NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

FINAL Closure OK
1.10.06

January 10, 2006

Mr. Pat Ellis EllisP@pogoproducing.com
Pogo Producing Company
300 N. Marienfield
Midland, TX 79701-7340

Re: Closure Report – S.J. Carr Tank Battery
Site Location: UL-M Sec 10 – T24S - R37E
Report Dated: November 18, 2005

Dear Mr. Ellis,

The New Mexico Oil Conservation Division (OCD) reviewed the above referenced plan submitted by your agent, Highlander Environmental Corp. (HEC). Based on information provided, the site requires no further action at this time.

Please be advised that OCD approval does not relieve Pogo Producing Company of responsibility should operations result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Pogo Producing Company of responsibility for compliance with any federal, state or local laws and/or regulations. If you have any questions or need assistance please call me at (505) 393-6161, x111 or e-mail larry.Johnson@state.nm.us

Sincerely,

Larry Johnson - Environmental Engineer

CC: Roger Anderson - Environmental Bureau Chief
Chris Williams - District I Supervisor
Paul Sheeley- Environmental Engineer

SITE INFORMATION

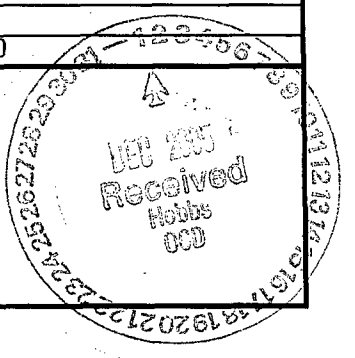
General Site Information:	
Site:	**S.J. Carr Tank Battery**
Company:	**Pogo Producing Company**
Section, Township and Range	**Section 10, Township 24S, Range 37E**
Unit Letter:	**M**
Lease Number:	**35055**
County:	**Lea**
GPS:	**32-13-55 N 103-09-20 W**
Surface Owner:	**Bill Grobe**
Mineral Owner:	
Directions:	From Jal, New Mexico travel 6.1 miles north on Hwy. 18 to mile marker 12.
	Turn right and travel 1.9 miles. Turn left and travel 1.4 miles to Y in road.
	Take right fork and travel 0.3 mile to Tank Battery.

Release Data:	
Date Released:	1/29-30/2000
Type Release:	Oil & Produced Water
Source of Contamination:	Check valve on header
Fluid Released:	20 barrels of oil and produced water
Fluids Recovered:	0 barrels oil and produced water

Official Communication:			
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

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	**0**	*0*
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	***0***	*0*
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	**0**	0
Total Ranking Score:	**0**	

Acceptable Soil RRAL (mg/kg)		
Benzene	*Total BTEX*	*TPH*
10	50	5,000



Highlander Environmental Corp.

Midland, Texas

November 18, 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, S.J. Carr Tank Battery Located in Section 10, Township 24 South, Range 37 East, Unit Letter M, Lea County, New Mexico.

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to assess a spill on the S.J. Carr Tank Battery, located in Unit Letter M, Section 10, Township 24 South, Range 37 East, 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.

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 120' was reported in Section 10 (24.37.10.123). Additional wells in Sections 5 and 7 had reported water levels of 111 and 119.9', respectively. One well was located in the USGS database in Section 9 with an average depth to water of 109' (321316103094001). The New Mexico State Engineer Office database did not show any wells in Section 10, or adjoining sections. The well records are enclosed 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 on the regional groundwater data, the proposed RRAL for TPH is 5,000 mg/kg.

Background

On January 29, 2000, a spill occurred at this facility and reportedly affected an area of approximately 30' x 130' inside the fenced battery. Approximately 20 barrels of oil and water were released on the surface and none was recovered. 3900'

On March 23, 2000, Highlander inspected the spill area, which measured approximately 30' x 150'. The spill area was confined inside the tank battery pad. A total of three hand augers borings were installed in the spill area to define the vertical extent of the impact. Soil samples were collected to the top of a dense caliche layer, which was encountered at a depth of 1.0' and 2.0' below surface. Soil samples were evaluated for Total Petroleum Hydrocarbon (TPH) by EPA 418.1, Benzene, Toluene, Ethylbenzene and Xylene (BTEX) by method SW 846-8020 and chloride by method SW846-9252. The spill area and auger hole locations are shown on Figure 2.

The results were submitted to the NMOCD in an Assessment Report/Workplan dated April 18, 2000. The results of the sampling indicated shallow impact to soil, confined to the tank battery pad. Impacted soil exceeding the RRAL of TPH was found at a depth of 0-0.5' below surface. In addition, the total BTEX that exceeded the RRAL was also detected from 0-0.5' and decreased below the RRAL at 0.5-1.0' below surface. The chloride levels were detected in the shallow soils, which decreased with depth. The chloride levels detected do not appear to be a threat to groundwater. The results are summarized in Table 1.

Based upon the shallow nature of the impact and the lack of significant chloride impact, it was decided to allow the site to naturally attenuate. The site was periodically inspected to monitor the progress of remediation.

On October 1, 2003, Highlander personnel inspected the site and collected soil samples to evaluate the remediation. As shown on Figure 2, the site was segregated into an east half and a west half for sampling. Composite samples from 0-0.5' showed BTEX levels below the RRAL and TPH concentrations slightly above the RRAL at 5,027 mg/kg and 5,040 mg/kg. The results of sampling are included in Table 1.

Corrective Action and Confirmatory Sampling

In order to expedite closure and ensure RRAL levels were achieved, the site was worked on October 19, 2005. The soils were turned and blended. Once the blending was completed, composite soil samples were taken. The sample results showed the east half composite well below the TPH RRAL, while the west half remained slightly above the RRAL, with a concentration of 6,170 mg/kg.

On November 10, 2005, the west half was resampled. The TPH concentration (1940 mg/kg) was well below the RRAL.

Conclusions and Closure Request

The TPH and BTEX impacted soils above the RRAL were remediated to below RRAL concentrations. The chloride impact was very limited, confined to a small area of surface soils

inside the facility fence, and does 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 (432) 682-4559.

HIGHLANDER ENVIRONMENTAL CORP,

Jim Reed

Timothy M. Reed, P.G.
Vice President

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

FIGURES

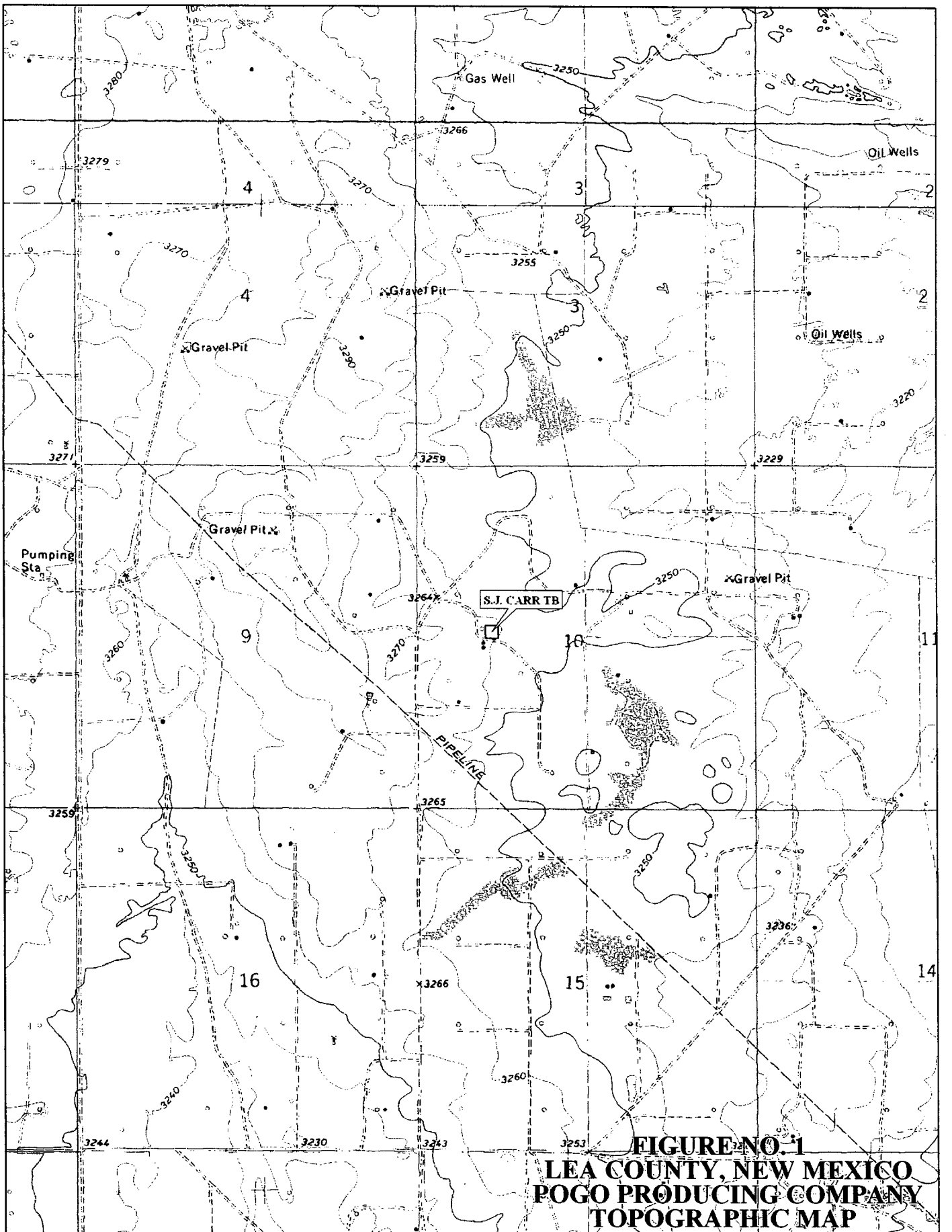
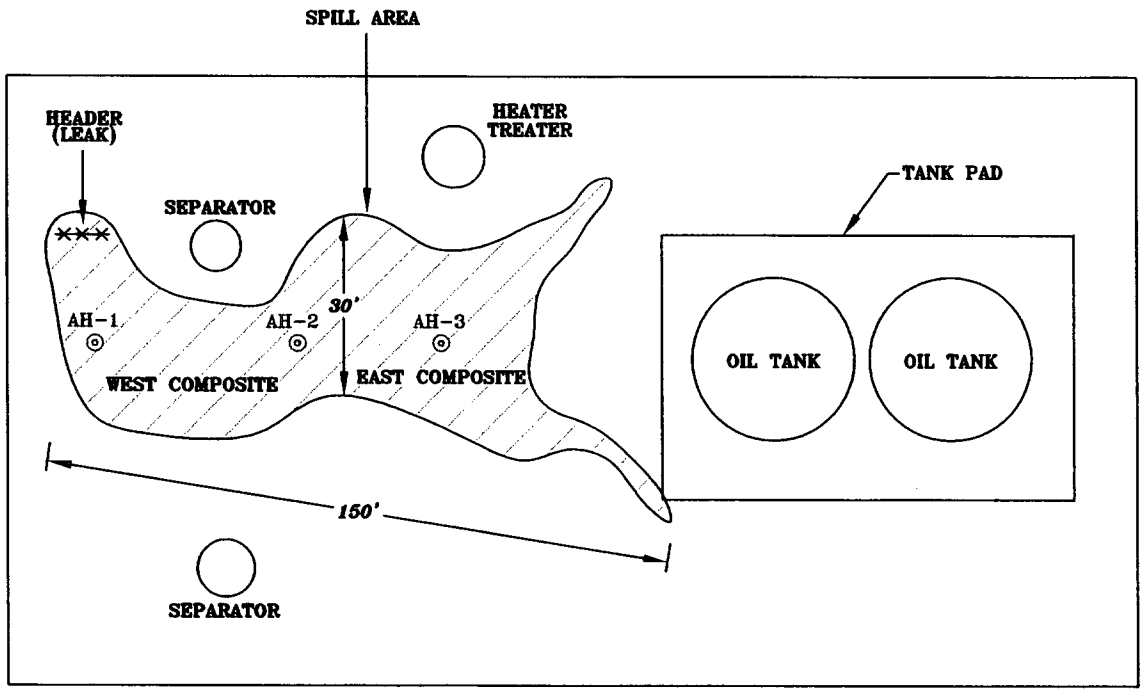


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP



SPILL AREA

SAMPLE LOCATIONS

NOT TO SCALE

DATE: 11/22/05
DRN. BY: JJ
FILE: C:\POGO\1468\CARR

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

S.J. CARR TANK BATTERY

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

TABLE

Table 1
Pogo Producing Company
S.J. Carr Tank Battery
Lea County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			C6-C12	C12-C35	Total					
Tank Batery Auger holes										
Sample 1	3/23/00	0-0.5	-	-	7,600	0.087	1.0	1.9	4.7	105
Sample 1	3/23/00	0.5-1.0	-	-	810	-	-	-	-	87
Sample 2	3/23/00	0-0.5			8,100	1.6	22	17	39	3,330
Sample 2	3/23/00	0.5-1.0	-	-	780	<0.005	0.01	0.1	0.29	298
Sample 2	3/23/00	1.0-2.0			100	-	-	-	-	490
Sample 3	3/23/00	0-0.5	-	-	11,000	6.1	60	46	106	52.5
Sample 3	3/23/00	0.5-1.0	-	-	1,000	0.007	0.26	1.36	2.27	17.5
E. Composite	10/02/03	0-0.5	57.1	4,970	5,027	<0.025	<0.025	<0.025	<0.025	177
W. Composite	10/02/03	0-0.5	60.1	4,980	5,040	-	-	-	-	975
E. Composite	10/19/05	0-0.5	39.8	3,820	3,860	<0.025	<0.025	<0.025	<0.025	-
W. Composite	10/19/05	0-0.5	43.5	6,130	6,170	<0.025	<0.025	<0.025	<0.025	-
W. Composite	11/10/05	0-0.5	10.8	1,930	1,940	-	-	-	-	-

(-) Not analyzed

APPENDIX A

USGS

Water Resources

Data Category: Ground Water | Geographic Area: New Mexico | go

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

Agency code = usgs
site_no list = • 321316103094001

Save file of selected sites to local disk for future upload

USGS 321316103094001 24S.37E.09.444111

Lea County, New Mexico
Latitude 32°13'16", Longitude 103°09'40"
NAD27
Land-surface elevation
3,274.90 feet above sea level NGVD29
The depth of the well is 160 feet below land surface.

This well is completed in the ALLUVIUM,BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	Water level, feet below land surface	Status
1965-10-21		109.73	
1968-02-28		109.28	
1970-12-03		109.32	
1976-01-16		109.51	

Date	Time	Water level, feet below land surface	Status
1981-03-17		109.13	
1986-03-05		109.08	
1991-05-21		108.77	
1996-02-22		108.54	
2001-02-21		98.42	

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
24.34.35.122	do.	Tr	258M	3,410	223.9	3-29-53	—	6	Lw	S	—
24.35.30.341	do.	Tr	150±M	3,320	139.6	11-27-53	—	6	Lw	S	—
24.36.3.111	—	To	—	3,400	181.1	3-12-53	—	7½	N	N	—
3.333	Charles Whitten	To(?)	190±M	3,390	181.1	3-12-53	—	11½	N	N	—
9.133	do.	To	230	3,395	195.0	3- 6-53	1948	7	N	N	—
13.314	Humble Oil Co.	To	160	—	—	—	1941	—	—	—	WBZ sand, 138-158 feet. EY 10 gpm.
24.36.15.222	Canmex Oil Co.	To	200	3,370	181.3	3-12-53	1937	7	Lw	D	—
22.220	Continental Oil Co.	Tr	692	3,340	—	—	—	8¼	Li	D	A. H. Meyers "A" well 1. Intake set at about 475 feet. Maximum yield 6 gpm.
23.222	—	To	—	3,345	147.9	3- 6-53	—	6¼	Lw	I	Measurement made inside pipe column.
27.221	J. R. Wilson	To	—	3,320	122.9	3- 6-53	—	10	N	N	—
24.37.5.111	EPNG	To	173	3,275	111	9- 8-52	1952	10¾	Te	In,D	Jal Plant 4, well 6.
7.431	Fowler Hair	To	132M	3,300	119.9	3- 6-53	—	6¼	N	N	—
10.123	Trinity Production Co.	Tr	747	3,260	120	2- -53	1953	—	Li	In	EY 42 gpm. Chemical analysis in table 8.
14.211	Fowler Hair	To(?)	72M	3,205	64.5	3- 3-53	—	5	N	N	—
24.37.16.342	—	To	106M	3,235	67.7	3-11-53	—	9	N	N	—
16.423	Humble Oil Co.	To	150	3,240	—	—	1951	6⅝	Te	D	Fowler-Ellenburger Camp well 1. WBZ 90-150 feet.
17.422	Fowler Hair	To	92M	3,260	86.5	3- 4-53	—	7½	N	N	—
19.234	—	To	124M	3,290	117.4	3- 5-53	—	10	Lw	S	—
21.444	Dollarhide Water Co.	To	74M	3,210	69.6	3- 2-53	—	7½	N	N	—
25.322	Fowler Hair	To	—	3,136	76.1	3- 3-53	—	6½	Lw	D,S	—
34.320	Plains Production Co.	To	75±M	3,160	56.8	3- 2-53	—	12	N	N	—
25.33.20.443	—	Tr	—	3,395	200-250	8-18-58	—	6	Lw	D,S	—
31.244	Nick Ritz	Tr	320	3,400	257.5	7-26-54	—	8	Lw	S	—
25.34.1.132	Madera Ranch	Tr	300+	3,385	231.0	4-15-53	—	6	N	N	—
25.34.15.242	—	Tr	168	3,335	164.9	7-23-54	—	10	Lw	S	—
25.35.10.223	Georgia Bryant	To	83M	3,180	76.9	4- 2-53	—	9	Lw	S	—
21.122	—	Tr	—	3,230	173.3	4- 2-53	—	8½	N	N	—
25.36.10.313	W. D. Dinwiddie	Tr	512	3,130	300	—	—	—	Lw	S	—
15.111	do.	Tr(?)	140	3,125	120.2	3- -53	1951	—	N	N	—
23.234	—	Qal	65M	3,070	53.7	3-31-53	—	6½	Lw	S	—
24.112	Humble Oil Co.	Tr	455	3,115	292.4	4-15-53	—	—	N	N	—
25.37.1.340	Pure Oil Co.	To	217	3,108	60	—	—	20	Te	In,D	—
2.332	Richmond Drilling Co.	To	112M	3,140	98.8	3-29-53	—	7	Lw	D	—
9.333	Stanolind Oil Co.	Tr	502	3,140	—	—	1938	—	Lw	D	WBZ 470-502 feet.
10.412	EPNG	To	270	3,120	50	12-20-49	1949	12	Te	In,D	Jal Plant 3, well 2.
10.433	M. B. Owens	To	—	3,100	54.3	2-26-53	—	7½	Lw	S	MWP
13.312a	City of Jal	To	152	3,080	73	6- -54	1954	12	Te	P	New city well. EY 750 gpm. Chemical analysis in table 8.
25.37.15.221	J. M. Owens	To	—	3,100	59.2	2-26-53	—	—	Ti	In	EY 30 gpm. PR.
15.223	Sun Oil Co.	To	—	3,090	—	—	—	—	Lw	D	Chemical analysis in table 8.
15.411	—	Qal	85M	3,070	31.1	2-26-53	—	6½	N	N	—
17.114	—	Qal	—	3,105	62.8	3- 5-53	—	—	Lw	S	MWP
19.211	—	To	—	3,088	62.3	5-30-55	—	6	Je	D	—
19.221	City of Jal	Tr	500	3,110	284.0	11-11-54	1948	10	N	N	Chemical analysis in table 8.
19.240	do.	Tr	450	3,040	65	1942	—	—	—	—	Old public-supply well. WBZ 70-450 feet. EY (1942) 50 gpm. Chemical analysis in table 8.
20.310	do.	Qal	70	3,035	65	1-18-42	—	6×6 ft.	—	—	Dug. WBZ "clayey sand" 65-70 feet. EY 50 gpm. Chemical analysis in table 8.

APPENDIX B

Analytical Report

Dated 10/9/2003

ANALYTICAL REPORT

Prepared for:

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Project: Pogo/S.J. Carr TB

PO#:

Order#: G0307632

Report Date: 10/09/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
682-3946

Order#: G0307632
Project: 1468
Project Name: Pogo/S.J. Carr TB
Location: Lea County, N.M.

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0307632-01	East Composite (0-0.5')	SOIL	10/1/03 10:55	10/2/03 16:40	4 oz glass	ice
	Lab Testing: 8015M, 8021B/5030 BTEX, Chloride	**Rejected:** No		**Temp:** 14.5 C		
0307632-02	West Composite (0-0.5')	SOIL	10/1/03 10:50	10/2/03 16:40	4 oz glass	ice
	Lab Testing: 8015M, Chloride	**Rejected:** No		**Temp:** 14.5 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0307632
Project: 1468
Project Name: Pogo/S.J. Carr TB
Location: Lea County, N.M.

Lab ID: 0307632-01
Sample ID: East Composite (0-0.5')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		10/3/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	57.1	50.0
DRO, >C12-C35	4,970	50.0
TOTAL, C6-C35	5,027	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	22%	70	130
1-Chlorooctadecane	37%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007090-02		10/8/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	80%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0307632
Project: 1468
Project Name: Pogo/S.J. Carr TB
Location: Lea County, N.M.

Lab ID: 0307632-02
Sample ID: West Composite (0-0.5')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		10/3/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	**60.1**	50.0
DRO, >C12-C35	**4,980**	50.0
TOTAL, C6-C35	**5,040**	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	**21%**	**70**	**130**
1-Chlorooctadecane	**35%**	**70**	**130**

Approval: Celey D. Keene 10/9/03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ
HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0307632
Project: 1468
Project Name: Pogo/S.J. Carr TB
Location: Lea County, N.M.

Lab ID: 0307632-01
Sample ID: East Composite (0-0.5')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	177	mg/kg	1	20	9253	10/3/03	SB

Lab ID: 0307632-02
Sample ID: West Composite (0-0.5')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	975	mg/kg	1	20	9253	10/3/03	SB

Approval: Raland K Tuttle 10-09-03
Raland K. Tuttle, Lab Director, QA Officer Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0307632

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007055-02			<10.0		
CONTROL SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007055-03		952	772	81.1%	
MS SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0307635-01	16.8	952	1054	108.9%	
MSD SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0307635-01	16.8	952	1046	108.1%	0.8%
SRM SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007055-05		1000	921	92.1%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0307632

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0007090-02			<0.025		
Toluene-mg/kg	0007090-02			<0.025		
Ethylbenzene-mg/kg	0007090-02			<0.025		
p/m-Xylene-mg/kg	0007090-02			<0.025		
o-Xylene-mg/kg	0007090-02			<0.025		
MS SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0307635-01	0	0.1	0.108	108.%	
Toluene-mg/kg	0307635-01	0	0.1	0.106	106.%	
Ethylbenzene-mg/kg	0307635-01	0	0.1	0.103	103.%	
p/m-Xylene-mg/kg	0307635-01	0	0.2	0.207	103.5%	
o-Xylene-mg/kg	0307635-01	0	0.1	0.100	100.%	
MSD SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0307635-01	0	0.1	0.110	110.%	1.8%
Toluene-mg/kg	0307635-01	0	0.1	0.111	111.%	4.6%
Ethylbenzene-mg/kg	0307635-01	0	0.1	0.104	104.%	1.%
p/m-Xylene-mg/kg	0307635-01	0	0.2	0.208	104.%	0.5%
o-Xylene-mg/kg	0307635-01	0	0.1	0.097	97.%	3.%
SRM SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0007090-05		0.1	0.102	102.%	
Toluene-mg/kg	0007090-05		0.1	0.100	100.%	
Ethylbenzene-mg/kg	0007090-05		0.1	0.093	93.%	
p/m-Xylene-mg/kg	0007090-05		0.2	0.188	94.%	
o-Xylene-mg/kg	0007090-05		0.1	0.092	92.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0307632

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0007031-01			<20		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0307632-01	177	500	674	99.4%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0307632-01	177	500	674	99.4%	0.%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0007031-04		5000	4960	99.2%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705

Order#: G0307632

Project: Pogo/S.J. Carr TB

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
East Composite (0-0.	0307632-01	SOIL	10/01/2003	10/02/2003
West Composite (0-0	0307632-02	SOIL	10/01/2003	10/02/2003

Surrogate recoveries on the 8015M TPH are outside of control limits due to dilution (G0307532-01&02).

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: _____ Date: 10-09-03

Environmental Lab of Texas I, Ltd.

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 682-4559 Fax (915) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: POGO SITE MANAGER: Ike Tavarez

PROJECT NO.: 1468 PROJECT NAME: POGO/S.J. Carr TB

Lea county, 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 (TPH)	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 Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Chloride		
0307632 01	10/1/03	10:55	S	X		East composite (0-0.5')	1				X		X		X															X		
02	10/1/03	10:50	S	X		West composite (0-0.5')	1				X				X															X		

RELINQUISHED BY: (Signature) Date: 10/2/03 Time: 0440 RECEIVED BY: (Signature) Date: 10-2-03 Time: 1640 SAMPLED BY: (Print & Sign) Date: 10-1-03 Time: 10:00

RELINQUISHED BY: (Signature) Date: Time: RECEIVED BY: (Signature) Date: Time: SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: HAND DELIVERED UPS OTHER:

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

RECEIVING LABORATORY: Environmental Lab of Texas RECEIVED BY: (Signature)
ADDRESS:
CITY: Odessa STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

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

REMARKS: Run (1) BTEX on highest TPH results. 14.5°C 40z-Glass

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

Analytical Report

Dated 10/28/2005

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/ S.J. Carr TB Spill

Project Number: 1468

Location: Lea County, NM

Lab Order Number: 5J25009

Report Date: 10/28/05

Highlander Environmental Corp.	Project: Pogo/ S.J. Carr TB Spill	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 1468	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	10/28/05 08:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
East Composite (0-0.5')	5J25009-01	Soil	10/19/05 00:00	10/24/05 17:00
West Composite (0-0.5')	5J25009-02	Soil	10/19/05 00:00	10/24/05 17:00

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

Highlander Environmental Corp.	Project: Pogo/ S.J. Carr TB Spill	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 1468	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	10/28/05 08:55

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
East Composite (0-0.5') (5J25009-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ52622	10/26/05	10/26/05	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		*90.8 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**39.8**	10.0	mg/kg dry	1	EJ52621	10/26/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	**3820**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**3860**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*101 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*130 %*	*70-130*		"	"	"	"	
West Composite (0-0.5') (5J25009-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EJ52622	10/26/05	10/26/05	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		*88.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.5 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**43.5**	10.0	mg/kg dry	1	EJ52621	10/26/05	10/26/05	EPA 8015M	
Diesel Range Organics >C12-C35	**6130**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**6170**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*114 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*128 %*	*70-130*		"	"	"	"	

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

Highlander Environmental Corp.	Project: Pogo/ S.J. Carr TB Spill	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 1468	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	10/28/05 08:55

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
East Composite (0-0.5') (5J25009-01) Soil									
% Moisture	**10.5**	0.1	%	1	EJ52603	10/25/05	10/26/05	% calculation	
West Composite (0-0.5') (5J25009-02) Soil									
% Moisture	**8.7**	0.1	%	1	EJ52603	10/25/05	10/26/05	% calculation	

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

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 EJ52621 - Solvent Extraction (GC)										
Blank (EJ52621-BLK1)				Prepared & Analyzed: 10/26/05						
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	*40.7*		*mg/kg*	*50.0*		*81.4*	*70-130*			
Surrogate: 1-Chlorooctadecane	*41.2*		*"*	*50.0*		*82.4*	*70-130*			
LCS (EJ52621-BS1)				Prepared & Analyzed: 10/26/05						
Gasoline Range Organics C6-C12	449	10.0	mg/kg wet	500		89.8	75-125			
Diesel Range Organics >C12-C35	428	10.0	"	500		85.6	75-125			
Total Hydrocarbon C6-C35	877	10.0	"	1000		87.7	75-125			
Surrogate: 1-Chlorooctane	*51.4*		*mg/kg*	*50.0*		*103*	*70-130*			
Surrogate: 1-Chlorooctadecane	*55.7*		*"*	*50.0*		*111*	*70-130*			
Calibration Check (EJ52621-CCV1)				Prepared: 10/26/05 Analyzed: 10/27/05						
Gasoline Range Organics C6-C12	500		mg/kg	500		100	80-120			
Diesel Range Organics >C12-C35	416		"	500		83.2	80-120			
Total Hydrocarbon C6-C35	916		"	1000		91.6	80-120			
Surrogate: 1-Chlorooctane	*50.4*		*"*	*50.0*		*101*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.7*		*"*	*50.0*		*105*	*70-130*			
Matrix Spike (EJ52621-MS1)	**Source: 5J25007-01**			Prepared & Analyzed: 10/26/05						
Gasoline Range Organics C6-C12	489	10.0	mg/kg dry	544	ND	89.9	75-125			
Diesel Range Organics >C12-C35	453	10.0	"	544	ND	83.3	75-125			
Total Hydrocarbon C6-C35	942	10.0	"	1090	ND	86.4	75-125			
Surrogate: 1-Chlorooctane	*50.9*		*mg/kg*	*50.0*		*102*	*70-130*			
Surrogate: 1-Chlorooctadecane	*54.1*		*"*	*50.0*		*108*	*70-130*			
Matrix Spike Dup (EJ52621-MSD1)	**Source: 5J25007-01**			Prepared & Analyzed: 10/26/05						
Gasoline Range Organics C6-C12	485	10.0	mg/kg dry	544	ND	89.2	75-125	0.821	20	
Diesel Range Organics >C12-C35	449	10.0	"	544	ND	82.5	75-125	0.887	20	
Total Hydrocarbon C6-C35	934	10.0	"	1090	ND	85.7	75-125	0.853	20	
Surrogate: 1-Chlorooctane	*50.0*		*mg/kg*	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.3*		*"*	*50.0*		*105*	*70-130*			

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 EJ52622 - EPA 5030C (GC)										
Blank (EJ52622-BLK1)				Prepared & Analyzed: 10/26/05						
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	*37.7*		*ug/kg*	*40.0*		*94.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*36.7*		*"*	*40.0*		*91.8*	*80-120*			
LCS (EJ52622-BS1)				Prepared & Analyzed: 10/26/05						
Benzene	0.0534	0.00100	mg/kg wet	0.0500		107	80-120			
Toluene	0.0523	0.00100	"	0.0500		105	80-120			
Ethylbenzene	0.0574	0.00100	"	0.0500		115	80-120			
Xylene (p/m)	0.109	0.00100	"	0.100		109	80-120			
Xylene (o)	0.0599	0.00100	"	0.0500		120	80-120			
Surrogate: a,a,a-Trifluorotoluene	*36.7*		*ug/kg*	*40.0*		*91.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.1*		*"*	*40.0*		*100*	*80-120*			
Calibration Check (EJ52622-CCV1)				Prepared & Analyzed: 10/26/05						
Benzene	55.8		ug/kg	50.0		112	80-120			
Toluene	55.1		"	50.0		110	80-120			
Ethylbenzene	59.5		"	50.0		119	80-120			
Xylene (p/m)	117		"	100		117	80-120			
Xylene (o)	59.4		"	50.0		119	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.3*		*"*	*40.0*		*95.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*43.0*		*"*	*40.0*		*108*	*80-120*			
Matrix Spike (EJ52622-MS1)	**Source: 5J25007-02**			Prepared & Analyzed: 10/26/05						
Benzene	0.0623	0.00100	mg/kg dry	0.0548	ND	114	80-120			
Toluene	0.0635	0.00100	"	0.0548	ND	116	80-120			
Ethylbenzene	0.0650	0.00100	"	0.0548	ND	119	80-120			
Xylene (p/m)	0.129	0.00100	"	0.110	ND	117	80-120			
Xylene (o)	0.0645	0.00100	"	0.0548	ND	118	80-120			
Surrogate: a,a,a-Trifluorotoluene	*40.0*		*ug/kg*	*40.0*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*44.2*		*"*	*40.0*		*110*	*80-120*			

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 EJ52622 - EPA 5030C (GC)										
Matrix Spike Dup (EJ52622-MSD1)	**Source: 5J25007-02**			Prepared & Analyzed: 10/26/05						
Benzene	0.0611	0.00100	mg/kg dry	0.0548	ND	111	80-120	2.67	20	
Toluene	0.0622	0.00100	"	0.0548	ND	114	80-120	1.74	20	
Ethylbenzene	0.0649	0.00100	"	0.0548	ND	118	80-120	0.844	20	
Xylene (p/m)	0.129	0.00100	"	0.110	ND	117	80-120	0.00	20	
Xylene (o)	0.0631	0.00100	"	0.0548	ND	115	80-120	2.58	20	
Surrogate: a,a,a-Trifluorotoluene	*38.5*		*ug/kg*	*40.0*		*96.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.6*		*"*	*40.0*		*102*	*80-120*			

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 EJ52603 - General Preparation (Prep)										
Blank (EJ52603-BLK1)				Prepared: 10/25/05 Analyzed: 10/26/05						
% Solids	100		%							
Duplicate (EJ52603-DUP1)		**Source: 5J25001-01**		Prepared: 10/25/05 Analyzed: 10/26/05						
% Solids	88.7		%		88.7			0.00	20	
Duplicate (EJ52603-DUP2)		**Source: 5J25006-08**		Prepared: 10/25/05 Analyzed: 10/26/05						
% Solids	97.3		%		97.2			0.103	20	

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: Celey D. Keene Date: 10/28/2005

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

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

CLIENT NAME: POGO

SITE MANAGER: Ike Tavarez

PROJECT NO.: 1468

PROJECT NAME: POGO / S.J. Carr TB spill Lea County, NM

5J25009

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST: TPH 8015 MOD. GRO/DRO	TPH 8015 MOD. 418.1	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 Semi Volatiles	ECI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/808	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
-01	10/19/05		S	X		East composite (0-0.5')	1				X		X	X														
-02	10/19/05		S	X		west composite (0-0.5')	1				X		X	X														

RELINQUISHED BY: (Signature) Date: 10/24/05 Time: 5:00 PM

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Ray Tarin Date: 10/19/05 Time: 4:00

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: ELT

ADDRESS:

CITY: Odessa STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) Jason Mowery

DATE: 10-24-05 TIME: 1700

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.0°C 4oz glass on ice w/labels + seals

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: 10/24/05 17:00

Order #: 5J25009

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	4.6 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:

_____

_____

_____

_____

_____

_____

_____

Analytical Report

Dated 11/16/2005

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/ S.J. Carr TB Spill

Project Number: 1468

Location: Lea County, NM

Lab Order Number: 5K11013

Report Date: 11/16/05

Highlander Environmental Corp.	Project: Pogo/ S.J. Carr TB Spill	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 1468	**Reported:**
Midland TX, 79705	Project Manager: Ike Tavarez	11/16/05 13:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
West Composite 0-1.0'	5K11013-01	Soil	11/10/05 00:00	11/11/05 14:00

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

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Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
West Composite 0-1.0' (5K11013-01) Soil									
Gasoline Range Organics C6-C12	**10.8**	10.0	mg/kg dry	1	EK51404	11/14/05	11/16/05	EPA 8015M	
Diesel Range Organics >C12-C35	**1930**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**1940**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*116 %*	*70-130*		"	"	"	"	

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General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
West Composite 0-1.0' (5K11013-01) Soil									
% Moisture	**8.9**	0.1	%	1	EK51402	11/11/05	11/14/05	% calculation	

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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 EK51404 - Solvent Extraction (GC)										
Blank (EK51404-BLK1)				Prepared: 11/14/05 Analyzed: 11/16/05						
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	*50.2*		*mg/kg*	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*38.3*		*"*	*50.0*		*76.6*	*70-130*			
LCS (EK51404-BS1)				Prepared: 11/14/05 Analyzed: 11/16/05						
Gasoline Range Organics C6-C12	417	10.0	mg/kg wet	500		83.4	75-125			
Diesel Range Organics >C12-C35	499	10.0	"	500		99.8	75-125			
Total Hydrocarbon C6-C35	916	10.0	"	1000		91.6	75-125			
Surrogate: 1-Chlorooctane	*59.1*		*mg/kg*	*50.0*		*118*	*70-130*			
Surrogate: 1-Chlorooctadecane	*45.4*		*"*	*50.0*		*90.8*	*70-130*			
Calibration Check (EK51404-CCV1)				Prepared: 11/14/05 Analyzed: 11/16/05						
Gasoline Range Organics C6-C12	402		mg/kg	500		80.4	80-120			
Diesel Range Organics >C12-C35	457		"	500		91.4	80-120			
Total Hydrocarbon C6-C35	859		"	1000		85.9	80-120			
Surrogate: 1-Chlorooctane	*52.9*		*"*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.9*		*"*	*50.0*		*108*	*70-130*			
Matrix Spike (EK51404-MS1)	**Source: 5K11014-02**			Prepared: 11/14/05 Analyzed: 11/16/05						
Gasoline Range Organics C6-C12	420	10.0	mg/kg dry	541	ND	77.6	75-125			
Diesel Range Organics >C12-C35	606	10.0	"	541	ND	112	75-125			
Total Hydrocarbon C6-C35	1030	10.0	"	1080	ND	95.4	75-125			
Surrogate: 1-Chlorooctane	*57.1*		*mg/kg*	*50.0*		*114*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.0*		*"*	*50.0*		*106*	*70-130*			
Matrix Spike Dup (EK51404-MSD1)	**Source: 5K11014-02**			Prepared: 11/14/05 Analyzed: 11/16/05						
Gasoline Range Organics C6-C12	425	10.0	mg/kg dry	541	ND	78.6	75-125	1.18	20	
Diesel Range Organics >C12-C35	588	10.0	"	541	ND	109	75-125	3.02	20	
Total Hydrocarbon C6-C35	1010	10.0	"	1080	ND	93.5	75-125	1.96	20	
Surrogate: 1-Chlorooctane	*63.4*		*mg/kg*	*50.0*		*127*	*70-130*			
Surrogate: 1-Chlorooctadecane	*51.6*		*"*	*50.0*		*103*	*70-130*			

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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 EK51402 - General Preparation (Prep)										
Blank (EK51402-BLK1)				Prepared: 11/11/05 Analyzed: 11/14/05						
% Solids	100		%							
Duplicate (EK51402-DUP1)	**Source: 5K10013-01**			Prepared: 11/11/05 Analyzed: 11/14/05						
% Solids	88.8		%		87.0			2.05	20	

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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: 11/16/2005

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.

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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

SITE MANAGER: Ike Tavarez

PROJECT NO.: 1468

PROJECT NAME: POGO / S.J. Carr TB spill Lee county, NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.): 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 Semi Volatiles	RCI	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)
1013																													
-01	11/10/05		S	X		West composite (0-1.0')	1				X				X														

RELINQUISHED BY: (Signature) Date: 11/11/05 Time: 2:00 — 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) Ray Taylor — Date: 11/11/05 Time: 10:30

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

RECEIVING LABORATORY: ELT

ADDRESS:

CITY: Odessa STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 11/11/05 TIME: 2:00

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

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

REMARKS: 402 1.5°C Seals/Labels

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: 11/11/05 2:00

Order #: 5K11013

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.5 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 8/15/97

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: EUNICE N.M.	Telephone No.: 505-394-2246 mob - 915-631-0134
Facility Name: S J CARR	Facility Type: TANK BATTERY

Surface Owner	Mineral Owner	Lease No.
BILL GROBE		30055

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	10	24S	37E					LEA

NATURE OF RELEASE

Type of Release: OIL & WATER	Volume of Release: 20 / Volume Recovered: 0
Source of Release: CHECK VALVE ON HEATER	Date and Hour of Occurrence: 1/29-30/00 / Date and Hour of Discovery: 1/30/00 12:00 noon
Was Immediate Notice Given? ☐ Yes ☑ No ☐ Not Required	If YES, To Whom?
By Whom?	Date and Hour
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)
CHECK VALVE ON HEATER BLEW CAUSING SPILL
REPLACE CHECK VALVE.

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary)
SPILL COVERED ACRE 130' LONG X 30' WIDE INSIDE FENCED BATTERY
WILL EVALUATE SPILL AND PROPOR ACTION TO 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
Printed Name: GARY WELLS
Title: Field Foreman
Date: 1/31/00 Phone: 915-631-0134

OIL CONSERVATION DIVISION
Approved by District Supervisor: Donna Williams
Title: Environmental Engineering Specialist
Approval Date: 03-02-00 Expiration Date:
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: Pogo Producing Company	Contact: Pat Ellis
Address: 300 North Marienfeld, Suite 600, Midland TX 79701	Telephone No. (432) 685-8100
Facility Name: S.J. Carr	Facility Type: Tank Battery

Surface Owner Bill Grobe	Mineral Owner	Lease No. 35055

LOCATION OF RELEASE

Unit Letter	Section\	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	10	24S	37E					Lea

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 20 barrels	Volume Recovered 0 barrels
Source of Release Check valve in header	Date and Hour of Occurrence 1/29-30/2000	Date and Hour of Discovery 1/30/2000 12:00 Noon
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.*
Check valve on header broke causing spill. Replaced check valve. The spill was confined inside the tank battery pad.

Describe Area Affected and Cleanup Action Taken.*
Spill covered area 130' x 50' area inside fenced battery. Approximately 20 barrels of oil and produced water were released on the surface, 0 barrels were recovered. On March 23, 2000, Highlander inspected the spill area. A total of three (3) hand auger borings were installed in the spill area to define vertical extent of the impact. Soil samples were collected to the top of a dense caliche layer. Soil samples were evaluated for TPH and chloride. The results of the sampling indicated shallow impact to soil, confined to the tank battery pad (these results were submitted to the NMOCD in a WorkPlan dated 4/18/2000. Based upon the shallow nature of the impact and the lack of significant chloride impact, it was decided to allow the site to naturally attenuate. The site was periodically inspected to monitor the progress of the remediation. On October 1, 2003, Highlander personnel inspected the site and collected soil samples. Analysis indicated RRAL and TPH concentrations slightly above the RRAL. In order to expedite closure and insure RRAL levels were achieved, the site was worked on October 19, 2005. The soils were turned and blended. Once the blending was completed, composite soil samples were taken. The sample results showed the west half remained slightly above the RRAL. On November 10, 2005, the west half was resampled. The TPH concentration was well below the RRAL.

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: Patrick L. Ellis	OIL CONSERVATION DIVISION	
Printed Name: Pat Ellis	Approved by District Supervisor:	
Title: Division Environmental Safety & Health Supervisor	Approval Date:	Expiration Date:
E-mail Address: EllisP@pogoproducing.com	Conditions of Approval:	Attached ☐
Date: 10/24/05 Phone: (432) 685-8100		

* Attach Additional Sheets If Necessary