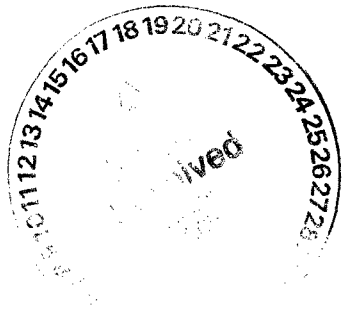
Highlander Environmental Corp.

Midland, Texas

October 7, 2005



Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division- District I
1625 N. French Drive
Hobbs, New Mexico 88240

RE: Assessment and Closure Report for the (Arch) Pogo Producing Company, Manda B Tract C Tank Battery located in Section 28, Township 22 South, Range 37 East, Unit Letter C, Lea County, New Mexico.

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by (Arch) Pogo Producing Company to assess a spill on the Manda B Tract C Tank Battery located in Section 28, Township 22 South, Range 37 East, Unit Letter C, Lea County, New Mexico (Site). The State of New Mexico C-141 (Initial) is shown in Appendix C. The Site is shown on Figure 1.

Background

According to the State of New Mexico C-141 report, the spill occurred on September 22, 2003 from an overflow of an oil tank. The facility had no firewall constructed around the tanks. An unknown volume of oil was released and 3 barrels of oil was recovered. The fluids from the release flowed to the southwest corner of the battery and then flowed down the lease road. The impacted area at the battery measured approximately 15' x 30' and the area on the lease road measured approximately 325' long by 1' to 2' wide. The spill areas on the pad and lease road were immediately back dragged with a backhoe. The spill areas are shown on Figure 2.

On September 24, 2003, Highlander personnel installed an auger hole using a stainless steel bucket-type hand auger to evaluate and attempt to delineate the extent of impacted soil. The auger hole was placed inside the tank battery fence line.

Soil samples were collected at depths of 0-1' and 2-2.5', 4-4.5', 5-5.5'and 6.5' below surface for TPH evaluation by method 8015M, BTEX by method 8021B and chloride by method SW 846-9252. The sample at 0-1', exceeded the RRAL for TPH and total BTEX with TPH at 25,440 mg/kg and total BTEX at 503.5 mg/kg. The deeper sample at 2-2.5' showed TPH to be below the method detection limit.

RP#706

Chloride concentrations decreased with depth, however, deeper samples could not be collected due to the dense, caliche formation. The chloride impact appeared to be from older spills from the tank battery.

A work plan was prepared and submitted to the NMOCD on October 14, 2003. Pogo proposed to excavate impacted soils and collect deeper confirmation samples. Due to the tank location, the area of excavation was estimated at 12' x 15'.

Groundwater and Regulatory

According to published data from "Geology and Groundwater Resources of Lea County, New Mexico", dated 1952, one water well with a water level of 66.1'was reported in Section 28, Township 22 South, Range 37 East. The New Mexico State Engineer Office database did not show any wells in Section 28, Township 22 South, Range 37 East. However, several wells were reported in the surrounding Sections, with average depth to groundwater of 65'(Section 21), 65' (Section 26) and 60'(Section 34). The well records are shown in Appendix A.

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Assessment/Borehole Installation

Prior to performing excavation, a hollow-stem auger rig was utilized to collect subsurface soil samples. On September 9, 2005, one soil boring (BH-1) was installed in the spill areas to delineate subsurface impact. Soil samples were collected at three intervals (5'-6'; 10'-11'; and 15'-16'). The soil samples were analyzed for chloride. Chloride concentrations decreased dramatically from 4,290 mg/kg (5-6') to 348 mg/kg (15'-16'). The laboratory reports and the chain of custody documentation are included in Appendix B.

Soil Remediation and Sampling

On September 9, 2005, the site was excavated to remove the surficial TPH and BTEX impact, exceeding the RRAL. The excavation measured approximately 15' x 20' x 2'. The excavation is shown in Figure 3. Once this excavation was performed, a composite sample was collected in the excavation bottom hole for TPH, BTEX and chloride evaluation. The TPH and BTEX levels were all below reporting limits. The composite sample showed a chloride concentration of 156 mg/kg. Based on the initial auger hole data, the chloride level in the excavation was expected to be somewhat elevated. It appears the soils impacted with chlorides may have been confined to the immediate vicinity of the borehole.

Conclusions and Closure Request

The TPH and BTEX impacted soils above the RRAL were removed and hauled to disposal. The elevated chloride detected in the borehole showed a decreasing concentration with depth. The composite sample did not show an elevated chloride concentration. The elevated chlorides appear to be confined to the immediate vicinity of the borehole and do not appear to be a threat to groundwater. Based on the assessment and remediation performed, Pogo requests closure of this site. A copy of the C-141 (Final) is included in Appendix C.

If you require any additional information or have any questions or comments concerning the assessment report, please call.

HIGHLANDER ENVIRONMENTAL CORP,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs – Pogo Producing Company
Pat Ellis - Pogo Producing Company

SITE INFORMATION

Report Type: CLOSURE REPORT

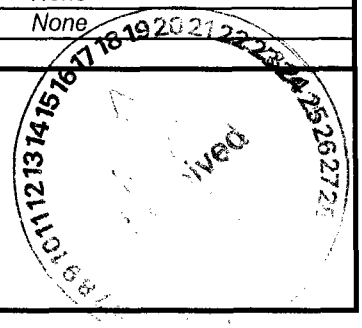
Site:	**Manda B Tract C Tank Battery**
Company:	**Pogo Producing Company (Arch Petroleum)**
Section, Township and Range	**Section 28, T22S, R37 E**
Unit Letter:	C
Lease Number:	-
County:	Lea
GPS:	32° 22' 07.7", 103° 10' 11.7"
Surface Owner:	-
Mineral Owner:	-
Directions:	From Eunice intersection of 234 and 207 (loop 18), go south 5.0 miles on 207
	turn right (east) onto lease road, go east 0.5 miles and turn right (north),
	go 0.5 miles and tank battery on left side of road.

Date Released:	9/22/2003
Type Release:	Oil
Source of Contamination:	Tank overflow
Fluid Released:	unknown
Fluids Recovered:	3 barrels

Name:	Pat Ellis	Don Riggs	Ike Tavarez
Company:	Pogo Producing Company	Pogo Producing Company	Highlander Environmental Corp.
Address:	300 N. Marienfeld St.	5 Greenway Plaza, Suite 2700	1910 N. Big Spring
P.O. Box	Box 10340		
City:	Midland Texas, 79701-7340	Houston, Texas 77046	Midland, Texas
Phone number:	(432) 685-8100	(713) 297-5045	(432) 692- 4559
Email:	EllisP@pogoproducing.com	riggsd@pogoproducing.com	itavarez@hec-enviro.com

Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	**10**	*Average Depth >50 BS*
>100 ft.	0	
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	*None*
Water Source >1,000 ft., Private >200 ft.	*0*	
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	*None*
200 ft - 1,000 ft.	10	*None*
>1,000 ft.	0	
Total Ranking Score:	**10**	

Benzene	*Total BTEX*	*TPH*
10	**50**	**1,000**



FIGURES

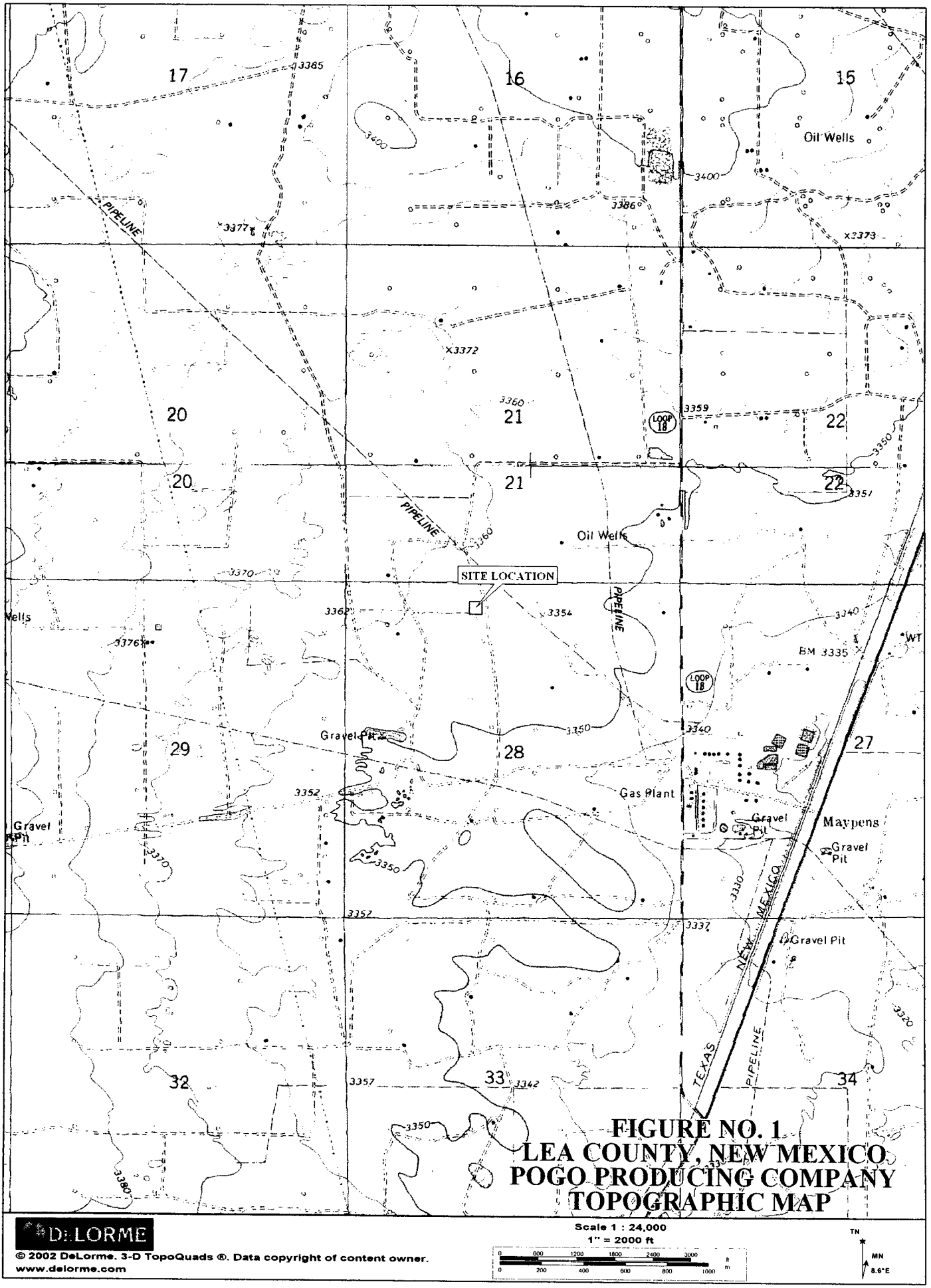


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP

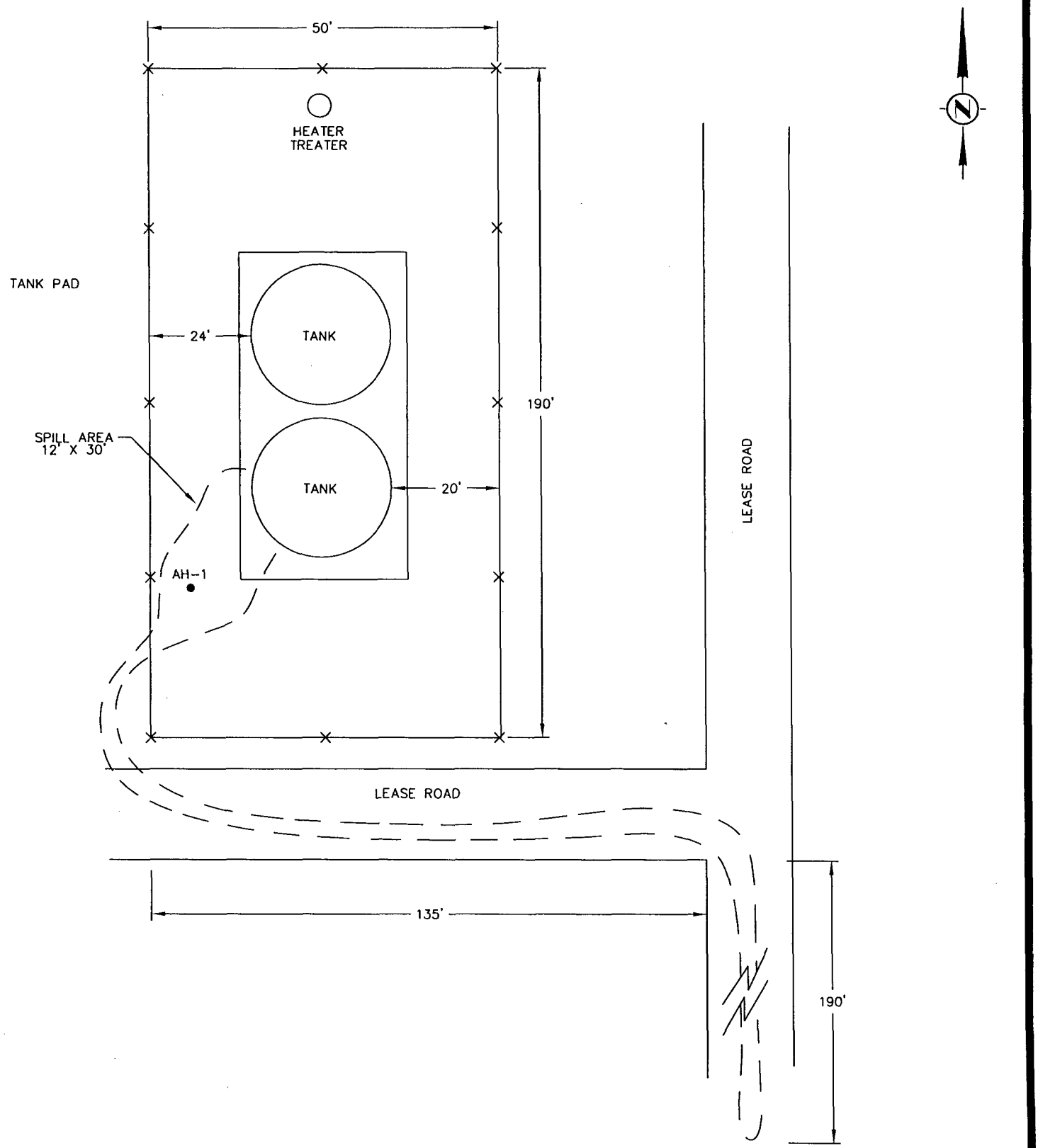


FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

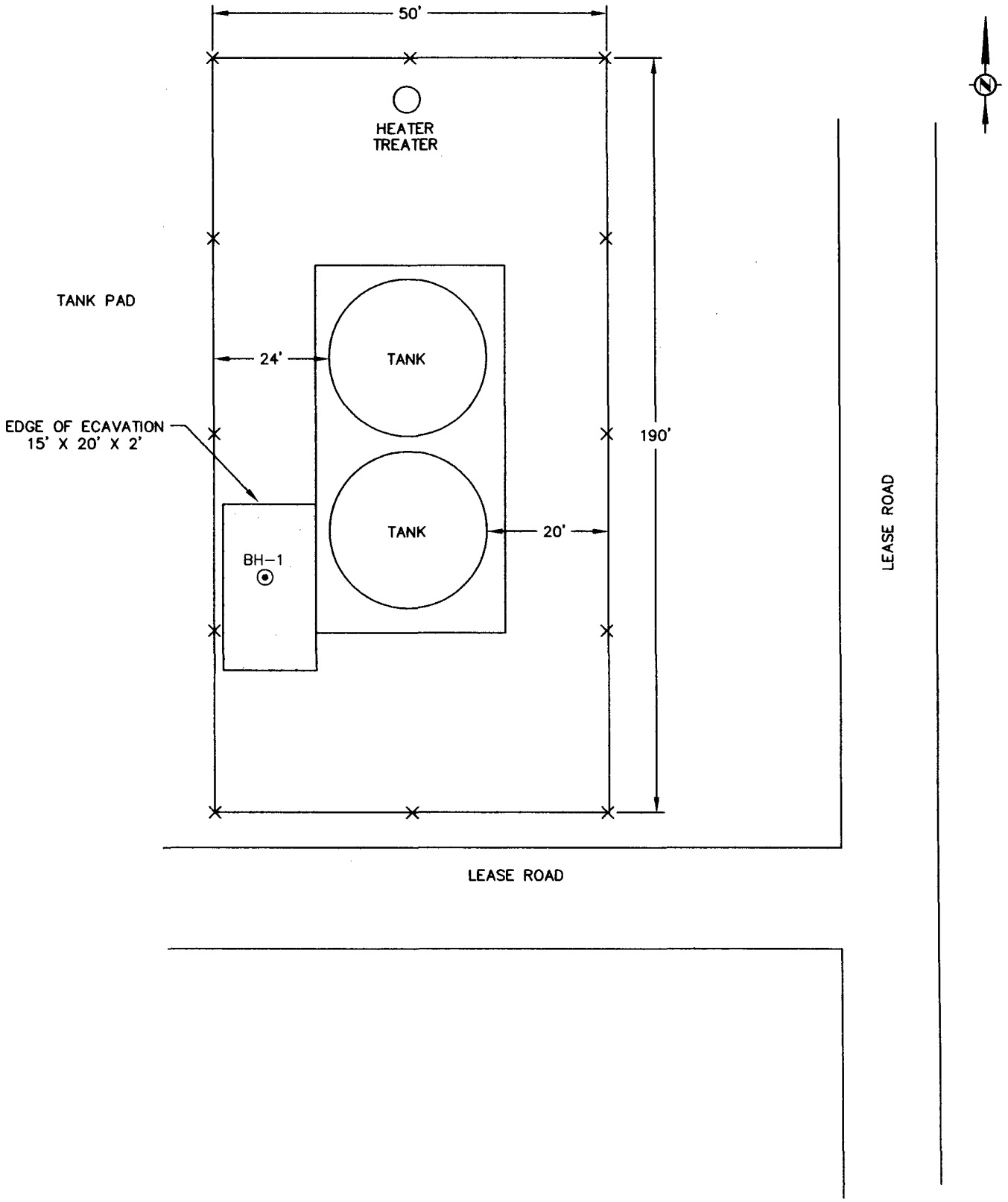
MANDA B TRACT C TB
SITE PLAN

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE: 9/26/03
DWG. BY: JDA
FILE: C:\2061\POGO\SITE

● AUGER HOLE LOCATION

NOT TO SCALE



EXCAVATED AREA
BOREHOLE LOCATION

NOT TO SCALE

FIGURE NO. 3

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

MANDA B TRACT C TB
SITE MAP

DATE: 10/7/05
DWN. BY: JJ
FILE: C:\POGO\2001 MANDA B

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

APPENDIX A

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 22S Range: 37E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | WATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 10/03/2003

							(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
CP	22S	37E	05				2	79	90	85
CP	22S	37E	09				2	85	94	90
CP	22S	37E	14				1	65	65	65
CP	22S	37E	15				7	75	185	125
CP	22S	37E	18				1	190	190	190
CP	22S	37E	21				1	65	65	65
CP	22S	37E	24				1	60	60	60
CP	22S	37E	26				1	65	65	65
CP	22S	37E	34				1	60	60	60

Record Count: 17

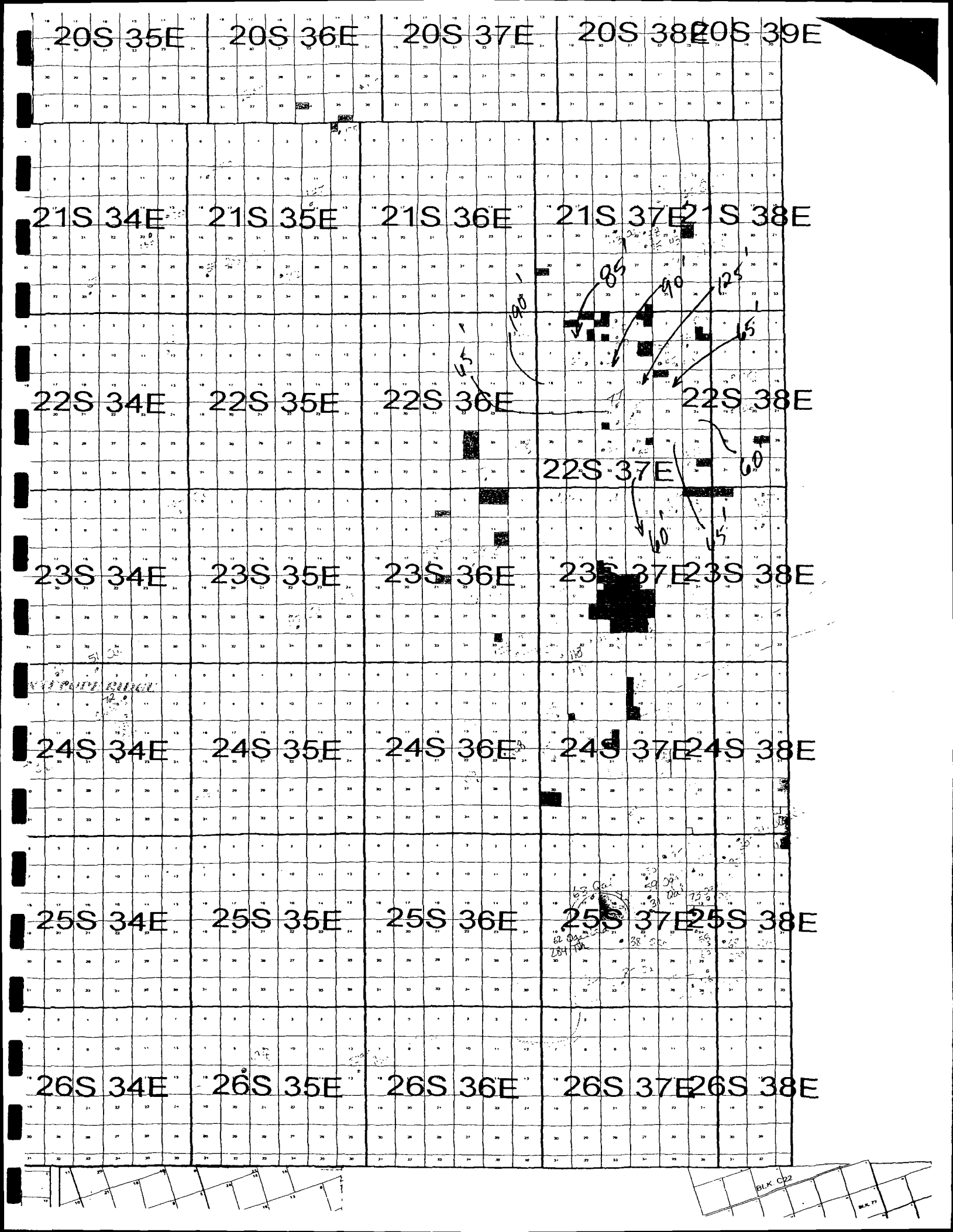

20S 35E
20S 36E
20S 37E
20S 38E
20S 39E
21S 34E
21S 35E
21S 36E
21S 37E
21S 38E
22S 34E
22S 35E
22S 36E
22S 37E
22S 38E
23S 34E
23S 35E
23S 36E
23S 37E
23S 38E
24S 34E
24S 35E
24S 36E
24S 37E
24S 38E
25S 34E
25S 35E
25S 36E
25S 37E
25S 38E
26S 34E
26S 35E
26S 36E
26S 37E
26S 38E
85
90
125
190
45
65
60
60
45

TABLE 6. RECORDS OF WELLS IN SOUTHERN LEA COUNTY, N. MEX. (continued)

Location No.	Owner	Aquifer	Depth of well (feet)	Altitude of well (feet)	Water level: Depth below land surface (feet)	Water level: Date measured	Year completed	Surface diameter of wells	Method of lift	Use of water	Remarks
22.37.21.421	—	To(?)	—	3,360	62.0	9- -53	—	4½	N	N	—
22.331	Skelly Oil Co.	To(?)	115±	3,350	69.0	9-29-53	1949	—	Ti	In,D	Skelly Eunice Plant 1, well 12. EY 40 gpm.
23.233	Leo Sims	Qal	77M	3,345	55.0	10-14-53	—	14	N	N	Open and uncased.
23.441	O. I. Boyd	Qal	70±	3,335	55.3	10-12-53	—	—	Lw	S	Dug.
23.441a	do.	Qal	70±	3,335	55.2	10-12-53	—	7½	N	N	—
24.133a	G. Sims	Qal	127M	3,322	59.3	4-21-55	—	10	Li	N	—
24.133b	do.	Qal	80	—	—	—	—	—	Lw	N	Chemical analysis in table 8.
25.313	Marshal Drinkard	Qal	69M	3,300	50.1	10-14-53	1945	13½	N	N	—
27.334b	Skelly Oil Co.	Qal	127M	3,335	54.4	9- -53	—	8½	N	N	Skelly Eunice Plant 1, well 9.
27.410	do.	To?	182	—	—	—	—	7	Te	In,D	EY 25 gpm. Perforations 150-170 feet.
22.37.28.323	Clower Drilling Co.	Qal	—	3,353	66.1	9- -53	—	9¼	N	N	—
34.221	Humble Oil Co.	Qal and Tr	229	3,520	—	—	1938	—	—	In	WBZ 58-61 feet, 138-146 feet, 185-192 feet. EY 22 gpm.
36.141a	Tom Linebury	Qal	40	3,300	32.2	10-12-54	—	—	Lw	S	—
36.141b	do.	Qal	46	3,300	31.1	6- 3-55	—	6	N	N	—
22.38.18.234	The Texas Co.	Tr	386M	3,360	180	10- -53	1953	—	Li	In	WBZ gray sand, 325-380 feet. EY 20 gpm.
19.222	do.	Tr	—	3,365	146.0	10-14-53	—	7	N	N	—
23.32.4.222	C. H. and W. O. James	Tr	550	3,630	—	—	1931	8	Lw	S	EY 10 gpm.
21.222	Frank and Charles James	Tr	550	3,700	500	—	—	8	Li	S	—
23.33.12.322	San Simon Ranch	Tr	400	3,685	—	—	1953	—	Lw	S	WBZ 370-400 feet.
23.33.28.334	Brinninstool	Tr	575	3,675	500	—	—	—	Lw	D,S	EY 2.5 gpm.
23.34.1.444	San Simon Ranch	Qal	144±M	3,360	137.3	11-25-53	—	6	N	N	—
31.340	Continental Oil Co.	Tr	678	3,620	—	—	1953	8	Li	In	EY 47 gpm. Chemical analysis in table 8.

22.36.35.314	do.	To	197	3,490	187.4	11-23-53	—	—	Lw	S	—
1.132	G. Sims	Qal	—	3,350	47.6	10-14-53	—	—	N	N	Open, uncased hole.
1.440	do.	Qal	—	—	—	—	—	—	Lw	S	Chemical analysis in table 8.
2.442	Humble Oil Co.	Qal	86M	3,360	53.3	10- 9-53	—	7	N	N	Initial yield, 68 gpm.
3.133	Sinclair Oil and Gas Co.	To	120	3,425	90	—	1946	—	Je	D	—
3.134	do.	—	52M	3,420	Dry	9-28-53	—	—	N	N	—
3.440	Cities Service Oil Co.	To	—	3,390	75.8	9-29-53	—	7½	N	N	—
4.211	City of Eunice	To	155	3,445	110	1953	1953	10	Te	P	Well 12. Initial yield, 100 gpm; yield in 1953, 60 gpm.
4.213	do.	To	155	3,440	114.8	3- 6-54	1952	10	Te	P	Well 11. EY 60 gym.
4.214a	Eunice Cemetery Assoc.	To	115±M	3,435	108.2	9-29-53	—	6½	N	N	—
22.37.4.233	City of Eunice	To	155	3,435	110	1951	1951	8	Te	P	Well 9.
4.421	Sinclair Oil and Gas Co.	To	114±M	3,430	90.1	9-28-53	—	7⅝	N	N	—
4.424	Skelly Oil Co.	To	164	—	<139	—	1950	8⅝	Ti	In,D	Skelly Eunice Plant 1, well 13. Initial yield, 150 gpm; dropped to 20 gpm.
8.441	Shell Oil Co.	To	168	3,400	60	1953	1936	6⅝	Lw	D	—
9.313a	Humble Oil Co.	To	166M	3,400	72.7	9-29-53	1944	9½	N	N	Humble—J. L. Greenwood well 2.
9.331	do.	To	160	—	—	—	1945	7⅝	Te	D	Humble—J. L. Greenwood well 4.
9.333	do.	To	172	—	—	—	1946	4	Te	In	Humble—J. L. Greenwood well 5. Water used for oil well flooding.
22.37.9.441	Humble Oil Co.	To	104±M	3,410	85.5	9-29-53	1940	6⅝	N	N	Humble—J. L. Greenwood well 1.
10.213	Gulf Oil Corp.	To	220	3,400	100	1950	—	—	Lw	D	Gulf-Brunson lease well.
10.320	Skelly Oil Co.	To	—	3,395	81.0	9-29-53	—	11½	N	N	—
11.324	—	Qal	100M	3,350	45.3	10-16-53	1952	5	N	N	—
11.444	Leo Sims	Qal	—	3,345	58.7	10-16-53	—	8⅝	Lw	S	—
12.114	G. Sims	Qal	84M	3,340	53.9	10-14-53	—	7	N	N	—
12.443	do.	Qal	59M	3,335	53.9	10-14-53	—	15	N	N	—
12.443a	do.	Qal	59M	3,335	53.3	10-14-53	—	—	N	N	Uncased and open.
15.333	H. O. Sims	To	—	3,380	81.0	9- -53	—	4¾	Lw	D,S	—
16.432	Skelly Oil Co.	To	135	—	—	—	—	7	Ti	In,D	Skelly Eunice Plant 1, well 11. EY 40 gpm.
16.443	do.	To	136	3,385	80.9	9-28-53	1947	8⅝	Ti	In,D	Skelly Eunice Plant 1, well 10.
22.37.21.221	—	To(?)	—	3,380	76.5	9- -53	—	6⅝	N	N	—

APPENDIX B

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Ike Tavarez

Highlander Environmental Corp.

1910 N. Big Spring St.

Midland, TX 79705

Project: Pogo/ Manda B

Project Number: 2061

Location: Lea Co., NM

Lab Order Number: 5I13017

Report Date: 09/19/05

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 (5-6)	5I13017-01	Soil	09/09/05 00:00	09/13/05 16:00
BH-1 (10-11)	5I13017-02	Soil	09/09/05 00:00	09/13/05 16:00
BH-1 (15-16)	5I13017-03	Soil	09/09/05 00:00	09/13/05 16:00
#1 Composite	5I13017-04	Soil	09/09/05 00:00	09/13/05 16:00

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#1 Composite (5I13017-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EI51618	09/16/05	09/16/05	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*85.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.8 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EI51513	09/15/05	09/15/05	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*74.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*80.0 %*	*70-130*		"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
BH-1 (5-6) (5I13017-01) Soil									
Chloride	**4290**	50.0	mg/kg	100	EI51603	09/15/05	09/15/05	EPA 300.0	
BH-1 (10-11) (5I13017-02) Soil									
Chloride	**746**	10.0	mg/kg	20	EI51603	09/15/05	09/15/05	EPA 300.0	
BH-1 (15-16) (5I13017-03) Soil									
Chloride	**348**	10.0	mg/kg	20	EI51603	09/15/05	09/15/05	EPA 300.0	
#1 Composite (5I13017-04) Soil									
Chloride	**156**	5.00	mg/kg	10	EI51603	09/15/05	09/15/05	EPA 300.0	
% Moisture	**2.1**	0.1	%	1	EI51420	09/14/05	09/14/05	% calculation	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI51513 - Solvent Extraction (GC)										
Blank (EI51513-BLK1)				Prepared & Analyzed: 09/15/05						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*48.5*		*mg kg*	*50.0*		*97.0*	*70-130*			
Surrogate: 1-Chlorooctadecane	*40.0*		*"*	*50.0*		*80.0*	*70-130*			
LCS (EI51513-BS1)				Prepared & Analyzed: 09/15/05						
Gasoline Range Organics C6-C12	399	10.0	mg/kg wet	500		79.8	75-125			
Diesel Range Organics >C12-C35	434	10.0	"	500		86.8	75-125			
Total Hydrocarbon C6-C35	833	10.0	"	1000		83.3	75-125			
Surrogate: 1-Chlorooctane	*49.4*		*mg kg*	*50.0*		*98.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*45.4*		*"*	*50.0*		*90.8*	*70-130*			
Calibration Check (EI51513-CCV1)				Prepared: 09/15/05 Analyzed: 09/16/05						
Gasoline Range Organics C6-C12	416		mg/kg	500		83.2	80-120			
Diesel Range Organics >C12-C35	434		"	500		86.8	80-120			
Total Hydrocarbon C6-C35	850		"	1000		85.0	80-120			
Surrogate: 1-Chlorooctane	*50.5*		*"*	*50.0*		*101*	*0-200*			
Surrogate: 1-Chlorooctadecane	*53.0*		*"*	*50.0*		*106*	*0-200*			
Matrix Spike (EI51513-MS1)	**Source: 5I13017-04**			Prepared: 09/15/05 Analyzed: 09/16/05						
Gasoline Range Organics C6-C12	509	10.0	mg/kg dry	511	ND	99.6	75-125			
Diesel Range Organics >C12-C35	551	10.0	"	511	ND	108	75-125			
Total Hydrocarbon C6-C35	1060	10.0	"	1020	ND	104	75-125			
Surrogate: 1-Chlorooctane	*53.0*		*mg kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*58.7*		*"*	*50.0*		*117*	*70-130*			
Matrix Spike Dup (EI51513-MSD1)	**Source: 5I13017-04**			Prepared: 09/15/05 Analyzed: 09/16/05						
Gasoline Range Organics C6-C12	498	10.0	mg/kg dry	511	ND	97.5	75-125	2.18	20	
Diesel Range Organics >C12-C35	520	10.0	"	511	ND	102	75-125	5.79	20	
Total Hydrocarbon C6-C35	1020	10.0	"	1020	ND	100	75-125	3.85	20	
Surrogate: 1-Chlorooctane	*53.7*		*mg kg*	*50.0*		*107*	*70-130*			
Surrogate: 1-Chlorooctadecane	*58.0*		*"*	*50.0*		*116*	*70-130*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI51618 - EPA 5030C (GC)										
Blank (EI51618-BLK1)				Prepared & Analyzed: 09/16/05						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*93.2*		*ug kg*	*100*		*93.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*86.2*		*"*	*100*		*86.2*	*80-120*			
LCS (EI51618-BS1)				Prepared & Analyzed: 09/16/05						
Benzene	86.2		ug/kg	100		86.2	80-120			
Toluene	90.7		"	100		90.7	80-120			
Ethylbenzene	102		"	100		102	80-120			
Xylene (p/m)	195		"	200		97.5	80-120			
Xylene (o)	102		"	100		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	*95.4*		*"*	*100*		*95.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*97.5*		*"*	*100*		*97.5*	*80-120*			
Calibration Check (EI51618-CCV1)				Prepared: 09/16/05 Analyzed: 09/19/05						
Benzene	80.2		ug/kg	100		80.2	80-120			
Toluene	82.0		"	100		82.0	80-120			
Ethylbenzene	93.7		"	100		93.7	80-120			
Xylene (p/m)	180		"	200		90.0	80-120			
Xylene (o)	98.0		"	100		98.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*86.0*		*"*	*100*		*86.0*	*0-200*			
Surrogate: 4-Bromofluorobenzene	*94.4*		*"*	*100*		*94.4*	*0-200*			
Matrix Spike (EI51618-MS1)	**Source: 5I15013-03**			Prepared: 09/16/05 Analyzed: 09/17/05						
Benzene	86.2		ug/kg	100	ND	86.2	80-120			
Toluene	91.0		"	100	ND	91.0	80-120			
Ethylbenzene	106		"	100	ND	106	80-120			
Xylene (p/m)	201		"	200	ND	100	80-120			
Xylene (o)	111		"	100	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	*91.0*		*"*	*100*		*91.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*107*		*"*	*100*		*107*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI51618 - EPA 5030C (GC)										
Matrix Spike Dup (EI51618-MSD1)	**Source: 5I15013-03**			Prepared: 09/16/05 Analyzed: 09/17/05						
Benzene	80.6		ug/kg	100	ND	80.6	80-120	6.71	20	
Toluene	84.4		"	100	ND	84.4	80-120	7.53	20	
Ethylbenzene	93.6		"	100	ND	93.6	80-120	12.4	20	
Xylene (p/m)	179		"	200	ND	89.5	80-120	11.1	20	
Xylene (o)	96.8		"	100	ND	96.8	80-120	13.7	20	
Surrogate: a,a,a-Trifluorotoluene	*81.7*		"	*100*		*81.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*91.7*		"	*100*		*91.7*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EI51420 - General Preparation (Prep)										
Blank (EI51420-BLK1)				Prepared & Analyzed: 09/14/05						
% Solids	100		%							
Duplicate (EI51420-DUP1)		**Source: 5I13009-01**		Prepared & Analyzed: 09/14/05						
% Solids	96.2		%		97.6			1.44	20	
Duplicate (EI51420-DUP2)		**Source: 5I13010-04**		Prepared & Analyzed: 09/14/05						
% Solids	98.1		%		98.1			0.00	20	
Duplicate (EI51420-DUP3)		**Source: 5I14002-03**		Prepared & Analyzed: 09/14/05						
% Solids	99.9		%		99.9			0.00	20	
Batch EI51603 - Water Extraction										
Blank (EI51603-BLK1)				Prepared & Analyzed: 09/15/05						
Chloride	ND	0.500	mg/kg							
LCS (EI51603-BS1)				Prepared & Analyzed: 09/15/05						
Chloride	8.59		mg/L	10.0		85.9	80-120			
Calibration Check (EI51603-CCV1)				Prepared & Analyzed: 09/15/05						
Chloride	8.66		mg/L	10.0		86.6	80-120			
Duplicate (EI51603-DUP1)		**Source: 5I13016-04**		Prepared & Analyzed: 09/15/05						
Chloride	896	10.0	mg/kg		897			0.112	20	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Highlander Environmental Corp.	Project: Pogo/ Manda B	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2061	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	09/19/05 14:00

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 9/19/2005

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(432) 682-4559 Fax (432) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: Pogo Producing Co. SITE MANAGER: M.E. Tavarez

PROJECT NO.: 2061 PROJECT NAME: Pogo / Monda B Lea Co. NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 (8015 MOD.) TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semivol Volatiles	SPLP	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Metals
5I13017																														
-01	9/9/05		S		X	BH-1 (5-6)	1																						X	X
-02	9/9/05		X		X	BH-1 (10-11)	1																						X	X
-03	9/9/05					BH-1 (15-16)	1																						X	X
-04																														
↓	9/9/05		S	X		#1 Composite.	1						X		X														X	X

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 9-12-05 Time: 1400 RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time: RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time: RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) M.E. Tavarez / Ray Taylor Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HUS AIRBILL #: HAND DELIVERED UPS OTHER:

RECEIVING LABORATORY: E.T. ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:

RECEIVED BY: (Signature) Laura McMurray DATE: 9-13-05 TIME: 11:00

HIGHLANDER CONTACT PERSON: M.E. Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.0°C 4oz glass on ice w/ labels + seals Seal on cooler

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Highlander

Date/Time: 9/13/05 11:00

Order #: 5I13017

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	3.0 C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken:

APPENDIX C

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C-141
Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action
OPERATOR

☑ Initial Report ☐ Final Report

Name: ARCH PET INC	Contact: GARY WELLS
Address: ENUICE N.M.	Telephone No.: 432-631-0134
Facility Name: MANDA B - TRACK-C	Facility Type: TANK BATTERY

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	28	22	37-E					LEA

NATURE OF RELEASE

Type of Release: OIL	Volume of Release: N/A	Volume Recovered: 3
Source of Release: STORAGE TANK RANDOUR	Date and Hour of Occurrence: 9/22/03	Date and Hour of Discovery: 9/22/03 1:00 PM
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? LEA MESSAGE FOR Silvia Dickey	
By Whom? GARY WELLS	Date and Hour 9/22/03 1:50 PM	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)

Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary) WATER LINE BACKED AND FLOODED HEATER - HEATER DUMPED ALL WATER AND OIL IN STOCK TANK RUNNING OIL STORAGE TANK OVER.

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary) ALL FL STAYED ON PAD AND RAN DOWN EDGE OF ROAD. P.U. FL THEN BACK DRAG LOCATION AND ROAD - NOTIFIED HIGHLANDER ENVIRO TO LOOK AND DECIDE ON CLEAN UP

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Gary Wells	OIL CONSERVATION DIVISION
Printed Name: GARY WELLS	Approved by District Supervisor:
Title: PROD SUPERVISOR	Approval Date: / Expiration Date:
Date: 9/22/03 Phone: 432-631-0134	Conditions of Approval: / Attached ☐

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised June 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company (ARCH) Pogo Producing Company	Contact : Pat Ellis
Address: 300 N. Marienfeld, Box 10340, Midland Tx. 79701	Telephone No. (432) 685-8100
Facility Name: Manda B Tract C Tank Battery	Facility Type: Tank Battery

Surface Owner:	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	28	22S	37E					Lea

NATURE OF RELEASE

Type of Release: Oil	Volume of Release Unknown	Volume Recovered 3 barrels
Source of Release Tank ran over.	Date and Hour of Occurrence 9/22/03	Date and Hour of Discovery 9/22/03 1:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD – Left message for Sylvia Dickey	
By Whom? Scott Hodges	Date and Hour 9/22/03 1.50 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Water line backed up and flooded heater. Heater dumped all water and oil in stock tank, running oil storage tank over. 3 barrels of oil picked up.

Describe Area Affected and Cleanup Action Taken.*
All fluids stayed on pad and edge of road. The fluid was picked up and the location dragged. Contacted Highlander Environmental Corp. Samples were taken, and area was excavated to 2.0' below ground surface. Confirmation samples were taken. Closure Report prepared and submitted to the NMOCD for review.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez, P.G. (Highlander Environmental Corp.)	Approved by District Supervisor: ENVIRO ENGR
Title: Sr. Geologist/Sr.Project Manager	Approval Date: 5.3.07 Expiration Date: —
E-mail Address: itavarez@hec-enviro.com	Conditions of Approval: Attached ☐
Date: 10/7/05 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary