Highlander Environmental Corp.

Midland, Texas

June 18, 2003

JCRBK OK - 8.20.04 TO FILE

IRP-60 9/28/05

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 for the Pogo Producing Company, West Dollarhide Devonian Unit, Saltwater Injection Line, Unit Letter E, Section 37, Township 24 South, Range 38 East, Lea County, New Mexico

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to assess spill areas at the West Dollarhide Devonian Unit (WDDU) Saltwater Injection line located in Unit letter E, Section 37, Township 24 South, Range 38 East, Lea County, New Mexico (Site).

Background

According to the State of New Mexico C-141 report, the spill occurred on December 5, 2002 from a leak in an old injection line. Saltwater first pooled in a north spill area, estimated at an approximate 50' x 75' area, and then flowed down the lease road to the south for a distance of approximately 9/10 of a mile and pooled at the endpoint in areas estimated at approximately 20' x 70', 25' x 30' and 5' x 35'. The leak was estimated at approximately 25-30 barrels. A copy of the C-141 report is enclosed in Appendix A. The Site location is shown in Figure 1. Spill areas are shown on Figures 2, 3, 4 and 5.

Groundwater and Regulatory

The Site is located on the western edge of the Caprock near the Texas/New Mexico border. No water well information was found in the immediate vicinity of the Site. According to published data from Geology and Groundwater Resources of Eddy County, New Mexico, dated 1952, the groundwater information at the Site is sparse. Wells to the south and west had water levels ranging from 60'-96' Below Ground Surface (bgs), however, these wells are completed off the Caprock in the vicinity of Monument Draw and may include Quaternary Alluvium. According to the Texas Water Development Board Groundwater Database, for Andrews County, Texas, there are two water wells located east of this Site with reported depths to water of 106'

3750 1400 230 75

and 114' below ground surface. The elevation of these wells more nearly corresponds with the Site than those wells south and west of the Site. Water wells were located in the surrounding Townships and Ranges with groundwater greater than 100' bgs. The well records are shown in Appendix B. The New Mexico State Engineer Office database was searched and revealed only one well in Township 24 South, Range 38 East, however, no water or well depth information was provided.

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 5,000 mg/kg.

Assessment and Results

On December 31, 2002, Highlander personnel installed auger holes in the north and south spill areas in an attempt to delineate the extent of impacted soil. A total of six (6) auger holes were placed in the north spill area and seven (7) auger holes were placed in the south spill area. The auger holes were placed using a stainless steel bucket-type hand auger.

North Spill Area

The six (6) auger holes in the north spill area were advanced to a depth of 0.5' bgs with the exception of AH-1, which extended to a depth of 1.5' bgs. Deeper hand augered samples could not be extracted due to a dense hard caliche layer. Soil samples were analyzed for chloride by method E325.3. Selected soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) by method SW8015B. Based upon the TPH results, BTEX samples were not analyzed. The soil sample results are summarized in Table 1. Referring to Table 1, TPH levels ranged from below detection limits to 963 mg/kg. Chloride levels ranged from 70 mg/kg (AH-4) to 6300 mg/kg (AH-5).

On February 13, 2003, twelve (12) subsequent test trenches were placed with a backhoe at the north spill area to further delineate the chloride impact. These test trenches ranged from 1.0' to 6.0' bgs, depending on the hardness of the caliche layer. Most of the chloride levels reduced with depth. The highest residual chloride levels were noted in Trench #6 (3900 mg/kg at 1.0' bgs), Trench #7 (3540 mg/kg at 1.0' bgs), Trench #8 (2380 mg/kg at 1.0' bgs) and Trench #10 (2690 mg/kg at 2.0' bgs). All of the trench samples are summarized in Table 2.

South Spill Area

The seven (7) auger holes in the south spill area were advanced to depths ranging from 0.5' bgs to 3.5' bgs. As with the north spill area, soil samples were analyzed for chloride by method E325.3 and selected soil samples were analyzed for TPH by method SW8015B. Based upon the TPH results, BTEX samples were not analyzed. The soil sample results are summarized in Table 3.

Referring to Table 3, TPH levels ranged from below detection limits to 570 mg/kg. Chloride levels ranged from 70 mg/kg (AH-2 at 3.0'-3.5' bgs) to 11,800 mg/kg (AH-4 at 0-0.5' bgs).

On February 13, 2003, two (2) subsequent test trenches (#1 and #2) were placed with a backhoe at the south spill in the area around AH-3 and AH-4 to further delineate the chloride impact. These test trenches ranged from 2.0' to 3.0' bgs. The chloride levels reduced below 1000 mg/kg in both trenches. The highest residual chloride levels were 567 mg/kg in Trench #1 at 2.0' bgs and 478 mg/kg in Trench #2 at 3.0' bgs. All of the trench samples are summarized in Table 3.

Conclusions and Recommendations

Samples collected from the two spill areas did not exceed the RRAL for TPH. Based upon the TPH results, BTEX samples were not analyzed. Chloride levels decreased with depth to a very hard caliche layer. The residual chloride levels appeared to be confined to the shallow subsurface. Considering the apparent depth to groundwater in this area, groundwater impact does not appear to be a concern.

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

HIGHLANDER ENVIRONMENTAL CORP,

Tim Reed

Timothy M. Reed, REM
Project Manager/Geologist

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

FIGURES

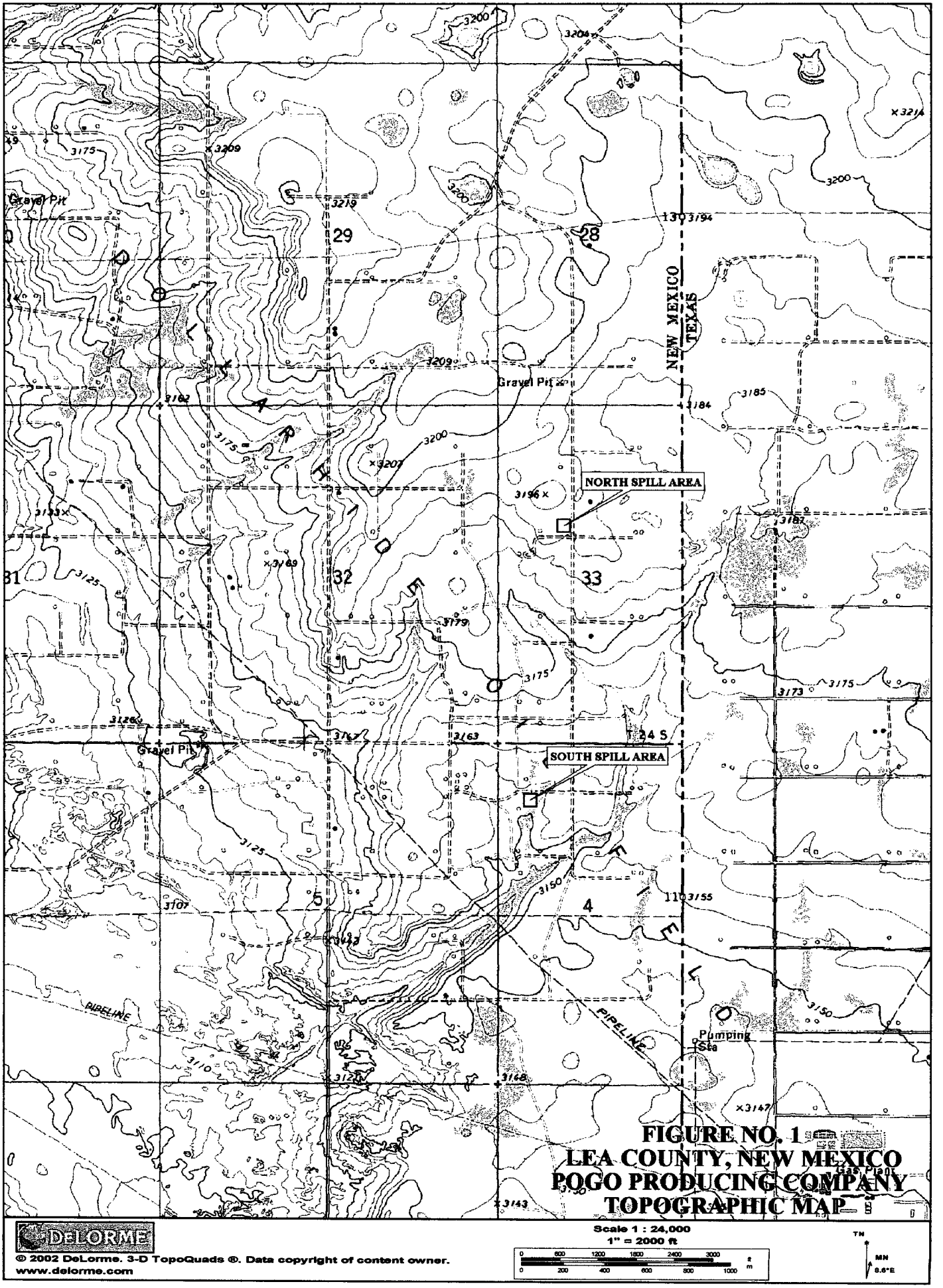


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
TOPOGRAPHIC MAP

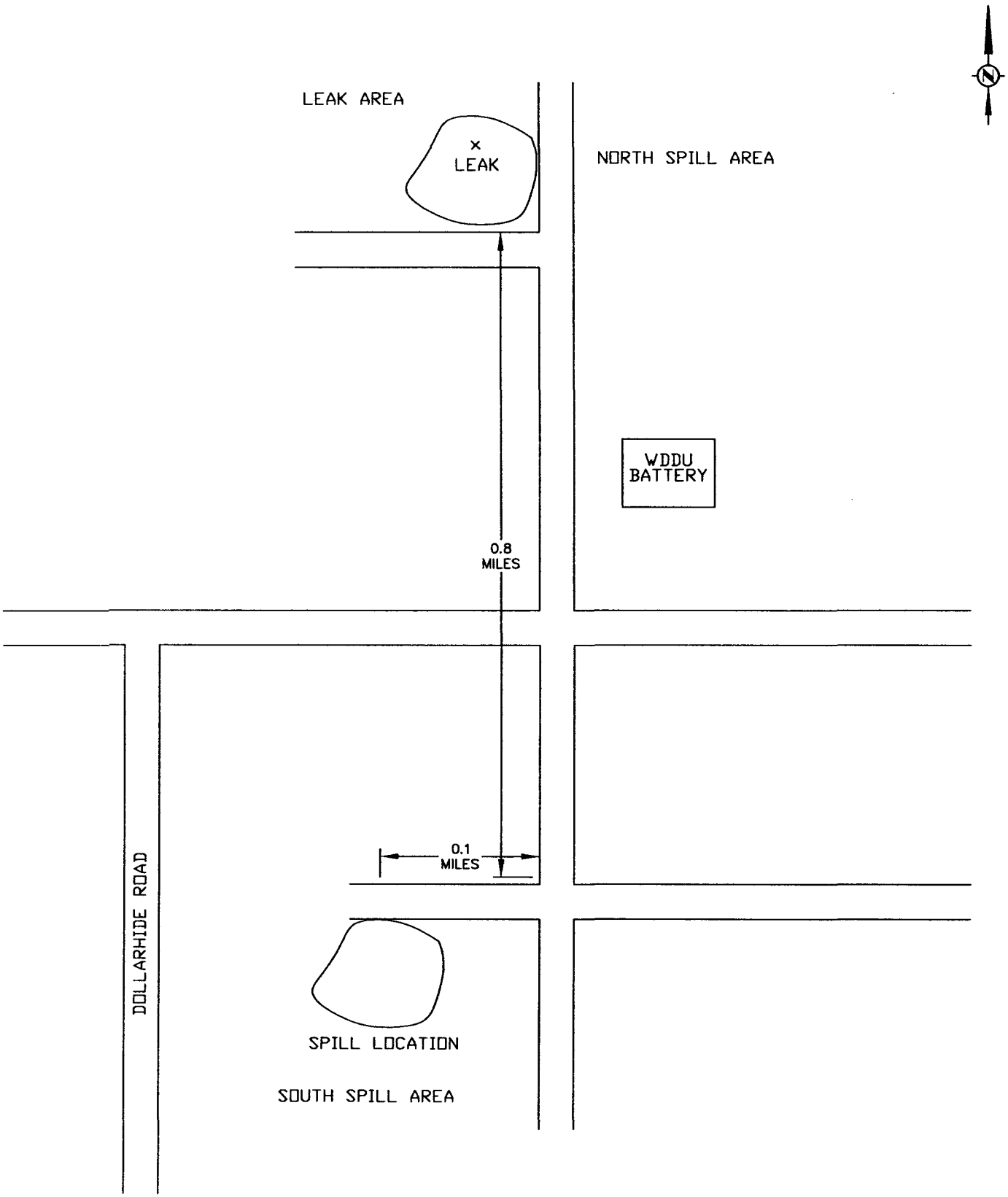


FIGURE NO. 2

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

WDDU INJECTION LINE SPILL
SPILL LOCATIONS

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE: 4/14/03
DWN. BY: JDA
FILE: C:\POGO\1927\ ROAD MAP

NOT TO SCALE

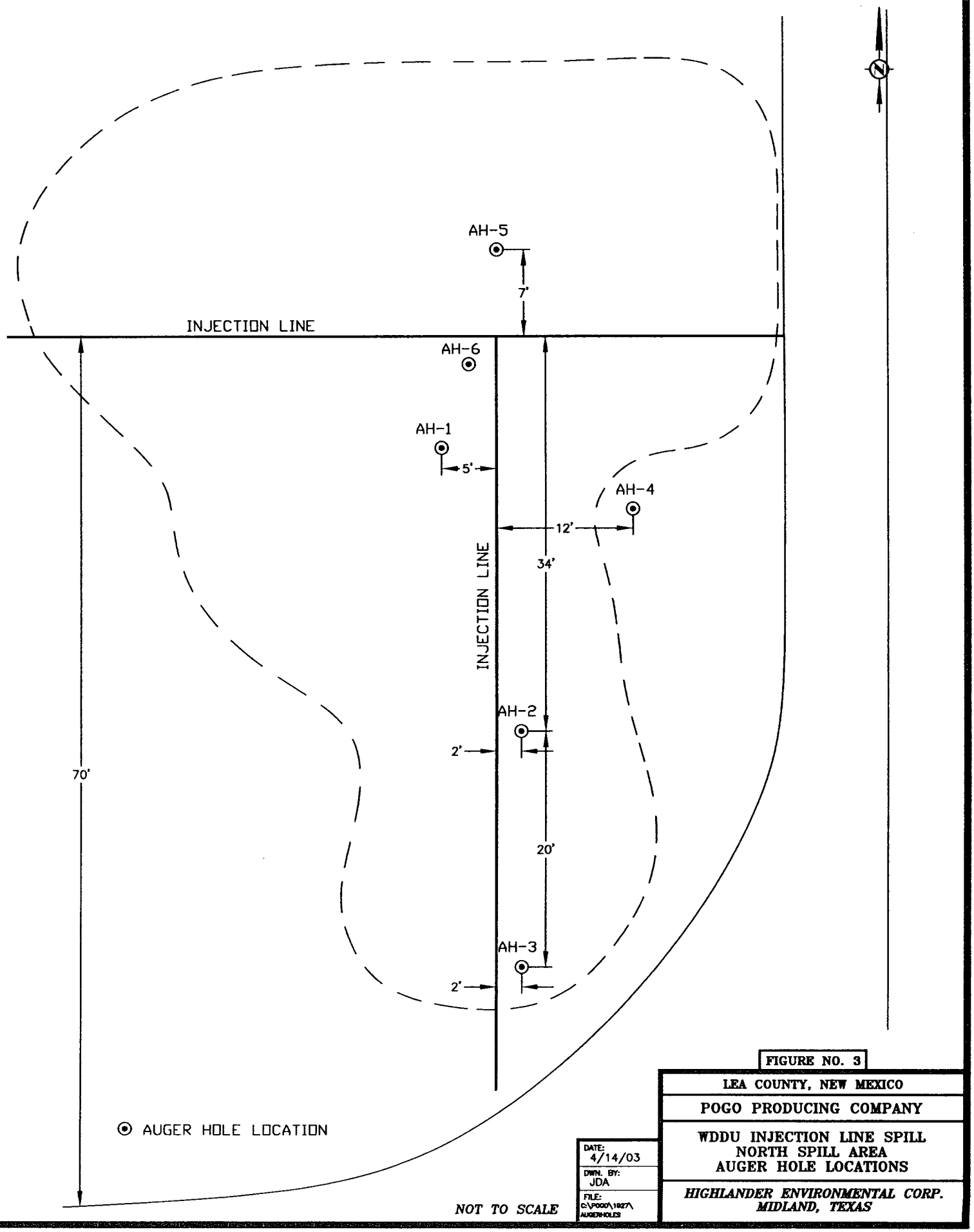


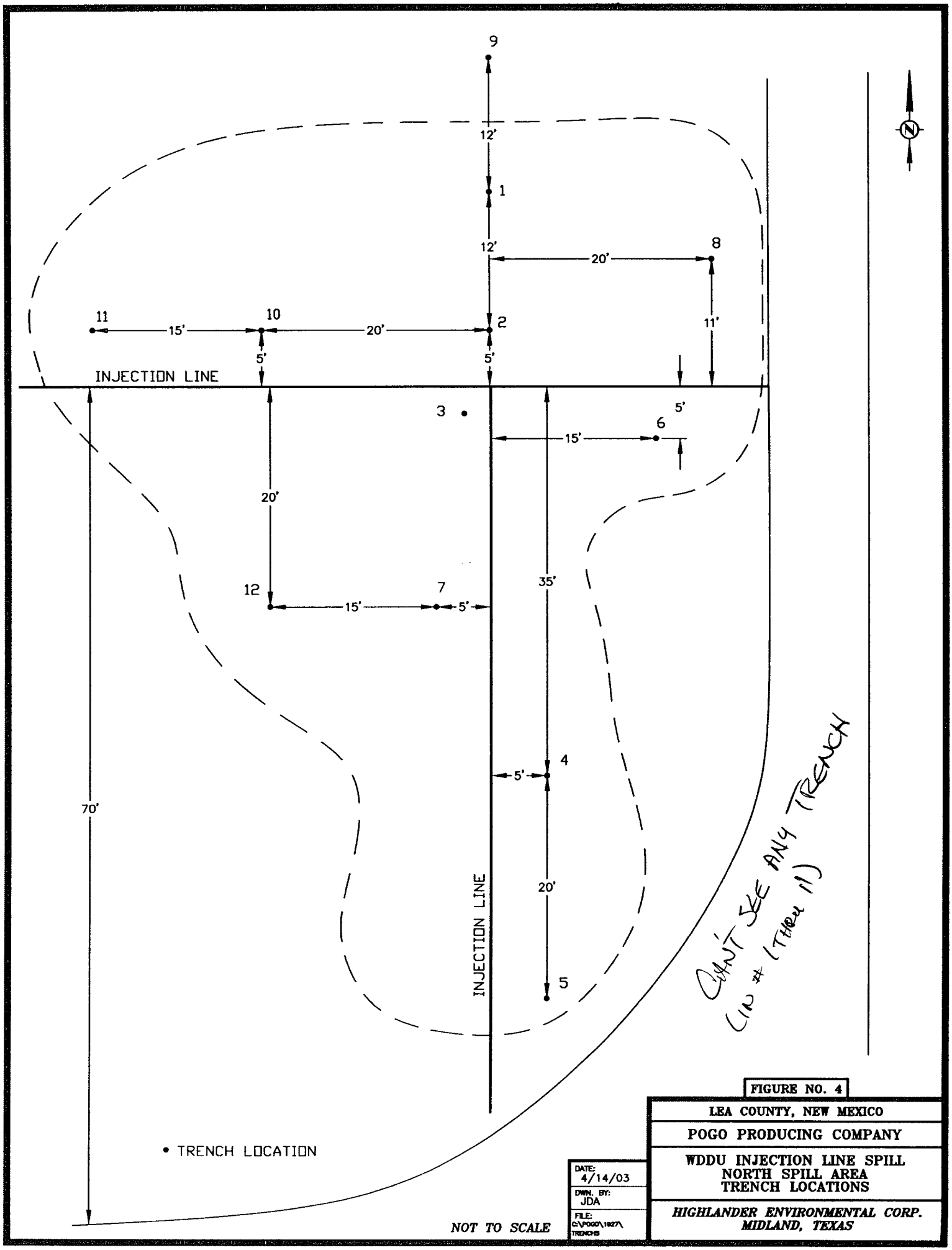
FIGURE NO. 3

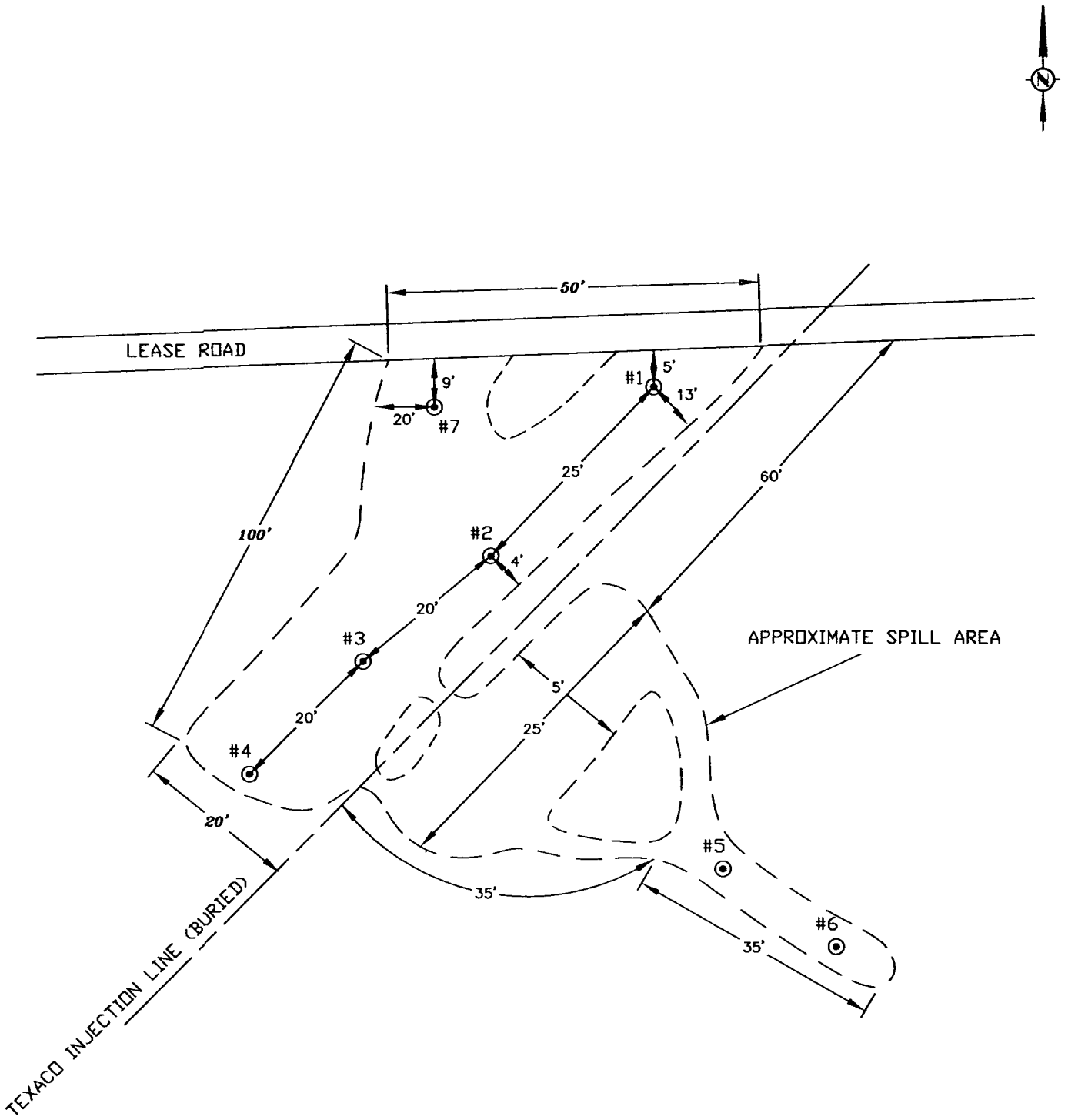
LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

WDDU INJECTION LINE SPILL
NORTH SPILL AREA
AUGER HOLE LOCATIONS

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS


9
12'
1
12'
8
20'
11
10
2
15'
20'
11'
5'
5'
INJECTION LINE
3
5'
6
15'
20'
12
7
15'
5'
35'
4
5'
70'
20'
INJECTION LINE
5
• TRENCH LOCATION
NOT TO SCALE
CAN'T SEE ANY TRENCH (10 # 11 THRU 11)
N
DATE: 4/14/03
DWN. BY: JDA
FILE: G:\POGO\1927\TRENCHS
FIGURE NO. 4
LEA COUNTY, NEW MEXICO
POGO PRODUCING COMPANY
WDDU INJECTION LINE SPILL
NORTH SPILL AREA
TRENCH LOCATIONS
HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS



⊙ AUGER HOLE LOCATION

NOT TO SCALE

DATE: 1/13/03
DWN. BY: JDA
FILE: C:\POGO\1927\SITE-2

FIGURE NO. 5

LEA COUNTY, NEW MEXICO

POGO PRODUCING COMPANY

WDDU INJECTION LINE SPILL
SOUTH SPILL AREA
(1 MILE SOUTH)

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

TABLES

TABLE 1
POGO PRODUCING COMPANY
WDDU SALTWATER INJECTION LINE SPILL AREA
LEA COUNTY, NM

AUGER HOLES - NORTH SPILL AREA

Sample ID	Sample Depth	Date Sampled	TPH, 8015 Modified			Chloride mg/kg
			DRO	GRO	Total	
AH-1	0-0.5'	12/31/02	-	-	-	3240
AH-1	1.0-1.5'	12/31/02	-	-	-	2280
AH-2	0-0.5'	12/31/02	ND	ND	ND	595
AH-3	0-0.5'	12/31/02	-	-	-	2450
AH-4	0-0.5'	12/31/02	-	-	-	70
AH-5	0-0.5'	12/31/02	12	ND	12	6300
AH-6	0-0.5'	12/31/02	960	3	963	3500

(-) Denotes sample was not analyzed
ND - Not Detected

TABLE 2
POGO PRODUCING COMPANY
WDDU SALTWATER INJECTION LINE SPILL AREA
LEA COUNTY, NM

TRENCH SAMPLES - NORTH SPILL AREA

Sample ID	Sample Depth	Date Sampled	Chloride mg/kg
#1	(0-1.0')	2/13/03	4,250
#1	(2.0')	2/13/03	2,130
#1	(4.0')	2/13/03	1,880
#2	(1.0')	2/13/03	253
#2	(3.0')	2/13/03	1,560
#2	(6.0')	2/13/03	1,060
#3	(3.0')	2/13/03	993
#3	(6.0')	2/13/03	1,600
#4	(1.0')	2/13/03	709
#5	(0-1.0')	2/13/03	478
#5	(2.0')	2/13/03	3,050
#5	(3.0')	2/13/03	372
#6	(1.0')	2/13/03	3,900
#7	(1.0')	2/13/03	3,540
#8	(1.0')	2/13/03	2,380
#9	(1.0')	2/13/03	253
#10	(2.0')	2/13/03	2,690
#11	(1.0')	2/13/03	1,200
#12	(1.0')	2/13/03	744

(-) Denotes sample was not analyzed

TABLE 3
POGO PRODUCING COMPANY
WDDU SALTWATER INJECTION LINE SPILL AREA
LEA COUNTY, NM

AUGER HOLES - SOUTH SPILL AREA

Sample ID	Sample Depth	Date Sampled	TPH- 8015 Modified			Chloride mg/kg
			DRO	GRO	Total	
AH-1	0-0.5'	12/31/02	ND	ND	0	228
AH-1	1.0-1.5'	12/31/02	-	-	-	175
AH-2	0-0.5'	12/31/02	-	-	-	1820
AH-2	1.0'-1.5'	12/31/02	-	-	-	1300
AH-2	2.0'-2.5'	12/31/02	-	-	-	455
AH-2	3.0'-3.5'	12/31/02	-	-	-	70
AH-3	0-0.5'	12/31/02	550	ND	550	1120
AH-3	1.0'-1.5'	12/31/02	-	-	-	350
AH-3	2.0'-2.5'	12/31/02	-	-	-	-
AH-4	0-0.5'	12/31/02	-	-	-	11800
AH-5	0-0.5'	12/31/02	570	ND	570	105
AH-5	1.0'-1.5'	12/31/02	-	-	-	126
AH-5	2.0'-2.5'	12/31/02	-	-	-	-
AH-5	3.0'-3.5'	12/31/02	-	-	-	-
AH-6	0-0.5'	12/31/02	-	-	-	193
AH-6	1.0'-1.5'	12/31/02	-	-	-	333
AH-6	2.0'-2.5'	12/31/02	-	-	-	-
AH-7	0-0.5'	12/31/02	-	-	-	1750
AH-7	1.0'-1.5'	12/31/02	-	-	-	280
AH-7	2.0'-2.5'	12/31/02	-	-	-	-
AH-7	3.0'-3.5'	12/31/02	-	-	-	-

TRENCH SAMPLES - SOUTH SPILL AREA

Sample ID	Sample Depth	Date Sampled	TPH- 8015 Modified			Chloride mg/kg
			DRO	GRO	Total	
Trench #1	2.0	2/13/03	-	-	-	567
Trench #1	3.0	2/13/03	-	-	-	114
		2/13/03	-	-	-	
Trench #2	2.0	2/13/03	-	-	-	106
Trench #2	3.0	2/13/03	-	-	-	478

(-) Denotes sample was not analyzed
ND - Not Detected

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) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

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

Form C-141
Originated 2/13/97

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

Release Notification and Corrective Action
OPERATOR
☑ Initial Report ☐ Final Report

Name: Arch Pet INC.	Contact: Gary Wells
Address: Eunice N.M.	Telephone No: 915-631-0134
Facility Name: WADU SALTWATER INJ	Facility Type: INJ LINE

Surface Owner	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	37	24S	38E					LEA

NATURE OF RELEASE

Type of Release: SALTWATER	Volume of Release: N/A	Volume Recovered: 25 TO 30 BBLS
Source of Release: SALTWATER INJ LINE	Date and Hour of Occurrence: 12/5/02 N/A	Date and Hour of Discovery: 12/5/02 8:30 AM
Was Immediate Notice Given? ☑ Yes ☐ No ☐ Not Required	If YES, To Whom? LARRY JOHNSON	
By Whom? GARY WELLS	Date and Hour: 12/5/02 11:15 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) HOLE CAME IN INJ LINE SALT LINE TO WILL REPLACE INJ LINE

Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary) SALTWATER RAN DOWN MAIN ROAD P/U PUDDLES OF WATER W/VAC TRUCK AND DISPOSED OF WATER. WILL REMEDIATE SPILL AND CLEAN UP ACCORDINGLY.

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

Signature: Gary Wells	OIL CONSERVATION DIVISION
Printed Name: GARY WELLS	Approved by District Supervisor:
Title: FIELD SUPERVISOR	Approval Date: Expiration Date:
Date: 12/7/02 Phone: 915-631-0134	Conditions of Approval:

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.
Water Ran down main Lse Road
About 9/10 mile South -

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

Material spilled or released	SALTWATER		
Volume of the spill (estimate)	25 to 30 BBLS	Nature of the damage	Road

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)	J. Wells	Date	12/7/02
Print Name	Gary Wells	Title	Field Supervisor

Distribution: Pogo Health, Safety and Environmental Manager

Attachment I
Incident Report

GENERAL INFORMATION (This section must be completed for all incidents)

Date of Incident: 12/5/02 Time of Incident: N/A Location of Incident: WIDOW LSE

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: LEAK CAME IN MAIN S/W INJ LINE RUNNING TO INJ WELLS 101-119

List any factors that may have contributed to the incident: LINE WAS OLD - BURIED UNDER GROUND IT WAS AN OLD CHEVRON MAIN INJ LINE.

What action was or will be taken to prevent recurrence? WILL REPLACE MAIN INJ LINE FROM BATTERY TO THE IN ROAD going TO INJ WELL 101-119 - THEY HAVE NEW LINES ALREADY

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: _____

APPENDIX B

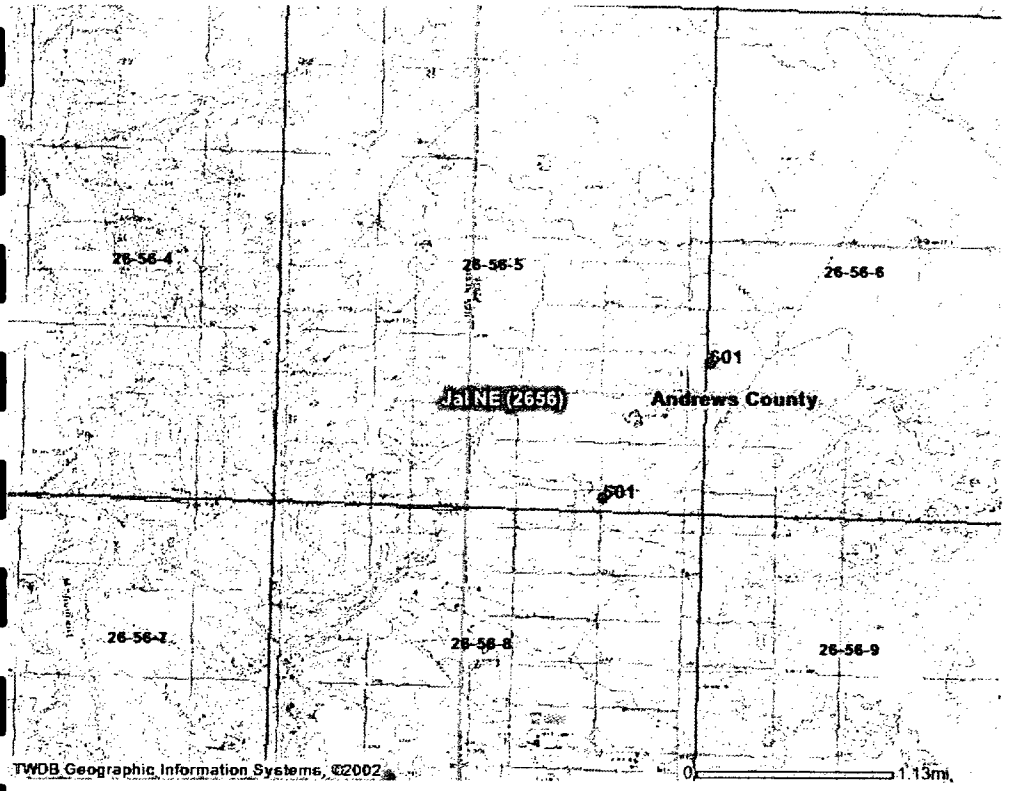
Water Well Records

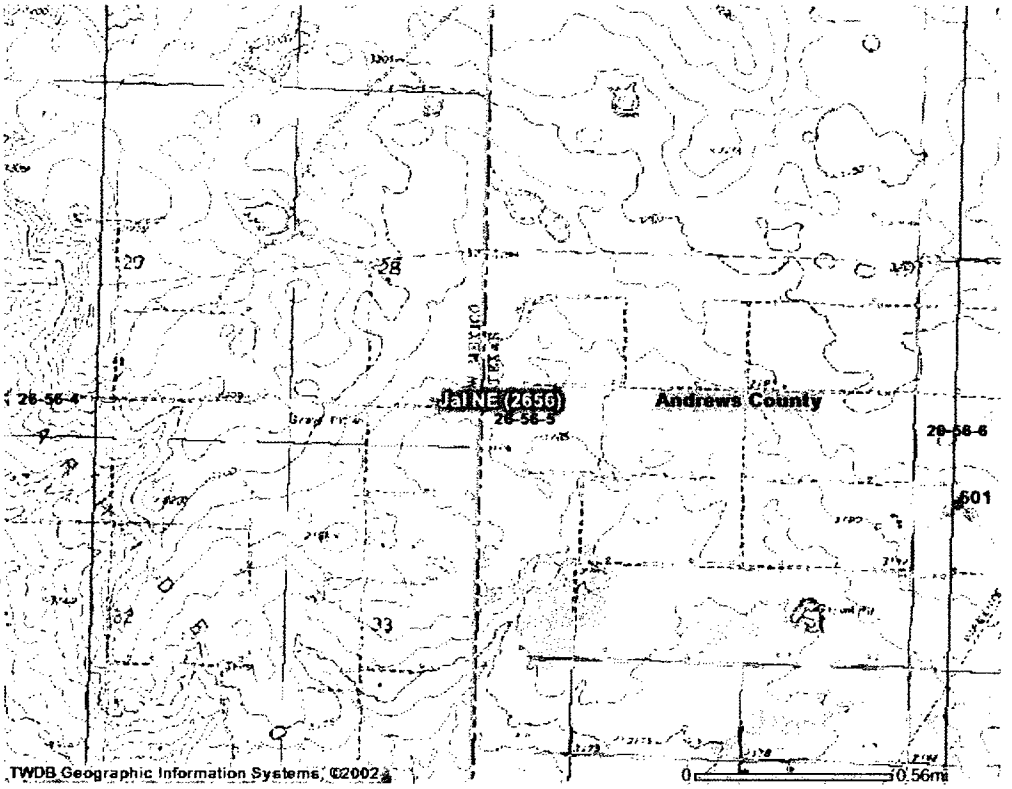
Dec 14, 1998

TEXAS WATER DEVELOPMENT BOARD
GROUND WATER DATA SYSTEM

RECORDS OF WELLS, SPRINGS, AND TEST HOLES
COUNTY - Andrews

WELL	OWNER	LATITUDE	LONGITUDE	DATE COM-PLETED	DEPTH OF WELL (FT.)	CASING AND SCREEN DATA: CASING OR SCREEN	DIAM-ETER (IN.)	TOP DEPTH (FT.)	BOT DEPTH (FT.)	WATER BEARING UNIT	ALTITUDE OF LAND SURFACE (FT.)	WATER LEVEL: MEASURE-MENT FROM LSD (FT.)	WATER LEVEL: DATE	METHOD OF LIFT AND POWER	USE OF WATER	REMARKS
26-40-201	Ed Tinsley	322737	1030240							1210GLL	3491	-82.47 -87.00	11-15-1979 12-10-1997	P W	S	Observation well.
26-40-301	Doug McWharter	322945	1030108							1210GLL	3489	-105.26 -101.61	11-15-1979 01-13-1990	P W	S	Historical water level observation well.
26-40-601	Bill Vance	322539	1030206							1210GLL	3495	-78.55 -67.32	12-10-1969 12-10-1997	P W	S	Observation well.
26-40-602	Flying W Diamond Ranch	322540	1030153		80					1210GLL	3477		- - - -	C W	S	
26-40-901	Ed Tinsley	322443	1030104							1210GLL	3439	-39.92 -31.33	11-15-1979 01-13-1990	P W	S	Historical water level observation well.
26-56-501	R. W. Cowden	321004	1030303							1210GLL	3178	-106.60	12-06-1979 - -	E	N	Observation well.
26-56-601	R. W. Cowden	321045	1030227							1210GLL	3194	-112.87 -114.48	12-06-1979 12-10-1997	S E	S	Observation well.
27-28-901		323011	1023007		61					1210GLL	3145	-56.80 -53.57	07-31-1958 01-16-1992	P W	U	Historical water level observation well.
27-30-701	G. E. Newton	323122	1022200	1951	125					1210GLL	3030	-47.00	12-19-1963 - -	T N	I	Measured discharge 135 gpm, Aug. 20, 1962.
27-33-201	Doug McWharter	322814	1025643	1967	70					1210GLL	3428	-64.28 -58.70	12-05-1979 12-10-1997	S E	U	Observation well.
27-34-101	C. W. Logsdon	322848	1025048		139					1210GLL	3374	-123.02 -131.10	12-10-1969 12-10-1997	P W	S	Observation well.
27-34-201	AMOCO Fullerton WSW #1	322849	1024951	1969	4625	C C S C	13 10 10 10	0 0 1281 1421	267 1281 1421 4625	231DCKM	3356	-1046.00	09-25-1995 - -	S E 100.00	N	Owner's Fullerton WSW #1. Oil test, converted to WSW in 1993.
27-34-301	Karl Cayton	322854	1024632	1973	140	C S	8 8	0 100	100 140	1210GLL	3297	-76.40 -74.02	11-09-1979 12-19-1996	S E	S I	Observation well. Reported yield 125 gpm.


26-56-4
26-56-5
26-56-6
601
Jal NE (2656)
Andrews County
601
26-56-7
26-56-8
26-56-9
TWDB Geographic Information Systems, ©2002
0
1.13mi


Jal NE (2656)
Andrews County
29-56-4
29-56-5
29-56-6
601
20
28
32
33
TWDB Geographic Information Systems, ©2002
0
0.56mi

APPENDIX C

Analytical Data

Auger Holes

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Highlander Environmental Corp

Certificate of Analysis Number:

03010050

Report To:		Project Name:	Pogo WDDU Saltwater Inj 1927
Highlander Environmental Corp		Site:	Lea Co, NM
Ike Tavarez		Site Address:	
1910 N. Big Spring Street			
		PO Number:	
Midland		State:	New Mexico
TX		State Cert. No.:	
79705-		Date Reported:	1/21/2003
ph: (915) 682-4559	fax: (915) 682-3946		

This Report Contains A Total Of 37 Pages

Excluding This Page

And

Chain Of Custody

1/21/2003

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Highlander Environmental Corp

Certificate of Analysis Number:

03010050

Report To:		Project Name:	Pogo WDDU Saltwater Inj 1927
Highlander Environmental Corp		Site:	Lea Co, NM
Ike Tavarez		Site Address:	
1910 N. Big Spring Street			
		PO Number:	
Midland		State:	New Mexico
TX		State Cert. No.:	
79705-		Date Reported:	1/21/2003
ph: (915) 682-4559	fax: (915) 682-3946		

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Dean Joiner
Senior Project Manager

1/21/2003
Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Highlander Environmental Corp

Certificate of Analysis Number:

03010050

Report To: Highlander Environmental Corp
Ike Tavarez
1910 N. Big Spring Street

Midland
TX
79705-
ph: (915) 682-4559 fax: (915) 682-3946

Fax To: Highlander Environmental Corp
Ike Tavarez fax : (915) 682-3946

Project Name: Pogo WDDU Saltwater Inj 1927
Site: Lea Co, NM
Site Address:

PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 1/21/2003

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
AH-1(0-0.5') IL	03010050-01	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-1 (1.0-1.5') IL	03010050-02	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-2 (0-0.5') IL	03010050-03	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-3 (0-0.5') IL	03010050-04	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-4 (0-0.5') IL	03010050-05	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-5 (0-0.5') IL	03010050-06	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-6 (0-0.5') IL	03010050-07	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-1 (0-0.5')	03010050-08	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-1 (1.0-1.5')	03010050-09	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-2 (0-0.5')	03010050-10	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-2 (1.0-1.5')	03010050-11	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-2 (2.0-2.5')	03010050-12	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-2 (3.0-3.5')	03010050-13	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-3 (0-0.5')	03010050-14	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-3 (1.0-1.5')	03010050-15	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-3 (2.0-2.5')	03010050-16	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑
AH-4 (0-0.5')	03010050-17	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-5 (0-0.5')	03010050-18	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-5 (1.0-1.5')	03010050-19	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-5 (2.0-2.5')	03010050-20	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑
AH-5 (3.0-3.5')	03010050-21	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑

Dean Joiner
Senior Project Manager

1/21/2003
Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Highlander Environmental Corp

Certificate of Analysis Number:

03010050

Report To: Highlander Environmental Corp
Ike Tavarez
1910 N. Big Spring Street

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Fax To: Highlander Environmental Corp
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Project Name: Pogo WDDU Saltwater Inj 1927
Site: Lea Co, NM
Site Address:

PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 1/21/2003

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
AH-6 (0-0.5')	03010050-22	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-6 (1.0-1.5')	03010050-23	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-6 (2.0-2.5')	03010050-24	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑
AH-7 (0-0.5')	03010050-25	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-7 (1.0-1.5')	03010050-26	Soil	12/31/2002	1/3/2003 9:30:00 AM		☐
AH-7 (2.0-2.5')	03010050-27	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑
AH-7 (3.0-3.5')	03010050-28	Soil	12/31/2002	1/3/2003 9:30:00 AM		☑

Dean Joiner
Senior Project Manager

1/21/2003
Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID AH-1(0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-01

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/Kg**		
Chloride	3240	50	5		01/06/03 15:30	E_S	1455055

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-1 (1.0-1.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-02

Site: **Lea Co, NM**

Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	2280	50		5		01/15/03 11:00	RA	1463856

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-3 (0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-04

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	2450	50	5		01/06/03 15:30	E_S	1455057

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-2 (0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-03

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	595		10		1		01/06/03 15:30	E_S	1455056
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	ND		5		1		01/06/03 19:48	AR	1454383
Surr: n-Pentacosane	88.7	%	20-154		1		01/06/03 19:48	AR	1454383

Prep Method	Prep Date	Prep Initials
SW3550B	01/04/2003 14:44	DB

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		01/06/03 15:14	AE	1454741
Surr: 1,4-Difluorobenzene	94.0	%	63-122		1		01/06/03 15:14	AE	1454741
Surr: 4-Bromofluorobenzene	91.0	%	39-150		1		01/06/03 15:14	AE	1454741

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-4 (0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-05

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	70	10	1		01/06/03 15:30	E_S	1455060

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-5 (0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-06

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	6300		100		10		01/06/03 15:30	E_S	1455061
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	12		5		1		01/14/03 20:05	AR	1462283
Surr: n-Pentacosane	73.5	%	20-154		1		01/14/03 20:05	AR	1462283

Prep Method	Prep Date	Prep Initials
SW3550B	01/14/2003 11:05	HH

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		01/14/03 13:18	FB	1461424
Surr: 1,4-Difluorobenzene	94.0	%	63-122		1		01/14/03 13:18	FB	1461424
Surr: 4-Bromofluorobenzene	92.0	%	39-150		1		01/14/03 13:18	FB	1461424
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		01/14/03 13:18	FB	1461397
Ethylbenzene	ND		1		1		01/14/03 13:18	FB	1461397
Methyl tert-butyl ether	ND		1		1		01/14/03 13:18	FB	1461397
Toluene	ND		1		1		01/14/03 13:18	FB	1461397
m,p-Xylene	ND		1		1		01/14/03 13:18	FB	1461397
o-Xylene	ND		1		1		01/14/03 13:18	FB	1461397
Xylenes,Total	ND		1		1		01/14/03 13:18	FB	1461397
Total BTEX	ND		1		1		01/14/03 13:18	FB	1461397
Surr: 1,4-Difluorobenzene	94.2	%	59-127		1		01/14/03 13:18	FB	1461397
Surr: 4-Bromofluorobenzene	105	%	48-156		1		01/14/03 13:18	FB	1461397

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-6 (0-0.5') IL **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-07

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	3500		50		5		01/06/03 15:30	E_S	1455062
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	960		100		20		01/06/03 22:19	AR	1454387
Surr: n-Pentacosane	D	%	20-154		20	*	01/06/03 22:19	AR	1454387

Prep Method	Prep Date	Prep Initials
SW3550B	01/04/2003 14:44	DB

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	3		0.1		1		01/06/03 15:43	AE	1454742
Surr: 1,4-Difluorobenzene	118	%	63-122		1		01/06/03 15:43	AE	1454742
Surr: 4-Bromofluorobenzene	853 MI	%	39-150		1	*	01/06/03 15:43	AE	1454742

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-1 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-08

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	228		10		1		01/06/03 15:30	E_S	1455063
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	ND		5		1		01/06/03 20:26	AR	1454384
Surr: n-Pentacosane	83.6	%	20-154		1		01/06/03 20:26	AR	1454384

Prep Method	Prep Date	Prep Initials
SW3550B	01/04/2003 14:44	DB

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		01/04/03 17:02	AE	1454738
Surr: 1,4-Difluorobenzene	90.7	%	63-122		1		01/04/03 17:02	AE	1454738
Surr: 4-Bromofluorobenzene	88.7	%	39-150		1		01/04/03 17:02	AE	1454738

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-1 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-09

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	175	10		1		01/06/03 15:30	E_S	1455064

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-2 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-10

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	1820	20	2		01/06/03 15:30	E_S	1455066

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-2 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-11

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	1300	20	2		01/06/03 15:30	E_S	1455067

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-2 (2.0-2.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-12

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	455	10		1		01/15/03 11:00	RA	1463859

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-2 (3.0-3.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-13

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	70	10	1		01/15/03 11:00	RA	1463860

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-3 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-14

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	1120		20		2		01/06/03 15:30	E_S	1455068
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	550		100		20		01/06/03 22:57	AR	1454388
Surr: n-Pentacosane	D	%	20-154		20	*	01/06/03 22:57	AR	1454388

Prep Method	Prep Date	Prep Initials
SW3550B	01/04/2003 14:44	DB

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		01/04/03 16:33	AE	1454737
Surr: 1,4-Difluorobenzene	99.7	%	63-122		1		01/04/03 16:33	AE	1454737
Surr: 4-Bromofluorobenzene	94.7	%	39-150		1		01/04/03 16:33	AE	1454737

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-4 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-17

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/Kg**		
Chloride	11800	250	25		01/06/03 15:30	E_S	1455070

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-3 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-15

Site: **Lea Co, NM**

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**	**Units: mg/Kg**		
Chloride	350	10	1		01/06/03 15:30	E_S	1455069

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-5 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-18

Site: Lea Co, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL				**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	105		10		1		01/06/03 15:30	E_S	1455073
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	570		100		20		01/06/03 23:35	AR	1454389
Surr: n-Pentacosane	D	%	20-154		20	*	01/06/03 23:35	AR	1454389

Prep Method	Prep Date	Prep Initials
SW3550B	01/04/2003 14:44	DB

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		01/04/03 18:00	AE	1454739
Surr: 1,4-Difluorobenzene	96.3	%	63-122		1		01/04/03 18:00	AE	1454739
Surr: 4-Bromofluorobenzene	92.0	%	39-150		1		01/04/03 18:00	AE	1454739

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-5 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-19

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	126	10		1		01/06/03 15:30	E_S	1455074

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-6 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-22

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	193	10	1		01/06/03 15:30	E_S	1455075

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-6 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-23

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	333	10	1		01/06/03 15:30	E_S	1455077

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-7 (0-0.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-25

Site: **Lea Co, NM**

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	1750	20	2		01/06/03 15:30	E_S	1455078

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID AH-7 (1.0-1.5') **Collected:** 12/31/2002 0:00 **SPL Sample ID:** 03010050-26

Site: Lea Co, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		**MCL**	**E325.3**		**Units: mg/Kg**		
Chloride	280	10	1		01/06/03 15:30	E_S	1455079

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Diesel Range Organics
Method: SW8015B
WorkOrder: 03010050
Lab Batch ID: 24663

Method Blank

RunID: HP_V_030106A-1454382 Units: mg/Kg
Analysis Date: 01/06/2003 19:10 Analyst: AR
Preparation Date: 01/04/2003 14:44 Prep By: DB Method SW3550B

Analyte	Result	Rep Limit
Diesel Range Organics	ND	5.0
Surr: n-Pentacosane	82.8	20-154

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-03A	AH-2 (0-0.5') IL
03010050-07A	AH-6 (0-0.5') IL
03010050-08A	AH-1 (0-0.5')
03010050-14A	AH-3 (0-0.5')
03010050-18A	AH-5 (0-0.5')

Laboratory Control Sample (LCS)

RunID: HP_V_030106A-1454381 Units: mg/Kg
Analysis Date: 01/06/2003 18:32 Analyst: AR
Preparation Date: 01/04/2003 14:44 Prep By: DB Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	70.6	85	50	150

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-03
RunID: HP_V_030106A-1454385 Units: mg/Kg
Analysis Date: 01/06/2003 21:04 Analyst: AR
Preparation Date: 01/04/2003 14:44 Prep By: DB Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	ND	83	73.6	87.1	83	71	84.0	3.57	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Diesel Range Organics
Method: SW8015B

WorkOrder: 03010050
Lab Batch ID: 24868

Method Blank

RunID: HP_V_030114A-1462282 Units: mg/Kg
Analysis Date: 01/14/2003 18:11 Analyst: AR
Preparation Date: 01/14/2003 11:05 Prep By: HH Method SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-06A	AH-5 (0-0.5') IL

Analyte	Result	Rep Limit
Diesel Range Organics	ND	5.0
Surr: n-Pentacosane	69.5	20-154

Laboratory Control Sample (LCS)

RunID: HP_V_030114A-1462281 Units: mg/Kg
Analysis Date: 01/14/2003 17:33 Analyst: AR
Preparation Date: 01/14/2003 11:05 Prep By: HH Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	67.5	81	50	150

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010347-04
RunID: HP_V_030114A-1469708 Units: mg/Kg
Analysis Date: 01/17/2003 15:48 Analyst: AR
Preparation Date: 01/14/2003 11:05 Prep By: HH Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	ND	83	53.6	48.9	83	58.6	54.8	11.5	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 03010050
Lab Batch ID: R74821

Method Blank

RunID: HP_O_030104A-1454736 Units: mg/Kg
Analysis Date: 01/04/2003 16:04 Analyst: AE

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	89.7	63-122
Surr: 4-Bromofluorobenzene	80.7	39-150

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-03A	AH-2 (0-0.5') IL
03010050-07A	AH-6 (0-0.5') IL
03010050-08A	AH-1 (0-0.5')
03010050-14A	AH-3 (0-0.5')
03010050-18A	AH-5 (0-0.5')

Laboratory Control Sample (LCS)

RunID: HP_O_030104A-1454735 Units: mg/Kg
Analysis Date: 01/04/2003 13:41 Analyst: AE

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.813	81	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-03
RunID: HP_O_030104A-1454743 Units: mg/Kg
Analysis Date: 01/06/2003 18:06 Analyst: AE

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.421	46.8	0.9	0.648	72.0	42.6	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 03010050
Lab Batch ID: R75200

Method Blank

RunID: HP_O_030114A-1461396 Units: ug/Kg
Analysis Date: 01/14/2003 12:49 Analyst: FB

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-06A	AH-5 (0-0.5') IL

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Methyl tert-butyl ether	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Total BTEX	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	93.3	59-127
Surr: 4-Bromofluorobenzene	99.1	48-156

Laboratory Control Sample (LCS)

RunID: HP_O_030114A-1461393 Units: ug/Kg
Analysis Date: 01/14/2003 11:23 Analyst: FB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	48.5	97	70	124
Ethylbenzene	50	48.4	97	78	128
Methyl tert-butyl ether	50	46.9	94	70	130
Toluene	50	48.2	96	70	126
m,p-Xylene	100	96	96	71	130
o-Xylene	50	48.6	97	71	129
Xylenes,Total	150	144.6	96	71	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-06
RunID: HP_O_030114A-1461394 Units: ug/Kg
Analysis Date: 01/14/2003 11:52 Analyst: FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 03010050
Lab Batch ID: R75200

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-06
RunID: HP_O_030114A-1461394 Units: ug/Kg
Analysis Date: 01/14/2003 11:52 Analyst: FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	17.5	87.5	20	15.9	79.7	9.30	34	35	139
Ethylbenzene	ND	20	16.3	81.5	20	13.7	68.6	17.1	35	31	137
Methyl tert-butyl ether	ND	20	19.9	99.5	20	18.6	93.0	6.77	22	27	196
Toluene	ND	20	17.1	85.6	20	15	74.8	13.4	28	31	137
m,p-Xylene	ND	40	32.4	81.1	40	26.8	67.0	19.1	38	19	144
o-Xylene	ND	20	16.6	83.2	20	13.8	69.0	18.6	57	25	139
Xylenes,Total	ND	60	49	81.7	60	40.6	67.7	18.8	38	19	144

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 03010050
Lab Batch ID: R75202

Method Blank

RunID: HP_O_030114B-1461414 Units: mg/Kg
Analysis Date: 01/14/2003 4:41 Analyst: FB

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-06A	AH-5 (0-0.5') IL

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	92.0	63-122
Surr: 4-Bromofluorobenzene	78.7	39-150

Laboratory Control Sample (LCS)

RunID: HP_O_030114B-1461411 Units: mg/Kg
Analysis Date: 01/14/2003 3:15 Analyst: FB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.849	85	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010310-01
RunID: HP_O_030114B-1461412 Units: mg/Kg
Analysis Date: 01/14/2003 3:44 Analyst: FB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.247	27.4	0.9	0.289	32.1	15.8	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Chloride, Total
Method: E325.3
WorkOrder: 03010050
Lab Batch ID: R74840

Method Blank

RunID: WET_030106V-1455053 Units: mg/Kg
Analysis Date: 01/06/2003 15:30 Analyst: E_S

Analyte	Result	Rep Limit
Chloride	ND	10

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-01A	AH-1(0-0.5') IL
03010050-03A	AH-2 (0-0.5') IL
03010050-04A	AH-3 (0-0.5') IL
03010050-05A	AH-4 (0-0.5') IL
03010050-06A	AH-5 (0-0.5') IL
03010050-07A	AH-6 (0-0.5') IL
03010050-08A	AH-1 (0-0.5')
03010050-09A	AH-1 (1.0-1.5')
03010050-10A	AH-2 (0-0.5')
03010050-11A	AH-2 (1.0-1.5')

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-04
RunID: WET_030106V-1455058 Units: mg/Kg
Analysis Date: 01/06/2003 15:30 Analyst: E_S

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	2452	2500	4903	98.07	2500	4991	101.6	3.509	20	91.8	115

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Chloride, Total
Method: E325.3
WorkOrder: 03010050
Lab Batch ID: R74840A

Method Blank

RunID: WET_030106V-1455053 Units: mg/Kg
Analysis Date: 01/06/2003 15:30 Analyst: E_S

Analyte	Result	Rep Limit
Chloride	ND	10

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-14A	AH-3 (0-0.5')
03010050-15A	AH-3 (1.0-1.5')
03010050-17A	AH-4 (0-0.5')
03010050-18A	AH-5 (0-0.5')
03010050-19A	AH-5 (1.0-1.5')
03010050-22A	AH-6 (0-0.5')
03010050-23A	AH-6 (1.0-1.5')
03010050-25A	AH-7 (0-0.5')
03010050-26A	AH-7 (1.0-1.5')

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-17
RunID: WET_030106V-1455071 Units: mg/Kg
Analysis Date: 01/06/2003 15:30 Analyst: E_S

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	11820	12500	24080	98.07	12500	24080	98.07	0	20	91.8	115

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

Highlander Environmental Corp

Pogo WDDU Saltwater Inj 1927

Analysis: Chloride, Total
Method: E325.3
WorkOrder: 03010050
Lab Batch ID: R75305

Method Blank

RunID: WET_030115F-1463854 Units: mg/Kg
Analysis Date: 01/15/2003 11:00 Analyst: RA

Analyte	Result	Rep Limit
Chloride	ND	10

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
03010050-02A	AH-1 (1.0-1.5') IL
03010050-12A	AH-2 (2.0-2.5')
03010050-13A	AH-2 (3.0-3.5')

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 03010050-02
RunID: WET_030115F-1463857 Units: mg/Kg
Analysis Date: 01/15/2003 11:00 Analyst: RA

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	2277	2500	4641	94.56	2500	4641	94.56	0	20	91.8	115

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

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HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	03010050	Received By:	RT
Date and Time Received:	1/3/2003 9:30:00 AM	Carrier name:	FedEx
Temperature:	4	Chilled by:	Water Ice

1.	**Shipping container/cooler in good condition?**	Yes	☑	No ☐	Not Present	☐
2.	**Custody seals intact on shippping container/cooler?**	Yes	☑	No ☐	Not Present	☐
3.	**Custody seals intact on sample bottles?**	Yes	☐	No ☐	Not Present	☑
4.	**Chain of custody present?**	Yes	☑	No ☐		
5.	**Chain of custody signed when relinquished and received?**	Yes	☑	No ☐		
6.	**Chain of custody agrees with sample labels?**	Yes	☑	No ☐		
7.	**Samples in proper container/bottle?**	Yes	☑	No ☐		
8.	**Sample containers intact?**	Yes	☑	No ☐		
9.	**Sufficient sample volume for indicated test?**	Yes	☑	No ☐		
10.	**All samples received within holding time?**	Yes	☑	No ☐		
11.	**Container/Temp Blank temperature in compliance?**	Yes	☑	No ☐		
12.	**Water - VOA vials have zero headspace?**	Yes	☐	No ☐	Not Applicable	☑
13.	**Water - pH acceptable upon receipt?**	Yes	☐	No ☐	Not Applicable	☑

SPL Representative: Brown, Electa
Contact Date & Time: 1/3/2003 5:14:00 PM
Client Name Contacted: Ike Tavarez

Non Conformance Issues: Client request TPH-8015 but did not specify GRO, DRO or both. Per EB login both

Client Instructions: Per Ike run TPH Gro,Dro. Ike would like to add Btex to the highest TPH value.

03010050

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: 3

CLIENT NAME: POGO SITE MANAGER: Ike Tavarez

PROJECT NO.: 1927 PROJECT NAME: POGO/WDDU Saltwater Inj 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	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	GCMS Vol. 8240/8260/624	GCMS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Chloride
	12/31/02		S		X	AH-1 (0-0.5') IL	1	N			X																			X
			S		X	AH-1 (1.0'-1.5') IL	1	N			X																			Hold
			S		X	AH-2 (0-0.5') IL	1	N			X				X															X
			S		X	AH-3 (0-0.5') IL	1	N			X																			X
			S		X	AH-4 (0-0.5') IL	1	N			X																			X
			S		X	AH-5 (0-0.5') IL	1	N			X																			X
			S		X	AH-6 (0-0.5') IL	1	N			X				X															X
			S		X	AH-1 (0-0.5')	1	N			X				X															X
			S		X	AH-1 (1.0'-1.5')	1	N			X																			X
	↓		S		X	AH-2 (0-0.5')	1	N			X																			X

RELINQUISHED BY: (Signature) Raymond P Taylor Date: 1/2/03 Time: 4:00

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) Ray Taylor & Jim Armentrout Date: 1/2/03 Time: 3:00

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: SPL
ADDRESS: Houston
CITY: STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 1-3-03 TIME: 0930

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:

4°C

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.

FQ

Trenches

ANALYTICAL REPORT

Prepared for:

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

Project:	Pogo/ WDDW Injection Line South Spill
PO#:	
Order#:	G0305724
Report Date:	02/19/2003

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#: G0305724
Project: 1927
Project Name: Pogo/ WDDW Injection Line South Spill
Location: Lea County, 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.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305724-01	#1 (2.0'), South	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305724-02	#1 (3.0'), South	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305724-03	#2 (2.0'), South	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305724-04	#2 (3.0'), South	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ		**Order#:**	**G0305724**
HIGHLANDER ENVIRONMENTAL CORP.		**Project:**	**1927**
1910 N. BIG SPRING STREET		**Project Name:**	**Pogo/ WDDW Injection Line South Spill**
MIDLAND, TX 79705		**Location:**	**Lea County, NM**

Lab ID: 0305724-01
Sample ID: #1 (2.0'), South

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	567	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305724-02
Sample ID: #1 (3.0'), South

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	114	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305724-03
Sample ID: #2 (2.0'), South

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	106	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305724-04
Sample ID: #2 (3.0'), South

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	478	mg/kg	1	20	9253	2/18/03	SB

Approval: Celey D. Keene 2/20/03
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 I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0305724

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0004682-01			<20.0		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0305724-01	567	1000	1540	97.3%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0305724-01	567	1000	1560	99.3%	1.3%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0004682-04		5000	4960	99.2%	

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.: 1927

PROJECT NAME: Pogo / WDDW, Injection Line South Field, Lea County, NM.

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 8015 MOD. TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	BCI	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			
-01	2/13/03		S		G	#1 (2.0'), South	1				ICE																			X			
-02	2/13/03		S		G	#1 (3.0'), South.	1				ICE																			X			
-03	2/13/03		S		G	#2 (2.0'), South	1				ICE																			X			
-04	2/13/03		S		G	#2 (3.0'), South.	1				ICE																			X			

-005724

RELINQUISHED BY: (Signature) Date: 2/14/03 Time: 5:10pm

RECEIVED BY: (Signature) Date: Time:

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

ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:

RECEIVED BY: (Signature) DATE: 2-14-03 TIME: 1710

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: Rec 4.0°C

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

Prepared for:

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

Project:	Pogo/ WDDW Injection Line, North Spill
PO#:	
Order#:	G0305725
Report Date:	02/19/2003

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#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, 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.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305725-01	#1 (0-1')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-02	#1 (2.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-04	#1 (4.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-05	#2 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-06	#2 (3.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-07	#2 (6.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-08	#3 (3.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-09	#3 (6.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

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

Order#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, 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.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305725-10	#4 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-11	#5 (0-1')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-12	#5 (2.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-13	#5 (3.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-14	#6 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-15	#7 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-16	#8 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		
0305725-17	#9 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	**Rejected:** No		**Temp:** 4.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

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

Order#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, 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.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0305725-18	#10 (2.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-19	#11 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		
0305725-20	#12 (1.0')	SOIL	2/13/03	2/14/03 17:10	4 oz glass	Ice
	Lab Testing: Chloride	Rejected: No		Temp: 4.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, NM

Lab ID: 0305725-01
Sample ID: #1 (0-1')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	4250	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-02
Sample ID: #1 (2.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	2130	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-04
Sample ID: #1 (4.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1880	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-05
Sample ID: #2 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	253	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-06
Sample ID: #2 (3.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1560	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-07
Sample ID: #2 (6.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1060	mg/kg	1	20	9253	2/18/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, NM

Lab ID: 0305725-08
Sample ID: #3 (3.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	993	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-09
Sample ID: #3 (6.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1600	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-10
Sample ID: #4 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	709	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-11
Sample ID: #5 (0-1')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	478	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-12
Sample ID: #5 (2.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	3050	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-13
Sample ID: #5 (3.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	372	mg/kg	1	20	9253	2/18/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

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

Order#: G0305725
Project: 1927
Project Name: Pogo/ WDDW Injection Line, North Spill
Location: Lea County, NM

Lab ID: 0305725-14
Sample ID: #6 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	3900	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-15
Sample ID: #7 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	3540	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-16
Sample ID: #8 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	2380	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-17
Sample ID: #9 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	253	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-18
Sample ID: #10 (2.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	2690	mg/kg	1	20	9253	2/18/03	SB

Lab ID: 0305725-19
Sample ID: #11 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	1200	mg/kg	1	20	9253	2/18/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

IKE TAVAREZ		Order#:	G0305725
HIGHLANDER ENVIRONMENTAL CORP.		Project:	1927
1910 N. BIG SPRING STREET		Project Name:	Pogo/ WDDW Injection Line, North Spill
MIDLAND, TX 79705		Location:	Lea County, NM

Lab ID: 0305725-20
Sample ID: #12 (1.0')

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	744	mg/kg	1	20	9253	2/18/03	SB

Approval: Celey D. Keene 2/20/03
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

Test Parameters

Order#: G0305725

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0004682-01			<20.0		
Chloride-mg/kg	0004683-01			<20		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0305724-01	567	1000	1540	97.3%	
Chloride-mg/kg	0305725-18	2690	2000	4720	101.5%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0305724-01	567	1000	1560	99.3%	1.3%
Chloride-mg/kg	0305725-18	2690	2000	4680	99.5%	0.9%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0004682-04		5000	4960	99.2%	
Chloride-mg/kg	0004683-04		5000	4960	99.2%	

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: 3

CLIENT NAME: Pogo SITE MANAGER: Ike Tavarez

PROJECT NO.: 1927 PROJECT NAME: Pogo / WDDO injection line, North spill, 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	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. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Chloride
-01	2/13/03		S		G	#1 (0-1')	1				ICE																			X
02			S		G	#1 (2.0')	1				ICE																			X
03			S		G	#1 (3.0')	1				ICE								Hold											
04			S		G	#1 (4.0')	1				ICE																			X
05			S		G	#2 (1.0')	1				ICE																			X
06			S		G	#2 (3.0')	1				ICE																			X
			~~C~~			~~#2 (5.0')~~ DUP	1				ICE																			
07			S		G	#2 (6.0')	1				ICE																			X
08			S		G	#3 (3.0)	1				ICE																			X
09			S		G	#3 (6.0')	1				ICE																			X

RELINQUISHED BY: (Signature) Date: 2/14/03 Time: 5:10 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) Ike Tavarez Date: Time:

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

RECEIVING LABORATORY: Envirotech Inc.
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 2-14-03 TIME: 1710

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: 4 °C

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.

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

CLIENT NAME: Pogo | SITE MANAGER: Ike Tavarez

PROJECT NO.: 1927 | PROJECT NAME: Pogo/WDDU, Injection Line, North Spill, Lea County, NM.

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 8015 MOD. TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	ECI	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)	Chloride	
10	2/13/03		S		G	#4 (4.0')	1				ICE																			X	
11			S		G	#5 (0-1')	1				ICE																			X	
12			S		G	#5 (2.0')	1				ICE																			X	
13			S		G	#5 (3.0')	1				ICE																			X	
14			S		G	#6 (1.0')	1				ICE																			X	
15			S		G	#7 (1.0')	1				ICE																			X	
16			S		G	#8 (1.0')	1				ICE																			X	
17			S		G	#9 (1.0')	1				ICE																			X	
18			S		G	#10 (2.0')	1				ICE																			X	
19			S		G	#11 (1.0')	1				ICE																			X	

RELINQUISHED BY: (Signature)	Date: 2/14/03 Time: 5:45	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:
RECEIVING LABORATORY: Ehrom Co.	RECEIVED BY: (Signature)		
ADDRESS:	DATE: 2-14-03	TIME: 1710.	
CITY: STATE: ZIP:			
CONTACT: PHONE:			

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

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

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: 4.0 °C.

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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

CLIENT NAME: Pogo. SITE MANAGER: Ike Tavarez

PROJECT NO.: 1927 PROJECT NAME: Pogo/WAPU, injection line North spill, Lea County NM

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 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)	Chloride		
20	2/13/03		S			#12 (1.0')	1				1																			X		

RELINQUISHED BY: (Signature) [signature]	Date: 2/14/03 Time: 5:10 pm	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) Ike Tavarez Date: Time:

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

RECEIVING LABORATORY: Environ Co's.
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) [signature]
DATE: 2-14-03 TIME: 1710

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: 4.0°C

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