		Result	Rep Limit	03100264-13A	SB-5 (4-5)		
E	Benzene		ND	0.0010				
E	Ethylbenzene		ND	0.0010	03100264-17A	SB-8 (4-5)		
	Toluene	uene		0.0010				
	Xylenes,Total		ND	0.0010				
Γ	Surr: 1,4-Difluorobenzene		97.7	77-126				

#### Laboratory Control Sample (LCS)

66-145

105.5

10/10/2003 21:55

RunID:	
Analysis	Date:

HP\_R\_031010A-1903839 Units: ug/Kg Analyst: FB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	50	100	81	123
Ethylbenzene	50	51.8	104	82	123
Toluene	50	50.4	101	82	124
Xylenes,Total	150	156.1	104	81	125

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked:	03100260-01		
RunID:	HP_R_031010A-1903841	Units:	ug/Kg-dry
Analysis Date:	10/10/2003 22:48	Analyst:	FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	39.8	25.2	72.1	128	25.2	80.6	162 *	11.1	32	38	136
Ethylbenzene	54.5	25.2	88.1	133	25.2	102	188 *	14.4	32	21	138
Toluene	80.6	25.2	113	128	25.2	133	210 *	16.7	34	29	137
Xylenes,Total	255	75.6	351	127	75.6	408	202 *	15.0	34	10	143

Qualifiers:

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference D - Recovery Unreportable due to Dilution

- B Analyte detected in the associated Method Blank J - Estimated value between MDL and PQL
  - \* Recovery Outside Advisable QC Limits
- N/C Not Calculated Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

#### Exxon Mobil Pipelins Co.

**Crossroads to Seminole 1194** 

Analysis: Method:	Gasoline Range Orgar SW8015B	nics				WorkOrder: Lab Batch ID:	03100264 R96041	
	Method	Blank			Samples in Analytic	ytical Batch:		
RunID:	HP_R_031016B-1910923	Units:	mg/Kg		Lab Sample ID	Client Sar	npie ID	
Analysis Date:	10/16/2003 5:13	Analyst:	FB		03100264-01A	SB-1 (4-5		
					03100264-02A	SB-1 (24-2	5)	
					03100264-03A	SB-2 (4-6)		
Г	A		D	<b>D</b>	03100264-04A	SB-2 (9-10	)	
	Analyte			Rep Limit	03100264-05A	SB-2 (14-1	5)	
G	Basoline Range Organics		<u>ND</u>			· ·	,	
L	Surr: 1,4-Difluorobenzene		93.3	63-122	03100264-07A	SB-3 (3-5)		
L	Surr: 4-Bromofluorobenzene		100.0	39-150	03100264-08A SB-3 (			
					03100264-09A	SB-3 (24-2	5)	

#### Laboratory Control Sample (LCS)

RunID: Analysis Date: HP\_R\_031016B-1910921 Units: 10/16/2003 4:46 Analyst:

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.83	83	70	130

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: RunID: Analysis Date: 03100264-04 HP\_R\_031016B-1910924 10/16/2003 5:39

Units: mg/Kg Analyst: FB

mg/Kg

FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.270	0.9	0.967	77.4	0.9	0.94	74.4	2.81	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

- B Analyte detected in the associated Method Blank D Recovery Unreportable due to Dilution
- J Estimated value between MDL and PQL \* Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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**Quality Control Report** 

#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

#### Exxon Mobil Pipelins Co.

**Crossroads to Seminole 1194** 

Analysis: Method:	Gasoline Range Orgar SW8015B	nics				WorkOrder: Lab Batch ID:	03100264 R96051						
	Method	Blank			Samples in Analytical Batch:								
RunID:	HP_O_031015B-1911377	Units:	mg/Kg		Lab Sample ID	Client San	nple ID						
Analysis Date:	10/15/2003 17:55	Analyst:	FB		03100264-10A	SB-4 (2-4)							
					03100264-11A	SB-4 (5-7)							
					03100264-12A	SB-4 (8-10	))						
Γ	Analyte		Result	Rep Limit									
G	Sasoline Range Organics		ND	0.10									
	Surr: 1,4-Difluorobenzene		, 90.7	63-122									
	Surr: 4-Bromofluorobenzene		85.3	39-150									

Laboratory Control Sample (LCS)

	Laboratory Control	Janpie	2001
RunID:	HP_O_031015B-1911376	Units:	mg/Kg
Analysis Date:	10/15/2003 17:25	Analyst:	FB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.8	80	70	. 130

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: RunID: Analysis Date: 03100515-01 HP\_O\_031015B-1911382 Units: 10/16/2003 1:26 Analy.

011382 Units: mg/Kg-dry Analyst: FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.95	0.808	82.1	0.95	0.823	83.6	1.77	50	26	147

**Qualifiers:** 

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

- B Analyte detected in the associated Method Blank D Recovery
- J Estimated value between MDL and PQL

D - Recovery Unreportable due to Dilution

\* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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#### HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

#### Exxon Mobil Pipelins Co.

**Crossroads to Seminole 1194** 

Analysis: Method:		Gasoline Range Orgar SW8015B	nics				WorkOrder: Lab Batch ID:	03100264 R96053	
		Method	Blank			Samples in Analyti	cal Batch:		
	RunID:	HP_O_031016A-1911407	Units:	mg/Kg		Lab Sample ID	Client San	nple ID	
	Analysis Date	e: 10/16/2003 9:26	Analyst:	FB		03100264-13A	SB-5 (4-5)		
	·					03100264-14A	SB-5 (24-2	5)	
						03100264-15A	SB-6 (4-5)		
	ſ			Desult	Dan Limit	03100264-16A	SB-7 (4-5)		
		Analyte		ND	Rep Limit	03100264-17A	SB-8 (4-5)		
		Gasoline Range Organics Surr: 1.4-Difluorobenzene		90.3	0.10 63-122	03100264-18A	SB-9 (4-5)		
		Surr: 4-Bromofluorobenzene		83.7	39-150	03100264-19A	SB-10 (4-5	)	
						03100264-20A	SB-11 (4-5	)	
						03100264-21A	SB-12 (4-5	)	
						03100264-22A	SB-13 (4-5	)	
						03100264-23A	SB-14 (4-5	)	
						03100264-24A	SB-15 (4-5	)	

#### Laboratory Control Sample (LCS)

RunID:	HP_O_031016A-1911406	Units:	mg/Kg
Analysis Date:	10/16/2003 8:56	Analyst:	FB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.787	79	70	130

#### Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked:
RunID:
Analysis Date:

: 03100264-17 HP\_O\_031016A-1911408 10/16/2003 10:56

<sup>08</sup> Units: mg/Kg Analyst: FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.835	86.9	0.9	0.922	96.6	9.92	50	26	147

**Qualifiers:** 

ND/U - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank

J - Estimated value between MDL and PQL

MI - Matrix Interference

- D Recovery Unreportable due to Dilution
- \* Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist And Chain of Custody

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

### Sample Receipt Checklist

Workorder:	03100264		Receive	ed By:	RE	
Date and Time Received:	10/8/03 9:30:00 AM		Carrier	name:	Fedex-St	andard Överni
Temperature:	4.5°C		Chilled	by:	Water Ice	2
1. Shipping container/	cooler in good condition?	Yes 🗹	No 🗆	Not Prese	ent 🗌	
<b>2.</b> Custody seals intac	ct on shippping container/cooler?	Yes 🗖	No 🗆	Not Prese	ent 🗹	
<b>3.</b> Custody seals inta	ct on sample bottles?	Yes 🗌	No 🗔	Not Prese	ent 🗹	
<b>4.</b> Chain of custody p	resent?	Yes 🗹	No 🗆			
5. Chain of custody s	igned when relinquished and receive	Yes 🗹	No 🗆			
<b>6.</b> Chain of custody a	grees with sample labels?	Yes 🗹	No 🗆			
7. Samples in proper	container/bottle?	Yes 🗹	No 🗆			
8. Sample containers	intact?	Yes 🗹	No 🗆			
<b>9</b> . Sufficient sample v	volume for indicated test?	Yes 🗹	No 🗆			
10. All samples receive	ed within holding time?	Yes 🗹	No 🗆			
11. Container/Temp BI	ank temperature in compliance?	Yes 🗹	No 🗖			
<b>12.</b> Water - VOA vials h	ave zero headspace?	Yes 🗆	No 🗆	Not Appli	icable 🗹	
<b>13.</b> Water - pH accepta	ble upon receipt?	Yes	No 🗆	Not Appli	icable 🗹	
						······································
SPL Representa		Contact Date	& Time			

Client Name Con	tacted
Non Conformance Issues	
<b>Client Instruction</b>	s

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EXXONMOBIL					······································		SPL	WO	RKO	RDEF	NO.		20	1	(				Pε	age		of	<u>\$</u>	
ExxonMobil Engineer: <u>M:Ke</u> Consultant Co. Name: <u>RNC</u>	e Hargrove Phone: 432-686-0086 LEnvironmental Contact: Aaron Hale							ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)										отн	ER					
Address: 2135 S. Loop 25 Midland, Tx	نى م 79705	Fax:	432-6	- 86 -	0186				X			1664 🛛			7 ם	TCLP FULL D VOA D SEMI-VOA D PEST D HERB D	METALS, TOTAL RCHALL METALS TCLP LI	PB, DISSOLVED D PB, TOTAL D (200.7/6010	FLASHPOINT	0 I O O I				
RAS #: Facility/State ID#(TN Only):									TPH/GC 8015 GROX 8015 DROX			0&G IR 413.1 C GRAV. 413.2 C 1664	П 625 П	PNA/PAH 8100 0 8310 0 8270 0	PCB/PEST 8081/8082 CI PCB ONLY CI	D PESI			D FLA	PURGEABLE HYDROCARBON 8021				
AFE#(Terminal Only): Consultant Project #:								ĺ		3 0		V. 41			Г Ц	VOA			NIN I	RBO				
Location: Crossroads to	Seminole	(City) Lea	County		(State)	l.M.	CONTAINERS		ې کړ	MTBE 8021 0 8260 0	OXYGENATES (7) 8260 []	GRA	VOL. 8260 0 624 0 SEMI-VOL. 8270 0 6	831	3082 [	I SEMI			REACTIVITY D CORROSIVITY D	ROCI				
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58.2 (4-6)	10.3 1020	X	X			<u> </u>		$\downarrow$	X	_	$\perp$			_					<u> </u>	$\vdash$			$\downarrow \downarrow$	
58-2 (9-10)	10.3 1030	X	X		<u>↓</u>	<u> </u>	₩.+		7 3	4	+			- <b> </b>	<b> </b>	+				┝──┧		+	┽┯┽	
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Send bill to Mike Hargrove, Exxon Mobil Pipeline Co., 1300 W. 10th Street, Odessa, Texas, 79763

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ExxonMobil Engineer: <u>M:kc</u> Consultant Co. Name: <u>BNC T</u>	Hare	<u>s love</u>		Phone:	432.	-68	<u>6-00</u>	<u>B(</u>													Ó					от	HER
Consultant Co. Name: BNC t	Envio	enmer	stel	Contact	Aare	>~	Hale	-				, ,				· · · · ·	····-								_		
Address: 2135 S. Loo Midland, T	25	ow	est	Fax:	432	6	<u>66-08</u>	.86			×			1664 []						PB, TOTAL 200.7 [] 6010 [] PB, TCLP []	PB, DISSOLVED [] PB, TOTAL [] (200.7/6010	REACTIVITY = CORROSIVITY = FLASHPOINT =	1 [] 601 []				
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AFE#(Terminal Only):											8	602 🗆				62				5010	101	INITY	RBO				
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58-10 (4-5)	10-3	1615		¥	X				Ti	$\pm 1$	X																
58-11 (4-5)	10-3	1625		<u>×</u>	X						X																
TAT (* - Contact us Prior to Sending Samples)		/QC Le	evei	SPECIA	LDETECT		_IMITS (S	pecify)					REM	ARKS	:												
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ExxonMobil Engineer: <u>M: ke</u> Consultant Co. Name: BNL En	Herry	rove mental		Phone: Contact	432 A	2-68 aror	6-00 Hele	36						(							<b>X</b> )					01	HER
Address: 2135 S. Loop Midland, Tx	250	West 79 -	705	Fax:	432	-68	6-98	<b>.</b>			¥.			1664 🗆					S TCLP		(200.7/6010	SHPOINT D	1 0 601				
RAS #: AFE#(Terminal Only):				Consult	ant Pro	ject#:	4	4			3 8015 DRO-R	602 🗆		AV. 413.2 []	624 🗆	625 []	310 0 8270			6010 DE	B, TOTAL D	USIVITY D FL	CARBON 802				
Location:	<u>Semin</u> 10	01 <u>0</u> 00	(City) &M 0944 Ex 0231 M	cxonMob	il Markı	eting &	_ (Stati Ref. Co.	) <b>/ X</b> ] SDT ]	CONTAINERS	CONTAINER SIZE	GRO	80210 6	MTBE 8021 C 8260 C	0&G IR 413.1 [] GRAV. 413.2 [] 1664	D	OL. 8270 🗆	PNA/PAH 8100 8310 8270 0	PCB/PEST 8081/8082 [] PCB ONLY []	METALS. TOTAL RCRA D. METALS TCLP D	PB, TOTAL 200.7	PB, DISSOLVED IJ PB, TOTAL [] (200.7/601	REACTIVITY D CORROSIVITY D FLASHPOINT D	PURGEABLE HYDROCARBON 8021				
SAMPLE I.D.	DATE		COMP.		M H <sub>2</sub> O			RPRESERVATIO	NO. OF	CONTA	TPH/GC	BTEX 80210	MTBE	O&G IF	Vol.	SEMI-VOL.	PNA/PA	PCB/PE	METAL	PB, TO	PB, DIS	REACTIV	PURGE	TPHH/IR	TOX/TOH		
<u>53-13 (4-5)</u> 58-14 (4-5)	10-3	1650 1700		X X X X X		X K X		TLE	1	40	x												-				
<u> </u>	10-3	1630				<u>×</u>					×																
TAT (* - Contact us Prior to Sending Samples)         24 HR.       *         72 HR.       *         5 BUS.       *         8 BUS.       10 BUS.	1	/ <b>QC L</b> ( ARD "A" CED "B		SPECIA	AL DE I	ECHO		(Specify)					REM/	RKS:		E>	XON	IMO	BIL C	ONT	RAC	TN	D. CI	5716	0		
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	<b>MPETION:</b>			en 🗆 Air Hammer	Other
□ Alternative Pro □ Surface Slab Ir		□ Surface Sle □ Pitless Ada			
NOTES:					···
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DRILLERS SIGNA	ATURE:	R	· · · · · · · · · · · · · · · · · · ·		

Page 2 of 2

Page 1 of 2

Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-15	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed: 10/03/03	Total Depth: 5.0	
Well Owner: Mo	bile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4	3/4"
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John Whit	tie
· .	WELL COMPLETIO	ON DATA		GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled	(ft):
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drum	IS:
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	⊠ Clean □]	Dirty
DEPTH (ft.)		DESC	RIPTION		· .
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD: B A	Air Rotary 🗆 N	Iud Rotary 🗆 Driv	en 🗆 Air Hammer	□ Other
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SURFACE CON			~	,	
□ Alternative Pro □ Surface Slab Ir		□ Surface Sle □ Pitless Ada			
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NOTES:		····			
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DRILLERS SIGNA	TURE:	- Her			
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Page 1 of 2

Project: Crossi	coads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-14
		ship 14S, Range 38	EDate Completed: 10/03/03	Total Depth: 5.0
Well Owner: Mot	oile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"
	800 Bell St. Houston, TX 7700	2 · · ·	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White
• • • • • • • • • • • •	WELL COMPLETIO	ON DATA	WELL PLUC	GGING DATA
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags:	Water Level: Dry	☐ Clean □ Dirty
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# WHITE DRILLING COMPANY, INC. ENVIRONMENTAL/GEOTECHNICAL DAILY DRILLING SHEET

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DEPTH (ft.)			DESCRIPTI	ON ·	
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD:	Air Rotary 🛛 N	Aud Rotary 🛛 Driv	ven 💷 Air Hammer	Other
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SURFACE CON	<b>MPETION:</b>				
□ Alternative Pro	ocedure Used	□ Surface Sle			
□ Surface Slab Ir	stalled	🗆 Pitless Ada	pter Used		
NOTES:					
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DRILLERS SIGNA	TURE:				

and the production of the second s	nvironmental Serv roads to Seminole	1	Date Started: 10/03/03	Well No.: SB-13
Project Address: State/City/Zip:		ship 14S, Range 38	EDate Completed: 10/03/03	Total Depth: 5.0
Well Owner: Mol	bile Pipe Line Co	ompany	Driller: John White	Hole Diameter: 4 3/4"
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White
an a	WELL COMPLETIC	ON DATA		GGING DATA
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags:	Water Level: Dry	☑ Clean □ Dirty
<b>DEPTH (ft.)</b> 0.0 - 1.0	Tan sand w/cal		RIPTION	
<b>DEPTH (ft.)</b> 0.0 - 1.0 1.0 - 5.0	Tan sand w/cal Caliche.	iche.	RIPTION	
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Per Diem (days)Well Dev./hrs.Decon/hrs.Packer Tests/L.F.Standby Time/hrs.Rig Time/hrs.	/hrs. Packer Tests/L.F. Standby Time/hrs. Rig Time/hrs.	Decon/hrs.	Well Dev./hrs.	Per Diem (days)
		<u> </u>		
DRILLING METHOD: Air Rotary 🗆 Mud Rotary 🗇 Driven 🗆 Air Hammer 🗇 Other		Air Rotary 🛛 D	THOD: 🛛 🗷 A	
SURFACE COMPETION:	· · · · · · · · · · · · · · · · · · ·			
<ul> <li>□ Alternative Procedure Used</li> <li>□ Surface Slab Installed</li> <li>□ Pitless Adapter Used</li> </ul>				
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NOTES:				NOTES:
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DRILLERS SIGNATURE:				
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Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-	12
Project Address: State/City/Zip:	Section 33, Town Lee County, New	ship 14S, Range 38 Mexico	EDate Completed: 10/03/03	Total Depth:	5.0
Well Owner: Mol	oile Pipe Line Co	mpany	Driller: John White	Hole Diameter:	4 3/4"
	800 Bell St. Houston, TX 7700		Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John	White
· · · · · · · · · · · ·	WELL COMPLETIO	DN DATA	WELL PL	UGGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pu	lled (ft):
Screen Depth:	Sand Feet/Bags:	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Ba	gs: /
Riser Depth:	Bentonite Feet/Bags:	Cement Feet/Bags: /	GPS: N- W-	Total Disposal 1	Drums:
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	⊠ Clean	🗆 Dirty
<b>DEPTH (ft.)</b> 0.0 - 2.0 2.0 - 5.0	Tan sand w/cal	iche.	RIPTION		
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### WHITE DRILLING COMPANY, INC. ENVIRONMENTAL/GEOTECHNICAL DAILY DRILLING SHEET

Page <u>2</u> of <u>2</u>

DEPTH (ft.)			DESCRIPTI	ON ·	·
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	· · ·	.ir Rotary 🛛 D	Iud Rotary 🛛 🗇 Driv	en 🗆 Air Hammer	Other
SURFACE COM C Alternative Pro Surface Slab In	cedure Used	□ Surface Sle □ Pitless Ada			
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DRILLERS SIGNA	TURE:	R			
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Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-11
Project Address: State/City/Zip:		ship 14S, Range 38	40,000,000	Total Depth: 5.0
2	bile Pipe Line Co		Driller: John White	Hole Diameter: 4 3/4"
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White
· · · · ·	WELL COMPLETIC	ON DATA		JGGING DATA
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags:
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	💷 Clean 🛛 Dirty
DEPTH (ft.)		DESC	RIPTION	
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### WHITE DRILLING COMPANY, INC. ENVIRONMENTAL/GEOTECHNICAL DAILY DRILLING SHEET

Page 2 of 2

DEPTH (ft.)		·	DESCRIPTI	ION ·	
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	$\mathbf{THOD}:  \mathbf{B} \land \mathbf{A}$	Air Rotary 🛛 D	Iud Rotary 🗆 Driv	ven 🛛 Air Hammer	Other
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SURFACE CON		□ Surface Sle	eve Installed		• • •
□ Surface Slab Ir		□ Pitless Ada			*
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DRILLERS SIGNA	ATURE:				
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Project: Crossroads to Seminole Main Line Project Address: Section 33, Township 14S, Range 38 State/City/Zip: Lee County, New Mexico Well Owner: Mobile Pipe Line Company Owner Address: 800 Bell St. State/City/Zip: Houston, TX 77002			Date Started: 10/03/03	Well No.: SB-10	
			EDate Completed: 10/03/03	Total Depth: 5.0 Hole Diameter: 4 3/4" Logged By: John White	
			Driller: John White		
			Driller's Helpers: Dallas Rader Jermey Sites		
WELL COMPLETION DATA			WELL PLUGGING DATA		
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	Clean 🗆 Dirty	
<b>DEPTH (ft.)</b> 0.0 - 1.5 1.5 - 5.0	Tan sand w/ca Caliche.		RIPTION		
0.0 - 1.5	Caliche.	liche.	RIPTION		
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.	
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DRILLING ME	THOD: BA	Air Rotary 🛛 D		ven 🛛 Air Hammer	D Other	
	· · ·	,	<b>y</b>			
SURFACE CO	MPETION:				· · ·	
□ Alternative Pro	ocedure Used	□ Surface Sle				
□ Surface Slab Ir	nstalled	🗆 Pitless Ada	pter Used	<i>.</i> .		
NOTES:				· · · · · · · · · · · · · · · · · · ·		
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DRILLERS SIGNA	ATURE:				· · ·	
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Project: Crossroads to Seminole Main Line Project Address: Section 33, Township 14S, Range 38 State/City/Zip: Lee County, New Mexico Well Owner: Mobile Pipe Line Company Owner Address: 800 Bell St. State/City/Zip: Houston, TX 77002 WELL COMPLETION DATA			Date Started: 10/03/03	Well No.: SB-9	
			EDate Completed: 10/03/03	Total Depth: 5.0 Hole Diameter: 4 3/4" Logged By: John White	
			Driller: John White		
			Driller's Helpers: Dallas Rader Jermey Sites		
			WELL PLUGGING DATA		
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags:	Water Level: Dry	⊠ Clean □ Dirty	
DEPTH (ft.)	······································	DESC	RIPTION	• • • • • • • • • • • • • • • • • • •	
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Page 1 of 2

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### WHITE DRILLING COMPANY, INC. ENVIRONMENTAL/GEOTECHNICAL DAILY DRILLING SHEET

Page 2 of 2

DEPTH (ft.)	DESCRIPTION .				
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD: DA	ir Rotary 🛛 D	Iud Rotary 🛛 Driv	ven 🗋 Air Hammer	D. Other
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□ Surface Slab In		□ Pitless Ada		· · ·	- · ·
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DRILLERS SIGNA	TURE:	Q/			
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· · · · ·		ices, Inc.			
Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-7 & SB-8	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed: 10/03/03	Total Depth: 5.0	
Well Owner: Mol	bile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"	
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White	
	WELL COMPLETIC	ON DATA	WELL PLU	GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags:	Cement Feet/Bags:			
· · · · · · · · · · · · · · · · · · ·			GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	⊠ Clean □ Dirty	
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DEPTH (ft.)		DESC	RIPTION	and the second	
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	Topsoil & tan s	sand.			
	7	sand.			
2.0 - 5.0	Caliche.	sand.			
	7	sand.			
2.0 - 5.0	Caliche.	sand.			
2.0 - 5.0	Caliche.	sand.			
2.0 - 5.0	Caliche.	sand.			
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DEPTH (ft.)			DESCRIPTI	ON	· · · · · · · · · · · · · · · · · · ·
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD: BA	kir Rotary 🛛 🛛	fud Rotary 🛛 Driv	en . 🗆 Air Hammer . 🛛	Dther
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SURFACE CON				. <b>.</b>	• • • • • •
□ Alternative Pro □ Surface Slab Ir		□ Surface Sle		•	•• ·
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DRILLERS SIGNA	TURE:	0/-			
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Toject: Cross:	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-6	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed:10/03/03	Total Depth: 5.0	
Well Owner: Mol	bile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"	
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White	
↓	WELL COMPLETIO	ON DATA	WELL PLU	GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 5.0 - 0.0 / 1	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	☑ Clean □ Dirty	
DEPTH (ft.)		· · · · · · · · · · · · · · · · · · ·	RIPTION		
0.0 - 5.0	Caliche.			· · · · · · · · · · · · · · · · · · ·	
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD: BA	Air Rotary 🛛 🗆 M	Iud Rotary 🛛 Driv	ven 🛛 Air Hamm <b>er</b> 🛛	DOther
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SURFACE CON	<b>MPETION:</b>				
□ Alternative Pro		□ Surface Sle	eve Installed		
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DRILLERS SIGNA	TURE:				
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Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-5	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed: 10/03/03	Total Depth: 25.0	
Well Owner: Mol	bile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"	
Owner Address: 800 Bell St. State/City/Zip: Houston, TX 77002		Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White		
· · · · · · · · · · · · · · · · · · ·	WELL COMPLETIC	ON DATA		GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 25.0 - 0.0 / 5.5	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags:	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	□ Clean ⊠ Dirty	
DEPTH (ft.)		DESC	RIPTION	hydrocarbon	
0.0 - 1.0	Topsoil.				
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1.0 - 25.0	Sandy caliche.			······································	
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Per Diem (daýs)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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RILLING ME	CTHOD: BA	Air Rotary 🛛 N	Aud Rotary 🛛 Driv	ven 🗆 Air Hammer	□ Other
URFACE CON	MPETION:				
Alternative Pro			eeve Installed		. <i>.</i>
Surface Slab Ir	nstalled	🗆 Pitless Ada	apter Used		
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RILLERS SIGNA	TURE:	- Off			

Client BNC Env	ironmental Serv	ices Inc		Page_1_ of _2	
	ads to Seminole		Date Started: 10/03/03	Well No.: SB-4	
	ection 33, Town ee County, New		EDate Completed: 10/03/03	Total Depth: 10.0	
Well Owner: Mobi	le Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"	
	00 Bell St. ouston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White	
	WELL COMPLETIC	ON DATA		GGING DATA	
Diameter: S	creen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth: S	and Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 10.0 - 0.0 / 2	Cement Feet/Bags: /	
Riser Depth: B	entonite Feet/Bags:	Cement Feet/Bags:			
an an an anna an an an an an an an an an	· · · · · / ··		GPS: N- W-	Total Disposal Drums:	
Surface Csg. S Dia:	urface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	Clean Dirty	
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DEPTH (ft.)	an a	DESC	RIPTION	na series de la construcción de las que	
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0.0 - 10.0	Backfill mater	ial w/tan sand & d	The Although Law		
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DEPTH (ft.)		· · · · · · · · · · · · · · · · · · ·	DESCRIPTI	ON .	·····
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		Description			
Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.
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DRILLING ME	THOD: B A	Air Rotary 🛛 D	fud Rotary 🛛 Driv	ven 🗆 Air Hammer	□ Other
SURFACE CON	ADETION.				· · ·
□ Alternative Pro		□ Surface Sle	eve Installed		- · ·
□ Surface Slab Ir		🗆 Pitless Ada			· .
NOTES:					
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DRILLERS SIGNA	TURE:				
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Project: Croce	nvironmental Serv roads to Seminole		Date Started: 10/03/03	Well No.: SB-3	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed: 10/03/03	Total Depth: 25.0	
Well Owner: Mo	bile Pipe Line Co	ompany	Driller: John White	Hole Diameter: 4 3/4"	
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	)2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White	
· · · · · · · · · · · · · · · · · · ·	WELL COMPLETIO	ON DATA	WELL PLU	GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags:	Sand Size:	Bentonite Feet/bags: 25.0 - 0.0 / 5.5	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	B Clean □ Dirty	
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DEPTH (ft.)		DESCI	RIPTION		
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			and.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa	and.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	and.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.	· · · · · ·	
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.	· · · · · ·	
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		
0.0 - 3.5 3.5 - 25.0	Sandy caliche	ial mixed w/tan sa w/limestone.	ind.		

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DEPTH (ft.)		DESCRIPTION .				
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.	
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DRILLING ME	THOD: B A	ir Rotary 🛛 🛛 🛛	fud Rotary 🗆 Driv	ven 🛛 Air Hammer	□ Other	
	ADETION.				•	
SURFACE CON		□ Surface Sle	eve Installed			
🗆 Surface Slab Ir	stalled	🗆 Pitless Ada	pter Used			
NOTES:	- <u>18 48 4 </u>			· · · · · · · · · · · · · · · · · · ·		
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DRILLERS SIGNA	TURE:	. And the second				
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Client: BNC E	nvironmental Serv	ices, Inc.		Page <u>1</u> of <u>2</u>	
Project: Cross	roads to Seminole	Main Line	Date Started: 10/03/03	Well No.: SB-2	
Project Address: State/City/Zip:	Section 33, Town Lee County, New		EDate Completed: 10/03/03	Total Depth: 15.0 Hole Diameter: 4 3/4"	
Well Owner: Mol	oile Pipe Line Co	mpany	Driller: John White		
Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White	
	WELL COMPLETIO	ON DATA	WELL PLUC	GGING DATA	
Diameter:	Screen Slot:	PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft):	
Screen Depth:	Sand Feet/Bags: /	Sand Size:	Bentonite Feet/bags: 15.0 - 0.0 / 3.5	Cement Feet/Bags: /	
Riser Depth:	Bentonite Feet/Bags: /	Cement Feet/Bags: /	GPS: N- W-	Total Disposal Drums:	
Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	🛛 Clean 🛛 Dirty	
DEPTH (ft.)			RIPTION		
0.0 - 7.0	Backfill mate				
7.0 - 15.0	Caliche.			•	
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DEPTH (ft.)			DESCRIPTI	ION ·					
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Per Diem (days)	Well Dev./hrs.	Decon/hrs.	Packer Tests/L.F.	Standby Time/hrs.	Rig Time/hrs.				
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DRILLING ME	THOD: 🛛 🗷 A	lir Rotary 🛛 D	fud Rotary 🛛 Driv	ven 🛛 Air Hammer	🛛 Other				
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SURFACE CON			·		· ·				
□ Alternative Pro		□ Surface Sle □ Pitless Ada							
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NOTES:									
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DRILLERS SIGNATURE:									
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	Client: BNC Environmental Services, Inc.										
	Project: Cross	roads to Seminole	Date Started: 10/03/03	Well No.: SB-1							
	Project Address: State/City/Zip:	Total Depth: 25.0									
d	Well Owner: Mo	bile Pipe Line Co	mpany	Driller: John White	Hole Diameter: 4 3/4"						
	Owner Address: State/City/Zip:	800 Bell St. Houston, TX 7700	2	Driller's Helpers: Dallas Rader Jermey Sites	Logged By: John White						
٦	WELL COMPLETION DATA			WELL PLUGGING DATA							
	Diameter:       Screen Slot:         Screen Depth:       Sand Feet/Bags:         /       /         Riser Depth:       Bentonite Feet/Bags:         /       /		PVC or Steel Schedule:	Casing left in well (ft):	Total Casing Pulled (ft): Cement Feet/Bags: /						
			Sand Size:	Bentonite Feet/bags: 25.0 - 0.0 / 5.5							
			Cement Feet/Bags: /	GPS: N- W-		posal Drums:					
	Surface Csg. Dia:	Surface Casing Depth:	Cement Feet/Bags: /	Water Level: Dry	🛛 Clean	🗆 Dirty					
	DEPTH (ft.) DESCRIPTION										
	0.0 - 1.0 Tan sand w/caliche.										
	<u>1.0 - 25.0</u> Limestone & caliche.										
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