

AP - 007

**STAGE 1 & 2
WORKPLANS**

DATE:

JAN. 2006



February 6, 2006

Mr. Ed Martin
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Plains Pipeline Site Restoration Work Plan
And Proposed Soil Closure Strategy
Darr Angell #2 Release Site
Section 14, Township 15 South, Range 37 East
Lea County, New Mexico

Dear Mr. Martin:

Please find attached for your approval the Site Restoration Work Plan and Proposed Soil Closure Strategy, dated February 2006, for the Darr Angell #2 release site located in Section 14 of Township 15 South, and Range 37 East of Lea County, New Mexico. The Work Plan details site activities to be conducted for soil remediation.

Should you have any questions or comments, please contact me at (505) 441-0965.

Sincerely,

Camille Reynolds
Remediation Coordinator
Plains All American Pipeline

Cc: Larry Johnson, NMOCD, Hobbs Office

Enclosure



**SITE RESTORATION WORK PLAN
AND
PROPOSED SOIL CLOSURE STRATEGY**

DARR ANGELL NO. 2 SITE

Lea County, New Mexico

**SW ¼ of the SE ¼ of Section 11, Township 15 South, Range 37 East
NW ¼ of the NE ¼ of Section 14, Township 15 South, Range 37 East**

Latitude: North 33° 01' 47.0"

Longitude: West 103° 10' 10.7"

PLAINS EMS No.: LF-1999-62

NMOCD ID No.: AP-07



Prepared For:

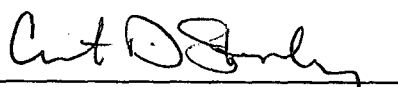
**Plains Marketing, L.P.
333 Clay Street, Suite 1600
Houston, Texas 77002**

Prepared By:

**NOVA Safety and Environmental
2057 Commerce
Midland, Texas 79703**

VOLUME #1

January 2006


Curt D. Stanley
Project Manager

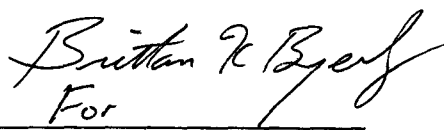

For
Todd K. Choban
Vice President, Technical Services

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Volume #2

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1.0 INTRODUCTION AND SITE BACKGROUND

The site is located approximately 12.5 miles east of the town of Lovington, New Mexico south of State Highway 82 in the SW ¼ of the SE ¼ of Section 11, Township 15 South, Range 37 East and the NW ¼ of the NE ¼ of Section 14, Township 15 South and Range 37 East. More specifically at latitude 33° 01' 47.0" North and longitude 103° 10' 10.7" West. For reference, a site location map and a site map are provided as Figures 1 and 2, respectively. On July 29, 1999, EOTT Energy, LLC (EOTT) personnel discovered that a release of crude oil had occurred from its pipeline. The on-site crude release was attributed to structural failure due to external corrosion on the 8-inch steel pipeline operated by EOTT. The release was reported to the New Mexico Oil Conservation Division (NMOCD) on July 29, 1999. According to the EOTT Spill Reporting Form, approximately 60 barrels were released and none were recovered. The Darr Angell #2 crude oil release site, formerly the responsibility of EOTT and the Link Energy is now the responsibility of Plains Marketing, L.P.

2.0 SUMMARY OF FIELD ACTIVITIES

On August 30, 1999, Environmental Technology Group, Inc. (ETGI) began initial site characterization activities, consisting of advancing 40 Geoprobe® sampling points within and adjacent to the surface stained area. In April and May 2000, the impacted soil identified during the Geoprobe® investigation was excavated by ETGI to a depth of approximately 4.5 feet bgs. Impacted soil was stockpiled on-site following the initial excavation activities. In June 2000, ETGI installed monitor wells MW-1 through MW-3, recovery wells RW-1 and RW-2 and advanced soil borings SB-1 through SB-10. In July 2000, ETGI installed monitor well MW-4. In April and May 2001, approximately 3,000 cubic yards (cy) of soil was excavated and added to the existing stockpiles. The soil and caliche generated from these excavation activities was screened and the caliche was segregated from the soil. The excavated soil was then shredded before being placed in a stockpile. In August 2001, ETGI installed monitor wells MW-5 through MW-9. On December 12, 2001, ETGI installed monitor well MW-10. In November and December 2002, ETGI installed recovery wells RW-4 through RW-7. Soil boring, monitor well and recovery well boring and completion logs are included in Appendix A.

On March 11, 2002, ETGI on behalf of EOTT requested permission from the NMOCD to partially backfill the excavation with excavated caliche segregated during previous screening activities. Authorization was granted by the NMOCD and the excavation was partially backfilled with this material.

On October 29, 2003, approximately 3,128 cy of soil removed during excavation activities was spread onto the soil treatment area. ETGI supervised the spreading of the stockpiled soil onto a soil treatment area utilizing a front-end loader and a dozer. The stockpiled soil was spread to an approximate depth of two to three feet.

On February 06, 2004, the soil treatment cell was divided into equal grid cells of approximately 250 cy per cell and a five-point composite soil sample was obtained from each cell. Ten composite samples were collected utilizing both a stainless steel sampling trowel and a hand auger from each cell. Each sample was split during acquisition into two pre-

labeled zip-lock baggies, one for field screening and the other stored on ice for laboratory analysis. All soil samples were submitted under a completed chain-of-custody to the Environmental Lab of Texas in Odessa, Texas and analyzed for TPH GRO/DRO concentrations utilizing EPA SW 846-8015M GRO/DRO.

Analytical results of the February 06, 2004 sampling event indicated total petroleum hydrocarbons (TPH) concentrations ranging from 287 to 1,030 mg/Kg total TPH. The average TPH concentration was 536 mg/Kg.

The soil treatment cell was mechanically tilled on a quarterly basis to aerate and enhance the remediation of the soil. On December 18, 2004, the soil treatment area was sampled and four (4) five-point composite soil samples were obtained. The samples were obtained utilizing both a stainless steel sampling trowel and a hand auger from each cell. Each sample was split during acquisition into two pre-labeled zip-lock baggies, one for field screening and the other stored on ice for laboratory analysis. All soil samples were submitted under a completed chain-of-custody to TraceAnalysis, Inc of Lubbock, Texas and analyzed for TPH GRO/DRO concentrations utilizing EPA SW 846-8015M GRO/DRO.

Analytical results of the December 18, 2004 sampling event indicated TPH concentrations ranging from <50 to 60.2 mg/Kg Total TPH. The analytical results indicate soil contained within the soil treatment cell at the Darr Angell #2 release site is below the NMOCD guidelines for TPH. The analytical table is included as Table 1 and laboratory results are included in Appendix B.

3.0 SOIL CLOSURE STRATEGY

The analytical results of the December 18, 2004 treatment cell sampling event indicate TPH concentrations are below NMOCD guidelines of 100 mg/Kg TPH. Plains proposes to mobilize heavy equipment and utilize the remediated treatment cell soil to backfill the excavation. The soil will be placed in the excavations in twelve inch lifts and compacted. The topography will be graded to as near original contours as practical. The affected area will be reseeded with grass acceptable to the land owner.

4.0 CLOSURE REQUEST

Plains is prepared to begin field activities and perform the corrective actions summarized in the Site Restoration Work Plan and Proposed Closure Strategy upon review and approval of the work plan by the NMOCD. Upon completion of the field activities summarized in this plan, Plains will submit a Soil Closure Report to the NMOCD, documenting the final topographic restoration activities. In this report, Plains will request that the NMOCD grant closure to soil issues at the site. A groundwater closure report will follow after eight successive quarterly groundwater sampling events have demonstrated that the hydrocarbon concentrations are below regulatory guidelines. The Notification of Release and Corrective Action (Form C-141) is included as Appendix C.

5.0 QA/QC PROCEDURES

5.1 Soil Sampling

Samples of subsurface soils were obtained during installation of the soil borings, monitor wells and recovery wells utilizing a split-spoon sampling tool. Representative soil samples were divided into two separate portions using clean, disposable gloves. The sample was split between two labeled zip-lock baggies. One baggie was sealed for headspace analysis using a PID calibrated to a 100-ppm isobutylene standard. Each screening sample was allowed to volatilize for approximately thirty minutes in the sunlight at ambient temperature prior to conducting the screening analysis.

The other portion of the soil sample was placed in a sterile glass container equipped with a Teflon-lined lid furnished by the laboratory. The container was filled to capacity to limit the amount of headspace present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for laboratory analysis, the cooler was sealed for shipment to the laboratory. Field screening samples and those samples not selected for shipment to the laboratory were emptied onto the existing on-site soil stockpiles awaiting treatment. Proper chain-of-custody documentation was maintained throughout the sampling and shipping process.

Soil samples were delivered to Environmental Lab of Texas, in Odessa, Texas and TraceAnalysis, Inc. of Lubbock, Texas and analyzed within fourteen days following the collection date for BTEX and TPH analyses using the methods described below:

- BTEX concentrations in accordance with EPA SW 846 Method 8021B/5030; and
- TPH concentrations in accordance with EPA SW 846 Method 8015M GRO/DRO.

5.2 Decontamination of Equipment

In general, the decontamination procedure consisted of using high-pressure steam to wash the drilling and sampling equipment prior to drilling and prior to starting each hole. Prior to use, the sampling equipment was cleaned with Liqui-Nox[®] detergent and rinsed with distilled water.

5.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Site Restoration Work Plan and Proposed Soil Closure Strategy Report to the best of its ability. No other warranty, expressed or implied, is made or intended.

NOVA Safety and Environmental has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA Safety and Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. NOVA Safety and Environmental has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA Safety and Environmental notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, L.P. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA Safety and Environmental and/or Plains Marketing, L.P.

7.0 DISTRIBUTION

- Copy 1: Ed Martin
New Mexico Energy, Minerals and Natural Resources
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Figures

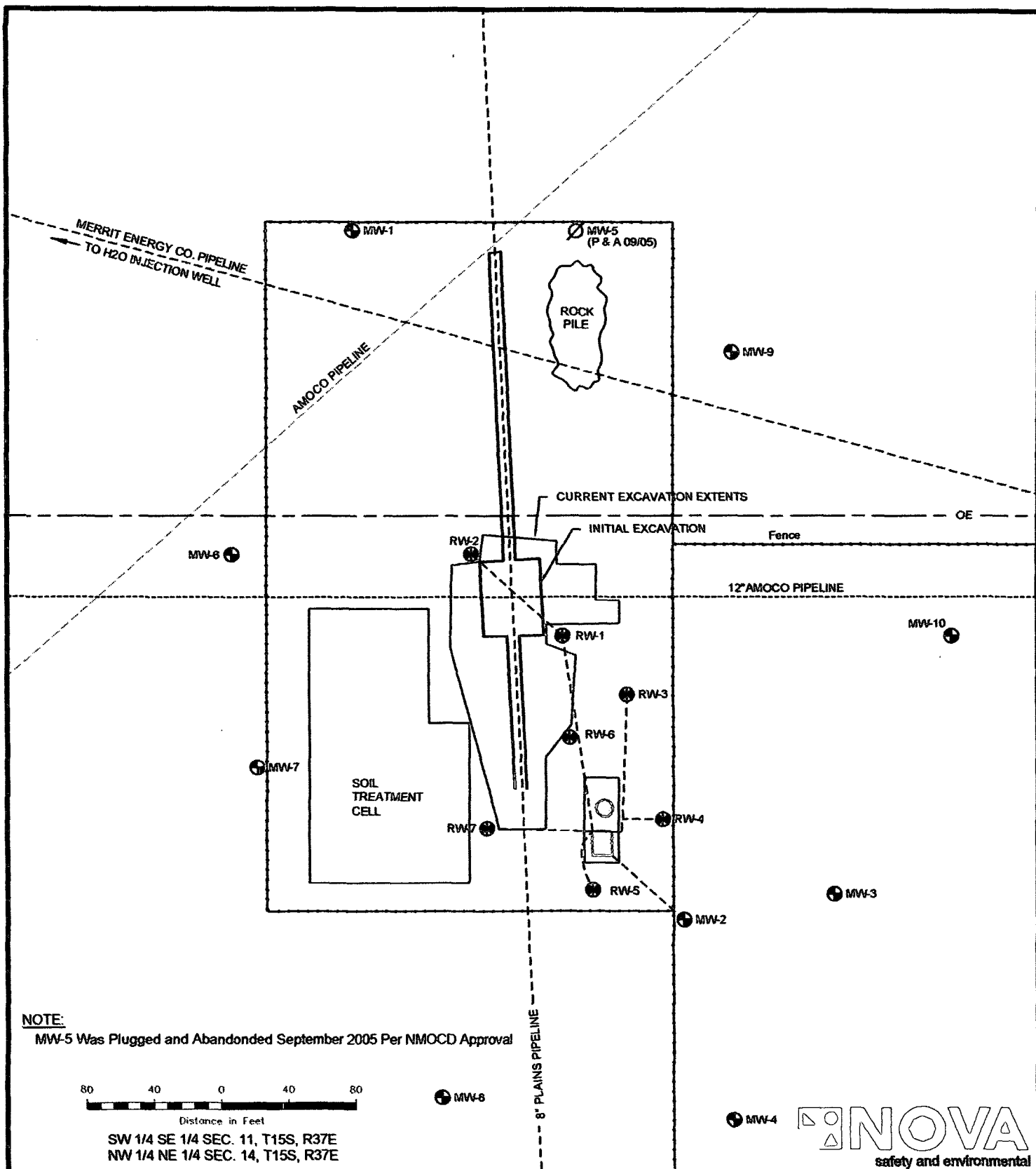


Figure 2
Site Map
Plains Marketing, L.P.
Darr Angel # 2
Lea County, NM

NOVA Safety and Environmental

Scale: 1"=80' Prep By: DPM Checked By: CDS
September 21, 2005

Table

TABLE 1
CONCENTRATIONS OF BTEX AND TPH IN SOIL

PLAINS MARKETING, L.P.
DARR ANGELL 2
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	EPA SW 8746-8021B, 5030						EPA SW 846-8015M		
		BENZENE	TOLUENE	ETHYL- BENZENE	m,p- XYLENE	o- XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
NE of Source - 3' Deep	8/20/1999	<0.100	<0.100	4.82	40.92	14.82	60.56		4571	4571
SE of Source - 1 1/2' Deep		<0.100	<0.100	4.86	27.55	11.27	43.68		2170	2170
NW of Source - 2 1/2' Deep		<0.100	<0.100	8.82	37.55	17.66	64.03		5361	5361
SW of Source - 1 1/2' Deep		<0.100	0.332	0.179	0.431	<0.100	0.942		1884	1884
25' SE of Source - 1 1/2' Deep		<0.100	<0.100	0.229	1.01	<0.100	1.239		253	253
GP1-001	8/30/1999							3413	9468	12881
GP2-001								1967	6696	8663
GP3-001								<10	228	228
GP4-001								4737	10674	15411
GP5-001								<10	251	251
GP6-001								130	4647	4777
GP7-001								<10	241	241
GP8-001								3146	8294	11440
GP9-001								<10	176	176
GP10-001								445	7557	8002
GP11-001								<10	97	97
GP12-001								5802	16145	21947
GP13-001								2739	8058	10797
GP14-001								941	16284	17225
GP15-001								43	865	908
SS01 North Wall Pipeline 2'	5/17/2000	<0.100	0.122	<0.100	0.121	<0.100	0.243	<10	<10	<10
SS02 North Wall West 2'		<0.100	0.136	<0.100	0.147	0.112	0.395	594	13720	14314
SS03 North Wall East 2'		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	12	5284	5296
SS04 West Wall A. Pipeline 2'		<0.100	0.173	0.171	0.203	0.341	0.888	661	24538	25199
SS05 East Wall A. Pipeline 2'		<0.100	0.282	0.188	0.335	0.272	1.077	626	19579	20205
SS06 South Wall West 2'		<0.100	<0.100	<0.100	0.279	0.162	0.441	561	8977	9538
SS07 South Wall East 2'		<0.100	0.254	0.184	1.83	1.42	3.688	902	3656	4558
SS08 South Wall Pipeline 2'		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<10	197	197
SS09 Stock Pile NW 1'		0.123	2.21	1.08	1.64	0.681	5.734	381	8749	9130
SS10 Stock Pile B NG 1'		<0.100	0.199	0.339	0.361	0.303	1.202	451	7743	8194
SS11 Stock Pile B SW 1'		<0.100	0.142	0.259	0.243	0.25	0.894	199	6863	7062
SS12 Stock Pile B SE 1'		<0.100	<0.100	0.467	0.371	0.353	1.191	243	7697	7940
SS13 Stock Pile A South 1'		<0.100	0.25	<0.100	0.164	<0.100	0.414	<10	933	933
SS14 Stock Pile A North 1'		<0.100	<0.100	<0.100	0.172	<0.100	0.172	<10	112	112
RW-1C 5'	6/1/2000	<0.100	1.77	0.836	5.34	0.965	8.911	60	823	883
RW-1SS 10'		<0.100	16.3	9.34	41.9	13.4	80.94	781	2257	3038
RW-1C 15'		<0.100	3.4	1.59	6.64	2.47	14.1	81	965	1046
RW-1SS 20'								<10	<10	<10
RW-1SS 25'								<10	<10	<10
RW-1SS 30'								<10	<10	<10
RW-1SS 35'								<10	<10	<10
RW-1SS 40'								<10	<10	<10
RW-1SS 45'								<10	<10	<10
RW-1SS 50'		<0.100	3.34	3.28	12.1	4.45	23.17	454	1264	1718
RW-1SS 55'		29.9	169	63.8	183	59.1	504.8	7092	10152	17244
RW-1SS 60'		<0.100	4.37	3.02	9.97	3.66	21.02	388	1227	1615
RW-2C 5'	6/1/2000	<0.100	11.1	4.76	19.3	8.12	43.28	910	2850	3760
RW-2C 10'		<0.100	5.54	2.99	11.9	4.43	24.86	515	2041	2556
RW-2C 15'		0.666	14.3	6.05	24.7	9.15	54.866	1456	4764	6220
RW-2C 20'		<0.100	5	2.95	12.2	4.65	24.8	563	2857	3420

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		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENE	o-XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
RW-2SS 25'	6/1/2000							<10	102	102
RW-2SS 30'								<10	<10	<10
RW-2SS 35'								<10	32	32
RW-2SS 40'								<10	<10	<10
RW-2SS 45'								<10	<10	<10
RW-2SS 50'								53	648	701
RW-2SS 55'		<0.100	4.9	3.6	8.06	4.2	20.76	916	3716	4632
RW-2SS 60'								12	285	297
RW-2SS 65'								<10	221	221
SB-1C 5'	6/2/2000							<10	<10	<10
SB-1C 10'								<10	<10	<10
SB-1C 15'								<10	<10	<10
SB-1C 20'								<10	<10	<10
SB-1SS 25'								<10	<10	<10
SB-1C 30'								<10	<10	<10
SB-1SS 35'								<10	<10	<10
SB-1SS 40'								<10	<10	<10
SB-1SS 45'								<10	<10	<10
SB-1SS 50'								<10	<10	<10
SB-1SS 55'								<10	<10	<10
SB-1SS 57'								<10	<10	<10
SB-2C 5'	6/5/2000							<10	<10	<10
SB-2C 10'								<10	<10	<10
SB-2SS 15'								<10	<10	<10
SB-2SS 20'								<10	<10	<10
SB-2SS 25'								<10	<10	<10
SB-2SS 30'								<10	<10	<10
SB-2SS 35'								<10	<10	<10
SB-2SS 40'								<10	<10	<10
SB-2SS 45'								<10	<10	<10
SB-2SS 50'								<10	<10	<10
SB-2SS 57'								<10	<10	<10
SB-3C 5'	6/5/2000							<10	<10	<10
SB-3C 10'								<10	<10	<10
SB-3C 15'								<10	<10	<10
SB-3C 20'								<10	<10	<10
SB-3C 25'								<10	<10	<10
SB-3C 30'								<10	<10	<10
SB-3C 35'								<10	<10	<10
SB-3C 40'								<10	<10	<10
SB-3C 45'								<10	<10	<10
SB-3C 50'								<10	<10	<10
SB-3C 60'								<10	<10	<10
SB-4C 5'	6/6/2000							<10	<10	<10
SB-4C 10'								<10	<10	<10
SB-4C 15'								<10	<10	<10
SB-5C 5'	6/6/2000							<10	<10	<10
SB-5C 10'								<10	<10	<10
SB-5C 15'								<10	<10	<10

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		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENE	o-XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
SB-6C 5'	6/6/2000							<10	<10	<10
SB-6C 10'								<10	<10	<10
SB-6C 15'								<10	<10	<10
SB-7C 5'	6/6/2000							<10	<10	<10
SB-7C 10'								<10	<10	<10
SB-7C 15'								<10	<10	<10
SB-8C 5'	6/6/2000							<10	<10	<10
SB-8C 10'								<10	<10	<10
SB-8C 15'								<10	<10	<10
SB-9C 5'	6/6/2000							<10	<10	<10
SB-9C 10'								<10	<10	<10
SB-9C 15'								<10	<10	<10
SB-10C 5'	6/6/2000							<10	<10	<10
SB-10C 10'								<10	<10	<10
SB-10C 15'								<10	<10	<10
MW-1C 5'	6/6/2000							<10	<10	<10
MW-1C 10'								<10	<10	<10
MW-1C 15'								<10	<10	<10
MW-1C 20'								<10	<10	<10
MW-1SS 25'								<10	<10	<10
MW-1SS 30'								<10	<10	<10
MW-1SS 35'								<10	<10	<10
MW-1SS 40'								<10	<10	<10
MW-1SS 45'								<10	<10	<10
MW-1SS 52'								<10	<10	<10
MW-1C 65'								<10	<10	<10
MW-2C 5'	6/16/2000							<10	<10	<10
MW-2C 10'								<10	<10	<10
MW-2C 15'								<10	<10	<10
MW-2C 20'								<10	<10	<10
MW-2C 25'								<10	<10	<10
MW-2C 30'								<10	<10	<10
MW-2C 35'								<10	<10	<10
MW-2C 40'								<10	<10	<10
MW-2C 45'								<10	<10	<10
MW-2C 50'								<10	<10	<10
MW-2C 55'		<0.100	0.724	<0.100	1.27	0.318	2.312	15	2251	2266
MW-2C 65'								<10	229	229
MW-3C 5'	6/16/2000							<10	<10	<10
MW-3C 10'								<10	<10	<10
MW-3C 15'								<10	<10	<10
MW-3C 20'								<10	<10	<10
MW-3C 25'								<10	<10	<10
MW-3C 30'								<10	<10	<10
MW-3C 35'								<10	<10	<10
MW-3C 40'								<10	<10	<10

TABLE 1

CONCENTRATIONS OF BTEX AND TPH IN SOIL

PLAINS MARKETING, L.P.
DARR ANGELL 2
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	EPA SW 8746-8021B, 5030						EPA SW 846-8015M		
		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENE	o-XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
MW-3C 45'	6/16/2000							<10	<10	<10
MW-3C 50'								<10	<10	<10
MW-3C 55'								<10	<10	<10
MW-3C 65'								<10	<10	<10
MW-4 0-2'	7/11/2000							<10	<10	<10
MW-4 3-5'								<10	<10	<10
MW-4 8-10'								<10	<10	<10
MW-4 13-15'								<10	<10	<10
MW-4 18-20'								<10	<10	<10
MW-4 23-25'								<10	<10	<10
MW-4 28-30'								<10	<10	<10
MW-4 33-35'								<10	<10	<10
MW-4 38-40'								<10	<10	<10
MW-4 43-45'								<10	<10	<10
MW-4 48-50'								<10	<10	<10
MW-4 53-55'								<10	<10	<10
MW-4 58-60'								<10	<10	<10
MW-5 0-2'	8/14/2001							<5	5.79	5.79
MW-5 5-7'								<5	10.1	10.1
MW-5 10-12'								<5	5.68	5.68
MW-5 15-17'								<5	5.85	5.85
MW-5 20-22'								<5	5.34	5.34
MW-5 25-27'								<5	2.11	2.11
MW-5 30-32'								<5	8.1	8.1
MW-5 35-37'								<5	5.23	5.23
MW-5 40-42'								<5	4.78	4.78
MW-5 45-47'								<5	<1	<5
MW-5 50-52'								<5	<1	<5
MW-5 55-57'								<5	10.8	10.8
MW-5 60-62'								<5	8.61	8.61
MW-5 65-67'								<5	8.91	8.91
MW-6 0-2'	8/15/2001							<5	<1	<5
MW-6 5-7'								<5	2.67	2.67
MW-6 10-12'								<5	8.92	8.92
MW-6 15-17'								<5	10.1	10.1
MW-6 20-22'								<5	4	4
MW-6 25-27'								<5	6.41	6.41
MW-6 30-32'								<5	6.34	6.34
MW-6 35-37'								<5	33	33
MW-6 40-42'								10.2	167	177.2
MW-6 45-47'								18.5	194	212.5
MW-6 50-52'								<5	13.8	13.8
MW-6 55-57'								<5	5.68	5.68
MW-6 60-62'								<5	6.12	6.12
MW-7 0-2'	8/16/2001							<5	<1	<5
MW-7 5-7'								<5	2.58	2.58
MW-7 10-12'								<5	2.65	2.65
MW-7 15-17'								<5	2.9	2.9
MW-7 20-22'								<5	2.58	2.58
MW-7 25-27'								<5	1.39	1.39

TABLE 1

CONCENTRATIONS OF BTEX AND TPH IN SOIL

PLAINS MARKETING, L.P.
DARR ANGELL 2
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	EPA SW 8746-8021B, 5030						EPA SW 846-8015M		
		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENE	o-XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
MW-7 30-32'	8/16/2001							<5	2.04	2.04
MW-7 35-37'								<5	5.83	5.83
MW-7 40-42'								<5	4.68	4.68
MW-7 45-47'								<5	4.45	4.45
MW-7 50-52'								<5	8.32	8.32
MW-7 55-57'								<5	<1	<5
MW-7 60-62'								<5	5.86	5.86
MW-8 0-2'	8/16/2001							<5	14.5	14.5
MW-8 5-7'								<5	3.57	3.57
MW-8 10-12'								<5	10.9	10.9
MW-8 15-17'								<5	4.25	4.25
MW-8 20-22'								<5	3.69	3.69
MW-8 25-27'								<5	3.99	3.99
MW-8 30-32'								<5	4.09	4.09
MW-8 35-37'								<5	11.5	11.5
MW-8 40-42'								<5	3.11	3.11
MW-8 45-47'								<5	3.32	3.32
MW-8 50-52'								<5	2.82	2.82
MW-8 55-57'								<5	6.53	6.53
MW-8 60-62'								<5	8.12	8.12
MW-9 0-2'	8/16/2001							<5	<1	<5
MW-9 5-7'								<5	3.62	3.61
MW-9 10-12'								<5	7.28	7.28
MW-9 15-17'								<5	6.19	6.19
MW-9 20-22'								<5	6.73	6.73
MW-9 20-27'								<5	4.46	4.46
MW-9 30-32'								<5	4.81	4.81
MW-9 35-37'								<5	3.79	3.79
MW-9 40-42'								<5	1.92	1.92
MW-9 45-47'								<5	5.24	5.24
MW-9 50-52'								<5	2.5	2.5
MW-9 55-57'								<5	3.57	3.57
MW-9 60-62'								<5	9.33	9.33
MW-10 5-7'	12/12/2001							<5	<5	<5
MW-10 10-12'								<5	<5	<5
MW-10 15-17'								<5	<5	<5
MW-10 20-22'								<5	<5	<5
MW-10 25-27'								<5	<5	<5
MW-10 30-32'								<5	<5	<5
MW-10 35-37'								<5	<5	<5
MW-10 40-42'								<5	<5	<5
MW-10 45-47'								<5	<5	<5
MW-10 50-52'								<5	<5	<5
MW-10 55-57'								<5	<5	<5
MW-10 60-62'								<5	<5	<5
MW-10 65-67'								<5	<5	<5
North Wall -1	3/12/2002							<10	<10	<10
North West Wall -2								<10	<10	<10
Far SW Wall -7								<10	107	107
South West Wall -8								<10	<10	<10

TABLE 1

CONCENTRATIONS OF BTEX AND TPH IN SOIL

PLAINS MARKETING, L.P.
DARR ANGELL 2
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	EPA SW 8746-8021B, 5030						EPA SW 846-8015M		
		BENZENE	TOLUENE	ETHYL- BENZENE	m,p- XYLENE	o- XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
West Wall -9	3/12/2002							<10	61.9	61.9
RW-3 Surface	11/26/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-3 10'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-3 20'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-3 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-3 40'		<0.025	<0.025	<0.025	0.087	<0.025	0.087	<10.0	<10.0	<10.0
RW-3 50'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	17	17
RW-3 58'		9.7	36.6	23.6	53.8	19.5	143.2	3550	7940	11490
RW-3 63'		<0.025	0.05	0.075	0.226	0.046	0.397	60.4	552	612.4
RW-4 Surface	11/26/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-4 10'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-4 20'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-4 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-4 40'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-4 50'		<0.025	0.054	0.065	0.34	0.084	0.543	59.9	446	506
RW-4 58'		12.1	44.4	27.2	62.8	23.2	169.7	3780	8340	12120
RW-4 63'		0.025	0.056	0.052	0.232	<0.025	0.365	<10.0	84.2	84.2
RW-5 Surface	11/27/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-5 10'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	40.2	40.2
RW-5 20'		<0.025	0.08	0.036	0.196	<0.025	0.312	<10.0	<10.0	<10.0
RW-5 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-5 40'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-5 50'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-5 57'		12.6	61.5	40.4	96.2	32.8	243.5	3750	6160	9910
RW-5 62'		0.046	0.09	0.072	0.247	0.061	0.516	55.4	635	690.4
RW-6 Surface	11/27/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-6 10'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-6 20'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-6 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-6 40'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-6 50'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	20.5	318	338.5
RW-6 57'		47.8	180	103	226	79.8	636.6	14100	22600	36700
RW-6 62'		0.037	0.118	0.243	0.75	0.15	1.298	119	818	937
RW-7 Surface	12/2/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-7 10'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-7 20'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-7 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
RW-7 40'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	75	75
RW-7 50'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	18.2	18.2
RW-7 57'		17.4	73.3	47.2	110	41.1	289	4600	8320	12920
RW-7 62'		<0.025	0.049	0.034	0.108	<0.025	0.191	<10.0	153	153
SB-11 Surface	12/2/2002	<0.025	<0.025	<0.025	0.034	<0.025	0.034	<10.0	<10.0	<10.0
SB-11 10'		<0.025	0.098	<0.025	0.286	<0.025	0.384	<10.0	<10.0	<10.0
SB-11 20'		<0.025	0.038	<0.025	0.055	<0.025	0.093	<10.0	<10.0	<10.0
SB-11 30'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-11 40'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-11 50'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0

TABLE 1

CONCENTRATIONS OF BTEX AND TPH IN SOIL

PLAINS MARKETING, L.P.
DARR ANGELL 2
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	EPA SW 8746-8021B, 5030						EPA SW 846-8015M		
		BENZENE	TOLUENE	ETHYL-BENZENE	m,p-XYLENE	o-XYLENE	TOTAL BTEX	GRO (C ₆ -C ₁₀)	DRO (>C ₁₀ C ₂₅)	TOTAL TPH
NMOCD REGULATORY LIMITS		10 mg/Kg					50 mg/Kg			100 mg/Kg
SB-11 58'	12/2/2002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
SB-11 63'		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<10.0	<10.0	<10.0
Soil Treatment Cell Sample Results										
Section 1	2/6/2004							13.9	273	287
Section 2								<10	473	473
Section 3								73.5	960	1030
Section 4								13.8	212	226
Section 5								20.2	453	473
Section 6								<10	395	395
Section 7								18.3	426	444
Section 8								33.7	772	806
Section 9								13.6	767	781
Section 10								<10	453	453
SS-1	12/18/2004							<5	60.2	60.2
SS-2								<5	58.4	58.4
SS-3								<5	53.3	53.3
SS-4								<1	<50	<50

Appendices

Appendix A
Soil Boring Logs

Monitoring Well MW - 1

Depth (feet)

Soil Columns

PID Reading

Notes

0 5 10 15 20 25 30 35 40 45 50 55 60 65



0.0 0.0 5.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Moist

Wet

Monitoring Well Details

Date Drilled 6-6-00
 Thickness of Bentonite Seal 2 ft
 Length of PVC Well Screen 25 ft
 Depth of PVC Well 65 ft
 Depth of Exploratory Well 65 ft
 Depth to Ground Water 52 ft

Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red Brown, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red, Very Fine Grained, Well Sorted.
- Sand - (SP) - Red, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Brown, Very Fine Grained, Well Sorted.

Indicates samples selected for laboratory analysis



Indicates the ground water level measured on date



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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory slot, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well Details

Monitoring Well - 1

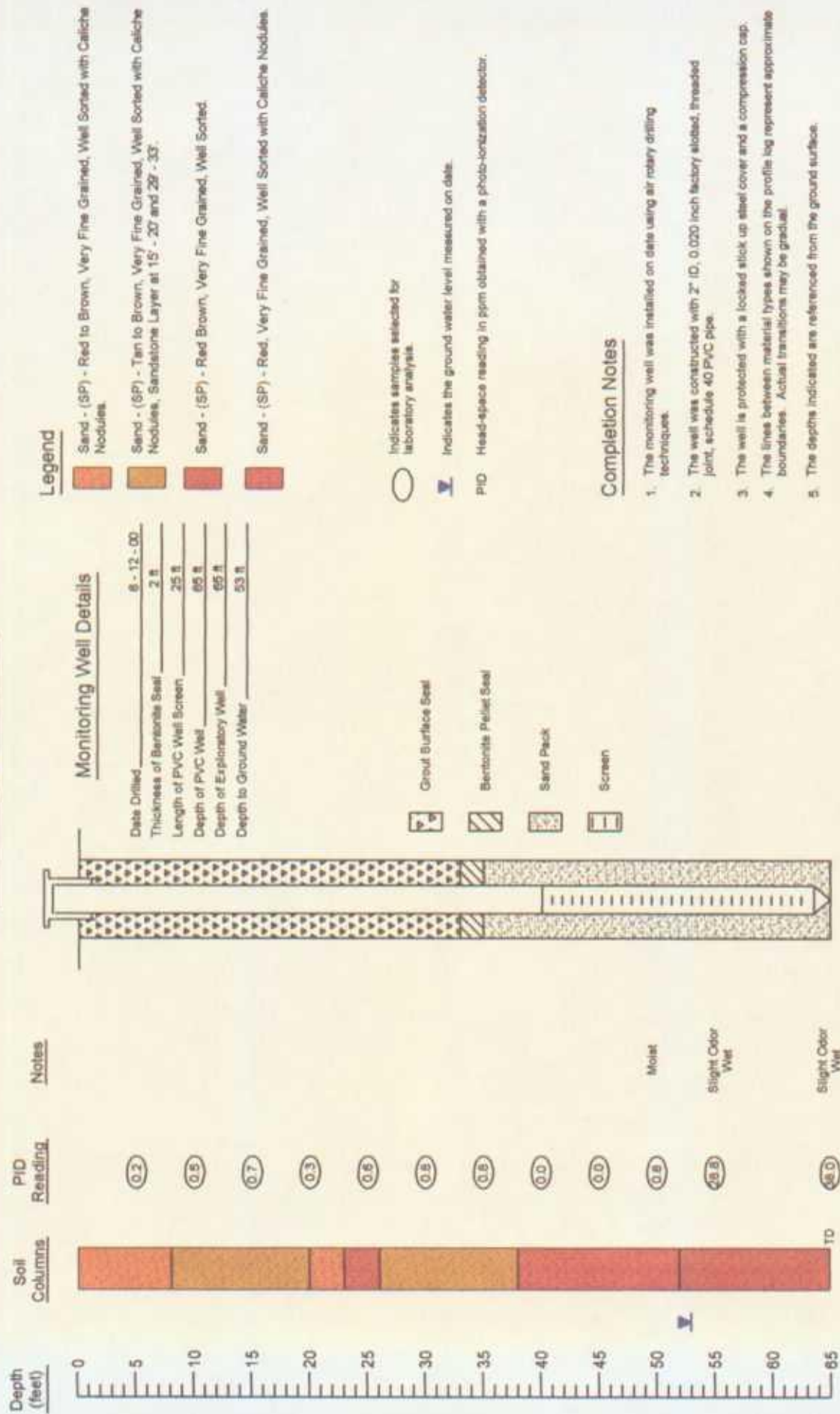
Plains Pipeline, L.P. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: use scale
 Prep By: JCU
 Checked By: JT
 July 14, 2000

Monitoring Well MW - 2



Boring Log And Monitoring Well/Recovery Well Details

Monitoring Well - 2

Plains Pipeline, L.P. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: use scale
 Prep By: JDU
 Checked By: JT
 July 14, 2000

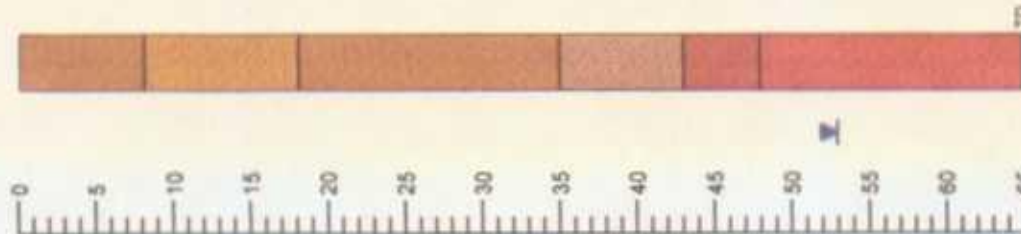
Monitoring Well MW - 3

Depth (feet)

Soil Column

PI/D Reading

Notes



Monitoring Well Details	
Depth Drilled	6 - 12 - 00
Thickness of Bentonite Seal	2 ft
Length of PVC Well Screen	25 ft
Depth of PVC Well	85 ft
Depth of Exploratory Well	85 ft
Depth to Ground Water	53 ft



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Calciche Nodules, Sandstone Layer at 30' - 35'
- Sand - (SP) - Tan to Brown, Very Fine Grained, Well Sorted with Calciche Nodules, Chert Nodules at 15' - 18'
- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Calciche Nodules
- Sand - (SP) - Tan to Red, Very Fine Grained, Well Sorted with Calciche Nodules
- Sand - (SP) - Red, Very Fine Grained, Well Sorted

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

PI/D Head-space reading in ppm obtained with a photo-ionization detector

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory slot, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 3

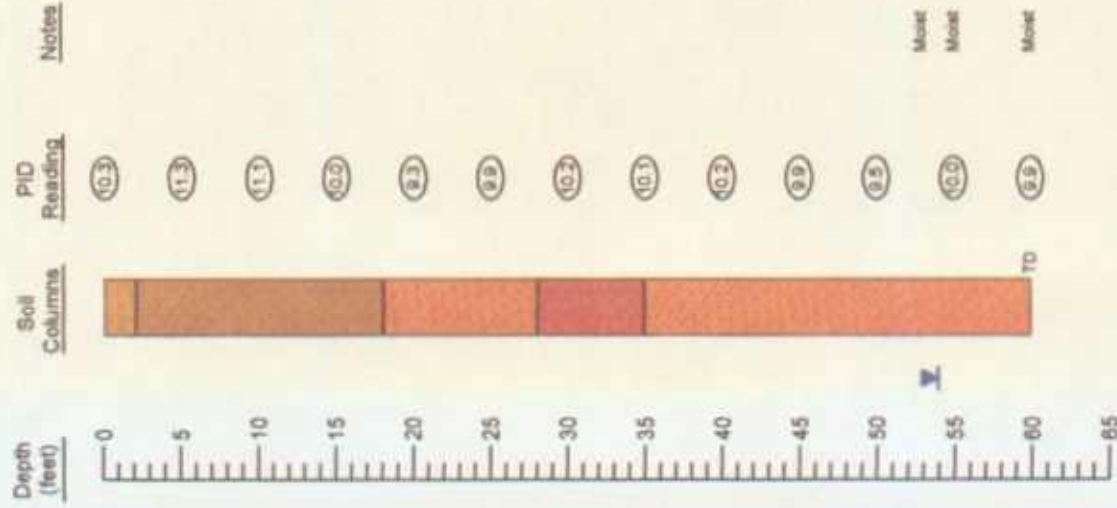
Plains Pipeline, L.P. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale (see scale)	Prep By: JCU	Checked By: JT
July 14, 2000		

Monitoring Well MW - 4



Legend

- Sand - (SP) - Brown, Very Fine Grained, Well Sorted.
- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red Brown, Very Fine Grained, Well Sorted with Caliche Nodules. Caliche Layer at 35' - 37'.
- Sand - (SP) - Red Brown, Very Fine Grained, Well Sorted, Sandstone Layer at 33' - 35'.

Monitoring Well Details

Date Drilled 7-11-00
 Thickness of Bentonite Seal 2 ft
 Length of PVC Well Screen 25 ft
 Depth of PVC Well 65 ft
 Depth of Exploratory Well 65 ft
 Depth to Ground Water 54 ft

- Grout Surface Seal
- Bentonite Pellet Seal
- Sand Pack
- Screen

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory sited, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 4

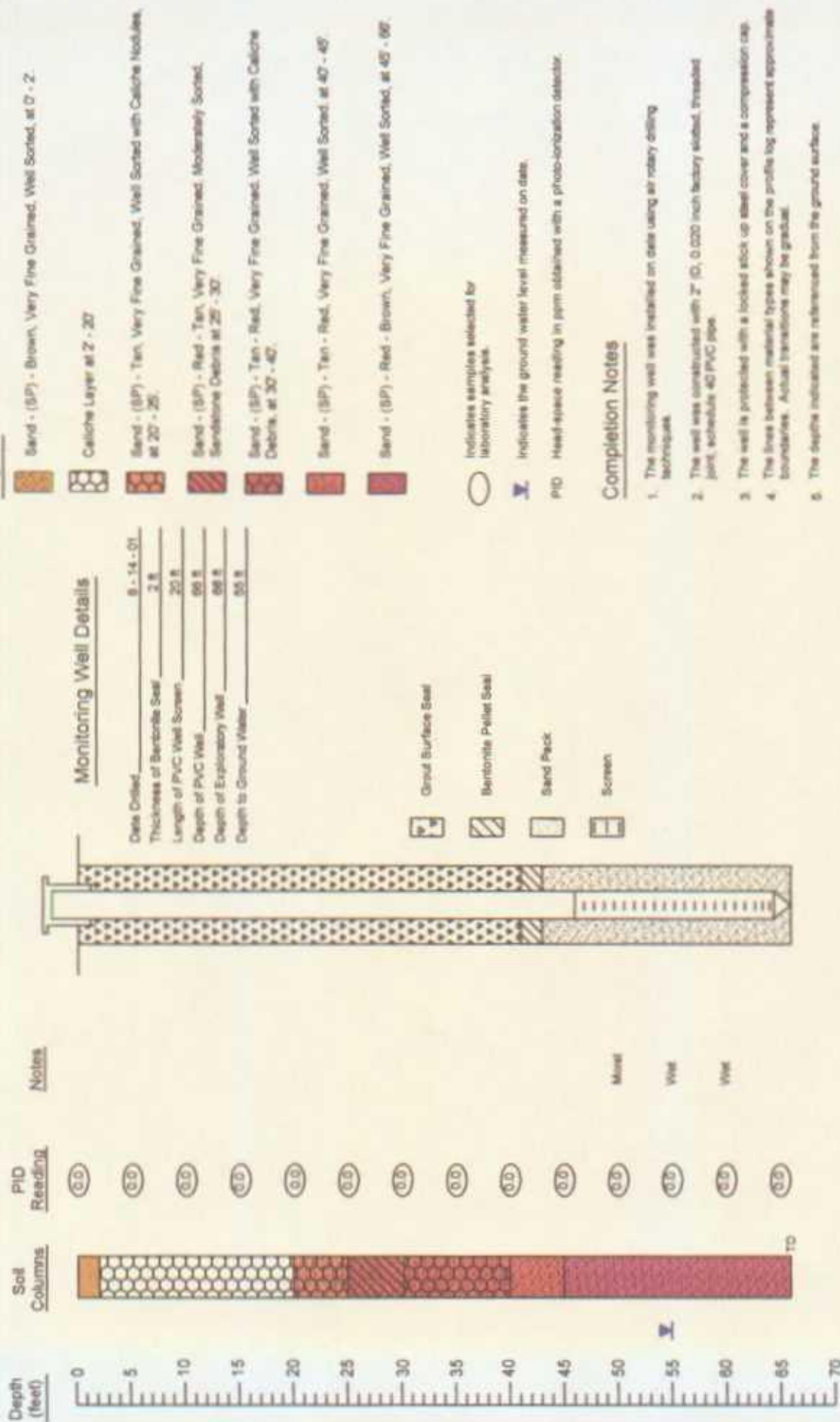
Plains Pipeline, L.P. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale use scale
 Page Br. (CJ)
 Created By: JT
 July 25, 2000

Monitoring Well MW - 5



Boring Log And Monitoring Well

Monitoring Well - 5

Plains Pipeline, L.P. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: see scale
 Prep By: LOM
 Checked By: RE
 Date: 27, 2002

Monitoring Well MW - 6

Depth (feet)

Soil Columns

PID Reading

Notes



Monitoring Well Details

Date Drilled	8 - 15 - 01
Thickness of Bentonite Seal	2.8
Length of PVC Well Screen	20.8
Depth of PVC Well	62.8
Depth of Exploratory Well	62.8
Depth to Ground Water	54.8



Legend



Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 6

Plains Pipeline, L.P. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: see scale
Prep By: LOM
Checked By: RE
Sept 27, 2002

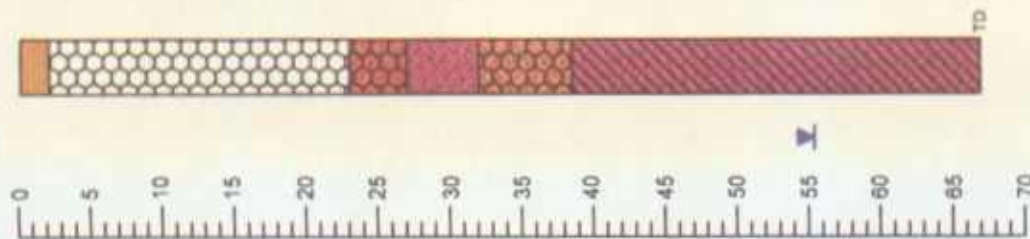
Monitoring Well MW - 7

Depth (feet)

Soil Columns

PID Reading

Notes



Monitoring Well Details

Date Drilled	8 - 16 - 01
Thickness of Bentonite Seal	2 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	62 ft
Depth of Exploratory Well	62 ft
Depth to Ground Water	55.5 ft



Legend

- Sand - (SP) - Brown, Very Fine Grained, Well Sorted, at 0' - 2'
- Caliche Layer at 2' - 23'
- Sand - (SP) - Well Indurated Sand, Dense at 23' - 27'
- Sand - (SP) - Red - Brown, Very Fine Grained, Moderately Sorted, Sandstone Debris at 37' - 67'
- Sand - (SP) - Tan - Red, Very Fine Grained, Well Sorted with Caliche Debris, at 32' - 37'
- Sand - (SP) - Red - Brown, Very Fine Grained, Well Sorted, Sandstone Debris at 27' - 32'

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 7

Plains Pipeline, L.P. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

State use only
Prep By LOM
Checked By: RE
Sept 27, 2002

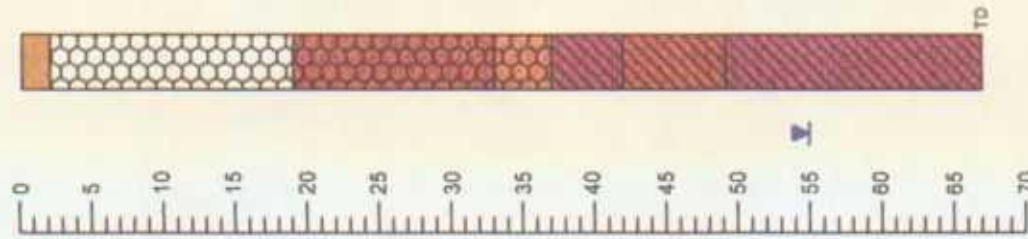
Monitoring Well MW - 8

Depth (feet)

Soil Columns

PID Reading

Notes



Monitoring Well Details

Date Drilled	8 - 16 - 01
Thickness of Bentonite Seal	2 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	63 ft
Depth of Exploratory Well	62 ft
Depth to Ground Water	54 ft



Legend

- Sand (SP) - Brown, Very Fine Grained, Well Sorted, at 0' - 2'
- Caliche Layer at 2' - 18'
- Sand (SP) - Well Indurated Sand, Dense at 18' - 33'
- Sand (SP) - Red - Brown, Very Fine Grained, Well Sorted, Sandstone Debris at 42' - 48'
- Sand (SP) - Tan - Red, Very Fine Grained, Well Sorted with Caliche Debris, at 33' - 42'
- Sand (SP) - Red - Brown, Very Fine Grained, Well Sorted, Sandstone Debris at 37' - 42', and at 48' - 67'

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory scabed, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 8

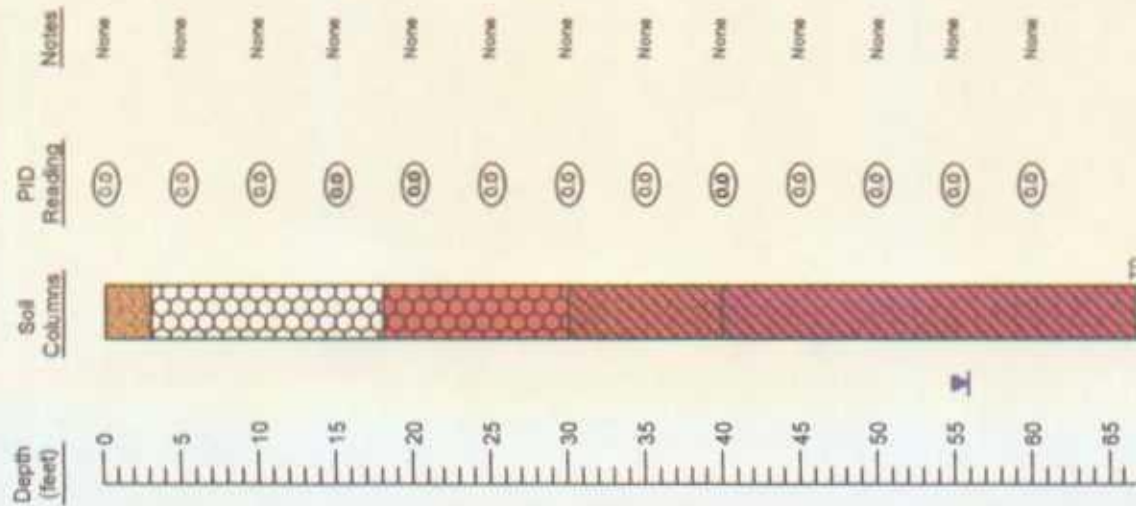
Plains Pipeline, L.P. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: 1/4" = 1' Prep By: LOM Checked By: RE
Sept 27, 2002

Monitoring Well MW - 9



Legend



Monitoring Well Details

Date Drilled	8 - 16 - 01
Thickness of Bentonite Seal	3 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	67 ft
Depth of Exploratory Well	67 ft
Depth to Ground Water	55 ft



Indicates samples selected for laboratory analysis

Indicates the ground water level measured on date

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

Completion Notes

- The monitoring well was installed on date using air rotary drilling techniques.
- The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
- The well is protected with a locked stick up steel cover and a compression cap.
- The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
- The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 9

Plains Pipeline, L.P. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: see site Prep By: LOM Checked By: RE
Sept 27, 2002

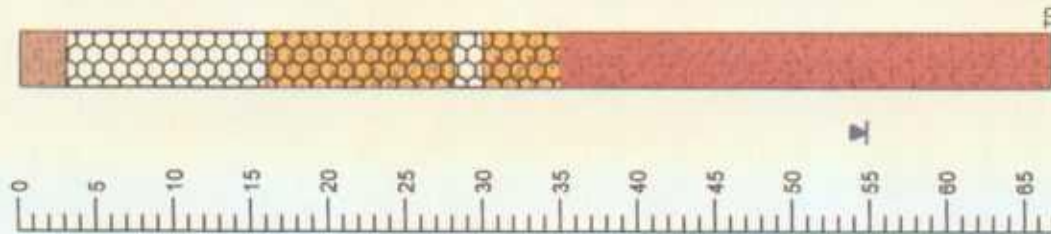
Monitoring Well MW - 10

Depth (feet)

Soil Columns

PID Reading

Notes



Monitoring Well Details

Date Drilled 12-12-01
 Thickness of Bentonite Seal 3 ft
 Length of PVC Well Screen 20 ft
 Depth of PVC Well 67 ft
 Depth of Exploratory Well 67 ft
 Depth to Ground Water 50 ft

Legend

-  Sand - (SP) - Brown, Very Fine Grained, Well Sorted, at 0 - 3'
-  Caliche Layer, at 3 - 15'
-  Sand - (SP) - Red Tan, Very Fine Grained, Well Sorted with Caliche Debris, at 15 - 28'
-  Caliche Layer, at 28 - 30'
-  Sand - (SP) - Red Tan, Very Fine Grained, Well Sorted with Caliche Debris, at 30 - 35'
-  Sand - (SP) - Red Brown, Very Fine Grained, Well Sorted, at 35 - 67'

 Indicates samples selected for laboratory analysis.

 Indicates the ground water level measured on date.

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

Completion Notes

1. The monitoring well was installed on date using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory socket, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well

Monitoring Well - 10

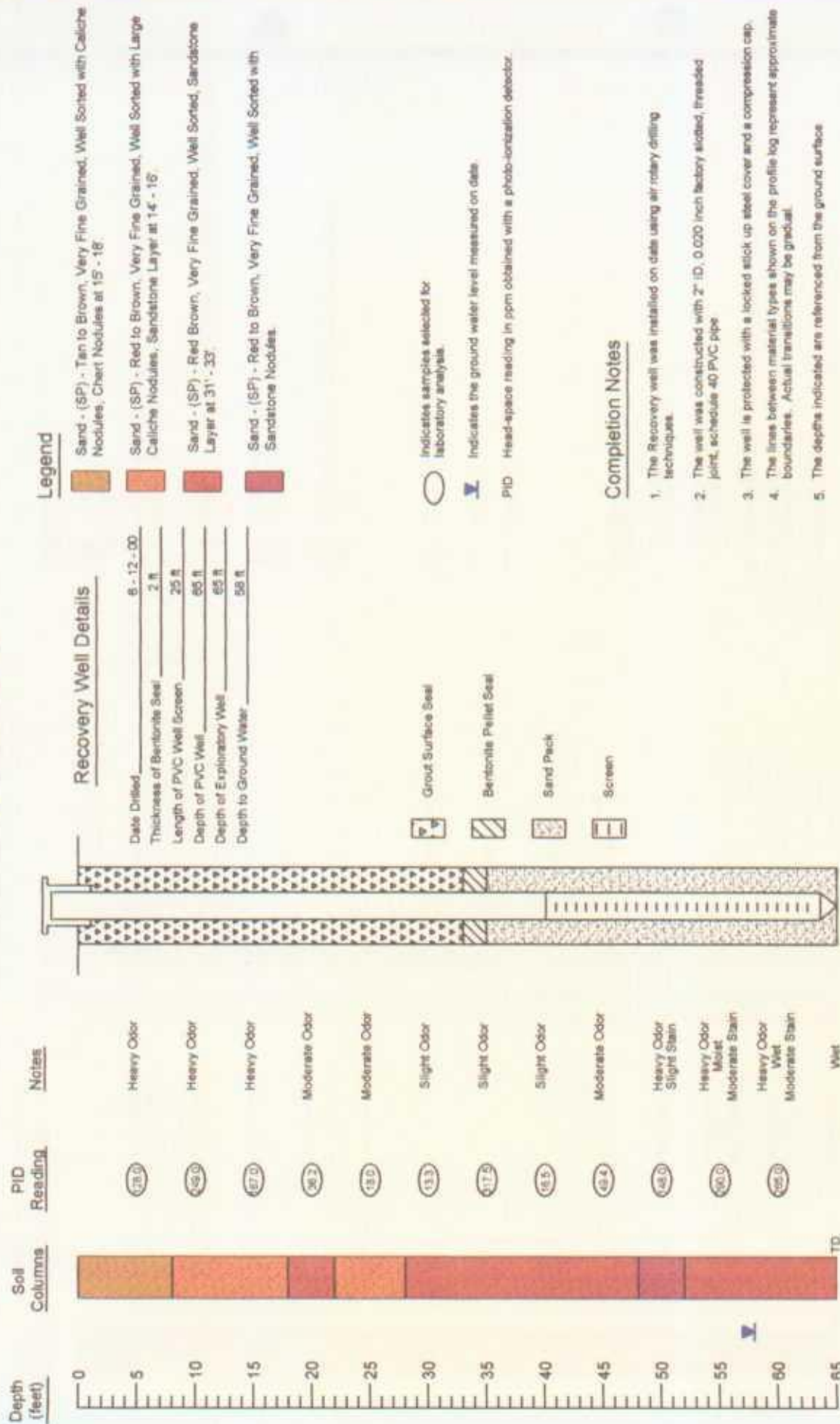
Plains Pipeline, L.P. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: Use Scale
 Prep By: LGM
 Checked By: JT
 Sept. 27, 2002

Recovery Well RW - 1



Boring Log And Recovery Well

Recovery Well - 1

EOTT Energy Corp. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: 1/4" = 10' Prep By: CDS Checked By: TNC
January 21, 2006

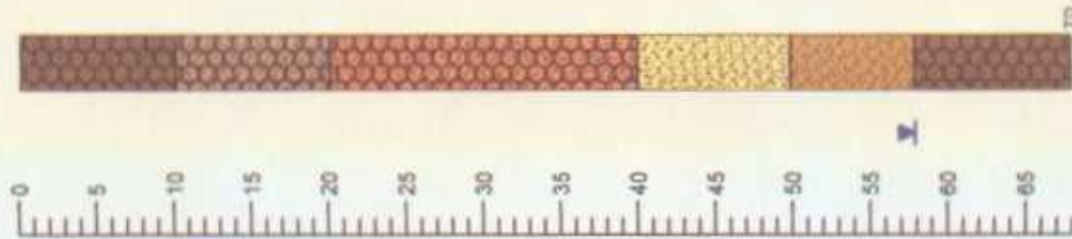
Recovery Well RW - 3

Depth (feet)

Soil Columns

PID Reading

Notes



Recovery Well Details

Date Drilled 11 - 26 - 02
 Thickness of Bentonite Seal 43 ft
 Length of PVC Well Screen 20 ft
 Depth of PVC Well 68 ft
 Depth of Exploratory Well 68 ft
 Depth to Ground Water 56 ft



Legend



Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

1. The Recovery well was installed on date using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Recovery Well Detail

Recovery Well - 3

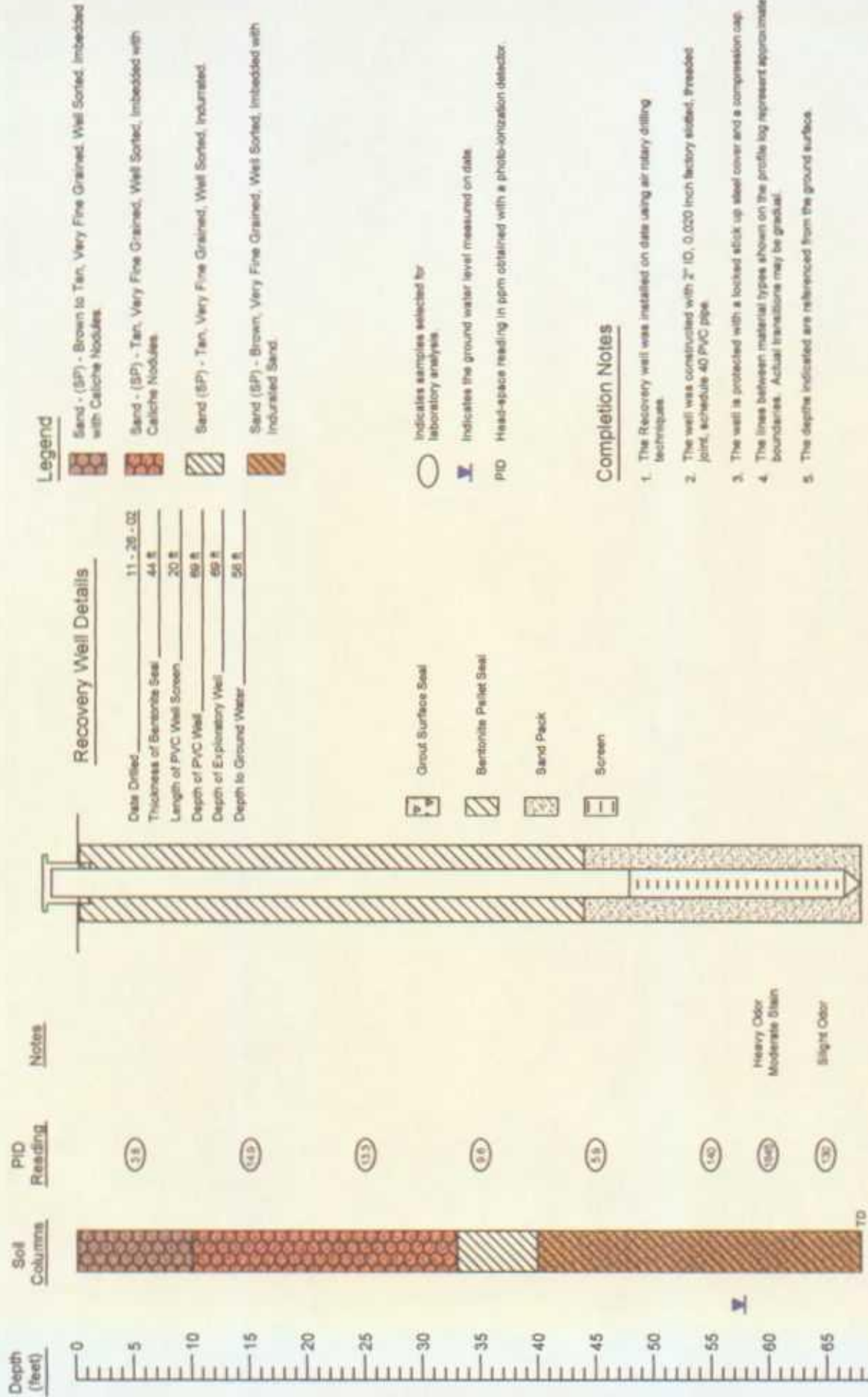
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: see scale Prep By: CDB Checked By: TNC
 January 21, 2008

Recovery Well RW - 4



Boring Log And Recovery Well Detail

Recovery Well - 4

EOTT Energy Corp. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: see scale
Prep By: CDB
Checked By: TDC
January 21, 2003

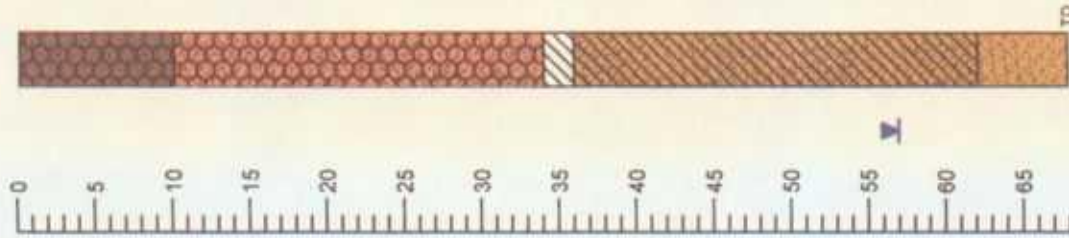
Recovery Well RW - 5

Depth (feet)

Soil Columns

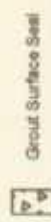
PID Reading

Notes



Recovery Well Details

Date Drilled 11-27-02
 Thickness of Bentonite Seal 43 ft
 Length of PVC Well Screen 20 ft
 Depth of PVC Well 66 ft
 Depth of Exploratory Well 66 ft
 Depth to Ground Water 57 ft



Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

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

Completion Notes

1. The Recovery well was installed on date using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Recovery Well Detail

Recovery Well - 5

EOTT Energy Corp. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Scale: Use scale
 Prep By: CDS
 Checked By: TNC
 January 21, 2003

Recovery Well RW - 6



Boring Log And Recovery Well Detail

Recovery Well - 6

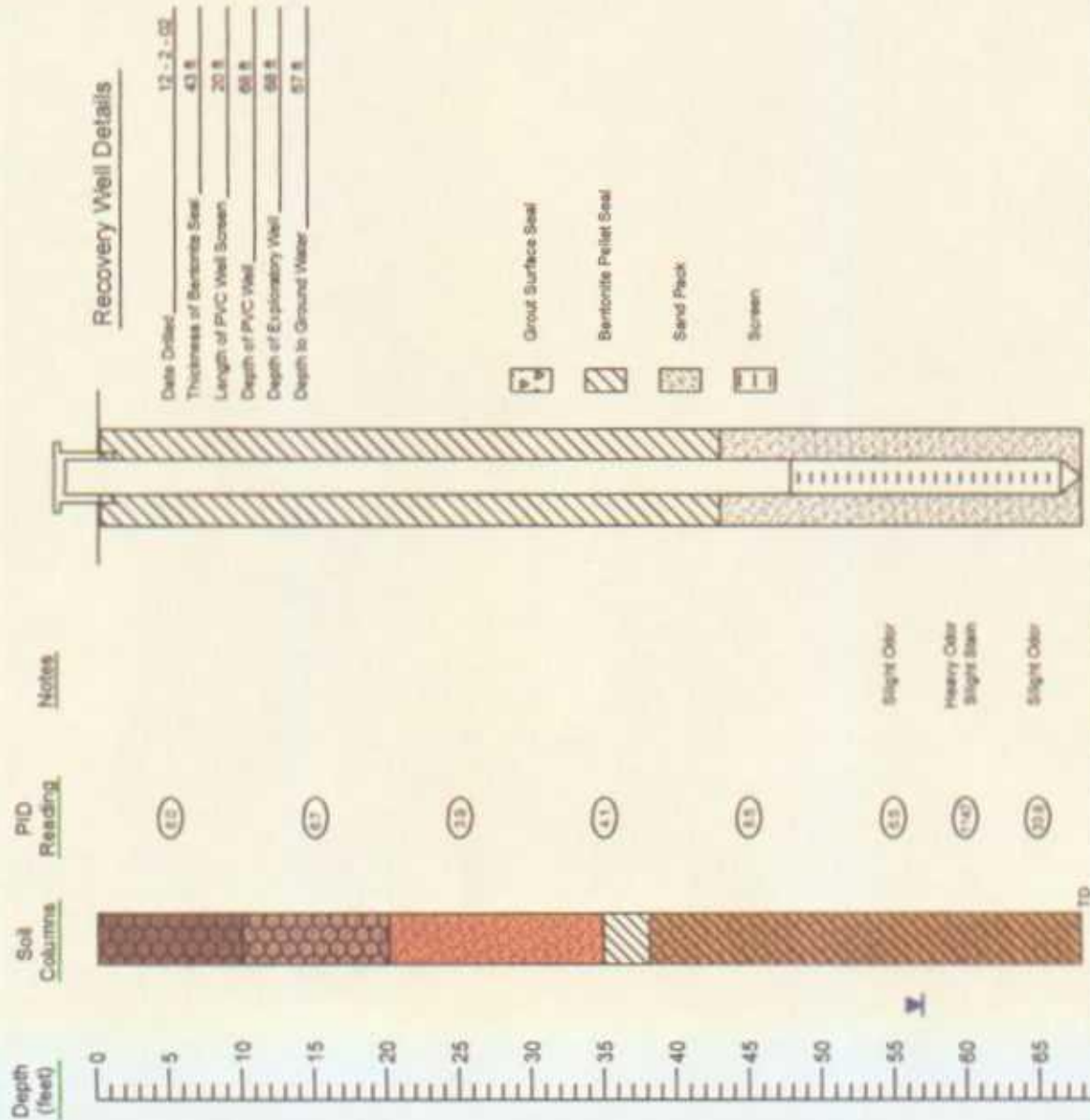
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: 1/4" = 1' 0" Date: 11/27/02
 Drawn By: CDB
 Checked By: TAC
 January 27, 2003

Depth (feet)	Soil Columns	PID Reading	Notes
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	Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules
	Sand (SP) - Brown to Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules
	Sand (SP) - Tan, Very Fine Grained, Well Sorted, Imbedded with Caliche Nodules
	Sand (SP) - Tan, Very Fine Grained, Well Sorted, Indurated
	Sand (SP) - Brown, Very Fine Grained, Well Sorted, Imbedded with Indurated Sand

O Indicates samples selected for laboratory analysis.

Y indicates the ground water level measured on date.

P10 Head-space reading in ppm obtained with a photo-ionization detector

Completion Notes

1. The Recovery well was installed on site using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, breasted joint, schedule 40 PVC pipe.
3. The well is protected with a locked slick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Recovery Well Detail

Recovery Well - 7

EOTT Energy Corp. Darr Angell #2 Lea County, NM

NOVA Safety and Environmental



Printed on Recycled Paper	Printed By: CDS	Checked By: TBC
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Soil Boring SB - 1

Depth (feet)

Soil Columns

PID Reading

Notes

Legend



Sand - (SP) - Tan to Brown, Very Fine Grained, Well Sorted with Caliche Nodules.



Sand - (SP) - Tan to Red, Very Fine Grained, Well Sorted with Caliche Nodules.



Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Large Sandstone Nodules, Sandstone Layer at 28' - 30'.



Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Small Sandstone Nodules.



Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Silty Sandstone Nodules.

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

○ Indicates samples selected for laboratory analysis.



Y

Moist
Wet

Soil Boring Details

Date Drilled 06 / 02 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB - 1

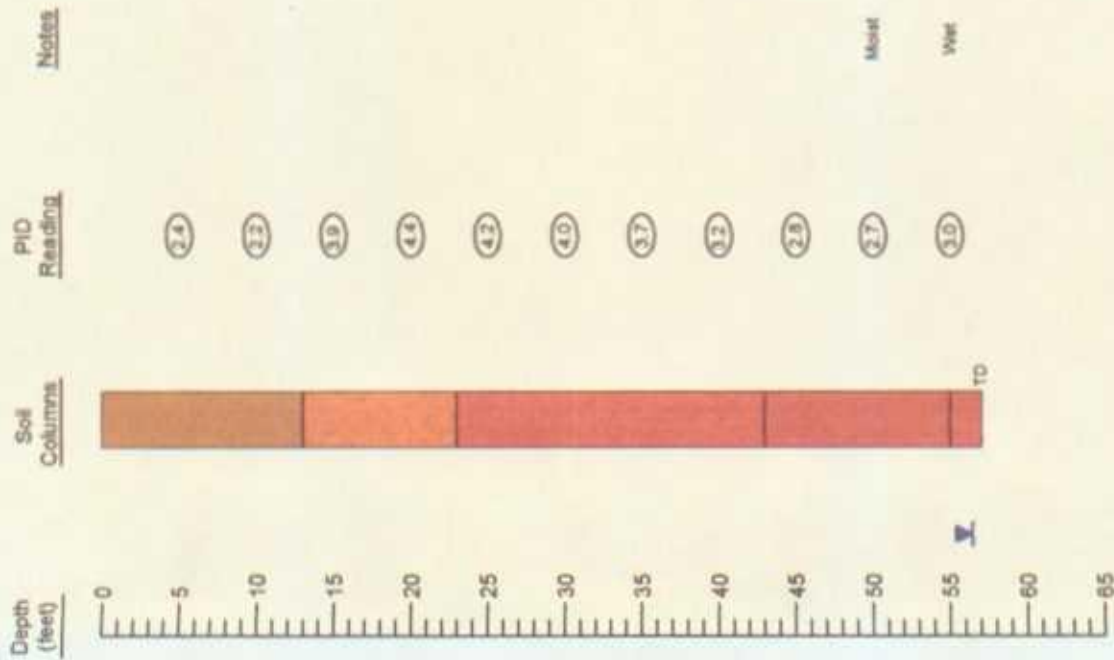
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale 1:175
Page By CDS
January 21, 2006
Checked By TNC

Soil Boring SB - 2



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red Brown, Very Fine Grained, Well Sorted.
- Sand - (SP) - Red, Very Fine Grained, Well Sorted, Sandstone Layer at 30' - 32'.
- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Sandstone Nodules.

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 06 / 05 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 2

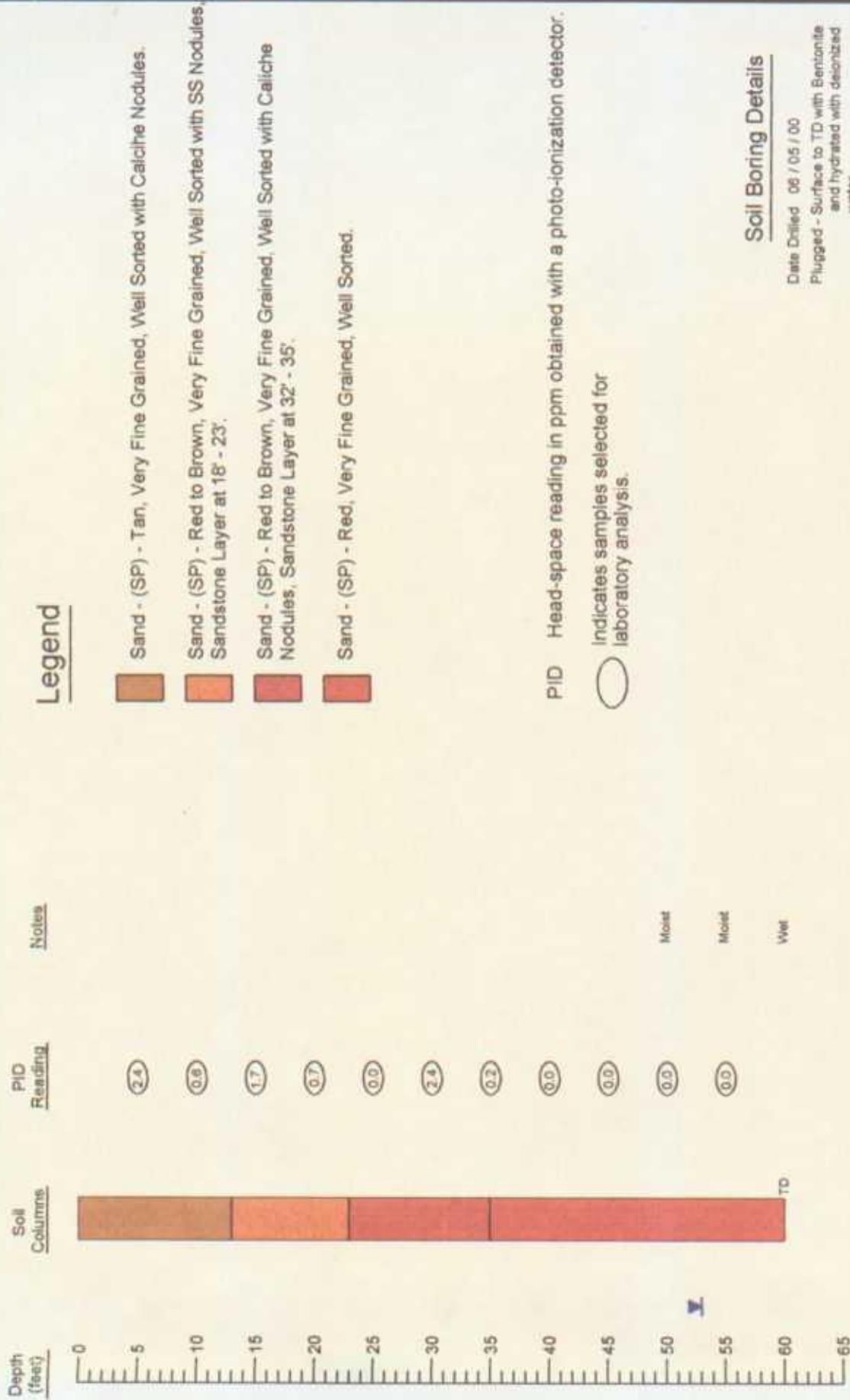
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale NTS	Prep By CDS	Checked By TNC
January 21, 2006		

Soil Boring SB - 3



Soil Boring Details

Date Drilled 08 / 05 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 3

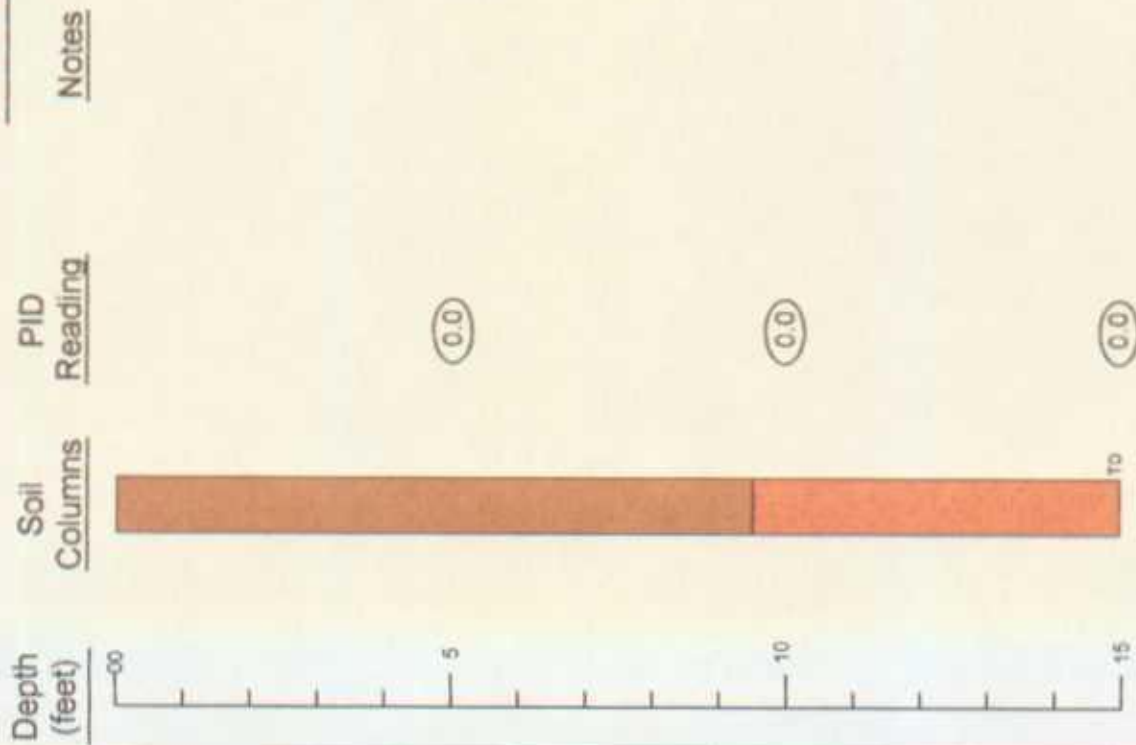
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: NTS
 Prep By: CDS
 Checked By: TYC
 January 21, 2008

Soil Boring SB - 4



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules.

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 06 / 06 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 4

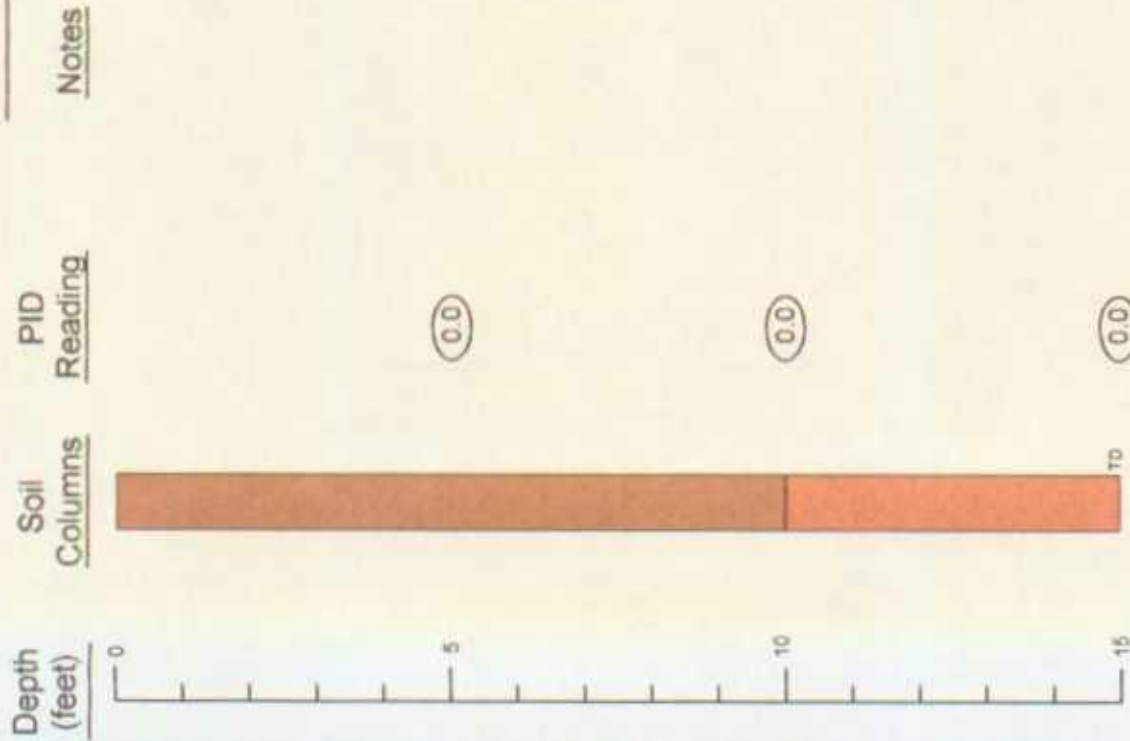
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale NTS	Prep By CCB	Checked By TAC
January 21, 2006		

Soil Boring SB - 5



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.
- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules.

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 06 / 00
Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB - 5

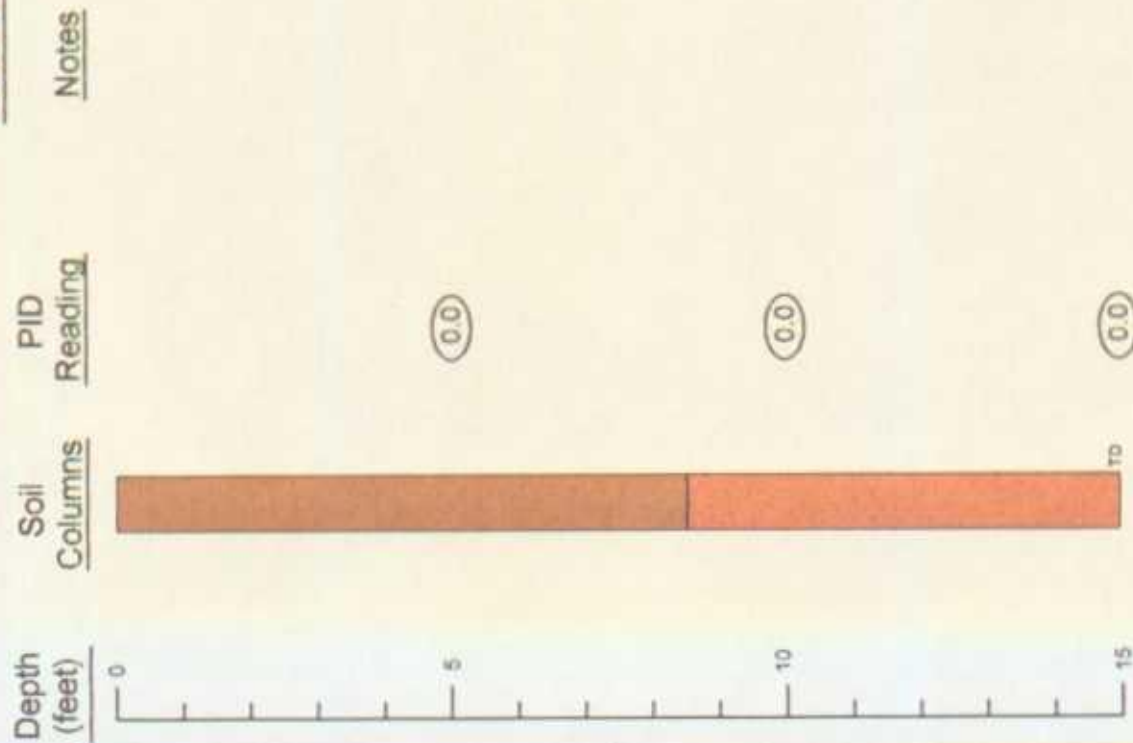
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: NTS
Prep By: CDS
Checked By: TAC
January 21, 2006

Soil Boring SB - 6



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules, Sandstone Layer at 7.5' - 8.5'.
- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules.

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 08 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB - 6

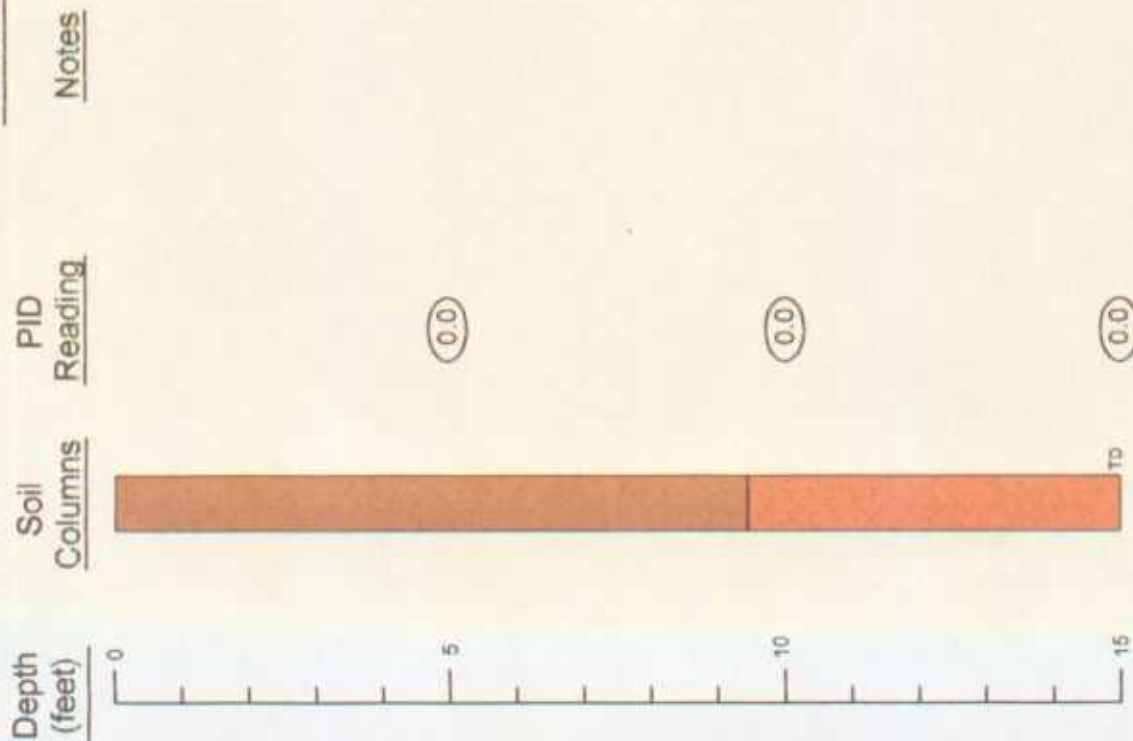
EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: NTS
 Prep By: CDS
 Checked By: T4C
 January 21, 2006

Soil Boring SB - 7



Legend

- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules, Sandstone Layer at 8' - 9.5'.
- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules.

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 06 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB - 7

EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: NTS
 Prep By: CDS
 Checked By: TAC
 January 21, 2006

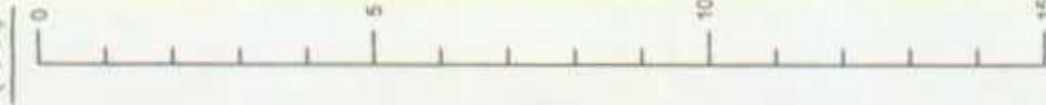
Soil Boring SB - 8

Depth (feet)

Soil Columns

PID Reading

Notes



Legend



Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Calciche Nodules, Sandstone Layer at 8' - 9.5'.



Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Calciche Nodules.

(0.0)

(0.0)

(0.0)

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 06 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 8

EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Issue: NTS
Prep By: CDS
Checked By: TAC
January 21, 2006

Soil Boring SB - 9

Depth (feet)

Soil Columns

PID

Reading

Notes



Legend



Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules, Sandstone Layer at 8' - 9'.

(0.0)

(0.0)

(0.0)

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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 06 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 9

EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Revised: NTS
Prepared By: CDB
Checked By: TAC
January 21, 2008

Soil Boring SB - 10

Depth (feet)



Soil Columns

PID Reading

Notes

Legend

- Sand - (SP) - Red to Brown, Very Fine Grained, Well Sorted with Caliche Nodules, Sandstone Layer at 8' - 9.5'
- Sand - (SP) - Tan, Very Fine Grained, Well Sorted with Caliche Nodules.



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

○ Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled: 06 / 06 / 00
 Plugged - Surface to TD with Bentonite and hydrated with deionized water

Soil Boring Log Details

Soil Boring SB - 10

EOTT Energy Corp. Darr Angell #2 Lea County, NM



NOVA Safety and Environmental

Scale: 1/18
 Prepped By: CDB
 Checked By: TNC
 January 21, 2006