



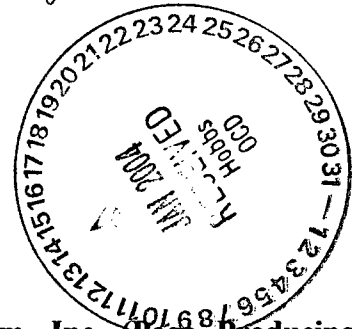
Highlander Environmental Corp.

Midland, Texas

December 19, 2003

2.7.06
CALLED HEC &
REQUESTED FOLLOW-UP
ON TEST PAGES AS GIVEN

Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division- District I
1625 N. French Drive
P. O. Box 1980
Hobbs, New Mexico 88240



RE: Assessment and Closure Report for the Arch Petroleum, Inc. (Pogo Producing Company), E.A. Stitcher Tank Battery located in Section 4, Township 22 South, Range 37 East, Unit Letter N, Lea County, New Mexico

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to assess a spill on the E.A. Stitcher Tank Battery located in Unit letter N, Section 4, Township 22 South, Range 37 East, Lea County, New Mexico (Site). The State of New Mexico C-141 (Initial) is shown in Appendix A. The Site is shown in Figure 1.

Background

According to the State of New Mexico C-141 report, the spill occurred on November 20, 2003 from an overflow of an oil tank. The 2" check valve on the saltwater line to Rice Engineering water disposal malfunctioned, allowing water to flow back into the heater treater, which then filled and flowed oil and water to the oil tank. The oil tank overflowed as a result of this malfunction. The overflow released an unknown quantity of fluid, which flowed around the tanks, breached the dike and flowed east down the pipeline right-of-way (road) approximately 60' feet. In the right-of-way, the fluid pooled in an area measuring approximately 8' x 30'. Pogo reportedly recovered 80 barrels of water and 40 barrels of oil. The spill areas are shown on Figure 2. The spill areas were scraped and backdragged to aid in remediation of the soils.

Groundwater and Regulatory

According to the New Mexico State Engineer Office W.A.T.E.R.S. database, Average Depth to Water Report, wells in Sections 5 and 9, Township 22 South, Range 37 East, had average water levels of 80' to 90', respectively. The Average Depth to Water Report is included in Appendix B.

Arch-962

incident - rPAC0603837909

1910 N.-Big Spring

Midland, Texas 79705

(432) 682-4559

Fax (432) 682-3946

facility - rPAC0603837797

application - rPAC0603838250

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

On November 21, 2003, Highlander personnel installed a total of five (5) auger holes using a stainless steel bucket-type hand auger to evaluate and attempt to delineate the extent of impacted soil. Three auger (3) holes (AH-1, AH-2, and AH-3) were placed inside the tank battery and two (2) auger holes (AH-4 and AH-5) were placed in the pipeline right-of-way. Soil samples were collected at depths up to 3'-4' for TPH evaluation by method 8015M and chloride by method SW 846-9252. Selected soil samples were analyzed for benzene, toluene, ethylbenzene and xylene (BTEX) by method 8021B. The soil sample results are shown in Table 1. The laboratory reports and the chain of custody documentation are included in Appendix C.

Soil Sample Results

Referring to Table 1, TPH concentrations exceeded the RRAL in the surface soils (0-1') in auger holes AH-1, AH-2, AH-3 and AH-4. The deeper soils below 1' were all below the RRAL. The total BTEX level also exceeded the RRAL in the 0-1' sample from AH-2. The BTEX levels from AH-2 (1'-2') were all below method detection limits.

Chloride concentrations from the surface down were relatively low, ranging from <20 mg/kg to 1,000 mg/kg, and do not appear to be an environmental concern.

Conclusions and Recommendation

The subsurface investigation showed TPH and BTEX (AH-2) concentrations exceeding the RRAL for surficial soils only in the vicinity of auger holes AH-1, AH-2, AH-3 and AH-4. Deeper soil samples at 1'-2' were below the RRAL for TPH and BTEX. The chloride concentrations are not considered an environmental concern. Pogo proposes that the area in the tank battery be tilled to promote degradation of hydrocarbons. The soils will be re-sampled at a later date. Upon confirmation of TPH levels below the RRAL, Pogo Producing Company will request closure for the site.



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

HIGHLANDER ENVIRONMENTAL CORP,



Timothy M. Reed, P.G.
Vice President

cc: Rex Jasper – Pogo Producing Company
Don Riggs – Pogo Producing Company



FIGURES

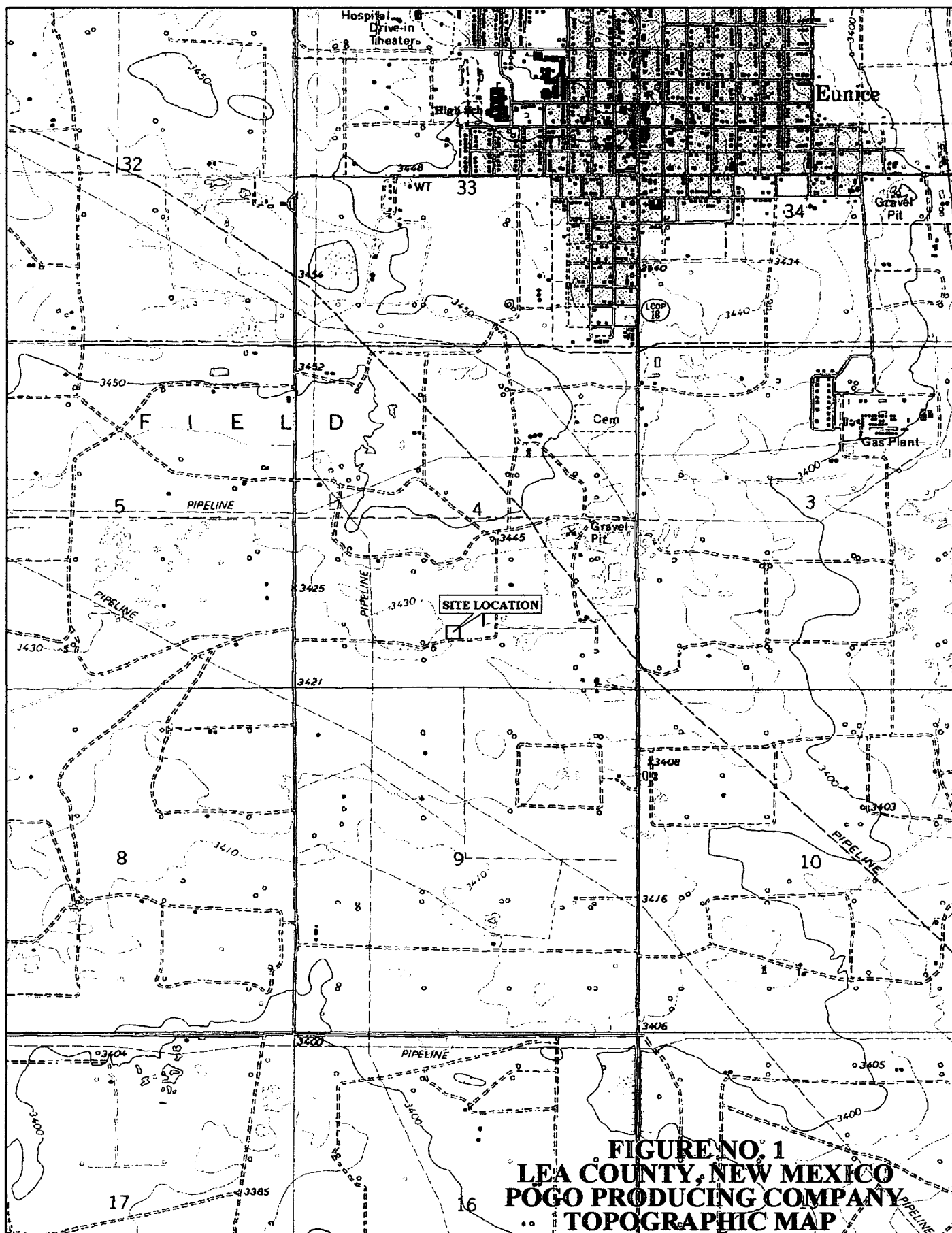
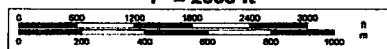


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP



© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com

Scale 1 : 24,000
 1" = 2000 ft



TN
 MN
 8.6°E

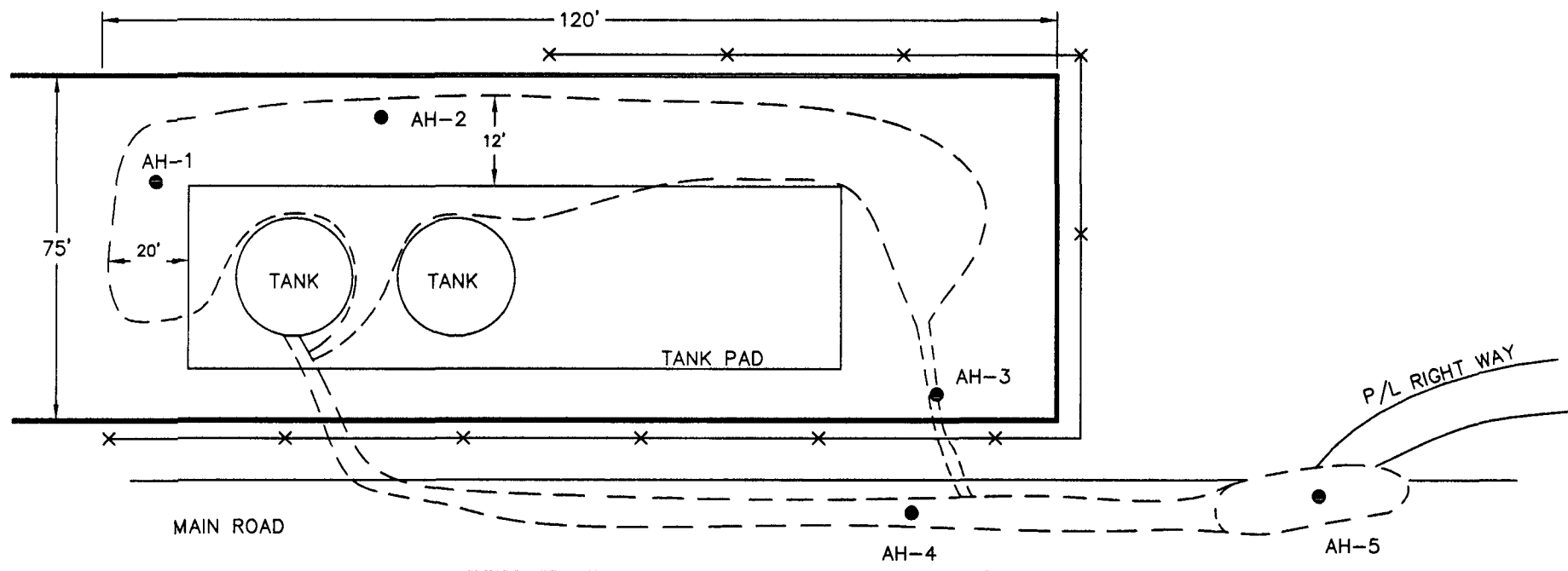


FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

E.A. STITCHER TB SPILL

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE:
12/10/03
DWG. BY:
JDA
FILE:
C:\POGO\2003\
FIG-2

NOT TO SCALE

TABLES

Table 1
Pogo Producing Company
E. A. Stitcher Tank Battery, Spill Assessment
Lea County, New Mexico
Summary of Chloride, BTEX and TPH Analysis of Soil Samples

Sample ID	Sample Depth, feet BGL	Sample Date	TPH			Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylene mg/kg	Total BTEX mg/kg	Chloride mg/kg
			GRO mg/kg	DRO mg/kg	Total mg/kg						
AH-1	0-1	11/21/03	3,240	11,600	14,840	1.8	10.2	10.1	20.61	42.71	<20.0
AH-1	1-2	11/21/03	37.4	327	364	-	-	-	-	-	<20.0
AH-1	2-3	11/21/03	29.6	348	378	-	-	-	-	-	<20.0
AH-1	3-4	11/21/03	-	-	-	-	-	-	-	-	<20.0
AH-2	0-1	11/21/03	5,870	9,780	15,650	8.4	55.3	48.6	94.5	704.5	170
AH-2	1-2	11/21/03	<10.0	28.1	28.1	<0.025	<0.025	<0.025	<0.025	<0.025	255
AH-2	2-3	11/21/03	-	-	-	-	-	-	-	-	1000
AH-3	0-1	11/21/03	2,780	5,590	8,370	-	-	-	-	-	160
AH-3	1-2	11/21/03	<10.0	87.7	87.7	-	-	-	-	-	234
AH-3	2-3	11/21/03	-	-	-	-	-	-	-	-	489
AH-4	0-1	11/21/03	3,340	6,010	9,350	-	-	-	-	-	<20.0
AH-4	1-2	11/21/03	<10.0	36.5	36.5	-	-	-	-	-	160
AH-5	0-1	11/21/03	<10.0	22.3	22.3	-	-	-	-	-	659
AH-5	1-2	11/21/03	<10.0	<10.0	<10.0	-	-	-	-	-	468
AH-5	2-3	11/21/03	-	-	-	-	-	-	-	-	893

(-) Not Analyzed

APPENDIX A

State of New Mexico Form C-141

District I - (505) 393-6161
 P.O. Box 1980
 Hobbs, NM 88241-1980
 District II - (505) 746-1283
 811 South First
 Aztec, 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 EUNICE N.M.	Telephone No. 432-631-0134
Facility Name E.A. STICKER	Facility Type TANK BATTERY
Surface Owner	Mineral Owner
	Lease No.

LOCATION OF RELEASE

Tract Letter N	Section 4	Township 22-S	Range 37-E	Feet from line	North-South Line	Feet from the	East-West Line	County LEA
--------------------------	---------------------	-------------------------	----------------------	----------------	------------------	---------------	----------------	----------------------

NATURE OF RELEASE

Type of Release OIL & SW	Volume of Release UN KNOWN	Volume Recovered 80 SW 40 OIL
Source of Release STORAGE TANK	Date and Hour of Occurrence 11/20/03	Date and Hour of Discovery 11/20/03 9 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? SYLVIA DICKER	
By Whom? GARY WELLS	Date and Hour 11/20/03 11:00 AM	
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 SW LINE MALFUNCTION
 OVER RUNNING TREATMENT - Pumping oil & water in stock tank, filling stock
 TANK UP AND RUNNING OVER TANK.**

Describe Area Affected and Cleanup Action Taken (Attach Additional Sheets If Necessary)

**P.U. ALL FL OFF GROUND BACK DRUG BATTERY AND ROAD.
 TURNED OVER TO Highland Enviro FOR cleanup PRODCER.**

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 greatest 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 Field Supervisor	Approval Date	Expiration Date
Date 11/20/03	Phone 432-631-0134	Conditions of Approval: ☐ Attached ☐

Attachment I Incident Report

GENERAL INFORMATION (This section must be completed for all incidents)Date of Incident 11/20/03Time of Incident AMLocation of Incident 571-CHUR BPH-100

Type of Incident (Check all that apply)

☐

Injury

☐

Property Damage

☐

Fire or Explosion

☒

Spill or Release

☐

Near Miss

ALL INCIDENTS (This section must be completed for all incidents)

Clearly describe how the incident occurred

SEE ATTACHMENT SHEET

List any factors that may have contributed to the incident.

EXTENDED USE OF CK VALVE

What action was or will be taken to prevent recurrence?

REPLACE CK VALVE ON TRAILER - CHECK FINGERPRINT VALVE ON A
REGULAR SCHEDULE**INJURY** (This section must be completed for injury incidents)

Employee's Name

SSN Number

Job Title

Employee's Address

Home Phone:

Location sent for medical treatment:

PREPARED BY

DAKER ENERGY

DATE ISSUED:

10-31-99

SUPERCEDES ISSUE DATE

PAGE

11 of 13

Attachment I Incident Report

Body Part Injured:	☐ Head, Face, Eye ☐ Finger, Hand, Arm.	☐ Chest, Neck ☐ Groin, Abdomen	☐ Foot, Toes, Ankle ☐ Respiratory System ☐ Other (specify) _____	☐ Back ☐ Leg
Type of Injury:	☐ Amputation ☐ Fracture, Contusion ☐ Occupational Illness	☐ Burn ☐ Imbedded Body ☐ Puncture	☐ Sprain, Strain ☐ Laceration, Abrasion ☐ Other (specify) _____	☐ Dermatitis, Irritation ☐ Inhalation
Type of Accident:	☐ Trip, Slip, Fall ☐ Overexertion ☐ Caught in, on, or between	☐ Exposure -vapor ☐ Splash, Spray	☐ Temperature Extreme ☐ Aggravate Exist. Inj. ☐ Other (specify) _____	☐ Contact by or with ☐ Struck by or against
Type of first aid treatment conducted at the scene _____				

PROPERTY DAMAGE (This section must be completed only for property damage incidents)

Clearly describe how and to what extent the property was damaged.

See Attached Sheet

SPILL OR RELEASE INCIDENTS (This section must be completed only for spill or release incidents)

Material spilled or released	<i>OIL & S.W.</i>		
Volume of the spill (estimate)	<i>UNKNOWN</i>	Nature of the damage	<i>"SURFACE" Damage</i>

ALL INCIDENTS (This section must be completed for all incidents)

LIKELIHOOD TO RECUR

☒ Rare	(Probably won't recur)
☐ Occasional	(Next 1-10 years)
☐ Frequent	(Within next year)
Witnesses: _____	

This report prepared by: (signed) <i>John Wells</i>	Date	<i>11/20/03</i>
Print Name <i>John Wells</i>	Title	<i>Field Supervisor</i>

Distribution: Pogo Health, Safety and Environmental Manager

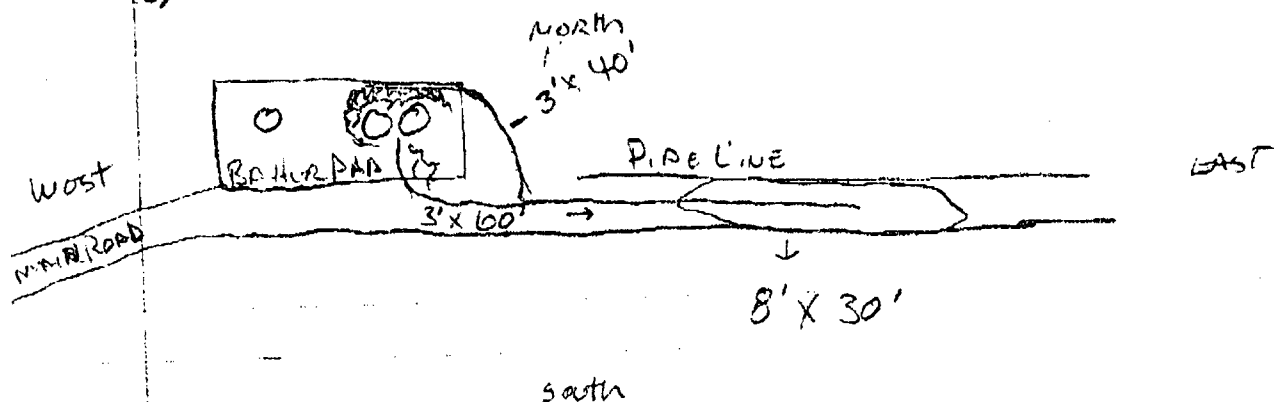
DATE ISSUED: <i>08-03-01</i>	REVISED DATE:	PAGE <i>11 of 12</i>
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11/19/03 - EA Sticher LSE.

Hole in Fire Tube. Empty Heater. NO BACK
Flow into heater

11/20/03

Pump out on Location - OIL STORAGE TANK
Running over. 2" check valve on slw line
going to Rice ENG WATER DISPOSAL - malfunction
Flapper came apart, Letting water back flow
into TREATER Filling TREATER BACK UP AND START
Dumping water into OIL STORAGE TANK. Running
TANK OVER - FL RAN AROUND BATTERY AND DOWN
PIPE LINE RIGHT OF WAY. - Picked up all FL. cleaned
up AROUND BATTERY BACK DRAG RIGHT OF WAY.
CONTACTED IKE WITH HIGHWAY DEPT TO EVALUATE
Spill FOR CLEAN UP.



APPENDIX B

Well Reports

Township: 22S Range: 37E Sections:

NAD27 X: Y: Zone: Search Radius:

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

Avg Depth to Water Report

Water Column Report

WATERS Menu

Help

(Depth Water in Feet)

Record Count: 17

APPENDIX C

Analytical Results

ANALYTICAL REPORT

Prepared for:

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

Project: E.A. Stitcher TB

PO#:

Order#: G0308024

Report Date: 11/26/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
915-682-3946

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. 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.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u>	<u>Date / Time</u>	<u>Container</u>	<u>Preservative</u>
			<u>Collected</u>	<u>Received</u>		
0308024-01	AH-1 0-1'	SOIL	11/21/03 10:45	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Chloride	Rejected: No		Temp: 1.0 C		
0308024-02	AH-1 1'-2'	SOIL	11/21/03 10:45	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-03	AH 2'-3'	SOIL	11/21/03 10:45	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-04	AH-1 3'-4'	SOIL	11/21/03 10:45	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> Chloride	Rejected: No		Temp: 1.0 C		
0308024-05	AH-2 0-1'	SOIL	11/21/03 11:00	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M 8021B/5030 BTEX Chloride	Rejected: No		Temp: 1.0 C		
0308024-06	AH-2 1'-2'	SOIL	11/21/03 11:00	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
915-682-3946

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. N.M.

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<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0308024-07	AH-2 2'-3'	SOIL	11/21/03 11:00	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> Chloride	Rejected: No		Temp: 1.0 C		
0308024-08	AH-3 0-1'	SOIL	11/21/03 11:20	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-09	AH-3 1'-2'	SOIL	11/21/03 11:20	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-10	AH-3 2'-3'	SOIL	11/21/03 11:20	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> Chloride	Rejected: No		Temp: 1.0 C		
0308024-11	AH-4 0-1'	SOIL	11/21/03 11:30	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-12	AH-4 1'-2'	SOIL	11/21/03 11:30	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-13	AH-5 0-1'	SOIL	11/21/03 11:40	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
915-682-3946

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. N.M.

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<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0308024-14	AH-5 1'-2'	SOIL	11/21/03 11:40	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> 8015M Chloride	Rejected: No		Temp: 1.0 C		
0308024-15	AH-5 2'-3'	SOIL	11/21/03 11:40	11/21/03 15:35	4 oz glass	ice
	<u>Lab Testing:</u> Chloride	Rejected: No		Temp: 1.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Sticher TB
Location: Lea CO. N.M.

Lab ID: 0308024-01

Sample ID: AH-1 0-1'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		11/22/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	3,240	50.0
DRO, >C12-C35	11,600	50.0
TOTAL, C6-C35	14,840	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	32%	70	130
1-Chlorooctadecane	52%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007548-02		11/24/03	1	100	CK	8021B

Parameter	Result mg/kg	RL
Benzene	1.80	0.100
Toluene	10.2	0.100
Ethylbenzene	10.1	0.100
p/m-Xylene	14.1	0.100
o-Xylene	6.51	0.100

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	228%	80	120
Bromofluorobenzene	107%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Sticher TB
Location: Lea CO. N.M.

Lab ID: 0308024-02
Sample ID: AH-1 1'-2'

8015M

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	37.4	10.0
DRO, >C12-C35	327	10.0
TOTAL, C6-C35	364	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	97%	70	130

Lab ID: 0308024-03
Sample ID: AH 2'-3'

8015M

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	29.6	10.0
DRO, >C12-C35	348	10.0
TOTAL, C6-C35	378	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	89%	70	130

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

Page 2 of 7

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stichter TB
Location: Lea CO. N.M.

Lab ID: 0308024-05

Sample ID: AH-2 0-1'

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		11/22/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	5,870	50.0
DRO, >C12-C35	9,780	50.0
TOTAL, C6-C35	15,650	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	47%	70	130
1-Chlorooctadecane	47%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007548-02		11/24/03	1	200	CK	8021B

Parameter	Result mg/kg	RL
Benzene	8.40	0.200
Toluene	55.3	0.200
Ethylbenzene	48.6	0.200
p/m-Xylene	66.3	0.200
o-Xylene	28.2	0.200

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	375%	80	120
Bromofluorobenzene	114%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Sticher TB
Location: Lea CO. N.M.

Lab ID: 0308024-06

Sample ID: AH-2 1'-2'

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	28.1	10.0
TOTAL, C6-C35	28.1	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	102%	70	130
1-Chlorooctadecane	94%	70	130

Lab ID: 0308024-08

Sample ID: AH-3 0-1'

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		11/22/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	2,780	50.0
DRO, >C12-C35	5,590	50.0
TOTAL, C6-C35	8,370	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	35%	70	130
1-Chlorooctadecane	36%	70	130

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

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Sticher TB
Location: Lea CO. N.M.

Lab ID: 0308024-09
Sample ID: AH-3 1'-2'

8015M

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	87.0	10.0
TOTAL, C6-C35	87.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	92%	70	130
1-Chlorooctadecane	86%	70	130

Lab ID: 0308024-11
Sample ID: AH-4 0-1'

8015M

<u>Method</u> <u>Blank</u>	<u>Date</u> <u>Prepared</u>	<u>Date</u> <u>Analyzed</u>	<u>Sample</u> <u>Amount</u>	<u>Dilution</u> <u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		11/22/03	1	5	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	3,340	50.0
DRO, >C12-C35	6,010	50.0
TOTAL, C6-C35	9,350	50.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	38%	70	130
1-Chlorooctadecane	36%	70	130

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

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. N.M.

Lab ID: 0308024-12
Sample ID: AH-4 1'-2'

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	36.5	10.0
TOTAL, C6-C35	36.5	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	86%	70	130

Lab ID: 0308024-13
Sample ID: AH-5 0-1'

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	22.3	10.0
TOTAL, C6-C35	22.3	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	87%	70	130

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stichter TB
Location: Lea CO. N.M.

Lab ID: 0308024-14

Sample ID: AH-5 1'-2'

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		11/22/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	86%	70	130

Approval:

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

Date

11-28-03

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. N.M.

Lab ID: 0308024-01

Sample ID: AH-1 0-1'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	<20.0	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-02

Sample ID: AH-1 1'-2'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	<20.0	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-03

Sample ID: AH 2'-3'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	<20.0	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-04

Sample ID: AH-1 3'-4'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	<20.0	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-05

Sample ID: AH-2 0-1'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	170	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-06

Sample ID: AH-2 1'-2'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	255	mg/kg	1	20	9253	11/25/03	SB

RL = Reporting Limit N/A = Not Applicable

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12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stichter TB
Location: Lea CO. N.M.

Lab ID: 0308024-07
Sample ID: AH-2 2'-3'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	1000	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-08
Sample ID: AH-3 0-1'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	160	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-09
Sample ID: AH-3 1'-2'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	234	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-10
Sample ID: AH-3 2'-3'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	489	mg/kg	1	20	9253	11/25/03	SB

Lab ID: 0308024-11
Sample ID: AH-4 0-1'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	<20.0	mg/kg	1	20	9253	11/26/03	SB

Lab ID: 0308024-12
Sample ID: AH-4 1'-2'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	160	mg/kg	1	20	9253	11/26/03	SB

RL = Reporting Limit N/A = Not Applicable

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308024
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea CO. N.M.

Lab ID: 0308024-13
Sample ID: AH-5 0-1'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	659	mg/kg	1	20	9253	11/26/03	SB

Lab ID: 0308024-14
Sample ID: AH-5 1'-2'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	468	mg/kg	1	20	9253	11/26/03	SB

Lab ID: 0308024-15
Sample ID: AH-5 2'-3'

Test Parameters

<u>Parameter</u>	<u>Result</u>	<u>Units</u>	<u>Dilution Factor</u>	<u>RL</u>	<u>Method</u>	<u>Date Analyzed</u>	<u>Analyst</u>
Chloride	893	mg/kg	1	20	9253	11/26/03	SB

Approval:

Raland K. Tuttle 11-28-03
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.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0308024

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007541-02			<10.0		
CONTROL	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007541-03		952	783	82.2%	
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308019-12	0	980	892	91.%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308019-12	892	980	910	92.8%	2.%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007541-05		1,000	928	92.8%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308024

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007548-02			<0.0250		
Toluene-mg/kg		0007548-02			<0.0250		
Ethylbenzene-mg/kg		0007548-02			<0.0250		
p/m-Xylene-mg/kg		0007548-02			<0.0250		
o-Xylene-mg/kg		0007548-02			<0.0250		
CONTROL	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007548-03		0.10	0.080	80.%	
Toluene-mg/kg		0007548-03		0.10	0.080	80.%	
Ethylbenzene-mg/kg		0007548-03		0.10	0.080	80.%	
p/m-Xylene-mg/kg		0007548-03		0.20	0.162	81.%	
o-Xylene-mg/kg		0007548-03		0.10	0.0820	82.%	
CONTROL DUP	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007548-04		0.10	0.0850	85.%	6.1%
Toluene-mg/kg		0007548-04		0.10	0.0820	82.%	2.5%
Ethylbenzene-mg/kg		0007548-04		0.10	0.0830	83.%	3.7%
p/m-Xylene-mg/kg		0007548-04		0.20	0.167	83.5%	3.%
o-Xylene-mg/kg		0007548-04		0.10	0.0820	82.%	0.%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007548-05		0.10	0.0860	86.%	
Toluene-mg/kg		0007548-05		0.10	0.0830	83.%	
Ethylbenzene-mg/kg		0007548-05		0.10	0.0830	83.%	
p/m-Xylene-mg/kg		0007548-05		0.20	0.167	83.5%	
o-Xylene-mg/kg		0007548-05		0.10	0.0820	82.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0308024

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0007560-01			<20.0		
Chloride-mg/kg		0007570-01			<20.0		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0308019-09	1,570	500	2,130	112.0%	
Chloride-mg/kg		0308029-03	394	500	808	82.8%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0308019-09	1,570	500	2,130	112.0%	0.0%
Chloride-mg/kg		0308029-03	394	500	819	85.0%	1.4%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg		0007560-04		5,000	5,000	100.0%	
Chloride-mg/kg		0007570-04		5,000	5,000	100.0%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

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

Order#: G0308024

Project: E.A. Stitcher 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
AH-1 0-1'	0308024-01	SOIL	11/21/2003	11/21/2003
AH-1 1'-2'	0308024-02	SOIL	11/21/2003	11/21/2003
AH 2'-3'	0308024-03	SOIL	11/21/2003	11/21/2003
AH-1 3'-4'	0308024-04	SOIL	11/21/2003	11/21/2003
AH-2 0-1'	0308024-05	SOIL	11/21/2003	11/21/2003
AH-2 1'-2'	0308024-06	SOIL	11/21/2003	11/21/2003
AH-2 2'-3'	0308024-07	SOIL	11/21/2003	11/21/2003
AH-3 0-1'	0308024-08	SOIL	11/21/2003	11/21/2003
AH-3 1'-2'	0308024-09	SOIL	11/21/2003	11/21/2003
AH-3 2'-3'	0308024-10	SOIL	11/21/2003	11/21/2003
AH-4 0-1'	0308024-11	SOIL	11/21/2003	11/21/2003
AH-4 1'-2'	0308024-12	SOIL	11/21/2003	11/21/2003
AH-5 0-1'	0308024-13	SOIL	11/21/2003	11/21/2003
AH-5 1'-2'	0308024-14	SOIL	11/21/2003	11/21/2003
AH-5 2'-3'	0308024-15	SOIL	11/21/2003	11/21/2003

Surrogate recoveries on the 8015M TPH are outside of control limits due to dilution.
(G0308024-01, 05, 08, & 11)

Surrogate recoveries on the 8021B BTEX are outside control limits due to matrix interference.
(G0308024-01,05)

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: Ralan d k McD
Environmental Lab of Texas I, Ltd.

Date: 11-28-03

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: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

Pogo Producing

SITE MANAGER:

Tim Reed

PROJECT NO.:

2093

PROJECT NAME:

Lea Co. NM. EA. Stitches TB

LAB I.D.
NUMBER

DATE

TIME

MATRIX
COMP.
GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS
FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8020/802

MTBE 8020/802

TPH 418.1

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 808/808

HOD, TSS, pH, TDS, Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Chloride

01

C308024

11/21/03

1045

S

X

AH-1 0-1'

1

X

X

X

X

02

1045

S

X

AH-1 1'-2'

1

X

X

X

X

03

1045

S

X

AH-1 2'-3'

1

X

X

X

X

04

1045

S

X

AH-1 3'-4'

1

X

X

05

1100

S

X

AH-2 0-1'

1

X

X

X

X

06

1100

S

X

AH-2 1'-2'

1

X

X

X

X

07

1100

S

X

AH-2 2'-3'

1

X

X

08

1120

S

X

AH-3 0-1'

1

X

X

X

X

09

1120

S

X

AH-3 1'-2'

1

X

X

X

X

10

1120

S

X

AH-3 2'-3'

1

X

X

RELINQUISHED BY: (Signature)

ANALYTICAL REPORT

Prepared for:

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

Project: E.A. Stitcher TB

PO#:

Order#: G0308110

Report Date: 12/05/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

HIGHLANDER ENVIRONMENTAL CORP.
1910 N. BIG SPRING STREET
MIDLAND, TX 79705
915-682-3946

Order#: G0308110
Project: 2093
Project Name: E.A. Stitcher TB
Location: Lea Co. NM

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.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0308110-01	AH-2 1'-2'	SOIL	11/21/03 11:00	11/21/03 15:35	4 oz glass	ice
<u>Lab Testing:</u>		Rejected: No	Temp:	1.0 C		
8021B/5030 BTEX						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0308110
Project: 2093
Project Name: E.A. Stichter TB
Location: Lea Co. NM

Lab ID: 0308110-01

Sample ID: AH-2 1'-2'

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/5/03	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	96%	80	120

Approval: *Raland K Tuttle* 12-06-03
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.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308110

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007643-02			< 0.025		
Toluene-mg/kg		0007643-02			< 0.025		
Ethylbenzene-mg/kg		0007643-02			< 0.025		
p/m-Xylene-mg/kg		0007643-02			< 0.025		
o-Xylene-mg/kg		0007643-02			< 0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0308102-03	0.065	2.5	2.58	100.6%	
Toluene-mg/kg		0308102-03	0.073	2.5	2.56	99.5%	
Ethylbenzene-mg/kg		0308102-03	0	2.5	2.48	99.2%	
p/m-Xylene-mg/kg		0308102-03	0.053	5	4.97	98.3%	
o-Xylene-mg/kg		0308102-03	0	2.5	2.38	95.2%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0308102-03	0.065	2.5	2.56	99.8%	0.8%
Toluene-mg/kg		0308102-03	0.073	2.5	2.61	101.5%	1.9%
Ethylbenzene-mg/kg		0308102-03	0	2.5	2.51	100.4%	1.2%
p/m-Xylene-mg/kg		0308102-03	0.053	5	5.00	98.9%	0.6%
o-Xylene-mg/kg		0308102-03	0	2.5	2.42	96.8%	1.7%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007643-05		0.1	0.100	100.%	
Toluene-mg/kg		0007643-05		0.1	0.096	96.%	
Ethylbenzene-mg/kg		0007643-05		0.1	0.093	93.%	
p/m-Xylene-mg/kg		0007643-05		0.2	0.186	93.%	
o-Xylene-mg/kg		0007643-05		0.1	0.091	91.%	

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

COPY

(915) 682-4559

Fax (915) 682-3946

PAGE: 1 OF: 2

ANALYSIS REQUEST (Circle or Specify Method No.)

CLIENT NAME:

Pogo Producing

SITE MANAGER:

Tim Reed

PROJECT NO.:

2093

PROJECT NAME:

lea Co. N.M. EA. Stitches TB

Resubmit
LAB I.D.
NUMBER

0308110

DATE

TIME

MATRIX

COMP.

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8020/808

MTHE 8020/808

TPH 418.1

PAH 8270

PCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC-MS Vol. 8240/8260/824

GC-MS Semi. Vol. 8270/825

PCB's 8080/808

Peet. 808/808

BOD, TSS, pH, TDS, Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Chloride

01
02
03
04
05
06
07
08
09
10

RELINQUISHED BY: (Signature)

Tim Reed

Date: *11/21/03*

Time: *1535*

RECEIVED BY: (Signature)

Tim Reed

Date: *11-21-03*

Time: *1535*

SAMPLED BY: (Print & Sign)

Tim Reed

Date: *11/21/03*

Time: *1535*

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: _____

HIGHLANDER CONTACT PERSON:

Tim Reed

Results by:

RUSH Charges

Authorized:

Yes ☒ No ☐

RECEIVING LABORATORY:

Environmental Labs of TX

ADDRESS:

CITY: *Odessa* STATE: *TX* ZIP: _____

CONTACT: _____ PHONE: _____

RECEIVED BY: (Signature)

DATE: _____

TIME: _____

SAMPLE CONDITION WHEN RECEIVED:

MATRIX:

W-Water

A-Air

SD-Solid

S-Soil

SL-Sludge

O-Other

REMARKS:

Run 2 Highest TPH for BTEX, IF TPH exceeds 1000ppm - run deeper interval for TPH

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.

12-5-03 - Add Analysis - See attached fax - (KA)

1.00C 407 g/l

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(915) 882-4559

Fax (915) 882-3948

CLIENT NAME:

Pogo Producing

SITE MANAGER:

Tim Reed

PROJECT NO.:

2093

PROJECT NAME:

Lea Co. NM. E.A. Satchan TB

LAB I.D.
NUMBER

0308024

DATE

TIME

MATRIX
COMP.
GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

STEX 8020/802

MTRE 8020/802

TFH 418.1

PAH 8270

ECRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

ECI

GC-MS Vol. 8240/8260/824

GC-MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 809/808

BOD, TSS, pH, TDS, Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Chloride

SAMPLED BY: (Print & Sign)

Tim Reed

Date: *11/21/03*

Time: *1500*

SAMPLE SHIPPED BY: (Circle)

FEDX

HAND DELIVERED

BUS

UPS

AIRBILL #

OTHER:

HIGHLANDER CONTACT PERSON:

Tim Reed

Results by:

RUSH Charges

Authorized:

Yes ☒ No ☐

RELINQUISHED BY: (Signature)

Tim Reed

Date: *11/21/03*

Time: *1535*

RECEIVED BY: (Signature)

Cheryl Cevallos

Date: *11/21/03*

Time: *1535*

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

RECEIVING LABORATORY: *Environmental Labs of TX*

ADDRESS:

CITY: *Odessa* STATE: *TX* ZIP:

CONTACT: PHONE: DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED:

MATRIX:

W-Water

A-Air

SD-Solid

S-Soil

SL-Sludge

O-Other

REMARKS:

402 glass 1.0°C