1R - 369

REPORTS

DATE:

2000

1R369

Highlander Environmental Corp.

Midland, Texas

August 7, 2000

Ms. Donna Williams
Environmental Bureau
New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico

RE: Work Plan for Spill located at the Pogo Plains Knight #1 Tank Battery, Lea County, New Mexico

Dear Ms. Williams,

Highlander Environmental Corp. (Highlander) was contacted to prepare a work plan for evaluation of a spill, which occurred at the Plains Knight #1 Tank Battery in Lea County, New Mexico. The Site is located in Section 23, Township 24 South, Range 37 East. Based on published data, the depth to groundwater in this area is greater than 50' but less than 100'below surface.

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 total petroleum hydrocarbons (TPH) in soil. Based on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Background

On March 14, 2000, the oil storage tank at the facility ran over impacting the surface soil around the storage tank. Approximately 7 barrels of oil was reportedly spilled and none recovered. The area reported measured approximately 3' x 50'.

On July 13, 2000, Highlander inspected the spill area and attempted to define the vertical extent of the hydrocarbon impact. During the inspection of the leak, the spill area measured approximately 80'x 5'and 30'x 5' inside the dike of the facility. In the northeast corner of the tank battery, the dike breached impacting areas outside the dike measuring of 100'x 5'and 60'x 5'. The spill areas are shown in Figure 2. A total of five augerholes (AH-1 through AH-5) were installed at the Site to attempt to delineate the impact. The locations of the augerholes are shown in Figure 2. Deeper soil samples could not be collected due to a dense caliche layer encountered at a depth of approximately 1-2 feet below surface. Soil samples were collected for evaluation of Total Petroleum Hydrocarbon (TPH) by modified 8015B (DRO/GRO) and chloride by method SW846-9252. The results are shown in Table 1.

Table 1
(concentration in mg/kg)

Sample ID	Depth (ft)	TPH	Chloride
#1	0-1'	39,200	142
	1-2'	210	142
#2	0-1'	-	-
	1-2'	10,800	-
#3	0-1'	47,250	-
	1-2'	1,150	-
#4	0-1'	35,100	328
#5	0-6"	93,500	-
	6"-1'	50,400	-

(-) Not Analyzed

Referring to Table 1, the surface soil inside the tank battery dike ranged from 39,200 mg/kg to 47,250 mg/kg at 0-1' below surface. However, the samples taken at 1-2' decreased in all three augerholes (AH-1, AH-2 and AH-3) to 210 mg/kg, 10,800 mg/kg and 1,150 mg/kg, respectively. Two augerholes (AH-4 and AH-5) installed outside the dike showed elevated TPH levels from 0-1'ranging from 35,100 mg/kg to 93,500 mg/kg. Deeper samples could not be obtained due the shallow dense caliche layer.

All the soil samples collected from 0-1'and 1-2'exceeded the RRAL for TPH of 1,000 mg/kg, except for AH-1 at 1-2'below surface. AH-3 at 1-2' was near the RRAL with a level of 1,150 mg/kg. Due to the density of the caliche, the impact from the spill may be confined to a depth of approximately 3-5' feet below surface. The chloride evaluation showed detectable levels ranging from 142 mg/kg to 328 mg/kg. Based on the results, the chloride levels detected do not appear to be an environmental concern.

Conclusion

1. The Remediation of Leaks, Spills and Releases guidelines require a risk-based evaluation of the site to determine recommended remediation action levels (RRAL) for 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 recommended remedial action level (RRAL) for TPH is 1,000 mg/kg.

3. Some of the spill area is confined inside the tank battery dike. However, impact was noted east of the tank battery dike. All of the soil samples collected from 0-1'and 1-2'exceeded the RRAL for TPH of 1,000 mg/kg, except for AH-1 at 1-2'below surface. AH-3 at 1-2' was near the RRAL with a level of 1,150 mg/kg. Due to the density of the caliche, the impact from the spill may be confined to a depth of approximately 3-5' feet

below surface.

3. The chloride evaluation showed detectable levels ranging from 142 mg/kg to 328 mg/kg. Based on the results and type of release, the chloride levels detected do not appear to be an environmental concern.

Recommendation

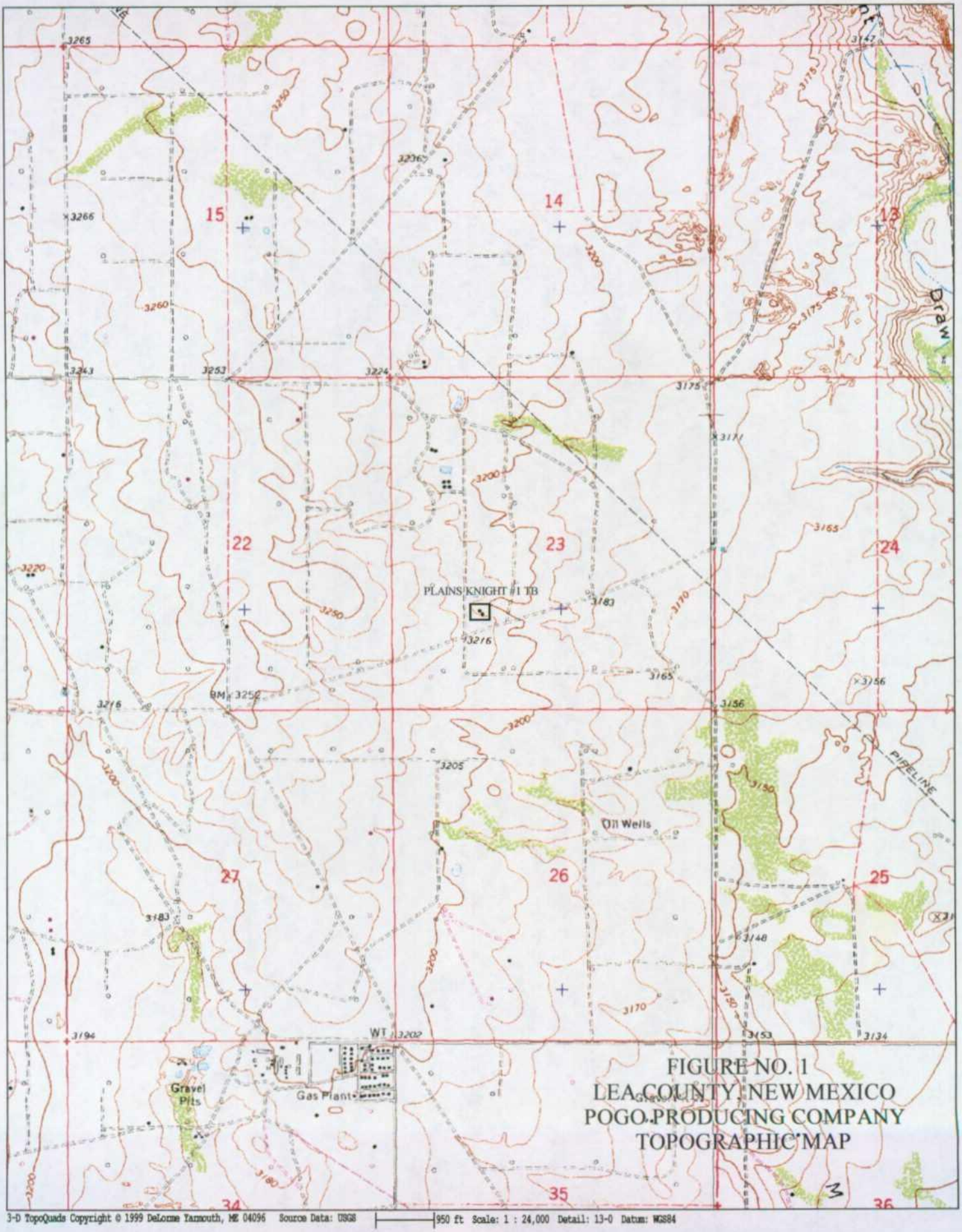
1. Pogo Producing Company proposes to excavate the impacted soil from around the tank battery. Once the soil is removed, confirmation soil samples will be collected from the excavated area for TPH and BTEX. The soil removed will either be disposed at an approved disposal facility or landfarm. Pogo Producing Company is in the process of submitting a permit application to operate a landfarm located in Eddy County, New Mexico. If approved, the impacted soil from the tank battery will be taken to the landfarm for remediation.

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

Very truly yours,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs - Pogo Producing Co.
Rex Jasper - Pogo Producing Co.



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 950 ft Scale: 1 : 24,000 Detail: 13-0 Datum: WGS84

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

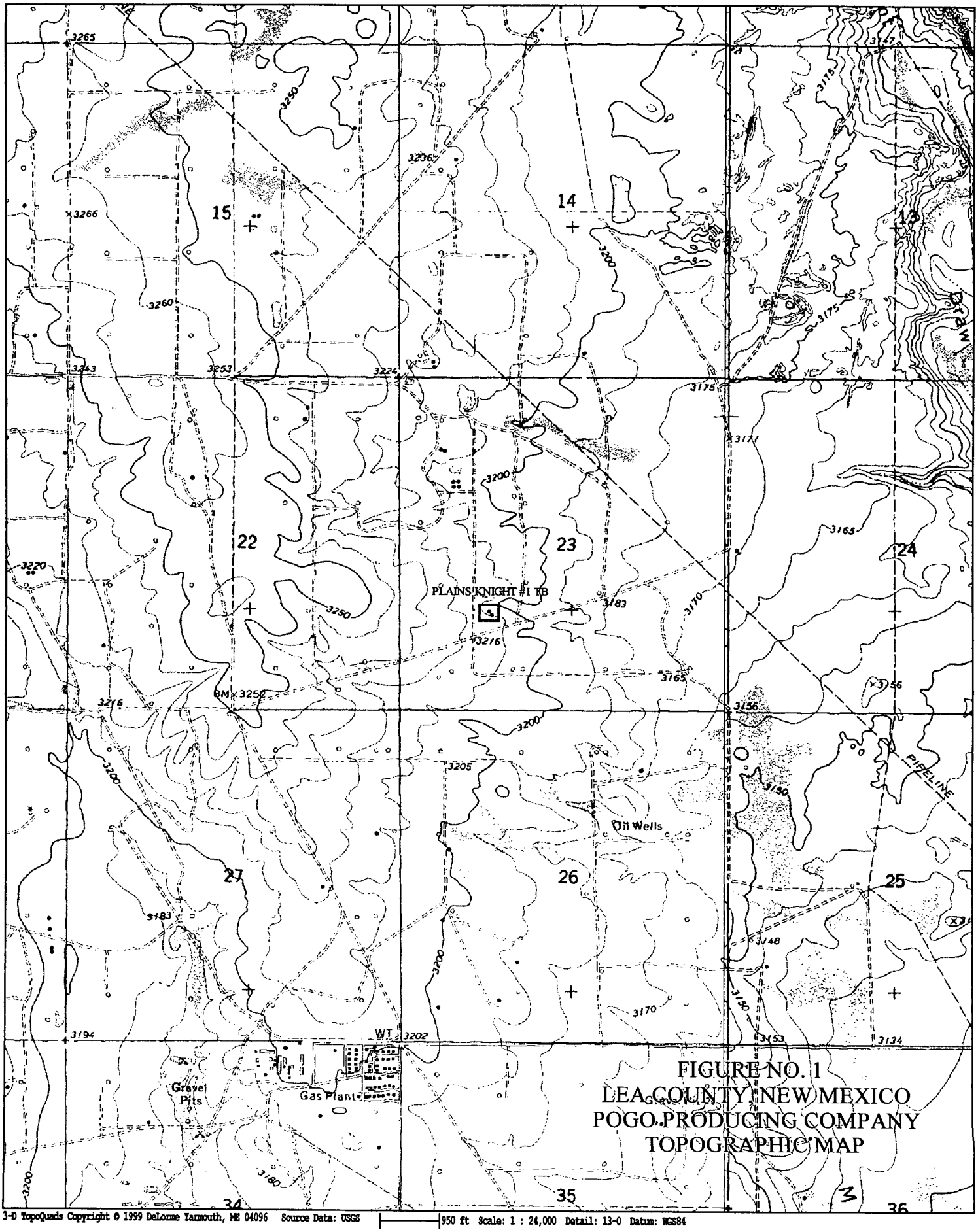
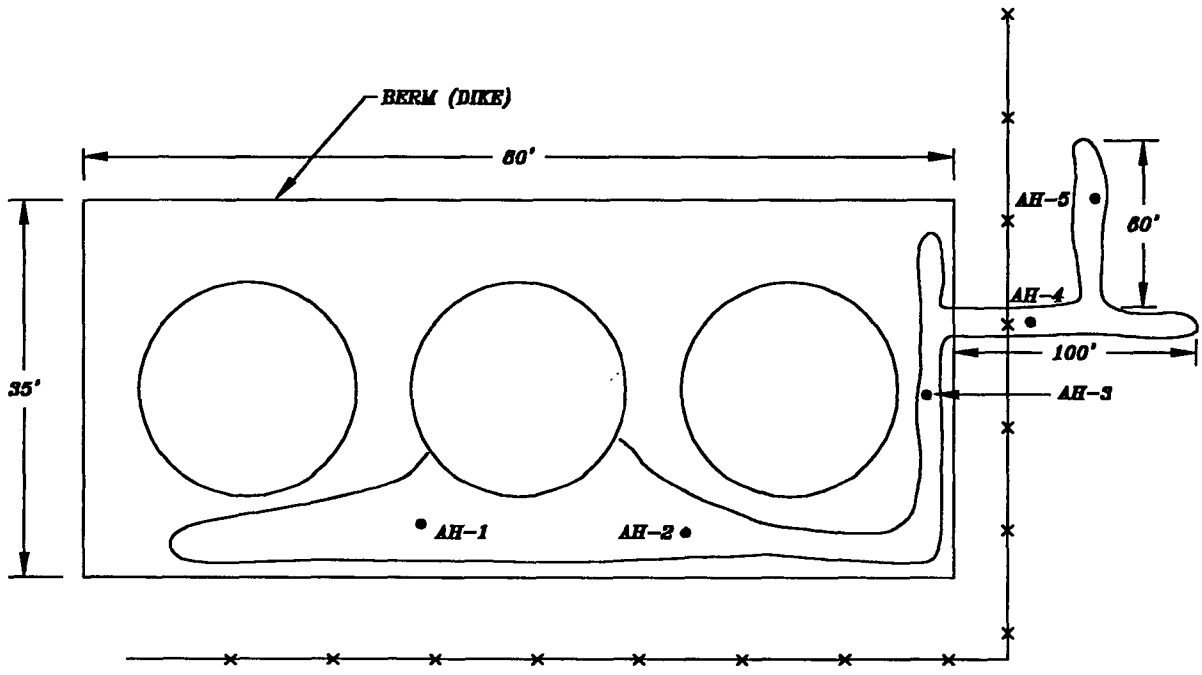


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP

 Source Data: USGS 950 ft Scale: 1 : 24,000 Detail: 13-0 Datum: WGS84



NOT TO SCALE

DATE:	7/31/00
DWN. BY:	JDA
FILE:	

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

PLAINS KNIGHT #1 TB
SPILL AREA & SAMPLE LOCATIONS

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

HIGHLANDER ENVIRONMENTAL CORP.
ATTN: MR. IKE TAVAREZ
1910 N. BIG SPRING STREET
MIDLAND, TEXAS 79705
FAX: 915-682-3946

Sample Type: Soil
Sample Condition: Intact/ Iced/ 48 deg. F
Project #: 1469
Project Name: Pogo/ Plains Knight #1 TB
Project Location: Lea Co., N.M.

Sampling Date: 07/13/00
Receiving Date: 07/14/00
Analysis Date: TPH 07/17/00
Analysis Date: Cl 07/18/00

ELT#	FIELD CODE	TPH (mg/kg)	Chloride (mg/kg)
28176	AH-1 (0-1')	39200	142
28177	AH-1 (1-2')	210	142
28178	AH-2 (0-1')	*	*
28179	AH-2 (1-2')	10800	*
28180	AH-3 (0-1')	47250	*
28181	AH-3 (1-2')	1150	*
28182	AH-4 (0-1')	35100	328
28183	AH-5 (0-6")	93500	*
28184	AH-5 (6"-1.0')	50400	*
	BLANK	<10	*
	% INSTRUMENT ACCURACY	108	108
	% EXTRACTION ACCURACY	110	*

Methods: EPA 418.1, SW 846-9252

Raland K. Tuttle

7-19-00
Date

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 1

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

CLIENT NAME: Pogo Producing Co.

SITE MANAGER: Ike Tavarez

PROJECT NO.: 1469

PROJECT NAME: Pogo/Plains Knight #1 TB Lea County N.M.

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH (418.1 circled) 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. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Chlorides
28176	7/13/00		S		✓	AH-1 (0-1')	1								X															X
28177			S		✓	AH-1 (1-2')	1								X															X
28178			S		✓	AH-2 (0-1')	1	(Hold)																						
28179			S		✓	AH-2 (1-2')	1								X															
28180			S		✓	AH-3 (0-1')	1								X															
28181			S		✓	AH-3 (1-2')	1								X															
28182			S		✓	AH-4 (0-1')	1								X															X
28183			S		✓	AH-5 (0-6")	1								X															
28184	✓		S		✓	AH-5 (6"-1.0')	1								X															

RELINQUISHED BY: (Signature) [signature] Date: 7/14/00 Time: 4:35

RECEIVED BY: (Signature) [signature] Date: 7/14/00 Time: 4:35 PM

SAMPLED BY: (Print & Sign) Ike Tavarez Date: Time:

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: Envirotech TX

RECEIVED BY: (Signature)

ADDRESS:
CITY: STATE: 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: 48°F

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.

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 24S Range: 37E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

Well Data Report | Avg Depth to Water Report | Water Column Report | Clear Form | WATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 10/06/2000

							(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
CP	24S	37E	05				1	106	106	106
CP	24S	37E	08				1	90	90	90
CP	24S	37E	23				1	94	94	94
CP	24S	37E	24				1	100	100	100
CP	24S	37E	25				1	90	90	90
CP	24S	37E	28				1	70	70	70

Record Count: 6

Highlander Environmental Corp.

Midland, Texas

April 28, 2000

Ms. Donna Williams
Environmental Bureau
New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico

RE: Work Plan for Spill located at the Pogo Plains Knight #1 Tank Battery, Lea County, New Mexico

Dear Ms. Williams,

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On March 14, 2000, the oil storage tank at the facility ran over onto the surface soil impacting an area of approximately 3' x 50' around the storage tank. Approximately 7 barrels of oil was reportedly spilled and none recovered.

Proposed Work Plan

Highlander will attempt to define the vertical extent of the hydrocarbon impact in the subsurface soil. Soil samples will be collected for evaluation of Total Petroleum Hydrocarbon (TPH) by modified 8015B (DRO/GRO), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) by method SW 846-8020 and chloride by method SW846-9252. If necessary, Highlander will submit a corrective action plan for the impacted soil. If the soil concentrations do not exceed the RRAL concentrations, a closure report will be prepared and submitted which will include the laboratory analysis.

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

Very truly yours,

Ike Tavarez
Project Manager/Geologist

cc: Don Riggs - Pogo Producing Co.
Rex Jasper - Pogo Producing Co.