Highlander Environmental Corp.

Midland, Texas

September 18, 2007

Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Assessment and Closure Report for the Pogo Producing Company, Eva E. Blinebry Federal #19 Injection Line Release Located in Unit H, Section 34, Township 23 South, Range 37 East, Lea County, New Mexico. RP 815

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to assess a spill from the Eva E Blinebry Federal #19 Injection Line, located in Unit H, Section 34, Township 23 South, Range 37 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.26435°, W 103.14241°. According to the State of New Mexico C-141 Initial Report, approximately 50 barrels (bbls) of produced water were released from an injection line leak discovered on May 5, 2007. A total of 40 bbls of water were recovered. A copy of the State of New Mexico C-141 (Initial) and the C-141 (Final) are included in Appendix C. The Site is shown on Figures 1.

Groundwater and Regulatory

The New Mexico State Engineer's Office database showed no water wells located within Section 34, Township 23 South, Range 37 East. There was one well listed in Section 32 with a reported depth to water of 106'. Additionally, there were wells shown in Sections 28, 32 and 33 in the USGS groundwater database with reported depths to water of 117', 97' and 87' below ground surface (bgs). The New Mexico State Engineer water well reports and USGS groundwater database reports are included in Appendix A.

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

Assessment and Results

On May 14, 2007, Highlander personnel inspected and sampled the spill area. The spill area measured approximately 41' x 60'. A total of three (3) auger holes (AH-1, AH-2, and AH-3) were installed using a stainless steel hand auger to assess the impacted soils. Samples were analyzed for TPH analysis by EPA method 8015 modified and chloride by EPA method 300.0. Select samples were analyzed for BTEX by EPA Method 8021B. Of the samples collected, all of the TPH and BTEX concentrations were below the RRAL, with the exception of AH-3 (0-1'). The chloride concentrations ranged from 7.82 mg/kg (AH-2 at 2.0'-2.5') to 1,180 mg/kg (AH-3 at 2.0'-2.5'). Chloride impact was delineated to 255 mg/kg or below. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix B. The auger hole locations are shown on Figure 2. The results of the sampling are summarized in Table 1.

Based upon the results, on June 8, 2007, Highlander supervised the removal of approximately 1.0' of soil in a 10' x 20' area in the vicinity of AH-3. The removed soil was taken to Sundance Services in Eunice, New Mexico for disposal. A confirmation sample, designated AH-3A, was collected for TPH analysis. The TPH concentration was below the RRAL. The results of sampling are summarized in Table 1. The confirmation sample location is shown on Figure 3.

Conclusions

All TPH impact exceeding the RRAL has been removed and taken to disposal. The remaining chloride concentrations decline with depth. Based on the depth to groundwater, the limited aerial extent and chloride concentration decline, the residual chloride concentrations do not appear to be an imminent threat to groundwater.

Based upon the results of the work performed at this site, Pogo requests closure of this Site. If you require any additional information or have any questions or comments concerning the assessment/closure report, please call at (432) 682-4559.

Respectfully submitted,
Highlander Environmental Corp.

Timothy M. Reed, P.G.
Vice President

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

SITE INFORMATION

RP #1315

Report Type: CLOSURE REPORT

General Site Information:	
Site:	**Eva Blinebry Federal #19**
Company:	**Pogo Producing Company**
Line Location	**Section 34, T23S R37E**
Spill Location:	**Section 34, T23S R37E**
Unit Letter:	Unit H
Lease Number:	
County:	Lea
Spill GPS:	N 32.26435° W103.14241°
Surface Owner:	
Mineral Owner:	
Directions:	From Eunice New Mexico, intersection of 176 and 18, go south 10.3 miles on Hwy 18,
	turn fetft into lease road and go 3.5' to "T", take left and go 0.8 miles to spill on
	left side of lease road, spill 100' south of tank battery E.C. Hill B-D.

Release Data:	
Date Released:	5/5/2007
Type Release:	Produced Water
Source of Contamination:	Leak on Injection Line
Fluid Released:	50 bbls
Fluids Recovered:	40 bbls

Official Communication:

Name:	Pat Ellis	Don Riggs	Ike Tavarez
Company:	Pogo Producing Company	Pogo Producing Company	Highlander Environmental Corp.
Address:	300 N. Marienfeld St.	5 Greenway Plaza, Suite 2700	1910 N. Big Spring
P.O. Box	Box 10340		
City:	Midland Texas, 79701-7340	Houston, Texas 77046	Midland, Texas
Phone number:	(432) 685-8100	(713) 297-5045	(432) 682- 4559
Email:	EllisP@pogoproducing.com	riggsd@pogoproducing.com	itavarez@hec-enviro.com

Ranking Criteria

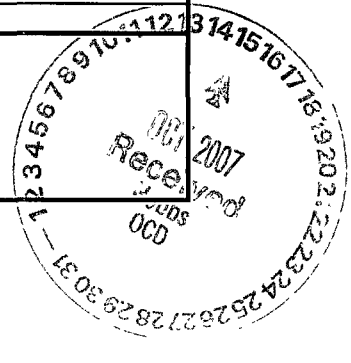
Depth to Groundwater:	*Ranking Score*	*Site Data*
<50 ft	20	
50-99 ft	**10**	*Average Depth >50'<100' BS*
>100 ft.	0	

WellHead Protection:	*Ranking Score*	*Site Data*
Water Source <1,000 ft., Private <200 ft.	*20*	*None*
Water Source >1,000 ft., Private >200 ft.	***0***	

Surface Body of Water:	*Ranking Score*	*Site Data*
<200 ft.	*20*	*None*
200 ft - 1,000 ft.	10	*None*
>1,000 ft.	**0**	

Total Ranking Score:	**10**

Acceptable Soil RRAL (mg/kg)		
Benzene	*Total BTEX*	*TPH*
10	**50**	**1,000**



FIGURES

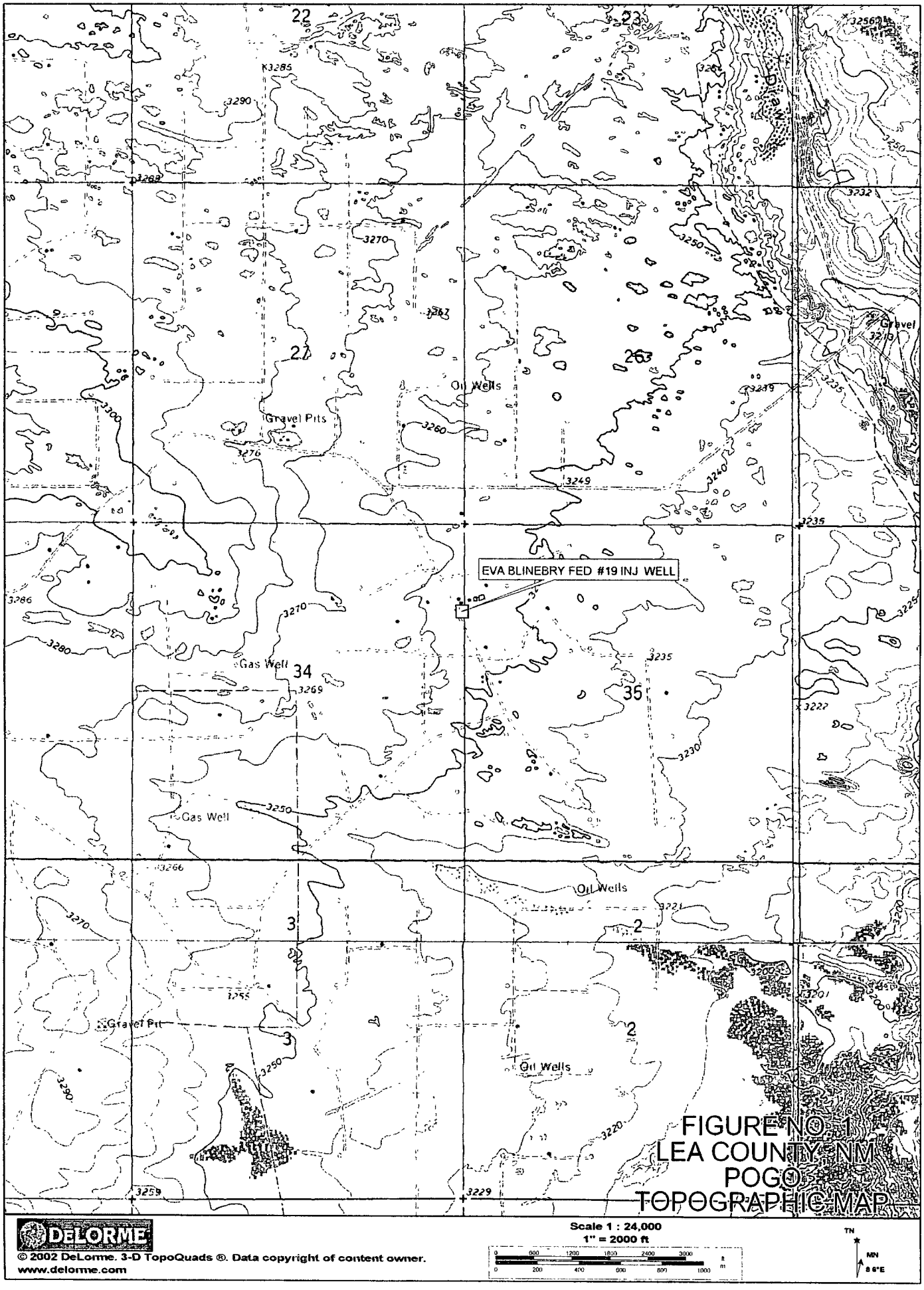
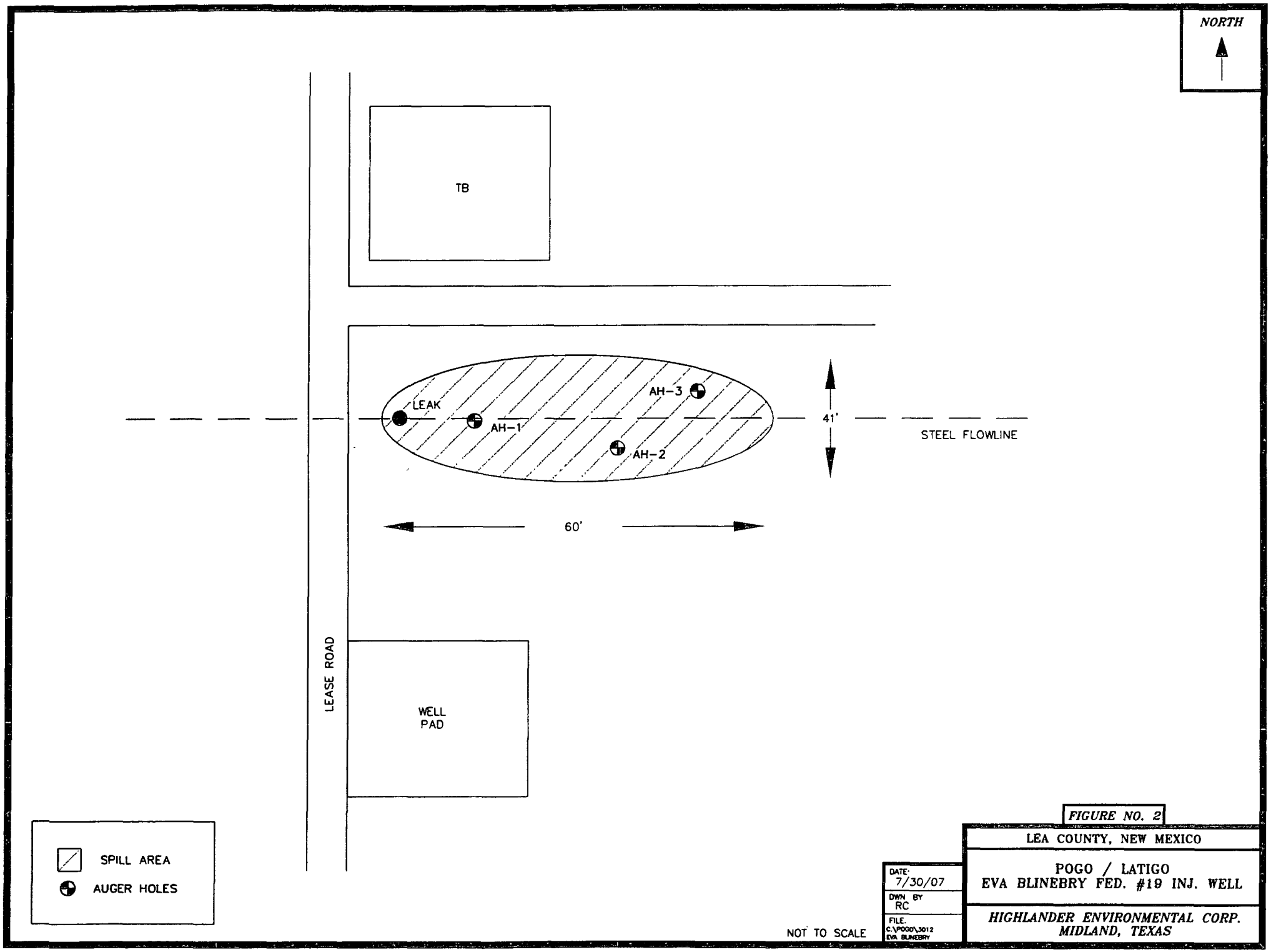
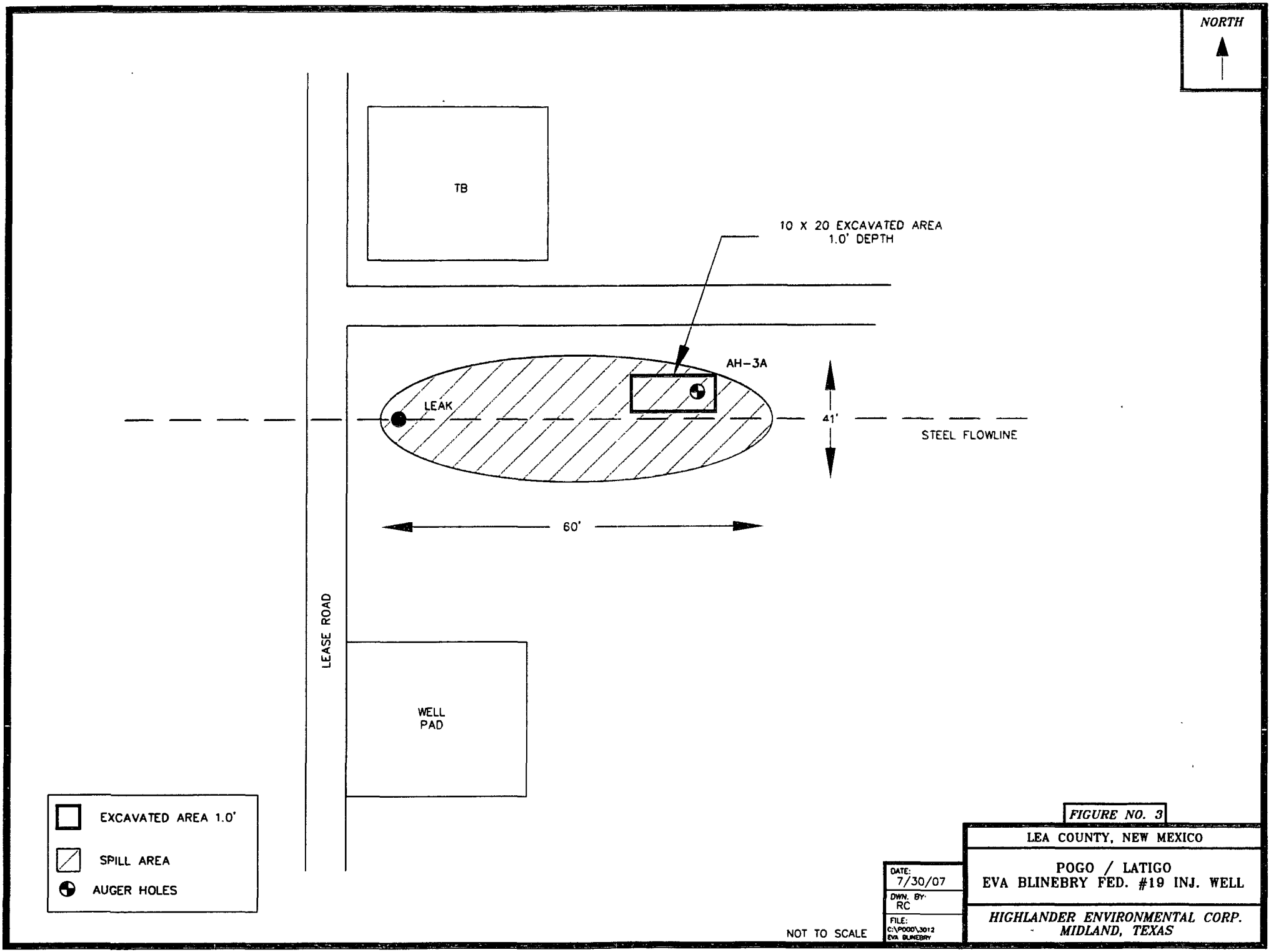


FIGURE NO. 1
LEA COUNTY, NM
POGO
TOPOGRAPHIC MAP


NORTH
TB
LEAK
AH-1
AH-2
AH-3
41'
STEEL FLOWLINE
60'
LEASE ROAD
WELL PAD
SPILL AREA
AUGER HOLES
NOT TO SCALE
FIGURE NO. 2
LEA COUNTY, NEW MEXICO
POGO / LATIGO
EVA BLINEBRY FED. #19 INJ. WELL
DATE: 7/30/07
DWN BY RC
FILE: C:\POGO\3012 EVA BLINEBRY
HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS


NORTH
TB
10 X 20 EXCAVATED AREA
1.0' DEPTH
AH-3A
LEAK
41'
STEEL FLOWLINE
60'
LEASE ROAD
WELL
PAD
EXCAVATED AREA 1.0'
SPILL AREA
AUGER HOLES
NOT TO SCALE
DATE:
7/30/07
DWN. BY:
RC
FILE:
C:\POGO\3012
EVA BLINEBRY
FIGURE NO. 3
LEA COUNTY, NEW MEXICO
POGO / LATIGO
EVA BLINEBRY FED. #19 INJ. WELL
HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

Pogo Producing
Eva Blinebry Federal #19 Injection Well
Lea County,New Mexico

Sample ID	Soil Status		Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
	Insitu	Removed			DRO	GRO	Total					
AH-1	X		5/14/2007	0-1.0'	376	3.16	379.16	<0.01	<0.01	<0.01	0.743	12.0
AH-1	X		5/14/2007	1'-1.5'	<50.0	1.25	1.25	<0.01	<0.01	<0.01	0.254	20.2
AH-1	X		5/14/2007	2'-2.5'	-	-	-	-	-	-	-	696
AH-1	X		5/14/2007	3'-3.5'	-	-	-	-	-	-	-	169
AH-2	X		5/14/2007	0-1.0'	<50.0	<1.00	<50.0	-	-	-	0.254	8.98
AH-2	X		5/14/2007	1'-1.5'	-	-	-	-	-	-	-	15.8
AH-2	X		5/14/2007	2'-2.5'	-	-	-	-	-	-	-	7.82
AH-3		X	5/14/2007	0-1.0'	**2060**	**1.11**	**2061.11**	<0.01	<0.01	<0.01	0.126	418
AH-3	X		5/14/2007	1'-1.5'	680	<1.00	680	<0.01	<0.01	<0.01	0.055	429
AH-3	X		5/14/2007	2'-2.5'	-	-	-	-	-	-	-	1180
AH-3	X		5/14/2007	4'-4.5'	-	-	-	-	-	-	-	964
AH-3	X		5/14/2007	5'-5.5'	-	-	-	-	-	-	-	255
AH-3A	X		6/8/2007	0-1.0' BEB (1.0')	<50.0	<1.00	<50.0	-	-	-	-	-

(-) Not Analyzed
(BEB) Below Excavation Bottom

APPENDIX A

Water Well Data
Average Depth to Groundwater (ft)
Pogo Producing Company - Eva Blindebry Federal #19

22 South 36 East

6 **195**	5 **212**	4	3	2	1 **137**
7	8	9	10	11	12
18	17	16 **170**	15	14	13
19	20	21	22 **22**	23	24
30	29	28	27 **160**	26	25 **118**
31	32	33	34	35 **181** **187**	36

22 South 37 East

6	5 **85**	4	3	2	1
7	8	9 **90**	10	11	12
18 **190**	17	16	15 **125**	14 **65**	13
19	20	21 **65**	22	23	24 **60**
30	29	28	27 **53**	26 **65**	25
31	32	33	34	35	36

22 South 38 East

6	5	4
7	8	9
18	17	16
19	20	21
30	29	28
31	32	33

23 South 36 East

6	5	4 **160**	3	2	1
7	8	9	10	11	12
18	17	16 **220**	15 **149**	14	13
19	20	21	22 **400**	23 **143**	24
30	29	28	27	26	25
31 **189**	32	33	34	35	36 **127**

23 South 37 East

6 **102**	5	4	3 **70**	2 **64**	1
7	8	9 **100**	10 **66**	11 **68**	12
18	17	16 **115** **100**	15	14	13
19	20 **108**	21	22	23	24
30	29	28 **117**	27 **88**	26	25
31	32 **106** **97**	33 **87**	34 Site	35	36

23 South 38 East

6	5	4
7	8	9
18	17	16
19	20	21
30	29	28
31	32	33

24 South 36 East

6	5	4 **165**	3	2	1
7	8	9	10	11	12
18	17	16	15 **312**	14	13
19	20	21	22	23 **160**	24
30	29	28	27	26	25
31	32	33 **54** **53**	34	35	36

24 South 37 East

6	5 **111**	4	3	2	1
7 **119**	8 **90**	9	10 **120**	11 **64**	12 **18**
18 **124**	17	16 **67**	15	14	13
19	20	21 **69**	22	23 **94**	24 **100**
30	29	28 **70**	27 **41**	26	25 **89** **90**
31	32	33	34 **55**	35	36

24 South 38 East

6	5	4
7	8	9
18	17	16
19 **56**	20	21
30 **68** **30**	29	28
31 **97**	32	33

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 23S Range: 37E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

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

Clear Form | iWATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 08/27/2007

							(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
CP	23S	37E	09				1	100	100	100
CP	23S	37E	16				1	115	115	115
CP	23S	37E	32				1	106	106	106

Record Count: 3

Water Resources

National Water Information System: Web Interface

Data Category: Ground Water

Geographic Area: New Mexico GO

News: Available Now in NWISWeb

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 321617103102901

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

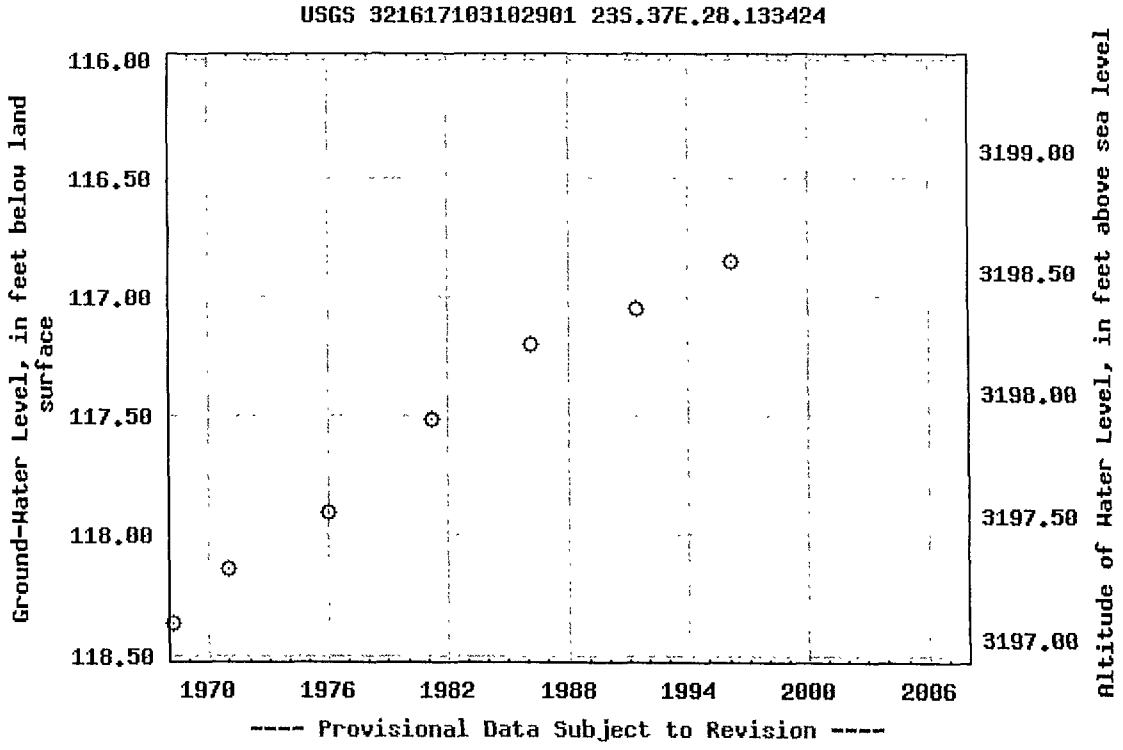
USGS 321617103102901 23S.37E.28.133424

Available data for this site Ground-water: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°16'17", Longitude 103°10'29" NAD27
Land-surface elevation 3,315.40 feet above sea level NGVD29
The depth of the well is 150 feet below land surface.
This well is completed in the ALLUVIUM,BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?

Top

News: Available Now in NWISWeb

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 321543103110802

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

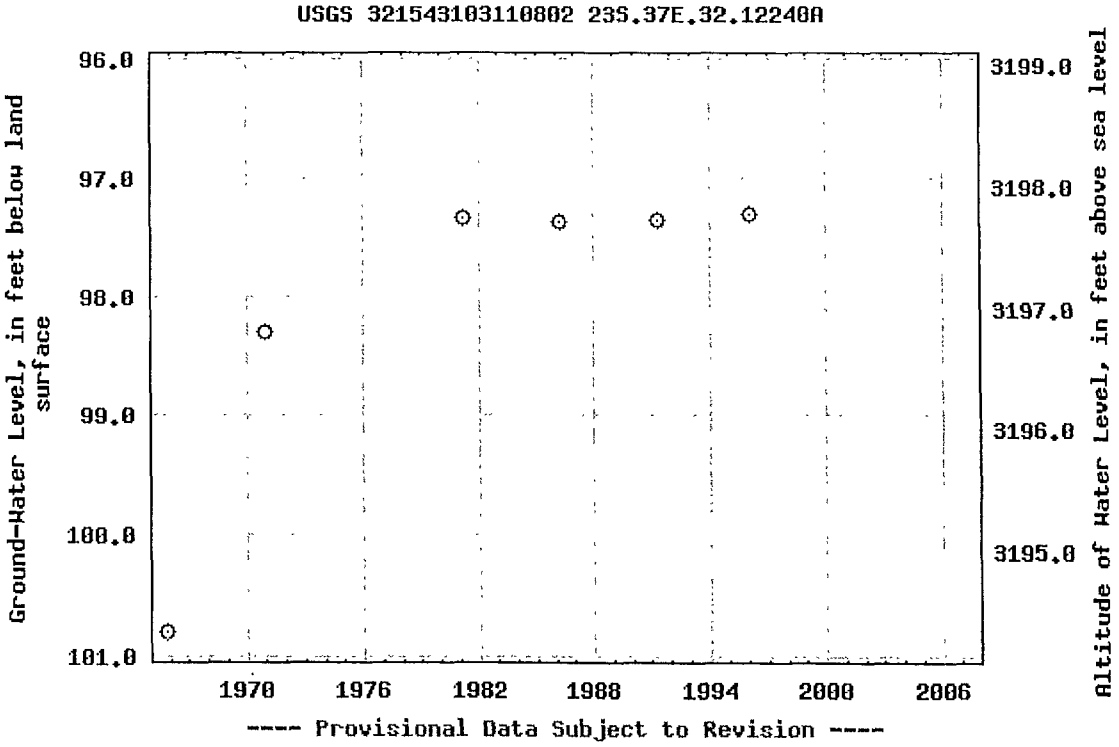
USGS 321543103110802 23S.37E.32.12240A

Available data for this site Ground-water: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°15'43", Longitude 103°11'08" NAD27
Land-surface elevation 3,295.10 feet above sea level NGVD29
The depth of the well is 220 feet below land surface.
This well is completed in the ALLUVIUM,BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

News: Available Now in NWISWeb

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 321513103101501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

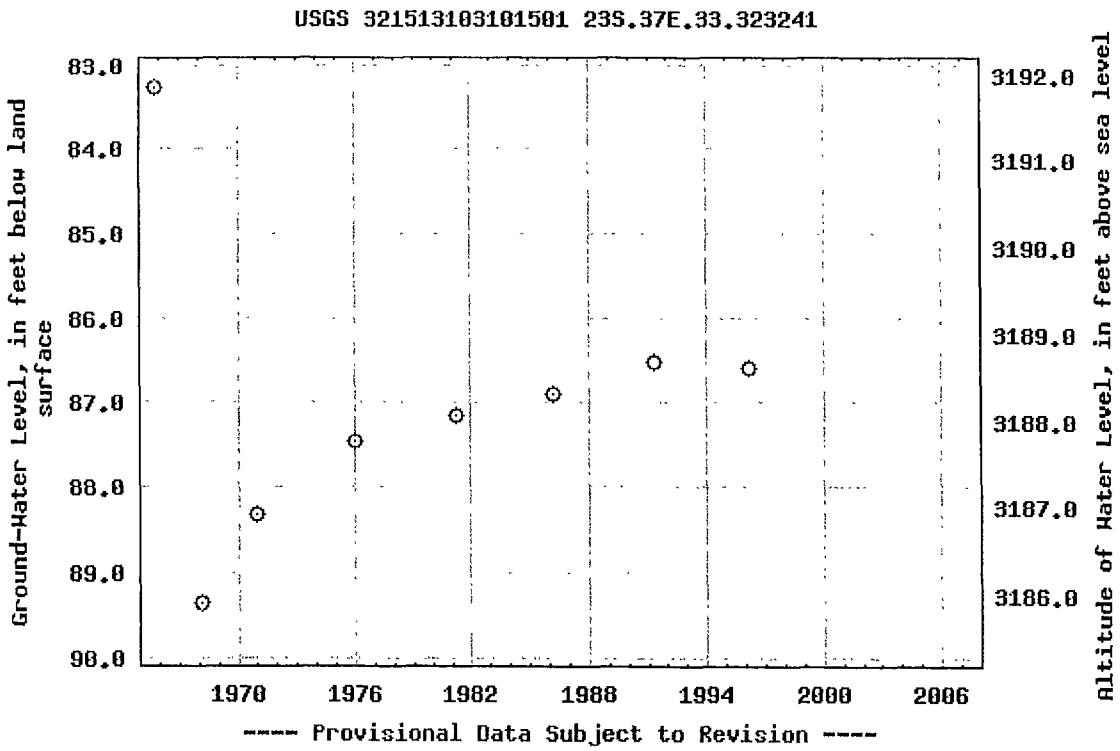
USGS 321513103101501 23S.37E.33.323241

Available data for this site Ground-water: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°15'13", Longitude 103°10'15" NAD27
Land-surface elevation 3,275.20 feet above sea level NGVD29
The depth of the well is 140 feet below land surface.
This well is completed in the ALLUVIUM,BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

APPENDIX B

Summary Report

Ike Tavarez
Highlander Environmental Services
1910 N Big Spring Street
Midland, TX, 79705

Report Date: May 24, 2007

Work Order: 7051626

Project Location: Lea County, NM
Project Name: Pogo-Eva Blinebry Fed #19 injection well
Project Number: 3012

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
124252	AH-1 0-1'	soil	2007-05-14	00:00	2007-05-16
124253	AH-1 1'-1.5'	soil	2007-05-14	00:00	2007-05-16
124254	AH-1 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124255	AH-1 3'-3.5'	soil	2007-05-14	00:00	2007-05-16
124256	AH-2 0-1'	soil	2007-05-14	00:00	2007-05-16
124257	AH-2 1'-1.5'	soil	2007-05-14	00:00	2007-05-16
124258	AH-2 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124259	AH-3 0-1'	soil	2007-05-14	00:00	2007-05-16
124260	AH-3 1'-1.5'	soil	2007-05-14	00:00	2007-05-16
124261	AH-3 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124262	AH-3 4'-4.5'	soil	2007-05-14	00:00	2007-05-16
124263	AH-3 5-5.5'	soil	2007-05-14	00:00	2007-05-16

	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
124252 - AH-1 0-1'	<0 0100	<0.0100	<0.0100	**0.743**		**376**	**3.16**
124253 - AH-1 1'-1.5'	<0.0100	<0.0100	<0.0100	**0.254**		<50.0	**1.25**
124256 - AH-2 0-1'	<0.0100	<0.0100	<0.0100	**0.165**		<50.0	<1.00
124259 - AH-3 0-1'	<0.0100	<0.0100	<0.0100	**0.126**		**2060**	**1.11**
124260 - AH-3 1'-1.5'	<0.0100	<0.0100	<0 0100	**0.0547**		**680**	<1.00

Sample: 124252 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**12.0**	mg/Kg	1.00

Sample: 124253 - AH-1 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		**20.2**	mg/Kg	1.00

Sample: 124254 - AH-1 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		**696**	mg/Kg	1.00

Sample: 124255 - AH-1 3'-3.5'

Param	Flag	Result	Units	RL
Chloride		**169**	mg/Kg	1.00

Sample: 124256 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**8.98**	mg/Kg	1.00

Sample: 124257 - AH-2 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		**15.8**	mg/Kg	1.00

Sample: 124258 - AH-2 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		**7.82**	mg/Kg	1 00

Sample: 124259 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**418**	mg/Kg	1.00

Sample: 124260 - AH-3 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		**429**	mg/Kg	1.00

Sample: 124261 - AH-3 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		**1180**	mg/Kg	1.00

Sample: 124262 - AH-3 4'-4.5'

Param	Flag	Result	Units	RL
Chloride		**964**	mg/Kg	1.00

Sample: 124263 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**255**	mg/Kg	1.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: May 24, 2007

Work Order: 7051626

Project Location: Lea County, NM
Project Name: Pogo-Eva Blinebry Fed #19 injection well
Project Number: 3012

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
124252	AH-1 0-1'	soil	2007-05-14	00:00	2007-05-16
124253	AH-1 1'-1.5	soil	2007-05-14	00:00	2007-05-16
124254	AH-1 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124255	AH-1 3'-3.5'	soil	2007-05-14	00:00	2007-05-16
124256	AH-2 0-1'	soil	2007-05-14	00:00	2007-05-16
124257	AH-2 1'-1.5'	soil	2007-05-14	00:00	2007-05-16
124258	AH-2 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124259	AH-3 0-1'	soil	2007-05-14	00:00	2007-05-16
124260	AH-3 1'-1.5'	soil	2007-05-14	00:00	2007-05-16
124261	AH-3 2'-2.5'	soil	2007-05-14	00:00	2007-05-16
124262	AH-3 4'-4.5'	soil	2007-05-14	00:00	2007-05-16
124263	AH-3 5-5.5	soil	2007-05-14	00:00	2007-05-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank

Case Narrative

Samples for project Pogo-Eva Blinebry Fed. #19 injection well were received by TraceAnalysis, Inc. on 2007-05-16 and assigned to work order 7051626 Samples for work order 7051626 were received intact at a temperature of 4 deg C.

Samples were analyzed for the following tests using their respective methods

Test	Method
BTEX	S 8021B
Chloride (IC)	E 300.0
TPH DRO	Mod 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 7051626 since the sample was chosen at random Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project

Analytical Report

Sample: 124252 - AH-1 0-1'

Analysis	BTEX	Analytical Method	S 8021B	Prep Method	S 5035
QC Batch:	37359	Date Analyzed·	2007-05-17	Analyzed By·	AG
Prep Batch:	32392	Sample Preparation·	2007-05-17	Prepared By·	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.743**	mg/Kg	1	0 0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.781	mg/Kg	1	1.00	78	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.766	mg/Kg	1	1.00	77	51.1 - 119.1

Sample: 124252 - AH-1 0-1'

Analysis:	Chloride (IC)	Analytical Method·	E 300.0	Prep Method·	N/A
QC Batch·	37429	Date Analyzed:	2007-05-22	Analyzed By·	ER
Prep Batch·	32456	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**12.0**	mg/Kg	5	1.00

Sample: 124252 - AH-1 0-1'

Analysis·	TPH DRO	Analytical Method·	Mod 8015B	Prep Method:	N/A
QC Batch·	37279	Date Analyzed·	2007-05-16	Analyzed By·	AG
Prep Batch	32303	Sample Preparation	2007-05-16	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**376**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		177	mg/Kg	1	150	118	61.7 - 143.2

Sample: 124252 - AH-1 0-1'

Analysis·	TPH GRO	Analytical Method·	S 8015B	Prep Method·	S 5035
QC Batch·	37360	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch·	32392	Sample Preparation:	2007-05-17	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3.16**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.794	mg/Kg	1	1.00	79	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	67.5 - 140.3

Sample: 124253 - AH-1 1'-1.5'

Analysis	BTEX	Analytical Method:	S 8021B	Prep Method	S 5035
QC Batch:	37359	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation:	2007-05-17	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.254**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.774	mg/Kg	1	1.00	77	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.736	mg/Kg	1	1.00	74	51.1 - 119.1

Sample: 124253 - AH-1 1'-1.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	37430	Date Analyzed	2007-05-22	Analyzed By	ER
Prep Batch:	32457	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**20.2**	mg/Kg	5	1.00

Sample: 124253 - AH-1 1'-1.5'

Analysis	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method	N/A
QC Batch:	37279	Date Analyzed:	2007-05-16	Analyzed By:	AG
Prep Batch:	32303	Sample Preparation:	2007-05-16	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		146	mg/Kg	1	150	97	61.7 - 143.2

Sample: 124253 - AH-1 1'-1.5'

Analysis	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	37360	Date Analyzed	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation:	2007-05-17	Prepared By.	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1.25**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.786	mg/Kg	1	1.00	79	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.02	mg/Kg	1	1.00	102	67.5 - 140.3

Sample: 124254 - AH-1 2'-2.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	37430	Date Analyzed.	2007-05-22	Analyzed By:	ER
Prep Batch.	32457	Sample Preparation.	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**696**	mg/Kg	50	1.00

Sample: 124255 - AH-1 3'-3.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	37429	Date Analyzed:	2007-05-22	Analyzed By:	ER
Prep Batch	32456	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**169**	mg/Kg	5	1.00

Sample: 124256 - AH-2 0-1'

Analysis.	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	37359	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation	2007-05-17	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.165**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.770	mg/Kg	1	1.00	77	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.775	mg/Kg	1	1.00	78	51.1 - 119 1

Sample: 124256 - AH-2 0-1'

Analysis.	Chloride (IC)	Analytical Method·	E 300.0	Prep Method:	N/A
QC Batch·	37430	Date Analyzed·	2007-05-22	Analyzed By.	ER
Prep Batch	32457	Sample Preparation·	2007-05-22	Prepared By	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8.98	mg/Kg	5	1 00

Sample: 124256 - AH-2 0-1'

Analysis	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method	N/A
QC Batch.	37279	Date Analyzed:	2007-05-16	Analyzed By	AG
Prep Batch:	32303	Sample Preparation	2007-05-16	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50 0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		135	mg/Kg	1	150	90	61.7 - 143.2

Sample: 124256 - AH-2 0-1'

Analysis·	TPH GRO	Analytical Method·	S 8015B	Prep Method·	S 5035
QC Batch:	37360	Date Analyzed·	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation·	2007-05-17	Prepared By	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.785	mg/Kg	1	1.00	78	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.04	mg/Kg	1	1.00	104	67.5 - 140.3

Sample: 124257 - AH-2 1'-1.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch·	37430	Date Analyzed:	2007-05-22	Analyzed By·	ER
Prep Batch:	32457	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		15.8		mg/Kg	1	1.00

Sample: 124258 - AH-2 2'-2.5'

Analysis:	Chloride (IC)	Analytical Method	E 300.0	Prep Method.	N/A
QC Batch	37430	Date Analyzed:	2007-05-22	Analyzed By	ER
Prep Batch:	32457	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		7.82		mg/Kg	5	1.00

Sample: 124259 - AH-3 0-1'

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	37359	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch	32392	Sample Preparation	2007-05-17	Prepared By.	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0100		mg/Kg	1	0.0100
Toluene		<0.0100		mg/Kg	1	0.0100
Ethylbenzene		<0.0100		mg/Kg	1	0.0100
Xylene		0.126		mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.771	mg/Kg	1	1.00	77	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.772	mg/Kg	1	1.00	77	51.1 - 119.1

Sample: 124259 - AH-3 0-1'

Analysis.	Chloride (IC)	Analytical Method:	E 300.0	Prep Method	N/A
QC Batch:	37430	Date Analyzed:	2007-05-22	Analyzed By:	ER
Prep Batch:	32457	Sample Preparation.	2007-05-22	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		418		mg/Kg	50	1.00

Sample: 124259 - AH-3 0-1'

Analysis:	TPH DRO	Analytical Method	Mod. 8015B	Prep Method:	N/A
QC Batch:	37279	Date Analyzed:	2007-05-16	Analyzed By:	AG
Prep Batch:	32303	Sample Preparation:	2007-05-16	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**2060**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[1]	594	mg/Kg	1	150	396	61.7 - 143.2

Sample: 124259 - AH-3 0-1'

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	37360	Date Analyzed	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation.	2007-05-17	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1.11**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.789	mg/Kg	1	1.00	79	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.02	mg/Kg	1	1.00	102	67.5 - 140.3

Sample: 124260 - AH-3 1'-1.5'

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	37359	Date Analyzed	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation:	2007-05-17	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0 0100	mg/Kg	1	0.0100
Xylene		**0.0547**	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.786	mg/Kg	1	1.00	79	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.769	mg/Kg	1	1.00	77	51.1 - 119.1

Sample: 124260 - AH-3 1'-1.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	37430	Date Analyzed:	2007-05-22	Analyzed By.	ER
Prep Batch.	32457	Sample Preparation.	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**429**	mg/Kg	50	1.00

[1]High surrogate recovery due to peak interference.

Sample: 124260 - AH-3 1'-1.5'

Analysis:	TPH DRO	Analytical Method:	Mod 8015B	Prep Method.	N/A
QC Batch:	37279	Date Analyzed:	2007-05-16	Analyzed By:	AG
Prep Batch:	32303	Sample Preparation:	2007-05-16	Prepared By.	MS

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**680**		mg/Kg	1	50 0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[2]	833	mg/Kg	1	150	555	61.7 - 143.2

Sample: 124260 - AH-3 1'-1.5'

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method	S 5035
QC Batch:	37360	Date Analyzed	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	Sample Preparation	2007-05-17	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		<1.00		mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.792	mg/Kg	1	1.00	79	52 4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.02	mg/Kg	1	1.00	102	67.5 - 140.3

Sample: 124261 - AH-3 2'-2.5'

Analysis:	Chloride (IC)	Analytical Method	E 300.0	Prep Method:	N/A
QC Batch:	37430	Date Analyzed:	2007-05-22	Analyzed By.	ER
Prep Batch:	32457	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**1180**		mg/Kg	100	1.00

Sample: 124262 - AH-3 4'-4.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	37432	Date Analyzed:	2007-05-23	Analyzed By.	ER
Prep Batch:	32458	Sample Preparation	2007-05-22	Prepared By:	ER

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**964**		mg/Kg	100	1.00

[2]High surrogate recovery due to peak interference

Sample: 124263 - AH-3 5-5.5'

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method	N/A
QC Batch:	37432	Date Analyzed:	2007-05-23	Analyzed By:	ER
Prep Batch:	32458	Sample Preparation:	2007-05-22	Prepared By:	ER

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**255**	mg/Kg	50	1.00

Method Blank (1) QC Batch: 37279

QC Batch:	37279	Date Analyzed:	2007-05-16	Analyzed By:	AG
Prep Batch:	32303	QC Preparation	2007-05-16	Prepared By:	MS

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		126	mg/Kg	1	150	84	61.7 - 143.2

Method Blank (1) QC Batch: 37359

QC Batch:	37359	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	QC Preparation:	2007-05-17	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00110	mg/Kg	0.01
Toluene		<0.00150	mg/Kg	0.01
Ethylbenzene		<0.00160	mg/Kg	0.01
Xylene		<0.00410	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.764	mg/Kg	1	1.00	76	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)		0.690	mg/Kg	1	1.00	69	53.9 - 125.1

Method Blank (1) QC Batch: 37360

QC Batch:	37360	Date Analyzed:	2007-05-17	Analyzed By:	AG
Prep Batch:	32392	QC Preparation:	2007-05-17	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
GRO		<0.739	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.884	mg/Kg	1	1.00	88	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.910	mg/Kg	1	1.00	91	67.5 - 140.3

Method Blank (1) QC Batch: 37429

QC Batch: 37429 Date Analyzed 2007-05-22 Analyzed By ER
Prep Batch. 32456 QC Preparation: 2007-05-22 Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.140	mg/Kg	1

Method Blank (1) QC Batch: 37430

QC Batch: 37430 Date Analyzed: 2007-05-22 Analyzed By ER
Prep Batch: 32457 QC Preparation 2007-05-22 Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.140	mg/Kg	1

Method Blank (1) QC Batch 37432

QC Batch: 37432 Date Analyzed: 2007-05-23 Analyzed By: ER
Prep Batch: 32458 QC Preparation: 2007-05-22 Prepared By: ER

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.140	mg/Kg	1

Laboratory Control Spike (LCS-1)

QC Batch: 37279 Date Analyzed: 2007-05-16 Analyzed By: AG
Prep Batch: 32303 QC Preparation: 2007-05-16 Prepared By: MS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	186	mg/Kg	1	250	<13.4	74	62.5 - 135.4

Percent recovery is based on the spike result RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
DRO	202	mg/Kg	1	250	<13.4	81	62.5 - 135.4	8	20

Percent recovery is based on the spike result RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil	Spike Amount	LCS Rec	LCSD Rec	Rec Limit
n-Triacontane	132	143	mg/Kg	1	150	88	95	66.6 - 140.9

Laboratory Control Spike (LCS-1)

QC Batch: 37359 | Date Analyzed: 2007-05-17 | Analyzed By: AG
Prep Batch: 32392 | QC Preparation: 2007-05-17 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit
Benzene	0.900	mg/Kg	1	1.00	<0.00110	90	68.6 - 123.4
Toluene	0.924	mg/Kg	1	1.00	<0.00150	92	74.6 - 119.3
Ethylbenzene	0.919	mg/Kg	1	1.00	<0.00160	92	72.3 - 126.2
Xylene	2.80	mg/Kg	1	3.00	<0.00410	93	76.5 - 121.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.891	mg/Kg	1	1.00	<0.00110	89	68.6 - 123.4	1	20
Toluene	0.922	mg/Kg	1	1.00	<0.00150	92	74.6 - 119.3	0	20
Ethylbenzene	0.912	mg/Kg	1	1.00	<0.00160	91	72.3 - 126.2	1	20
Xylene	2.78	mg/Kg	1	3.00	<0.00410	93	76.5 - 121.6	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.729	0.711	mg/Kg	1	1.00	73	71	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.750	0.740	mg/Kg	1	1.00	75	74	68.7 - 125.8

Laboratory Control Spike (LCS-1)

QC Batch: 37360 | Date Analyzed: 2007-05-17 | Analyzed By: AG
Prep Batch: 32392 | QC Preparation: 2007-05-17 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.87	mg/Kg	1	10.0	<0.739	79	57.7 - 102.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.26	mg/Kg	1	10.0	<0.739	73	57.7 - 102.5	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.13	0.798	mg/Kg	1	1.00	113	80	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.992	0.996	mg/Kg	1	1.00	99	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch 37429 | Date Analyzed: 2007-05-22 | Analyzed By ER
Prep Batch: 32456 | QC Preparation 2007-05-22 | Prepared By ER

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit
Chloride	12.2	mg/Kg	1	12.5	<0.140	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Chloride	12.9	mg/Kg	1	12.5	<0.140	103	90 - 110	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch 37430 | Date Analyzed: 2007-05-22 | Analyzed By: ER
Prep Batch: 32457 | QC Preparation: 2007-05-22 | Prepared By ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit
Chloride	12.2	mg/Kg	1	12.5	<0.140	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Chloride	12.8	mg/Kg	1	12.5	<0.140	102	90 - 110	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch 37432 | Date Analyzed: 2007-05-23 | Analyzed By. ER
Prep Batch: 32458 | QC Preparation: 2007-05-22 | Prepared By: ER

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit
Chloride	12.3	mg/Kg	1	12.5	<0.140	98	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12.0	mg/Kg	1	12.5	<0.140	96	90 - 110	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 124253

QC Batch: 37279 | Date Analyzed: 2007-05-16 | Analyzed By. AG
Prep Batch: 32303 | QC Preparation: 2007-05-16 | Prepared By: MS

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit
DRO	361	mg/Kg	1	250	<13.4	144	29.7 - 168.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
DRO	400	mg/Kg	1	250	<13.4	160	29.7 - 168.6	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec	Rec. Limit
n-Triacontane	132	144	mg/Kg	1	150	88	96	43.4 - 193.9

Matrix Spike (MS-1) Spiked Sample: 124256

QC Batch: 37359 | Date Analyzed: 2007-05-17 | Analyzed By: AG
Prep Batch: 32392 | QC Preparation: 2007-05-17 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Benzene	0.903	mg/Kg	1	1.00	<0.00110	90	64.4 - 115.7
Toluene	0.950	mg/Kg	1	1.00	<0.00150	95	57.8 - 124.4
Ethylbenzene	0.974	mg/Kg	1	1.00	<0.00160	97	64.8 - 125.8
Xylene	3.07	mg/Kg	1	3.00	0.165	97	65.2 - 121.8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Benzene	0.905	mg/Kg	1	1.00	<0.00110	90	64.4 - 115.7	0	20
Toluene	0.954	mg/Kg	1	1.00	<0.00150	95	57.8 - 124.4	0	20
Ethylbenzene	0.978	mg/Kg	1	1.00	<0.00160	98	64.8 - 125.8	0	20
Xylene	3.05	mg/Kg	1	3.00	0.165	96	65.2 - 121.8	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec.	MSD Rec	Rec Limit
Trifluorotoluene (TFT)	0.770	0.700	mg/Kg	1	1	77	70	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.775	0.778	mg/Kg	1	1	78	78	66.7 - 131.9

Matrix Spike (MS-1) Spiked Sample: 124312

QC Batch: 37360 | Date Analyzed: 2007-05-17 | Analyzed By: AG
Prep Batch: 32392 | QC Preparation: 2007-05-17 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.54	mg/Kg	1	10.0	1.94	56	10 - 141.5

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
GRO	6.80	mg/Kg	1	10.0	1.94	49	10 - 141.5	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec	MSD Rec.	Rec Limit
Trifluorotoluene (TFT)	0.659	0.692	mg/Kg	1	1	66	69	40 - 125.3
4-Bromofluorobenzene (4-BFB)	1.05	1.12	mg/Kg	1	1	105	112	86.7 - 144.5

Matrix Spike (MS-1) Spiked Sample: 124255

QC Batch: 37429 | Date Analyzed: 2007-05-22 | Analyzed By: ER
Prep Batch: 32456 | QC Preparation: 2007-05-22 | Prepared By: ER

Param		MS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	[3]	388	mg/Kg	5	62.5	169.283	350	75.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param		MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	[4]	275	mg/Kg	5	62.5	169.283	169	75.6 - 117	34	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 124326

QC Batch: 37430 | Date Analyzed: 2007-05-22 | Analyzed By: ER
Prep Batch: 32457 | QC Preparation: 2007-05-22 | Prepared By: ER

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Chloride	[5]	234	mg/Kg	5	62.5	100.375	214	75.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Chloride	[6]	195	mg/Kg	5	62.5	100.375	151	75.6 - 117	18	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 124333

QC Batch: 37432 | Date Analyzed: 2007-05-23 | Analyzed By: ER
Prep Batch: 32458 | QC Preparation: 2007-05-22 | Prepared By: ER

[3]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[4]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[5]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[6]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Param		MS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit
Chloride	[7]	549	mg/Kg	50	625	224.831	52	75.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit	RPD	RPD Limit
Chloride	[8]	540	mg/Kg	50	625	224.831	50	75.6 - 117	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (CCV-2)

QC Batch: 37279 Date Analyzed: 2007-05-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	253	101	85 - 115	2007-05-16

Standard (CCV-3)

QC Batch: 37279 Date Analyzed: 2007-05-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	286	114	85 - 115	2007-05-16

Standard (ICV-1)

QC Batch: 37359 Date Analyzed: 2007-05-17 Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0891	89	85 - 115	2007-05-17
Toluene		mg/Kg	0.100	0.0920	92	85 - 115	2007-05-17
Ethylbenzene		mg/Kg	0.100	0.0933	93	85 - 115	2007-05-17
Xylene		mg/Kg	0.300	0.284	95	85 - 115	2007-05-17

Standard (CCV-1)

QC Batch: 37359 Date Analyzed: 2007-05-17 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0898	90	85 - 115	2007-05-17
Toluene		mg/Kg	0.100	0.0924	92	85 - 115	2007-05-17

continued ...

[7]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[8]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

standard continued .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/Kg	0.100	0.0900	90	85 - 115	2007-05-17
Xylene		mg/Kg	0.300	0.273	91	85 - 115	2007-05-17

Standard (ICV-1)

QC Batch 37360 Date Analyzed: 2007-05-17 Analyzed By: AG

Param	Flag	Units	ICVs True Conc	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.04	104	85 - 115	2007-05-17

Standard (CCV-1)

QC Batch: 37360 Date Analyzed 2007-05-17 Analyzed By: AG

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	85 - 115	2007-05-17

Standard (ICV-1)

QC Batch 37429 Date Analyzed: 2007-05-22 Analyzed By: ER

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.8	94	90 - 110	2007-05-22

Standard (CCV-1)

QC Batch 37429 Date Analyzed 2007-05-22 Analyzed By: ER

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.9	95	90 - 110	2007-05-22

Standard (ICV-1)

QC Batch: 37430 Date Analyzed: 2007-05-22 Analyzed By ER

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.9	95	90 - 110	2007-05-22

Standard (CCV-1)

QC Batch: 37430 | Date Analyzed: 2007-05-22 | Analyzed By: ER

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.8	94	90 - 110	2007-05-22

Standard (ICV-1)

QC Batch: 37432 | Date Analyzed: 2007-05-23 | Analyzed By: ER

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.8	94	90 - 110	2007-05-23

Standard (CCV-1)

QC Batch: 37432 | Date Analyzed: 2007-05-23 | Analyzed By: ER

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	11.8	94	90 - 110	2007-05-23

work order: 7051626

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

PAGE: 1 OF: 2

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo - Eva Blinebry Fed. #19 Injection well Lea Co. NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	8015 MOD. TX1005 (GRO) 418.1 (DRO)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
124252	5-14-07		S		X	AH-1 0-1'	1				X		X		X											X			
253			S		X	AH-1 1-1.5'	1				X		X		X											X			
254			S		X	AH-1 2-2.5'	1				X															X			
255			S		X	AH-1 3-3.5'	1				X															X			
256			S		X	AH-2 0-1'	1				X		X		X											X			
257			S		X	AH-2 1-1.5'	1				X															X			
258			S		X	AH-2 2-2.5'	1				X															X			
259			S		X	AH-3 0-1'	1				X		X		X											X			
260			S		X	AH-3 1-1.5'	1				X		X		X											X			
261			S		X	AH-3 2-2.5'	1				X															X			

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 05-16-07 Time: 8:30

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) JEREMY T KOH Date: 5-14-07 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: TRACE

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 5.16.07 TIME: 9:30

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C intact

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

REMARKS: TPH, BTEX - Midland Chloride - Lubbock

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.

WO# 7051626

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo - Eva Olinebry Fed. #19 Inj. well Lea Co. NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B/602	MTBE 8021B/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 8082/608	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
124262	5-14-07		S		X	AH-3 4'-4.5'	1				X															X			
263	5-14-07		S		X	AH-3 5'-5.5'	1				X															X			

RELINQUISHED BY: (Signature) Date: 05-16-07 Time: 8:30

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) JEREMY & KOLT Date: 5-14-07 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: TRACE

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 5.16.07 TIME: 8:30

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C intact

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

REMARKS: TpH, BTEX - midland
Chloride - Lubbock

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

124252-65

work order: 7051626

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 2

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo - Eva Blinebry Fed. #19 Inj. well Lea Co. 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 8015 MOD / TX1005 / 418.1	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	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)
124252	5-14-07		S		X	AH-1 0-1'	1				X		X		X											X			
253			S		X	AH-1 1'-1.5'	1				X		X		X											X			
254			S		X	AH-1 2'-2.5'	1				X															X			
255			S		X	AH-1 3'-3.5'	1				X															X			
256			S		X	AH-2 0-1'	1				X		X		X											X			
257			S		X	AH-2 1'-1.5'	1				X															X			
258			S		X	AH-2 2'-2.5'	1				X															X			
259			S		X	AH-3 0-1'	1				X		X		X											X			
260			S		X	AH-3 1'-1.5'	1				X		X		X											X			
261			S		X	AH-3 2'-2.5'	1				X															X			

RELINQUISHED BY: (Signature) Date: 05-16-07 Time: 8:30

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) JEREMY T KAH Date: 5-14-07 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: 5-17-07 Time: 8:30

RECEIVING LABORATORY: TRACE

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 5.16.07 TIME: 9:30

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C intact

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

REMARKS: TPH, ~~BTEX~~ Midland Chloride - Lubbock

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.

4°C intact

CS P24924000

WO# 7051626

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo - Eva Olinebry Fed. #19 Inj. well Lea Co. Nm

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 / 8015 MOD. TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/606	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
124262	5-14-07		S		X	AH-3 4'-4.5'	1				X															X			
263	5-14-07		S		X	AH-3 5'-5.5'	1				X															X			

RELINQUISHED BY: (Signature) Date: 05-16-07 Time: 8:30 — 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: TRACE — RECEIVED BY: (Signature)

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE: — DATE: 5.16.07 TIME: 8:50

SAMPLED BY: (Print & Sign) JEREMY 4 KOLT Date: 5-14-07 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: 4°C intact

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

REMARKS: TpH, BTEx - midland
Chloride - Lubbock

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

4°C intact

CD2192100

Summary Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: June 19, 2007

Work Order: 7061331

Project Location: Lea County, NM
Project Name: Pogo-Eva Blinebry Fed #19 injection well
Project Number: 3012

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127255	AH-3A (0-0.1) BEB (1.0')	soil	2007-06-08	00:00	2007-06-13

Sample - Field Code	TPH DRO DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
127255 - AH-3A (0-0.1) BEB (1.0')	<50.0	<1.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Ike Tavarez
Highlander Environmental Services
1910 N. Big Spring Street
Midland, TX, 79705

Report Date June 19, 2007

Work Order 7061331

Project Location: Lea County, NM
Project Name Pogo-Eva Blinebry Fed. #19 injection well
Project Number: 3012

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127255	AH-3A (0-0.1) BEB (1.0')	soil	2007-06-08	00:00	2007-06-13

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 6 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank

Case Narrative

Samples for project Pogo-Eva Blinebry Fed #19 injection well were received by TraceAnalysis, Inc on 2007-06-13 and assigned to work order 7061331 Samples for work order 7061331 were received intact at a temperature of 4 deg C.

Samples were analyzed for the following tests using their respective methods

Test	Method
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 7061331 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB) These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension Please contact the laboratory directly if there are any questions regarding this project

Analytical Report

Sample: 127255 - AH-3A (0-0.1) BEB (1.0')

Analysis	TPH DRO	Analytical Method.	Mod. 8015B	Prep Method	N/A
QC Batch·	38181	Date Analyzed·	2007-06-14	Analyzed By:	AG
Prep Batch·	33054	Sample Preparation·	2007-06-14	Prepared By·	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50 0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		162	mg/Kg	1	150	108	61.7 - 143.2

Sample: 127255 - AH-3A (0-0.1) BEB (1.0')

Analysis:	TPH GRO	Analytical Method·	S 8015B	Prep Method	S 5035
QC Batch·	38280	Date Analyzed·	2007-06-18	Analyzed By·	KB
Prep Batch:	33143	Sample Preparation.	2007-06-18	Prepared By:	KB

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1 00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.960	mg/Kg	1	1.00	96	33.2 - 160
4-Bromofluorobenzene (4-BFB)		0.980	mg/Kg	1	1.00	98	10 - 227

Method Blank (1) QC Batch: 38181

QC Batch	38181	Date Analyzed:	2007-06-14	Analyzed By·	AG
Prep Batch	33054	QC Preparation:	2007-06-14	Prepared By·	

Parameter	Flag	MDL Result	Units	RL
DRO		<13.4	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		136	mg/Kg	1	150	91	61.7 - 143.2

Method Blank (1) QC Batch: 38280

QC Batch:	38280	Date Analyzed·	2007-06-18	Analyzed By.	KB
Prep Batch	33143	QC Preparation:	2007-06-18	·Prepared By·	KB

Parameter	Flag	MDL Result	Units	RL
GRO		<0.459	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.12	mg/Kg	1	1.00	112	73.2 - 125
4-Bromofluorobenzene (4-BFB)		0.860	mg/Kg	1	1.00	86	51.9 - 110

Laboratory Control Spike (LCS-1)

QC Batch: 38181 | Date Analyzed: 2007-06-14 | Analyzed By: AG
Prep Batch: 33054 | QC Preparation: 2007-06-14 | Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
DRO	213	mg/Kg	1	250	<13.4	85	62.5 - 135.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
DRO	212	mg/Kg	1	250	<13.4	85	62.5 - 135.4	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	LCS Result	LCSD Result	Units	Dil	Spike Amount	LCS Rec	LCSD Rec.	Rec. Limit
n-Triacontane	129	124	mg/Kg	1	150	86	83	66.6 - 140.9

Laboratory Control Spike (LCS-1)

QC Batch: 38280 | Date Analyzed: 2007-06-18 | Analyzed By: KB
Prep Batch: 33143 | QC Preparation: 2007-06-18 | Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
GRO	9.09	mg/Kg	1	10.0	<0.459	91	79.6 - 113

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit	RPD	RPD Limit
GRO	9.87	mg/Kg	1	10.0	<0.459	99	79.6 - 113	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.938	1.02	mg/Kg	1	1.00	94	102	77.1 - 117
4-Bromofluorobenzene (4-BFB)	0.944	0.948	mg/Kg	1	1.00	94	95	78.1 - 118

Matrix Spike (MS-1) Spiked Sample 127255

QC Batch 38181 | Date Analyzed: 2007-06-14 | Analyzed By AG
Prep Batch: 33054 | QC Preparation 2007-06-14 | Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit
DRO	291	mg/Kg	1	250	<13 4	116	29.7 - 168.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	308	mg/Kg	1	250	<13 4	123	29.7 - 168 6	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec	MSD Rec.	Rec Limit
n-Triacontane	142	141	mg/Kg	1	150	95	94	43 4 - 193.9

Matrix Spike (MS-1) Spiked Sample: 127255

QC Batch: 38280 | Date Analyzed: 2007-06-18 | Analyzed By KB
Prep Batch: 33143 | QC Preparation: 2007-06-18 | Prepared By: KB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
GRO	8.20	mg/Kg	1	10.0	<0 459	82	40.7 - 157

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec Limit	RPD	RPD Limit
GRO	8.58	mg/Kg	1	10.0	<0.459	86	40.7 - 157	4	19.6

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec	MSD Rec	Rec. Limit
Trifluorotoluene (TFT)	0.867	0.900	mg/Kg	1	1	87	90	34.9 - 155
4-Bromofluorobenzene (4-BFB)	1.00	1 03	mg/Kg	1	1	100	103	58.5 - 153

Standard (ICV-1)

QC Batch: 38181 | Date Analyzed: 2007-06-14 | Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	221	88	85 - 115	2007-06-14

Standard (CCV-1)

QC Batch: 38181 | Date Analyzed: 2007-06-14 | Analyzed By. AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	274	110	85 - 115	2007-06-14

Standard (ICV-1)

QC Batch: 38280 Date Analyzed: 2007-06-18 Analyzed By: KB

Param	Flag	Units	ICVs True Conc	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.943	94	85 - 115	2007-06-18

Standard (CCV-1)

QC Batch: 38280 Date Analyzed: 2007-06-18 Analyzed By KB

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	85 - 115	2007-06-18

workorder: 7061331

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 Fax (432) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo/Eva Blinebry Fed. # 19 Inj. Well Lea Co., NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 / 8015 MOD.	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)
127255	6/8/07		S		X	AH-3A (0-1.0') BEB (1.0')	1				X				✓														

RELINQUISHED BY: (Signature) Jeffrey Kindley — Date: June 13, 2007 Time: 1350

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

SAMPLED BY: (Print & Sign) Kolt Harrison / Matt Dow — Date: 6/11/07 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: Trace

ADDRESS:

CITY: Midland STATE: Texas ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) Carl Young

DATE: 4/13/07 TIME: 13:50

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2.5°C

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

REMARKS: all test - Midland / Carry on

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.

work order: 106131

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

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

PAGE: 1 OF: 1

CLIENT NAME: Pogo

SITE MANAGER: Ike Tavarez

PROJECT NO.: 3012

PROJECT NAME: Pogo/Eva Blinebry Fed. # 19 Inj. Well Lea Co., NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 / 8015 MOD. TX1005 Ext(C35)	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)
127255	6/8/07		S		X	AH-3A (0-1.0') BEB (1.0')	1				X				V														

RELINQUISHED BY: (Signature) Jerry Kindley — Date: June 13, 2007 Time: 1360 — 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) Kolt Harrison / Matt Dean — Date: 6/11/07 Time:

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

RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland STATE: Texas ZIP:

CONTACT: PHONE:

DATE: 6/13/07 TIME: 13:50

HIGHLANDER CONTACT PERSON: 6-19-07 FEN Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2.5°C

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

REMARKS: all test - Midland / Carry on

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.

APPENDIX C

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☑ Initial Report ☐ Final Report

Name of Company Latigo Petroleum, Inc.	Contact Patrick Ellis
Address P.O. Box 10340 Midland, Texas 79702	Telephone No. 432 685-8148
Facility Name Eva E Blinebry Federal # 19	Facility Type injection line

Surface Owner	Mineral Owner	Lease No. NMLC0 64118

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	34	23S	37E	1420	North	20	East	LEA

51'

Latitude_____ Longitude_____ API # 3002531676 0000

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 50 BBLS	Volume Recovered 40 BBLS
Source of Release injection line	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☐ Yes ☑ No ☐ Not Required	If YES, To Whom? 5-5-07 Faxed report 5-8-07	5-6-07
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☑ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

NA

Describe Cause of Problem and Remedial Action Taken.*

Injection line was found to be leaking. Well was shut-in all free fluid was picked up by vacuum truck.

Describe Area Affected and Cleanup Action Taken.*

Leak gathered in small area near road. Highlander Environmental will inspect site, take soil samples and submit report for remediation plan.

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

Signature: Patrick L. Ellis	OIL CONSERVATION DIVISION
Printed Name: PATRICK L. Ellis	Approved by District ~~Supervisor~~ ENVIRO ENGR:
Title: EH&S Supervisor	Approval Date: 5.11.07 Expiration Date: 7-11-07
E-mail Address: ellisp@pogoproducing.com	Conditions of Approval: SUBMIT PLAN & SAMPLE DOCUMENTATION BY 7.11.07 ☐ Attached
Date: 5-8-07 Phone: (432) 685-8148	

* Attach Additional Sheets If Necessary

Incident - nPAC0713146662
Application - pPAC0713146788

RP# 1315

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised June 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Pogo Producing Company	Contact: Pat Ellis
Address: P.O. Box 10340 Midland, Texas 79702	Telephone No. (432) 685-8100
Facility Name: Eva Blinebry Federal #19	Facility Type: Injection Line

Surface Owner	Mineral Owner	Lease No. NMLC064118

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	34	23S	37E	1420'	North Line	20'	East	Lea

Latitude _____ **Longitude** _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 50 BBLs	Volume Recovered 40 bbls
Source of Release Injection Line Leak	Date and Hour of Occurrence 5/5/07	Date and Hour of Discovery 5/6/07
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? Faxed Report 5/8/07 10:35 am	
By Whom? Patrick Ellis	Date and Hour Cell phone message Tricia Badbear 5/7/07	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
None

Describe Cause of Problem and Remedial Action Taken.*
Injection line was found to be leaking. Well was shut in and all free fluid was picked up by vacuum truck.

Describe Area Affected and Cleanup Action Taken.*
Leak gathered in small area near road. Highlander sampled on 5/14/07. 10' x 20' area excavated on 6/8/07 to a depth of 1.0' and impacted soils transported offsite for disposal. Closure report prepared and submitted to NMOCD.

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

Signature: Patrick L. Ellis	OIL CONSERVATION DIVISION	
Printed Name: Patrick L. Ellis	Approved by District Supervisor: ENVIRONMENTAL ENGINEER	
Title: Environmental Health and Safety Supervisor	Approval Date: 11.9.07	Expiration Date:
E-mail Address: ellisp@pogoproducing.com	Conditions of Approval:	Attached ☐ RP 1315
Date: Phone: (432) 685-8148		

* Attach Additional Sheets If Necessary