

AP - 9

STAGE 2 REPORT

Date

8-25-11



RECEIVED OCD

2011 SEP -7 P 6:51

August 25, 2011

Mr. Ed Hansen
New Mexico Oil Conservation Division
1220 South Francis Drive
Santa Fe, New Mexico 87505

Re: Plains Marketing, L.P. HDO-90-23 (Plains SRS # HDO-90-23)
Soil Evaluation Report
NMOCD Reference # AP-009
Unit Letter ~~D~~ (NW 1/4 of the NW 1/4), Section 6, T20S, R37E
Lea County, New Mexico

Dear Mr. Hansen:

On behalf of Plains Marketing, L.P. (Plains), NOVA Safety and Environmental (NOVA) is pleased to submit this Soil Evaluation Report for the site known as HDO-90-23 (HDO). The site is located in the NE 1/4 of the NW 1/4 of Section 6, Township 20 South, Range 37 East in Lea County, New Mexico. A Site Location Map is provided as Figure 1.

The soil evaluation activities were requested by the NMOCD in a correspondence dated June 22, 2010, to further assess the subsurface conditions in the vicinity of monitor well MW-2, and to compare soil analytical data to samples collected from soil boring SB-G advanced during investigation activities conducted in November 2009. A Site Map depicting the locations of the soil borings, initial excavation, the locations of monitor wells and other site details, is provided as Figure 2. The Release Notification and Corrective Action (Form C-141) is provided as Appendix C.

On July 7, 2011, soil boring SB-K was installed within 20 feet of monitor well MW-2 and advanced to a total depth of approximately 45 feet below ground surface (bgs), with soil samples collected at 5 foot intervals. Analytical results of soil samples collected from soil boring SB-K indicated TPH concentrations above NMOCD standards of 100 mg/Kg TPH for soil samples 5, 15, 20, 25, 30 and 35 feet bgs ranging from 305 mg/Kg at 15 feet to 865 mg/Kg at 30 feet bgs. Please refer to Table 1 for laboratory analytical results.

In comparison, the soil analytical results from soil boring SB-K exhibited TPH concentrations below those concentrations exhibited by the samples from soil boring SB-G, with the exception of the sample from 4-5 feet bgs, which exhibited a TPH concentration of 309 mg/Kg. Based upon the analytical data comparison, the reduction in contaminant concentration in the vicinity of monitor well MW-2 indicates that natural attenuation is effective and ongoing. Figure 3 illustrates a side by side comparison of TPH concentrations with depth of soil samples analyzed from soil borings SB-G and SB-K. A sample collected at 45 feet bgs from soil boring SB-K exhibited a TPH concentration of 429 mg/Kg and was not included in the comparison due to the sample being within the groundwater capillary fringe. Please refer to Figure 3, TPH Concentrations with Depth from Soil Borings SB-G and SB-K.

A summary of the concentrations of BTEX and TPH in soil is provided as Table 1. Lithologic and soil boring logs along with the State of New Mexico Drillers Report for the SB-K soil boring are provided in Appendix A. Laboratory reports are included as Appendix B.

If you have any questions, or if additional information is needed, please feel free to call us at 432-520-7720 or 432-894-7166.

Thank you,



Ronald K. Rounsaville
Senior Project Manager
NOVA Safety and Environmental

Attachments:

Figure 1 – Site Location Map

Figure 2 – Site Map

Figure 3 – TPH Concentrations with Depth from Soil Borings SB-G and SB-K

Table 1 – Concentrations of TPH and BTEX in Soil

Appendix A: Soil Boring Log Details & State of New Mexico Drillers Report

Appendix B: Laboratory Reports

Appendix C: C-141

CC:

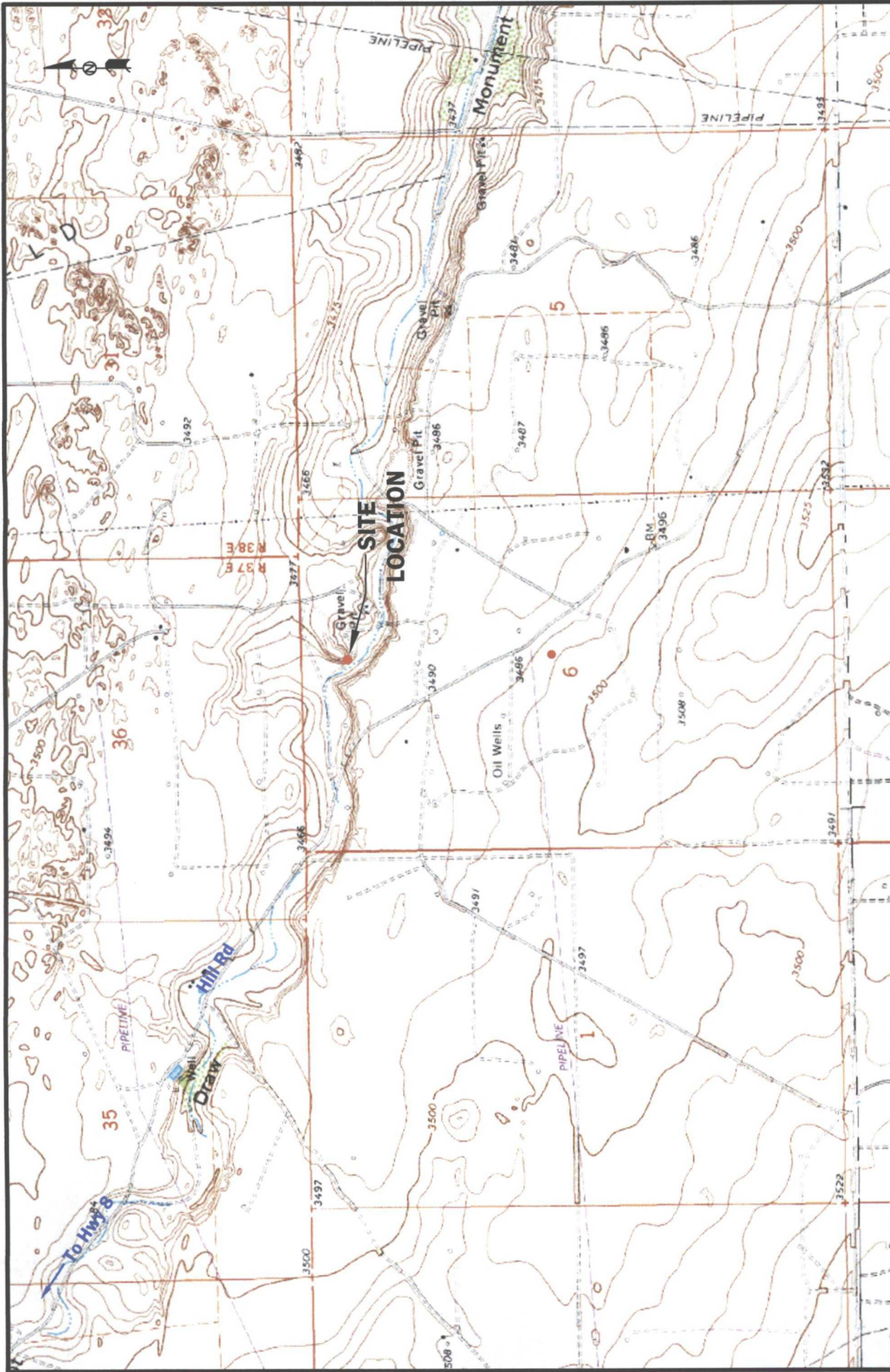
Geoffrey R. Leking, NMOCD, Hobbs, NM

Jeff Dann, Plains Marketing, L.P., Houston, Texas

Jason Henry, Plains Marketing, L.P., Denver City, Texas



FIGURES



LEGEND:



Distance in Feet

Figure 1
Site Location Map
HDO 90-23
Plains Marketing, L.P.
Lea County, NM

2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

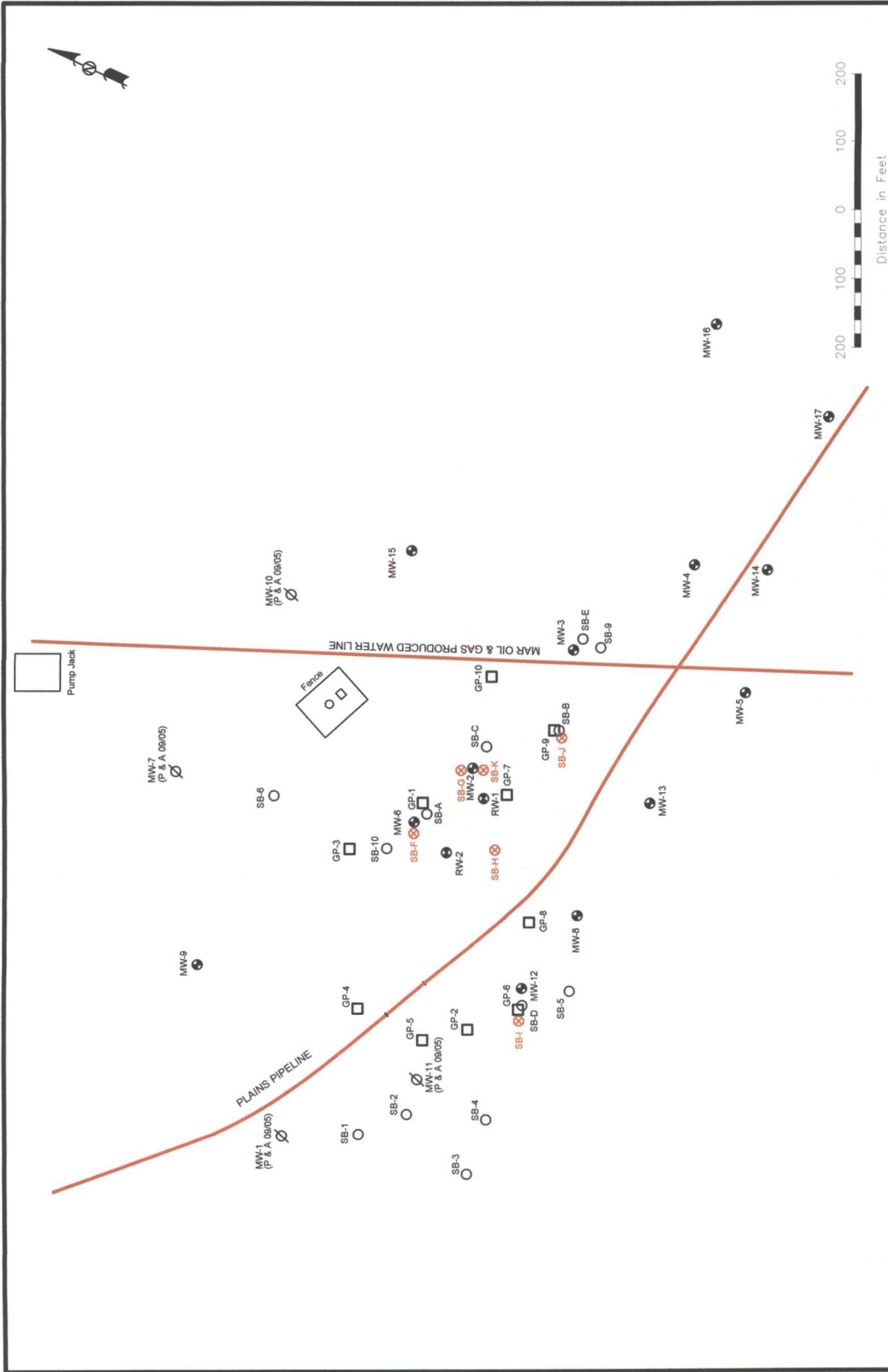


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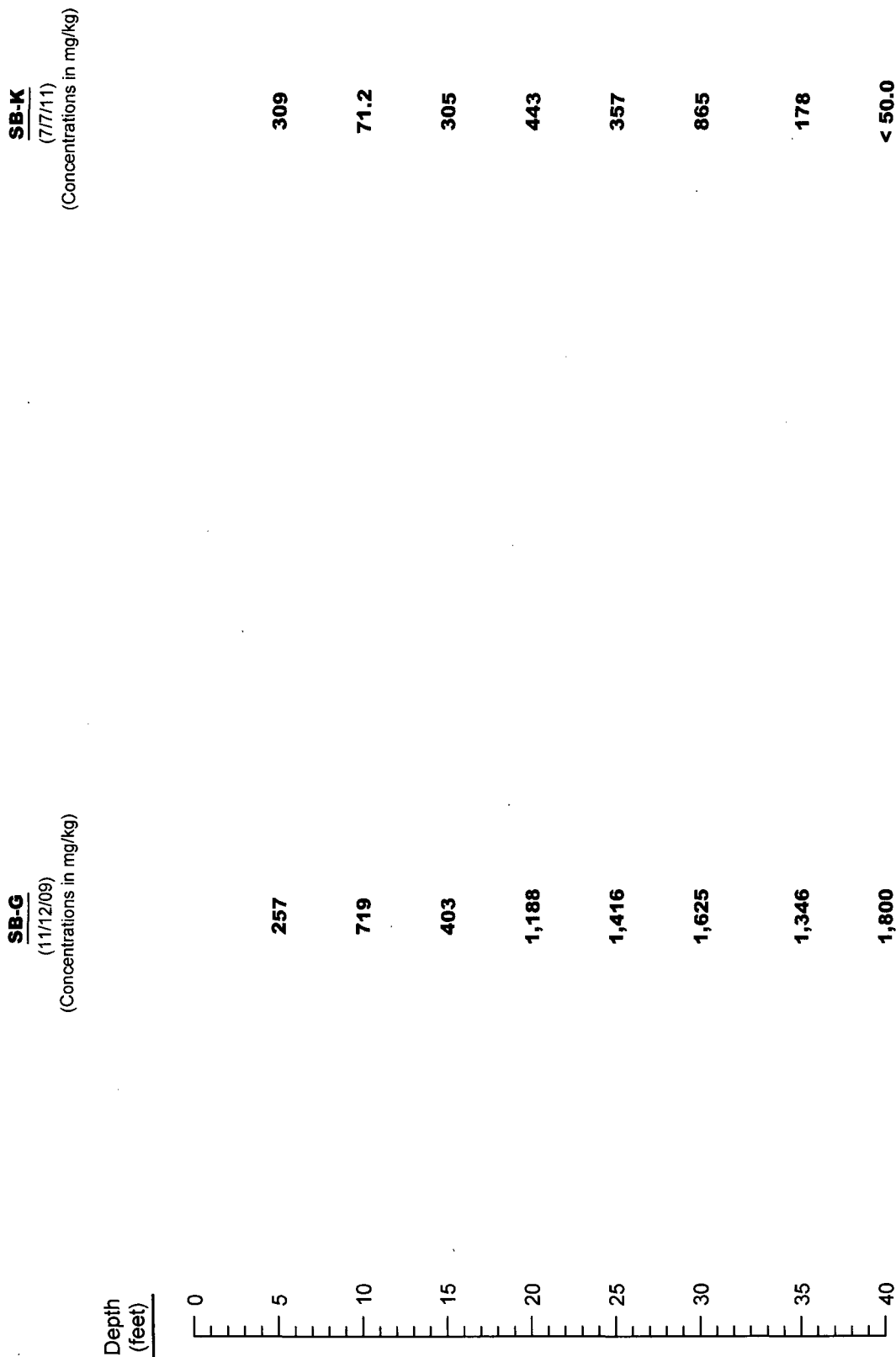
February 28, 2011 | Scale: 1" = 2000' | CAD By: TA | Checked By: RKR

LATITUDE & LONGITUDE COORDINATES: N 32° 31' 12.1" W 103° 12' 2.86"

NMOCD Reference #AP-009



TPH Concentrations with Depths from soil Borings SB-G & SB-K



Legend:

Figure 3
TPH Concentrations with Depth from
Soil Boring SB-G and SB-K
HDO 90-23
Plains Pipeline, L.P.
Lea County, NM



2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

Scale: NTS
August 17, 2011
Drawn By: TA
Checked By: RKR



TABLES

TABLE 1
CONCENTRATIONS OF TPH AND BTEX IN SOIL
PLAINS MARKETING, L.P.
HDO 90-23
MONUMENT (LEA COUNTY), NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	8015M			SW 846-8021B, 5030				
		GRO C ₆ -C ₁₂	DRO >C ₁₂ -C ₃₅	TOTAL C ₆ -C ₃₅	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	TOTAL BTEX
RW-1 5'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 10'	12/18/02	<10.0	<10.0	<10.0	0.064	0.08	0.38	0.653	1.177
RW-1 15'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 20'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 25'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 30'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 35'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 40'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-1 45'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 5'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 10'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 15'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 20'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 25'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 30'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 35'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 40'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
RW-2 45'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 5'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 10'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 15'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 20'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 25'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 30'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 35'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 40'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 45'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-9 50'	12/18/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 5'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 10'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 15'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 20'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 25'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 30'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 35'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 40'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 45'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-10 50'	12/29/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 5'	12/30/02	<10.0	<10.0	<10.0	<0.025	0.026	0.028	0.056	0.11
MW-11 10'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 15'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 20'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 25'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 30'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 35'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 40'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 45'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-11 50'	12/30/02	<10.0	23.5	23.5	<0.025	<0.025	<0.025	<0.025	<0.025

TABLE 1
CONCENTRATIONS OF TPH AND BTEX IN SOIL
PLAINS MARKETING, L.P.
HDO 90-23
MONUMENT (LEA COUNTY), NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	8015M			SW 846-8021B, 5030				
		GRO C ₆ -C ₁₂	DRO >C ₁₂ -C ₃₅	TOTAL C ₆ -C ₃₅	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	TOTAL BTEX
MW-12 5'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 10'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 15'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 20'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 25'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 30'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 35'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 40'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 45'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 50'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-12 55'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 5'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 10'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 15'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 20'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 25'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 30'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 35'	12/30/02	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 40'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 45'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-13 50'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 5'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 10'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 15'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 20'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 25'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 30'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 35'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 40'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 45'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-14 50'	01/02/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 5'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 10'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 15'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 20'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 25'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 30'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 35'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 40'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 45'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-15 50'	01/03/03	<10.0	<10.0	<10.0	<0.025	<0.025	<0.025	<0.025	<0.025
MW-16@25'	12/02/04	<1	<50		<0.01	<0.01	<0.01	<0.01	<0.01
MW-16@40'	12/02/04	<1	<50		<0.01	<0.01	<0.01	<0.01	<0.01
MW-17@30'	12/02/04	<1	<50		<0.01	<0.01	<0.01	<0.01	<0.01
MW-17@40'	12/04/04	<1	<50		<0.01	<0.01	<0.01	<0.01	<0.01
HA 1'	04/07/03	2070	3870	5940					<20.0
HA 2'	04/07/03	3570	5680	9250					<20.0
HA 3'	04/07/03	2510	3020	5530					<20.0

TABLE 1
CONCENTRATIONS OF TPH AND BTEX IN SOIL
PLAINS MARKETING, L.P.
HDO 90-23
MONUMENT (LEA COUNTY), NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	8015M			SW 846-8021B, 5030				
		GRO C ₆ -C ₁₂	DRO >C ₁₂ -C ₃₅	TOTAL C ₆ -C ₃₅	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	TOTAL BTEX
SB-F, 4-5'	11/12/09	208	365	573	<0.050	<0.050	0.547	<0.05	0.547
SB-F, 9-10'	11/12/09	288	342	630	<0.050	0.0982	3.99	0.944	5.0322
SB-F, 14-15'	11/12/09	381	380	761	0.0812	<0.050	5.59	0.844	6.5152
SB-F, 19-20'	11/12/09	101	453	554	<0.050	<0.050	1.02	<0.05	1.02
SB-F, 24-25'	11/12/09	126	726	852	<0.050	0.216	1.35	1.72	3.286
SB-G, 4-5'	11/12/09	125	132	257	<0.050	<0.050	0.653	0.0599	0.7129
SB-G, 9-10'	11/12/09	377	342	719	<0.100	<0.100	6.67	2.41	9.08
SB-G, 14-15'	11/12/09	150	253	403	<0.050	<0.050	2.36	0.346	2.706
SB-G, 19-20'	11/12/09	168	1020	1188	<0.050	<0.050	2.04	0.318	2.358
SB-G, 24-25'	11/12/09	216	1200	1416	<0.100	0.128	2.19	2.54	4.858
SB-G, 29-30'	11/12/09	65	1560	1625	<0.050	<0.050	0.584	0.671	1.255
SB-G, 34-35'	11/12/09	46.5	1300	1346.5	<0.050	<0.050	0.287	0.419	0.706
SB-G, 39-40'	11/12/09	190	1610	1800	<0.050	0.466	2.57	2.57	5.606
SB-H, 14-15'	11/12/09	133	1340	1473	<0.050	<0.050	0.602	0.544	1.146
SB-H, 19-20'	11/12/09	47.8	951	998.8	<0.050	<0.050	0.169	0.156	0.325
SB-I, 4-5'	11/12/09	<1.00	<50.0	0	<0.010	<0.010	<0.010	<0.010	<0.010
SB-J, 4-5'	11/12/09	<1.00	<50.0	0	<0.010	<0.010	<0.010	<0.010	<0.010
SB-K, 4-5'	07/07/11	194	115	309	--	--	--	--	--
SB-K, 9-10'	07/07/11	7.48	63.7	71.2	--	--	--	--	--
SB-K, 14-15'	07/07/11	35.3	270	305.3	--	--	--	--	--
SB-K, 19-20'	07/07/11	69.4	374	443.4	--	--	--	--	--
SB-K, 24-25'	07/07/11	43.2	314	357.2	--	--	--	--	--
SB-K, 29-30'	07/07/11	72.5	793	865.5	--	--	--	--	--
SB-K, 34-35'	07/07/11	2.25	176	178.25	--	--	--	--	--
SB-K, 39-40'	07/07/11	<2.00	<50.0	<50.0	--	--	--	--	--
SB-K, 44-45'	07/07/11	33.6	396	429.6	--	--	--	--	--

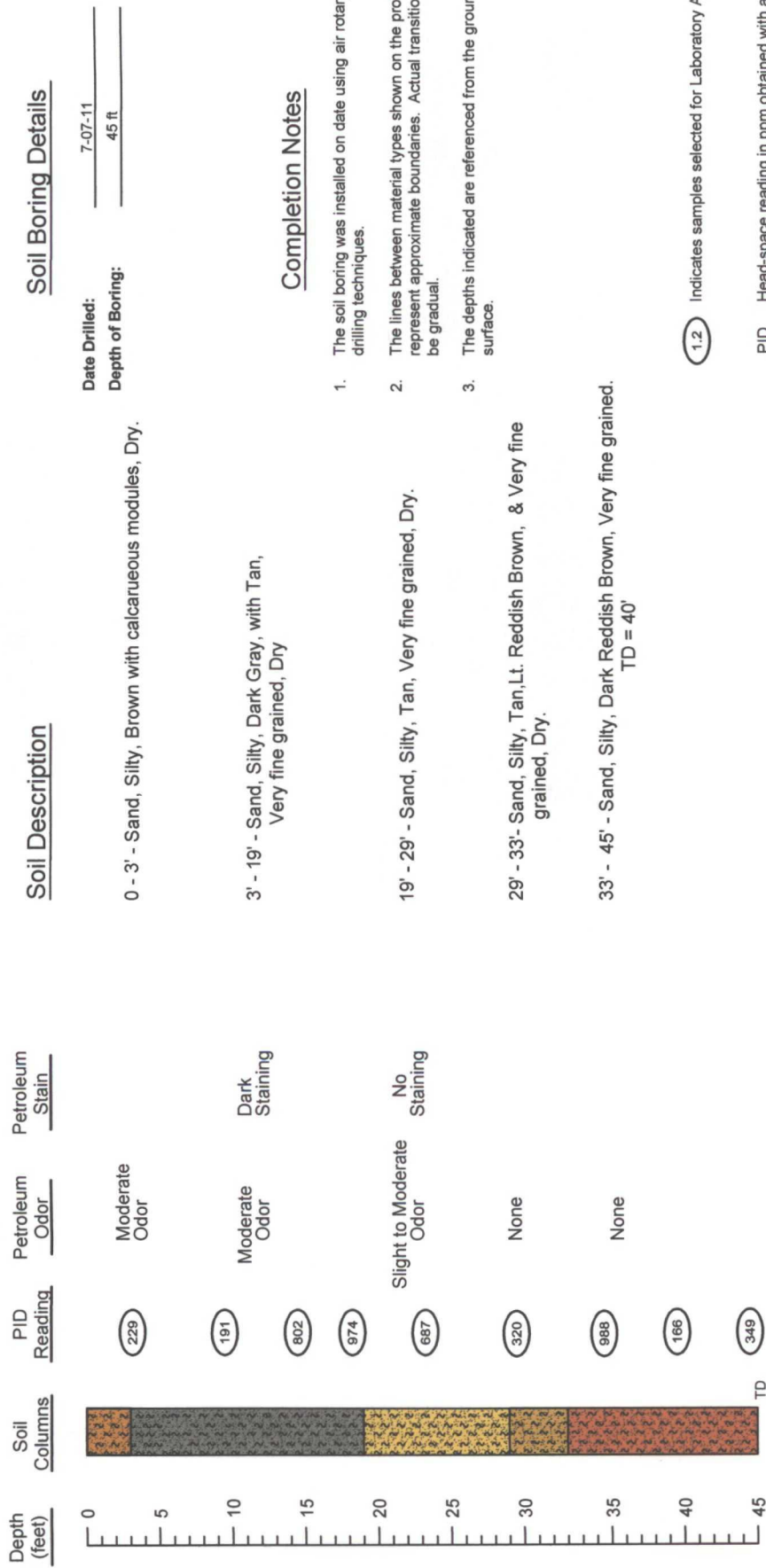
-- = Not Analyzed



APPENDICES

APPENDIX A
Soil Boring Log Details and State of New Mexico
Drillers Report

Soil Boring Log SB-K



Completion Notes

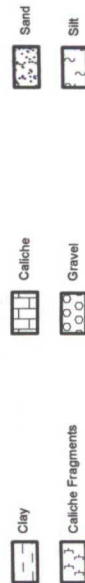
1. The soil boring was installed on date using air rotary drilling techniques.
2. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
3. The depths indicated are referenced from the ground surface.

1.2 Indicates samples selected for Laboratory Analysis.

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

Indicates the groundwater interface.

Legend:



Soil Boring SB-K
Log Details
Plains - HDO 90-23
SRS# HDO 90-23
Plains Pipeline, L.P.
Lea County, NM



2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

Scale: NTS Drawn By: TA

Checked By: RKR

July 27, 2011



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) HDO -90-23 SB-K				OSE FILE NUMBER(S)									
	WELL OWNER NAME(S) PLAINS MARKETING LP				PHONE (OPTIONAL)									
	WELL OWNER MAILING ADDRESS 333 CLAY STREET, SUITE 1600				CITY HOUSTON		STATE TX		ZIP 77078					
	WELL LOCATION (FROM GPS)		DEGREES LATITUDE 32		MINUTES 31		SECONDS 11.00 N		* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84					
		LONGITUDE 103		12		3.00 W								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS FROM EUNICE GO TO MADDEX RD TURN R GO E TO SITE. LEA CO														
2. OPTIONAL	(2.5 ACRE) 1/4		(10 ACRE) 1/4		(40 ACRE) 1/4		(160 ACRE) 1/4		SECTION					
	SUBDIVISION NAME				LOT NUMBER		BLOCK NUMBER		UNIT/TRACT					
	HYDROGRAPHIC SURVEY				MAP NUMBER		TRACT NUMBER							
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER EDWARD BRYAN				NAME OF WELL DRILLING COMPANY STRAUB CORPORATION							
	DRILLING STARTED 7-6-11		DRILLING ENDED 7-6-11		DEPTH OF COMPLETED WELL (FT) 0		BORE HOLE DEPTH (FT) 45		DEPTH WATER FIRST ENCOUNTERED (FT)					
	COMPLETED WELL IS: ☐ ARTESIAN ☒ DRY HOLE ☐ SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A							
	DRILLING FLUID: ☒ AIR ☐ MUD ☐ ADDITIVES - SPECIFY:													
	DRILLING METHOD: ☒ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY:													
	DEPTH (FT)		BORE HOLE DIA. (IN)		CASING MATERIAL		CONNECTION TYPE (CASING)		INSIDE DIA. CASING (IN)		CASING WALL THICKNESS (IN)		SLOT SIZE (IN)	
	FROM 0		TO 45		5		N/A		N/A		N/A		N/A	
4. WATER BEARING STRATA	DEPTH (FT)		THICKNESS (FT)		FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)						YIELD (GPM)			
	FROM 0		TO 45											
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA										TOTAL ESTIMATED WELL YIELD (GPM)				

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER		POD NUMBER		TRN NUMBER	
LOCATION				PAGE 1 OF 2	

5. SEAL AND PUMP	TYPE OF PUMP: ☐ SUBMERSIBLE ☐ JET ☐ NO PUMP - WELL NOT EQUIPPED ☐ TURBINE ☐ CYLINDER ☐ OTHER - SPECIFY:						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	2				
	2	45	5	8 BAGS OF 3/8 PLUG		TOPLOAD	

6. GEOLOGIC LOG OF WELL	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO				
	0	2	2	BROWN FINE SAND - WITH CLAY	☐ YES	☒ NO
	2	20	18	TAN FINE SAND - SANDSTONE (STAIN ODOR)	☐ YES	☒ NO
	20	37	17	TAN FINE SAND - SANDSTONE (NO STAIN)	☐ YES	☒ NO
	37	40	3	REDDISH BROWN FINE SAND WITH CLAY	☐ YES	☒ NO
	40	41	24	BROWN SILTY CLAY	☐ YES	☒ NO
	41	45	4	REDDISH BROWN SANDY CLAY	☐ YES	☒ NO
	TD	45			☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
					☐ YES	☐ NO
	ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL					

7. TEST & ADDITIONAL INFO	WELL TEST		METHOD: ☐ BAILER ☐ PUMP ☐ AIR LIFT ☐ OTHER - SPECIFY:		
	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.				
	ADDITIONAL STATEMENTS OR EXPLANATIONS: SOIL BORING ONLY- SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING.				

8. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER	7/11/11 _____ DATE

APPENDIX B
Laboratory Analytical Reports



6701 Aberdeen Avenue, Suite 9, Lubbock, Texas 79424 806•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ron Rounsaville
Nova Safety & Environmental
2057 Commerce St.
Midland, TX, 79703

Report Date: July 12, 2011

Work Order: 11070728



Project Location: New Mexico
Project Name: HDO
Project Number: TNM-HDO-90-23

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
271386	SB-K, 4-5'	soil	2011-07-07	10:15	2011-07-07
271387	SB-K, 9-10'	soil	2011-07-07	10:19	2011-07-07
271388	SB-K, 14-15'	soil	2011-07-07	10:25	2011-07-07
271389	SB-K, 19-20'	soil	2011-07-07	10:29	2011-07-07
271390	SB-K, 24-25'	soil	2011-07-07	10:35	2011-07-07
271391	SB-K, 29-30'	soil	2011-07-07	10:39	2011-07-07
271392	SB-K, 34-35'	soil	2011-07-07	10:45	2011-07-07
271393	SB-K, 39-40'	soil	2011-07-07	10:49	2011-07-07
271394	SB-K, 44-45'	soil	2011-07-07	10:55	2011-07-07

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



Michael Abel

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

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Case Narrative

Samples for project HDO were received by TraceAnalysis, Inc. on 2011-07-07 and assigned to work order 11070728. Samples for work order 11070728 were received intact at a temperature of 4.0 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
TPH DRO - NEW	S 8015 D	70426	2011-07-08 at 14:58	82916	2011-07-08 at 14:58
TPH GRO	S 8015 D	70420	2011-07-08 at 14:00	82907	2011-07-10 at 21:03

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11070728 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

Page Number: 5 of 17
New Mexico

Analytical Report

Sample: 271386 - SB-K, 4-5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 82916

Prep Batch: 70426

Analytical Method: S 8015 D

Date Analyzed: 2011-07-08

Sample Preparation: 2011-07-08

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	115	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			108	mg/Kg	1	100	108	70 - 130

Sample: 271386 - SB-K, 4-5'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 82907

Prep Batch: 70420

Analytical Method: S 8015 D

Date Analyzed: 2011-07-10

Sample Preparation: 2011-07-08

Prep Method: S 5035

Analyzed By: ME

Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	194	mg/Kg	10	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			10.0	mg/Kg	10	10.0	100	48.5 - 152
4-Bromofluorobenzene (4-BFB)			12.1	mg/Kg	10	10.0	121	42 - 159

Sample: 271387 - SB-K, 9-10'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 82916

Prep Batch: 70426

Analytical Method: S 8015 D

Date Analyzed: 2011-07-08

Sample Preparation: 2011-07-08

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

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New Mexico

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	63.7	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			101	mg/Kg	1	100	101	70 - 130

Sample: 271387 - SB-K, 9-10'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	7.48	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.01	mg/Kg	1	2.00	100	42 - 159

Sample: 271388 - SB-K, 14-15'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 82916
Prep Batch: 70426

Analytical Method: S 8015 D
Date Analyzed: 2011-07-08
Sample Preparation: 2011-07-08

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	270	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			118	mg/Kg	1	100	118	70 - 130

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

Page Number: 7 of 17
New Mexico

Sample: 271388 - SB-K, 14-15'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	35.3	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.69	mg/Kg	5	5.00	94	48.5 - 152
4-Bromofluorobenzene (4-BFB)			5.03	mg/Kg	5	5.00	101	42 - 159

Sample: 271389 - SB-K, 19-20'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 82916
Prep Batch: 70426

Analytical Method: S 8015 D
Date Analyzed: 2011-07-08
Sample Preparation: 2011-07-08

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	374	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			126	mg/Kg	1	100	126	70 - 130

Sample: 271389 - SB-K, 19-20'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	69.4	mg/Kg	10	2.00

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

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New Mexico

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.57	mg/Kg	10	10.0	96	48.5 - 152
4-Bromofluorobenzene (4-BFB)			10.4	mg/Kg	10	10.0	104	42 - 159

Sample: 271390 - SB-K, 24-25'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 82916

Prep Batch: 70426

Analytical Method: S 8015 D

Date Analyzed: 2011-07-08

Sample Preparation: 2011-07-08

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	314	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			99.4	mg/Kg	1	100	99	70 - 130

Sample: 271390 - SB-K, 24-25'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 82907

Prep Batch: 70420

Analytical Method: S 8015 D

Date Analyzed: 2011-07-10

Sample Preparation: 2011-07-08

Prep Method: S 5035

Analyzed By: ME

Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	43.2	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.67	mg/Kg	5	5.00	93	48.5 - 152
4-Bromofluorobenzene (4-BFB)			5.07	mg/Kg	5	5.00	101	42 - 159

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

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New Mexico

Sample: 271391 - SB-K, 29-30'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 82916

Prep Batch: 70426

Analytical Method: S 8015 D

Date Analyzed: 2011-07-08

Sample Preparation: 2011-07-08

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	793	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			148	mg/Kg	1	100	148	70 - 130

Sample: 271391 - SB-K, 29-30'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 82907

Prep Batch: 70420

Analytical Method: S 8015 D

Date Analyzed: 2011-07-10

Sample Preparation: 2011-07-08

Prep Method: S 5035

Analyzed By: ME

Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	72.5	mg/Kg	10	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.68	mg/Kg	10	10.0	97	48.5 - 152
4-Bromofluorobenzene (4-BFB)			9.76	mg/Kg	10	10.0	98	42 - 159

Sample: 271392 - SB-K, 34-35'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 82916

Prep Batch: 70426

Analytical Method: S 8015 D

Date Analyzed: 2011-07-08

Sample Preparation: 2011-07-08

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	176	mg/Kg	1	50.0

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

Page Number: 10 of 17
New Mexico

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	70 - 130

Sample: 271392 - SB-K, 34-35'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	2.25	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.89	mg/Kg	1	2.00	94	48.5 - 152
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	42 - 159

Sample: 271393 - SB-K, 39-40'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 82916
Prep Batch: 70426

Analytical Method: S 8015 D
Date Analyzed: 2011-07-08
Sample Preparation: 2011-07-08

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			108	mg/Kg	1	100	108	70 - 130

Sample: 271393 - SB-K, 39-40'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

Page Number: 11 of 17
New Mexico

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.95	mg/Kg	1	2.00	98	48.5 - 152
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	42 - 159

Sample: 271394 - SB-K, 44-45'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 82916
Prep Batch: 70426

Analytical Method: S 8015 D
Date Analyzed: 2011-07-08
Sample Preparation: 2011-07-08

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	396	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			112	mg/Kg	1	100	112	70 - 130

Sample: 271394 - SB-K, 44-45'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 82907
Prep Batch: 70420

Analytical Method: S 8015 D
Date Analyzed: 2011-07-10
Sample Preparation: 2011-07-08

Prep Method: S 5035
Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	33.6	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.85	mg/Kg	1	2.00	92	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.62	mg/Kg	1	2.00	131	42 - 159

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

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New Mexico

Method Blanks

Method Blank (1) QC Batch: 82907

QC Batch: 82907
Prep Batch: 70420

Date Analyzed: 2011-07-10
QC Preparation: 2011-07-08

Analyzed By: ME
Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.753	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.92	mg/Kg	1	2.00	96	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.63	mg/Kg	1	2.00	82	52.4 - 130

Method Blank (1) QC Batch: 82916

QC Batch: 82916
Prep Batch: 70426

Date Analyzed: 2011-07-08
QC Preparation: 2011-07-08

Analyzed By: kg
Prepared By: kg

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<14.5	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			120	mg/Kg	1	100	120	70 - 130

Report Date: July 12, 2011
TNM-HDO-90-23

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 82907
Prep Batch: 70420

Date Analyzed: 2011-07-10
QC Preparation: 2011-07-08

Analyzed By: ME
Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.6	mg/Kg	1	20.0	<0.753	78	60.9 - 95.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.0	mg/Kg	1	20.0	<0.753	80	60.9 - 95.4	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.95	mg/Kg	1	2.00	97	98	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.81	1.80	mg/Kg	1	2.00	90	90	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 82916
Prep Batch: 70426

Date Analyzed: 2011-07-08
QC Preparation: 2011-07-08

Analyzed By: kg
Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	282	mg/Kg	1	250	<14.5	113	57.4 - 133.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	280	mg/Kg	1	250	<14.5	112	57.4 - 133.4	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	118	118	mg/Kg	1	100	118	118	70 - 130

Report Date: July 12, 2011
TNM-HDO-90-23

Work Order: 11070728
HDO

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New Mexico

Matrix Spike (MS-1) Spiked Sample: 271394

QC Batch: 82907
Prep Batch: 70420

Date Analyzed: 2011-07-10
QC Preparation: 2011-07-08

Analyzed By: ME
Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	45.5	mg/Kg	1	20.0	33.585	60	61.8 - 114

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	38.3	mg/Kg	1	20.0	33.585	24	61.8 - 114	17	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.98	1.81	mg/Kg	1	2	99	90	50 - 162
4-Bromofluorobenzene (4-BFB)	2.67	2.49	mg/Kg	1	2	134	124	50 - 162

Matrix Spike (MS-1) Spiked Sample: 271390

QC Batch: 82916
Prep Batch: 70426

Date Analyzed: 2011-07-08
QC Preparation: 2011-07-08

Analyzed By: kg
Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	527	mg/Kg	1	250	314	85	35.2 - 167.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	622	mg/Kg	1	250	314	123	35.2 - 167.1	16	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	107	106	mg/Kg	1	100	107	106	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 82907

Date Analyzed: 2011-07-10

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.976	98	80 - 120	2011-07-10

Standard (CCV-2)

QC Batch: 82907

Date Analyzed: 2011-07-10

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.974	97	80 - 120	2011-07-10

Standard (CCV-1)

QC Batch: 82916

Date Analyzed: 2011-07-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	268	107	80 - 120	2011-07-08

Standard (CCV-2)

QC Batch: 82916

Date Analyzed: 2011-07-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	264	106	80 - 120	2011-07-08

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Standard (CCV-3)

QC Batch: 82916

Date Analyzed: 2011-07-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	254	102	80 - 120	2011-07-08

Appendix

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 11070728

TraceAnalysis, Inc.

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

email: lab@traceanalysis.com

Company Name: NOVA		Phone #:											
Address: (Street, City, Zip)		Fax #:											
Contact Person: Ron Rounsaville		E-mail:											
Invoice to: PLTINS													
(If different from above)													
Project #: SRS# HDO-90-23		Project Name: HDO-90-23											
Project Location (including state): Monument, NM		Sampler Signature: <i>[Signature]</i>											
LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX	PRESERVATIVE METHOD						SAMPLING		
					WATER	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE
271386	SB-K, 4-5'	1	402	X								7-7-11	1015
387	SB-K, 9-10'			X									1019
388	SB-K, 14-15'			X									1025
389	SB-K, 19-20'			X									1029
390	SB-K, 24-25'			X									1035
391	SB-K, 29-30'			X									1039
392	SB-K, 34-35'			X									1045
393	SB-K, 39-40'			X									1049
394	SB-K, 44-45'			X									1055
ANALYSIS REQUEST (Circle or Specify Method No.)													
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7													
TCLP Metals Ag As Ba Cd Cr Pb Se Hg													
TCLP Volatiles													
TCLP Semi Volatiles													
TCLP Pesticides													
RCI													
GC/MS Vol. 8260 / 624													
GC/MS Semi. Vol. 8270 / 625													
PCBs 8082 / 608													
Pesticides 8081 / 608													
BOD, TSS, pH													
Moisture Content													
Cl, F, SO ₄ , NO ₃ , NO ₂ , Alkalinity													
Na, Ca, Mg, K, TDS, EC													
Turn Around Time if different from standard													

Relinquished by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	Received by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	INST OBS 4.0°
Relinquished by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	Received by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	COR
Relinquished by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	Received by: <i>[Signature]</i>	Company: NOVA	Date: 7-7-11	Time: 1445	COR

REMARKS: **FAIL tests Midland**

LAB USE ONLY

Inst: ☒ Inact: ☐ N

Headspace Y/N: ☒ Y

Dry Weight Basis Required ☐

TRRP Report Required ☐

Check If Special Reporting Limits Are Needed ☐

Carrier # *[Signature]*

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

APPENDIX C
Release Notification and Corrective Action
(Form C-141)

OIL CONSERVATION DIVISION

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

NAME OF OPERATOR				ADDRESS			
TEXAS-NEW MEXICO PIPE LINE CO				P. O. Box 2528, Hobbs, N.M. 88240			
REPORT OF	FIRE	BREAK	SPILL	LEAK	BLOWOUT	OTHER*	
				X			
TYPE OF FACILITY	DRUG WELL	PROD WELL	TANK	PIPE	GAS PLANT	OIL	OTHER*
			PIPE	LINE X		REF	
NAME OF FACILITY 14" Trunk Line							
LOCATION OF FACILITY (QUARTER/QUARTER SECTION OR FOOTAGE DESCRIPTION)				SEC.	TWP.	RGE.	COUNTY
NW/4 NE/4				6	21	37	Lea
DISTANCE AND DIRECTION FROM NEAREST TOWN OR PROMINENT LANDMARK 6 Mi. NW of Eunice & 3 Mi. N.W. of Loop 18							
DATE AND HOUR OF OCCURRENCE				DATE AND HOUR OF DISCOVERY			
Unknown				3/27/90 2:15 P.M.			
WAS IMMEDIATE NOTICE GIVEN?				IF YES, NMOCC - B. Pritchard TO WHOM SCC - D. Trujillo			
YES X NO				NOT REQUIRED			
BY NMOCC - M. Criswell				DATE 3/27/90: NMOCC - 3:35 P.M.			
WHOM SCC - C. Johnson				AND HOUR 3/28/90: SCC - 9:05 A.M.			
TYPE OF FLUID LOST				QUANTITY OF LOSS		VOLUME RECOVERED	
Sour Crude				750 BBLs		550 BBLs	
DID ANY FLUIDS REACH A WATERCOURSE?				QUANTITY			
YES NO X							
IF YES, DESCRIBE FULLY**							
DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN**							
External Corrosion							
Line clamped off							
DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN**							
45,000 sq ft pasture land; 40,000 sq ft equipment damage.							
Cattle in the area							
Oil soaked earth covered with fresh soil in prospects of full restoration							
DESCRIPTION OF AREA	FARMING	GRAZING	URBAN	OTHER*			
		X					
SURFACE CONDITIONS	SANDY	SANDY LOAM	CLAY	ROCKY	WET	DRY	SNOW
		X			X		
DESCRIBE GENERAL CONDITIONS PREVAILING (TEMPERATURE, PRECIPITATION, ETC.)**							
55°							
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF							
SIGNED <i>B.L. Leach</i>				B.L. Leach		TITLE Dist. Manager	
						DATE 3/28/90	

*SPECIFY

**ATTACH ADDITIONAL SHEETS IF NECESSARY

HDO 90-23

cc: Hazardous Waste Section
N.M. Environmental Improvement Div.

90-063530