

Midland, Texas

June 21, 2006

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



RE: Assessment and Closure Report for a Spill at the Pogo Producing Company, Cotton Draw Unit Tank Battery #2, Located in Unit Letter K, Section 15, Township 25 South, Range 32 East, Lea County, New Mexico.

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Pogo Producing Company (Pogo) to assess a spill on the Cotton Draw Unit Tank Battery #2, located in Unit Letter K, Section 15, Township 25 South, Range 32 East, Lea County, New Mexico (Site). The site coordinates are N 32° 07' 06.1", W 103° 41' 03.2". The State of New Mexico C-141 (Initial) is included in Appendix C. The Site is shown on Figure 1.

#### **Background**

According to the State of New Mexico C-141 report, the spill occurred on February 18, 2006, when a valve plugged up and ran a tank over. The spill released 35 barrels of produced water and 5 barrels of oil, with 18 barrels of water and ½ barrel of oil recovered. The spill ran off the pad in two directions, north and west. The spill location is shown on Figure 2. The spill area to the north extended off the pad approximately 60' north and turned west for an additional 170'. The spill area to the west extended off the pad 65' and split into two spill areas approximately 185' long. The spill then joined back up for an additional 140' west and turned south for an additional 720' onto a pipeline right-of-way operated by Duke. Both the north and the west spills were approximately 2'-3' wide.

#### Groundwater and Regulatory

Neither the New Mexico State Engineer Office's database nor USGS database show wells in Section 15, however, one well in Section 32 had reported a depth of 290' below ground surface. In the surrounding Townships and Ranges, most of the wells showed depths to groundwater greater than 200' below surface. The New Mexico State Engineer and USGS well reports are shown in Appendix B. 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 Corrective Action**

On February 21, 2006, Highlander personnel inspected the facility. A total of fifteen (15) auger holes were installed in the spill areas to depths ranging from 1.5' to 5.5' below ground surface (bgs). The sample locations are shown on Figure 2. Twelve (12) auger holes (AH-1 through AH-11, and AH-15) were placed in the west spill area, and three (3) auger holes (AH-12 through AH-14) were placed in the north spill area. Additional confirmation and delineation samples for chlorides were taken on March 3 and March 9, 2006 with a hand auger at AH-4 and AH-5, and backhoe trenches at AH-1 (T-1) and AH-12 (T-2). Soil samples were collected for analysis of TPH by EPA method 8015 modified, BTEX by EPA method 8021B and chloride by EPA method 300.0. The laboratory report and chain of custody are included in Appendix B. The results of the sampling are shown in Table 1.

Referring to Table 1, there were no BTEX concentrations exceeding the RRAL. Soil samples from 0-1' did exceed the RRAL for TPH in AH-2, AH-4, AH-5, AH-6, AH-8, AH-9 and AH-15. The deepest hydrocarbon impact was in AH-2, AH-4, AH-5 and AH-15, however, TPH concentrations declined below the RRAL at 2.0' to 3.0' below surface in these areas. The remaining auger holes AH-6, AH-8 and AH-9 were defined at 1.0' below surface.

The chloride impact at the Site was vertically defined in all of the auger holes. The majority of the auger holes showed a shallow impact at a depth of 1.0 to 2.0' below surface, with the deepest chloride impact observed in AH-2, AH-12 and AH-15 ranging from 3.0' to 5.0'. Auger holes AH-5, AH-6, AH-8, AH-10, and AH-14 did not exhibit elevated chloride concentrations in the 0-1' samples.

From February 28 and March 6, 2006, Highlander supervised the excavation of the spill areas by hand or backhoe. All soils which exceeded the RRAL for TPH were excavated, with depths ranging from 1.5' to 3.0'. This excavation also removed a significant amount of the highest chloride impacted soils. The area of AH-2 was excavated to a depth of 3.0' below surface. The areas of AH-1, AH-12 and AH-13 were also excavated to a depth of 2.0' to 2.5' below surface to remove elevated chloride concentrations. The spill and excavated areas are shown on Figure 2. The excavated soils were transported to Sundance Services, Inc. for disposal.

#### **Conclusions and Closure Request**

Chloride impact to subsurface soils was defined, and is limited to a depth of 5.0' or less below ground surface. All TPH impacted soils above the RRAL have been excavated and hauled to disposal. This excavation also removed a significant amount of the highest chloride impacted soils. A search of available groundwater in the vicinity of this site revealed depths to groundwater in excess of 200' below the surface. As such, the residual chloride impact does not appear to be an imminent threat to groundwater. Considering the limited areal extent and depth of impact, the depth to groundwater and the remediation performed at this facility, Pogo requests



closure of this site. The State of New Mexico Form C-141 (Final) is included in Appendix C.

If you require any additional information or have any questions or comments concerning the assessment report, please call at (432) 682-4559.

Respectfully submitted,

Highlander Environmental Corp.

Ike Tavarez, P.G.

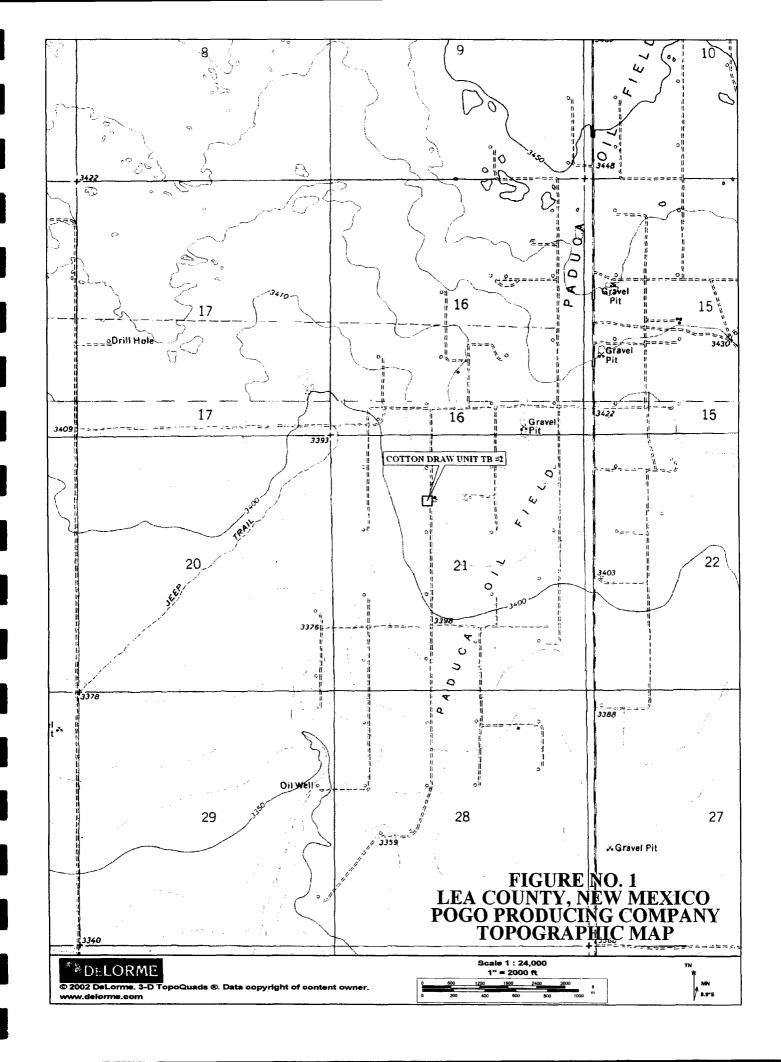
Project Manager/Senior Geologist

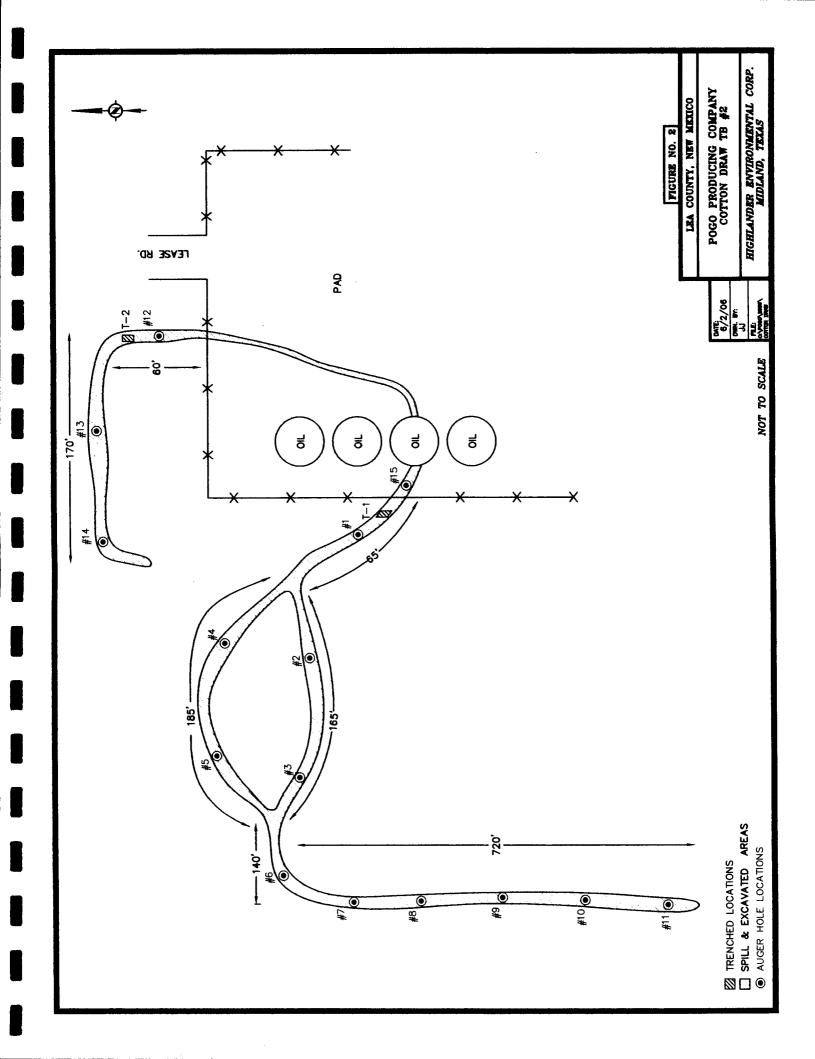
cc: Don Riggs – Pogo Pat Ellis - Pogo

Pogo Producing Corp Cotton Draw Tank Battery #2 Lea County, NM

SE and the second of the second secon				7	Lea County, Ivin					
						Benzene	Toluene	Ethlybenzene	Xylene	
						(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
AH-1	2/21/2006	0-1.0'	<10.0	185	185	•	-	t	I	7,060
AH-1	2/21/2006	1-1.5'		-	1	•	•	-	1	9,360
AH-1 (T-1)	3/3/2006	2.0' BEB	,		•	1		-	1	232
AH-2	2/21/2006	0-1.0	10100	22370	32500	_	•	1	ı	7,540
AH-2	2/21/2006	1-1.5'	-	•	1		1	ŀ	ŀ	8,630
AH-2	2/21/2006	2'-2.5'	2420	8336	10800	0.403	1.39	1.19	6.22	13,400
AH-2	2/21/2006	3'-3.5'	810	2017	2830	0.294	1.04	0.605	1.52	3,800
AH-2	2/21/2006	4'-4.5'	•	-	,	_	•	١	1	395
AH-2	2/21/2006	5'-5.5'	941	2225	3170	0.303	1.56	1.18	6.23	70.2
AH-3	2/21/2006	0-1.0	1950	4833	6780	1	-	t	1	2,290
AH-3	2/21/2006	1-1.5'	12.1	303	315	<0.025	<0.025	<0.025	<0.025	122
AH-3	2/21/2006	2'-2.5'	•	-	1	-	•	1	ŀ	1
AH-4	2/21/2006	0-1.0	5940	23950	29900	•	-	ì	1	3,480
AH-4	2/21/2006	1-1.5'	540	10350	10900	<0.025	<0.025	<0.025	0.284	83.2
AH-4	3/9/2006	1.0' BEB	<10.0	<10.0	<10.0	1	•	1	1	1
AH-5	2/21/2006	0-1.0	87.2	7400	7490	ı		1	ı	75.1
AH-5	2/21/2006	1-1.5'	24	5468	5490	<0.025	<0.025	<0.025	<0.025	56.1
AH-5	2/21/2006	2'-2.5'	•	•	ŀ	•	ı	1	1	1
AH-5	3/9/2006	1.0' BEB	<10.0	<10.0	<10.0	ı	-	1	1	1
9-H-6	2/21/2006	0-1.0	1060	9437	10500	'	1	ı	1	211
AH-6	2/21/2006	1-1.5'	<10.0	133.7	134	<0.025	<0.025	<0.025	<0.025	152
AH-6	2/21/2006	2'-2.5'	•	1	_	•	1	•		-

-7         2/21/2006         0-1.0'         143         790         933           -7         2/21/2006         1-1.5'         -         -         -         -           -7         2/21/2006         2'-2.5'         -         -         -         -           -8         2/21/2006         0-1.0'         184         4642         4830           -8         2/21/2006         1-1.5'         -         -         -           -9         2/21/2006         1-1.5'         -         -         -           -9         2/21/2006         1-1.5'         -         -         -           -10         2/21/2006         0-1.0'         66.2         1226         1290           -10         2/21/2006         0-1.0'         66.2         1226         1290           -11         2/21/2006         0-1.0'         <10.0         192         192           -11         2/21/2006         0-1.0'         <10.0         192         192           -12         1.1.5'         -         -         -         -           -11         2/21/2006         0-1.0'         <10.0'         <10.0'         192         192	1 1 1			,0	
2-2.5'		_	-	•	3040
2'-2.5'	1 1	•	-	1	2860
0-1.0' 184 4642 1-1.5' 1-1.5' 1-1.5' <10.0 279 1-1.5' <10.0 279 2'-2.5' 0-1.0' 66.2 1226 1-1.5' 1-1.5' 3.5' 3.5' 3.5' 1-1.5' 1-1.5' 1-1.5' <10.0 192 0-1.0' <10.0 192 0-1.0' <10.0 192 1-1.5' 3.5' 1-1.5' 3.5' 1-1.5'		•	ŀ	1	31.2
0-1.0' 184 4642 1-1.5' 0-1.0' 2980 8189 1-1.5' <10.0 279 2'-2.5' 1-1.5' <10.0 192 0-1.0' <10.0 192 1-1.5' 3.5' 3.5' 3.5' 1-1.5' 1-1.5' 1-1.5' <10.0 192 0-1.0' <10.0 192 0-1.0' <10.0 192 1-1.5' 1-1.5' 3.5' 1-1.5' 3.5' 1-1.5'	1 1				
0-1.0' 2980 8189 1-1.5' <10.0 279 2-2.5' 0-1.0' 66.2 1226 1-1.5' 1-1.5' 1-1.5' 3.5' 3.5' 3.5' 3.5' 1-1.5' 3.5' 3.5' 1-1.5' 3.5' 3.5' 1-1.5' 3.5' 3.5' 1-1.5'	1	•	1	1	91.7
0-1.0' 2980 8189 1-1.5' <10.0 279 2'-2.5' 1-1.5' <66.2 1226 0-1.0' 66.2 1226 1-1.5' 1-1.5' 3.5' 3.5' 3.5' 1-1.5' 1-1.5' 3.5' 1-1.5' 3.5' 1-1.5' 3.5' 1-1.5'		1	1	1	6.30
0-1.0' 2980 8189 1-1.5' <10.0 279 2'-2.5'					
2-2.5' <10.0 279  2-2.5'	,	1	1	1	4,360
2'-2.5'       -         0-1.0'       66.2       1226         1-1.5'       -       -         0-1.0'       <10.0	<0.025	<0.025	<0.025	<0.025	66.5
0-1.0' 66.2 1226 1-1.5' 0-1.0' <10.0 192 1-1.5' 1-1.5' 3.5' 3.5' 5.0' 3.5' 1-1.5' <10.0 70.2	1	1	-	1	1
0-1.0' 66.2 1226 1-1.5' 1-1.5' 1-1.5' 1-1.5' 3.0' 3.5' 5.0' 5.0' 1.1.5' 3.5' 5.0' 1.1.5'					
0-1.0' <10.0 192 1-1.5' 1-1.5' 2.0' 3.5' 5.0' 5.0' 1.1.5' <10.0 70.2	•	•	-	•	11.3
0-1.0' <10.0 192 1-1.5' 0-1.0' 76.4 883 2.0' 3.5' 5.0' 1-1.5' <10.0 70.2	•	•	1	, ,	7.12
0-1.0' <10.0 192  1-1.5'  0-1.0' 76.4 883  2.0'  3.5'  5.0'  5.0'  1.1.5'  1.1.5'					
1-1.5'	•	ι	1	1	1,890
0-1.0' 76.4 883 2.0' 3.5' 5.0' 1-1.5' <-10.0 70.2	ı	•	1	ı	19.7
3.5' 5.0'					
3.5'	1	1	-	1	14,600
3.5'	-	•	1	ı	16600
5.0'	•	ŀ	-	ŧ	17700
0-1.0' <10.0 70.2 1-1.5'	•	1	ŧ	1	112.0
0-1.0' <10.0 70.2 1-1.5'					
1-1.5'	-	•	•	1	9,300
13 6,10	1	ı	1	ı	1,400
C:7_7	-	•	ı	ı	39.1





# APPENDIX A

**Average Depth of Water Report** 

# New Mexico Office of the State Engineer POD Reports and Downloads

Township: 25	S Range: 32E	Sections:		
NAD27 X:	Y:	Zone:	Search 1	Radius:
County:	Basin:		Number:	Suffix:
Owner Name: (First)		(Last)	O Non-	Domestic O Domestic
POD /	Section of the contraction	oort A Vater Golumn Rep	vg Depth to Water ort	Report
	Glear Form	iwaters.	Menu Help	

#### AVERAGE DEPTH OF WATER REPORT 06/15/2006

(Depth Water in Feet)

 Bsn
 Tws
 Rng
 Sec
 Zone
 X
 Y
 Wells
 Min
 Max
 Avg

 L
 25S
 32E
 32
 1
 290
 290
 290

Record Count: 1

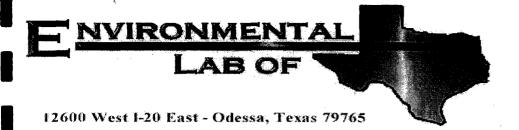
# APPENDIX B

**Analytical Reports** 

	272	53.7	-	6930	4,120	2,360	598	,									-
Xylene (mg/kg)	'	•	ı	•	0.802	<0.025	<0.025	1	ŧ.								
Ethlybenzene (mg/kg)	-	1	1	•	0.218	<0.025	<0.025	1									
Toluene (mg/kg)	-	-	_		<0.025	<0.025	<0.025	Þ									
Benzene (mg/kg)	•	1	-	-	<0.025	<0.025	<0.025	•									
	4880	_	-	11200	7490	156	73.5	•									
	4783	-	•	9801	6874	156	73.5	-									
	95.1	-	•	1390	612	<10.0	<10.0	-									
	0-1.0	1-1.5'	2'-2.5'	0-1.0	1-1.5'	2'-2.5'	3'-3.5'	4'-4.5'									
	2/21/2006	2/21/2006	2/21/2006	2/21/2006	2/21/2006	2/21/2006	2/21/2006	2/21/2006									
	AH-14	AH-14	AH-14	AH-15	AH-15	AH-15	AH-15	AH-15									

# **Analytical Report**

3/7/2006



# Analytical Report

# Prepared for:

Ike Tavarez
Highlander Environmental Corp.
1910 N. Big Spring St.
Midland, TX 79705

Project: Pogo/ Cotton Draw TB #2
Project Number: 2589
Location: Lea County, NM

Lab Order Number: 6B23027

Report Date: 03/07/06

Highlander Environmental Corp. 1910 N. Big Spring St.

Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported:
03/07/06 13:24

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-1 01.0'	6B23027-01	Soil	02/21/06 00:00	02/23/06 15:40
AH-1 1.0-1.5'	6B23027-02	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 0-1.0'	6B23027-03	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 1.0-1.5'	6B23027-04	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 2.0-2.5'	6B23027-05	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 3.0-3.5'	6B23027-06	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 4.0-4.5'	6B23027-07	Soil	02/21/06 00:00	02/23/06 15:40
AH-2 5.0-5.5'	6B23027-08	Soil	02/21/06 00:00	02/23/06 15:40
AH-3 0-1.0'	6B23027-09	Soil	02/21/06 00:00	02/23/06 15:40
AH-3 1.0-1.5'	6B23027-10	Soil	02/21/06 00:00	02/23/06 15:40
AH-4 0-1.0'	6B23027-12	Soil	02/21/06 00:00	02/23/06 15:40
AH-4 1.0-1.5'	6B23027-13	Soil	02/21/06 00:00	02/23/06 15:40
AH-5 01.0'	6B23027-14	Soil	02/21/06 00:00	02/23/06 15:40
AH-5 1.0-1.5'	6B23027-15	Soil	02/21/06 00:00	02/23/06 15:40
AH-6 0-1.0'	6B23027-17	Soil	02/21/06 00:00	02/23/06 15:40
AH-6 1.0-1.5'	6B23027-18	Soil	02/21/06 00:00	02/23/06 15:40
AH-7 0-1.0'	6B23027-20	Soil	02/21/06 00:00	02/23/06 15:40
AH-7 1.0-1.5'	6B23027-21	Soil	02/21/06 00:00	02/23/06 15:40
AH-7 2.0-2.5'	6B23027-22	Soil	02/21/06 00:00	02/23/06 15:40
AH-8 0-1.0'	6B23027-23	Soil	02/21/06 00:00	02/23/06 15:40
AH-8 1.0-1.5'	6B23027-24	Soil	02/21/06 00:00	02/23/06 15:40
AH-9 0-1.0'	6B23027-25	Soil	02/21/06 00:00	02/23/06 15:40
AH-9 1.0-1.5'	6B23027-26	Soil	02/21/06 00:00	02/23/06 15:40
AH-10 0-1.0'	6B23027-28	Soil	02/21/06 00:00	02/23/06 15:40
AH-10 1.0-1.5'	6B23027-29	Soil	02/21/06 00:00	02/23/06 15:40
AH-11 0-1.0'	6B23027-30	Soil	02/21/06 00:00	02/23/06 15:40
AH-11 1.0-1.5'	6B23027-31	Soil	02/21/06 00:00	02/23/06 15:40
AH-12 0-1.0'	6B23027-32	Soil	02/21/06 00:00	02/23/06 15:40
AH-13 0-1.0'	6B23027-33	Soil	02/21/06 00:00	02/23/06 15:40
AH-13 1.0-1.5'	6B23027-34	Soil	02/21/06 00:00	02/23/06 15:40
AH-14 0-1.0'	6B23027-36	Soil	02/21/06 00:00	02/23/06 15:40
AH-14 1.0-1.5'	6B23027-37	Soil	02/21/06 00:00	02/23/06 15:40
AH-15 0-1.0'	6B23027-39	Soil	02/21/06 00:00	02/23/06 15:40
AH-15 1.0-1.5'	6B23027-40	Soil	02/21/06 00:00	02/23/06 15:40

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-15 2.0-2.5'	6B23027-41	Soil	02/21/06 00:00	02/23/06 15:40
AH-15 3.0-3.5'	6B23027-42	Soil	02/21/06 00:00	02/23/06 15:40

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-1 01.0' (6B23027-01) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB62414	02/24/06	03/01/06	EPA 8015M	
Carbon Ranges C12-C28	102	10.0	11	n	H	n	"	n	
Carbon Ranges C28-C35	82.9	10.0	II	u	II.	u	**	п	
Total Hydrocarbon C6-C35	185	10.0	II	u	If	"	Ħ	. 11	
Surrogate: 1-Chlorooctane		104 %	70-1	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		104 %	70-1	130	"	"	"	"	
AH-2 0-1.0' (6B23027-03) Soil									
Carbon Ranges C6-C12	10100	20.0	mg/kg dry	2	EB62414	02/24/06	03/01/06	EPA 8015M	
Carbon Ranges C12-C28	20800	20.0		"	"	11	19	11	
Carbon Ranges C28-C35	1570	20.0	"	11	. "	**	н	н	
Total Hydrocarbon C6-C35	32500	20.0	и.	"	"	н	ir .	11	
Surrogate: 1-Chlorooctane		87.8 %	70-4	130	"	"	"	"	S-04
Surrogate: 1-Chlorooctadecane		49.6 %	70-1	130	"	"	"	"	S-06
AH-2 2.0-2.5' (6B23027-05) Soil									
Benzene	0.403	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	1.39	0.0250	It	11	n	U	11	"	
Ethylbenzene	1.19	0.0250	II .	H	и	H .	11	**	
Xylene (p/m)	4.93	0.0250	H	ti	и	11	**	**	
Xylene (o)	1.29	0.0250	H	0			11	tt .	
Surrogate: a,a,a-Trifluorotoluene		113 %	80	120	n	n	. "	"	
Surrogate: 4-Bromofluorobenzene		272 %	80-	120	"	"	n	"	S-04
Carbon Ranges C6-C12	2420	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	7580	10.0	tt	11	11	It	11	11	
Carbon Ranges C28-C35	756	10.0	и	**	11	11	11	tt	
Total Hydrocarbon C6-C35	10800	10.0	11	11	ļ N	11	11	n	
Surrogate: 1-Chlorooctane		123 %	70	130	"	"	"	n	
Surrogate: 1-Chlorooctadecane		113 %	70	130	"	<i>n</i> ·	"	"	

Highlander Environmental Corp. 1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946 Reported:

03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-2 3.0-3.5' (6B23027-06) Soil					2,,,,,,				
Benzene	0.294	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	1.04	0.0250	11	"	n	11	ıı.	11	
Ethylbenzene	0.605	0.0250	u	•	11	**		н	
Xylene (p/m)	0.978	0.0250	11	u	Ħ	**	11		
Xylene (o)	0.543	0.0250	11	. 11		11	11	11	
Surrogate: a,a,a-Trifluorotoluene		250 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		176 %	80-	120	"	"	. "	,, '	S-04
Carbon Ranges C6-C12	810	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	1700	10.0	н	**	11	11	н	If	
Carbon Ranges C28-C35	317	10.0	"	**	It	"	"	H	
Total Hydrocarbon C6-C35	2830	10.0	**	**	ti.	n	11	и	
Surrogate: 1-Chlorooctane		109 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		114 %	70-	130	n	" .	"	"	
AH-2 5.0-5.5' (6B23027-08) Soil									
Benzene	0.303	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	1.56	0.0250	**	11	#1	n	*1	u	
Ethylbenzene	1.18	0.0250	n	и	If	н	11	u	
Xylene (p/m)	5.28	0.0250	**	н	0	**	u	н	
Xylene (o)	0.955	0.0250	11	11	**	n	"	я	
Surrogate: a,a,a-Trifluorotoluene		290 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		247 %	80-	120	"	"	"	"	S-04
Carbon Ranges C6-C12	941	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	1880	10.0	n	• 11	n	ų.	11	11	
Carbon Ranges C28-C35	345	10.0		и	• 11	u	11	11	
Total Hydrocarbon C6-C35	3170	10.0		ti		u	**	н	
Surrogate: 1-Chlorooctane		129 %	70-	130	"	"	"	" .	
Surrogate: 1-Chlorooctadecane		137 %	70-	130	"	"	"	"	S-04

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

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Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1950	10.0	mg/kg dry	1·	EB62414	02/24/06	03/01/06	EPA 8015M	
4190	10.0	11	u		**	. н	11	
643	10.0	ų	11	н	11	Ħ	Ħ	
6780	10.0	н	II.	n	11	н "	Ħ	
	108 %	70-1	130	"	"	"	"	
	104 %	70-	130	"	"	"	"	
ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
ND	0.0250	н	11	11	Ħ	11	п	
ND	0.0250	н	11	11	ti	11	n	
ND	0.0250	и	"	н	u	11	H	
ND	0.0250	If	11	tr .	**	n	r.	
	91.0 %	80-	120	"	"	"	"	
	104 %	80-	120	"	"	"	"	
12.1	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
186	10.0	tr .	*1	11	II .	n	IF	
117	10.0		"	н	"	n	II .	
315	10.0	"	"	"	н	u ·	II .	
	128 %	70	130	"	"	"	. "	
	126 %	70-	130	"	"	"	"	
5940	20.0	mg/kg dry	2	EB62414	02/24/06	03/01/06	EPA 8015M	
22500	20.0	Ħ	tt	п	n	If	H	
1450	20.0	tt	**	11	н	II.	н	
29900	20.0	"	***	l1	н	II .	11	
	63.2 %	70-	130	"	"	"	"	S-06
	58.0 %	70-	130	"	<b>"</b> .	n	"	S-06
	1950 4190 643 6780 ND ND ND ND ND ND 315	Result   Limit	ND	ND	ND	ND	Result	Result

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

#### Organics by GC **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-4 1.0-1.5' (6B23027-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	II	u	H	*	98	11	
Ethylbenzene	ND	0.0250	н	**	u u	n	11	11	
Xylene (p/m)	0.165	0.0250	11	и	n	п	"	H.	
Xylene (o)	0.119	0.0250	*1	**		11	0	н	
Surrogate: a,a,a-Trifluorotoluene		84.8 %	80-1	20	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		97.8 %	80-1	20	" .	"	"	"	
Carbon Ranges C6-C12	540	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	9590	10.0	If	"	11	*	n	H	
Carbon Ranges C28-C35	760	10.0	II	If	11	Ħ	a.	11	
Total Hydrocarbon C6-C35	10900	10.0	11	и	*1	"	tt.	ti	
Surrogate: 1-Chlorooctane		114 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		127 %	70-1	130	"	"	"	<b>"</b>	
AH-5 01.0' (6B23027-14) Soil									
Carbon Ranges C6-C12	87.2	20.0	mg/kg dry	2	EB62414	02/24/06	03/01/06	EPA 8015M	
Carbon Ranges C12-C28	5880	20.0	lf .	u	11	11	11	н	
Carbon Ranges C28-C35	1520	20.0	If	17	Ħ	п	и	H	
Total Hydrocarbon C6-C35	7490	20.0	II .	н	11	п	ŧI	10	
Surrogate: 1-Chlorooctane		56.2 %	70-	130	"	"	"	n	S-0
Surrogate: 1-Chlorooctadecane		64.6 %	70-	130	"	"	<i>n</i> ·	"	S-0
AH-5 1.0-1.5' (6B23027-15) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	**	lf.	11	: H	11	**	
Ethylbenzene	ND	0.0250	**		n	н	ø	n	
Xylene (p/m)	ND	0.0250	ıı .	11	11	II.	#	ti	
Xylene (o)	ND	0.0250	If	11	n	11	11	tt .	
Surrogate: a,a,a-Trifluorotoluene		89.5 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		84.0 %	80-	120	"	"	<i>"</i>	"	
Carbon Ranges C6-C12	24.0	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	4660	10.0	11	41	**	11	11	11	
Carbon Ranges C28-C35	808	10.0	11	"	н	If	**	н	
Total Hydrocarbon C6-C35	5490	10.0		11	. "	11	11	**	
Surrogate: 1-Chlorooctane		112 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		141 %			"	"	"	"	S-0

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

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		ANII VIII OIII	iiciitai L	ab or i	CAUS				
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-6 0-1.0' (6B23027-17) Soil									
Carbon Ranges C6-C12	1060	10.0	mg/kg dry	1	EB62414	02/24/06	03/01/06	EPA 8015M	
Carbon Ranges C12-C28	8630	10.0	11	u	11	n		If	
Carbon Ranges C28-C35	807	10.0	**	Ħ	II.	n	II	н	
Total Hydrocarbon C6-C35	10500	10.0	n	11	19	H.	ņ	н	
Surrogate: 1-Chlorooctane		110 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		121 %	70-1	130	"	"	"	"	
AH-6 1.0-1.5' (6B23027-18) Soil					_				
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	11	н	11	"	11	Ħ	
Ethylbenzene	ND	0.0250	11	**	n	Ħ	11	*	
Xylene (p/m)	ND	0.0250	0	Ħ	ft	н	11	11	
Xylene (o)	ND	0.0250	Ħ	"	**	11	II	н	
Surrogate: a,a,a-Trifluorotoluene		90.5 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	74.4	10.0	#	**	**	If	н	н	
Carbon Ranges C28-C35	59.3	10.0	11	"	**	**	II .	н	
Total Hydrocarbon C6-C35	134	10.0	".	н	ti	<b>11</b>	**	и	
Surrogate: 1-Chlorooctane		111 %	70-	130	"	"	n	"	
Surrogate: 1-Chlorooctadecane		113 %	70-	130	"	n	"	"	
AH-7 0-1.0' (6B23027-20) Soil									
Carbon Ranges C6-C12	143	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	570	10.0	11	11	51	u		. **	
Carbon Ranges C28-C35	220	10.0	н .	н	n	u	"	**	
Total Hydrocarbon C6-C35	933	10.0	n .	п	"	"	lt .		
Surrogate: 1-Chlorooctane		106 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		114 %	70-	130	"	"	"	"	

Highlander Environmental Corp. 1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946 Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-8 0-1.0' (6B23027-23) Soil									
Carbon Ranges C6-C12	184	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	3870	10.0	11	tr.	18	н	II.	"	
Carbon Ranges C28-C35	772	10.0	**	H	н	n	Ħ		
Total Hydrocarbon C6-C35	4830	10.0	lt		11	11	II	н	
Surrogate: 1-Chlorooctane		127 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		152 %	· 70-1	130	n	"	"	"	S-0
AH-9 0-1.0' (6B23027-25) Soil					<u> </u>				
Carbon Ranges C6-C12	2980	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	7410	10.0	n	"	H	Ħ	19	n	
Carbon Ranges C28-C35	779	10.0	ti	n	n	11	**	"	
Total Hydrocarbon C6-C35	11200	10.0				19	If		
Surrogate: 1-Chlorooctane		113 %	70-1	130	ff .	"	11	**	
Surrogate: 1-Chlorooctadecane		108 %	70-1	130	"	"	"	"	
AH-9 1.0-1.5' (6B23027-26) Soil			<u></u> .						1
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	If	а	ti .	u .	*1	11	
Ethylbenzene	ND	0.0250	**	H	11		н	n	-
Xylene (p/m)	ND	0.0250	**	н	"	II.	"	0	
Xylene (o)	ND	0.0250	11	и	**	it .	"		
Surrogate: a,a,a-Trifluorotoluene		92.5 %	80	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	80-	120	"	"	"	n	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	137	10.0	11	**	U	. n	**	If	
Carbon Ranges C28-C35	142	10.0	<b>u</b>	**	11	**	"	Ħ	
Total Hydrocarbon C6-C35	279	10.0	н	.н	11	н .	11	"	
Surrogate: 1-Chlorooctane		110 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		112 %	70-	130	<b>"</b> .	"	"	"	

Highlander Environmental Corp. 1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946 Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-10 0-1.0' (6B23027-28) Soil								<u></u> -	
Carbon Ranges C6-C12	66.2	10,0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	896	10.0	11	"	11		11	11	
Carbon Ranges C28-C35	330	10.0	11	11	11	n.	n	н	
Total Hydrocarbon C6-C35	1290	10.0	11	. It	11	**	п	**	
Surrogate: 1-Chlorooctane		105 %	70-1	30	• "	<i>n</i> .	"	"	
Surrogate: 1-Chlorooctadecane		121 %	70-1	30	"	"	"	"	
AH-11 0-1.0' (6B23027-30) Soil							· · · · · · · · · · · · · · · · · · ·		
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	100	10.0	н	н	"	a	II	n	
Carbon Ranges C28-C35	91.8	10.0	"	п	19	n	11	u	
Total Hydrocarbon C6-C35	192	10.0	11	"			11	n	
Surrogate: 1-Chlorooctane		118 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		123 %	70-	130	"	. "	"	**	
AH-12 0-1.0' (6B23027-32) Soil									
Carbon Ranges C6-C12	76.4	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	665	10.0	n	Ħ	it	11	tt		
Carbon Ranges C28-C35	218	10.0	"	n	11	"	н	н	
Total Hydrocarbon C6-C35	959	10.0	"		11	11	"	n .	
Surrogate: 1-Chlorooctane		95.2 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-	130	"	"	"	n	
AH-13 0-1.0' (6B23027-33) Soil	<u> </u>								
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	43.3	10.0	II	If	11	n	H	<b>n</b> .	
Carbon Ranges C28-C35	26.9	10.0	"	11	۳.	н	11	u	
Total Hydrocarbon C6-C35	70.2	10.0	ıı .	Ħ		11	"		
Surrogate: 1-Chlorooctane		106 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		106 %	70-	130	"	"	"	"	

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-14 0-1.0' (6B23027-36) Soil									
Carbon Ranges C6-C12	95.1	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	4040	10.0	н	11	11	11	n	11	
Carbon Ranges C28-C35	743	10.0	H	"	**	n	ır	11	
Total Hydrocarbon C6-C35	4880	10.0	11	н	n			11	
Surrogate: 1-Chlorooctane		93.0 %	70-	130	"	"	"	n	
Surrogate: 1-Chlorooctadecane		107 %	70-	130	"	"	"	"	
AH-15 0-1.0' (6B23027-39) Soil									
Carbon Ranges C6-C12	1390	10.0	mg/kg dry	1	EB62414	02/24/06	03/02/06	EPA 8015M	
Carbon Ranges C12-C28	8960	10.0	11	17	11	n	. "	11	
Carbon Ranges C28-C35	841	10.0	"	10	н	n	11	11	
Total Hydrocarbon C6-C35	11200	10.0	н .			11	Ħ	0	
Surrogate: 1-Chlorooctane		86.6 %	70-	130	"	"	"	. "	
Surrogate: 1-Chlorooctadecane		85.6 %	70-	130	"	"	"	"	
AH-15 1.0-1.5' (6B23027-40) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	н	"	, ii	11	n	. "	
Ethylbenzene	0.218	0.0250	11	н	11	н	ti .	n	
Xylene (p/m)	0.513	0.0250	11	n	11	ti .	ŧI	#1	
Xylene (o)	0.289	0.0250	H		#	"	n	H	
Surrogate: a,a,a-Trifluorotoluene		94.5 %	80-	120	n	"	"	"	
Surrogate: 4-Bromofluorobenzene		152 %	80-	120	"	"	n	"	S-04
Carbon Ranges C6-C12	612	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	6060	10.0	11	"	"	19	11	н	
Carbon Ranges C28-C35	814	10.0	"	u	11	11	11	н	
Total Hydrocarbon C6-C35	7490	10.0	n			11	11		
Surrogate: 1-Chlorooctane		122 %	70-	130	"	"	"	n	
Surrogate: 1-Chlorooctadecane		133 %	70-	130	"	"	"	"	S-04

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-15 2.0-2.5' (6B23027-41) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	H	11	H	н	U	"	
Ethylbenzene	ND	0.0250	H	11	11	II	tt	**	
Xylene (p/m)	ND	0.0250	u	".	19	II	и .	11	
Xylene (o)	ND	0.0250	11	ıı	11	11	**	п	
Surrogate: a,a,a-Trifluorotoluene		89.8 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		86.0 %	80-1	120	"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	75.6	10.0	11	"	11	ıı	II.	n	
Carbon Ranges C28-C35	80.6	10.0	**	н	ie	ıı	11	11	
Total Hydrocarbon C6-C35	156	10.0	"	11	"	**	. "	н	
Surrogate: 1-Chlorooctane		116 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		118 %	70-	130	"	<b>"</b>	"	. "	
AH-15 3.0-3.5' (6B23027-42) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	**	11	**	**	10	и	
Ethylbenzene	ND	0.0250	и .	11	**	"	н	н	
Xylene (p/m)	ND	0.0250	ır	"	n	11	#1	н	
Xylene (o)	ND	0.0250	"	11	H	U	11	н	
Surrogate: a,a,a-Trifluorotoluene		91.0 %	80	120	"	11	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-	120	"	"	n	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC60311	03/06/06	03/06/06	EPA 8015M	
Carbon Ranges C12-C28	32.9	10.0	u	"	11	U	ti	11	
Carbon Ranges C28-C35	40.6	10.0	**	11	. "	U	11	H	
Total Hydrocarbon C6-C35	73.5	10.0	11	"		**	ш	u	*
Surrogate: 1-Chlorooctane		92.6 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		94.2 %	70-	130	"	"	"	"	

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Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946 Reported:

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-1 01.0' (6B23027-01) Soil						·			
Chloride	7060	100	mg/kg	200	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	5.6	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-1 1.0-1.5' (6B23027-02) Soil									<u>.</u>
Chloride	9360	100	mg/kg	200	EB62812	02/24/06	02/28/06	EPA 300.0	
AH-2 0-1.0' (6B23027-03) Soil						·· <u>, _ · · · · · · · · · · · · · · · · · · </u>			
Chloride	7540	100	mg/kg	200	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	7.1	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-2 1.0-1.5' (6B23027-04) Soil									
Chloride	8630	200	mg/kg	400	EB62812	02/24/06	02/28/06	EPA 300.0	
AH-2 2.0-2.5' (6B23027-05) Soil		<u> </u>							
Chloride	13400	200	mg/kg	400	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	12.7	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-2 3.0-3.5' (6B23027-06) Soil							-		
Chloride	3800	50.0	mg/kg	100	EB62812	02/24/06	02/28/06	EPA 300.0	-
% Moisture	12.7	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-2 4.0-4.5' (6B23027-07) Soil		_							
Chloride	395	10.0	mg/kg	20	EB62812	02/24/06	02/28/06	EPA 300.0	
AH-2 5.0-5.5' (6B23027-08) Soil									
Chloride	70.2	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	12.0	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-3 0-1.0' (6B23027-09) Soil	W-1996		-1400						
Chloride	2290	50.0	mg/kg	100	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	3.0	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-3 1.0-1.5' (6B23027-10) Soil	1100011			Ditution	Daten	Frepareu	Allalyzeu	Method	Note
Chloride	122	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	1.5	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-4 0-1.0' (6B23027-12) Soil									
Chloride	3480	50.0	mg/kg	100	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	5.1	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-4 1.0-1.5' (6B23027-13) Soil									-
Chloride	83.2	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	7.1	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-5 01.0' (6B23027-14) Soil		<u>.                                      </u>							
Chloride	75.1	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	3.7	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-5 1.0-1.5' (6B23027-15) Soil									
Chloride	56.1	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	3.3	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-6 0-1.0' (6B23027-17) Soil									
Chloride	211	10.0	mg/kg	20	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	6.1	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-6 1.0-1.5' (6B23027-18) Soil									
Chloride	152	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	6.7	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-7 0-1.0' (6B23027-20) Soil									
Chloride	3040	50.0	mg/kg	100	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	4.8	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	

Highlander Environmental Corp. 1910 N. Big Spring St.

Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported:
03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
AH-7 1.0-1.5' (6B23027-21) Soil									
Chloride	2860	50.0	mg/kg	100	EB62812	02/24/06	02/28/06	EPA 300.0	
AH-7 2.0-2.5' (6B23027-22) Soil									
Chloride	31.2	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
AH-8 0-1.0' (6B23027-23) Soil									
Chloride	91.7	5.00	mg/kg	10	EB62812	02/24/06	02/28/06	EPA 300.0	
% Moisture	2.4	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-8 1.0-1.5' (6B23027-24) Soil									
Chloride	6.30	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
AH-9 0-1.0' (6B23027-25) Soil									
Chloride	4360	50.0	mg/kg	100	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture	4.0	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-9 1.0-1.5' (6B23027-26) Soil									
Chloride	66.5	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture	3.1	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
AH-10 0-1.0' (6B23027-28) Soil									
Chloride	11.3	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture	1.6	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-10 1.0-1.5' (6B23027-29) Soil									
Chloride	7.12	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
AH-11 0-1.0' (6B23027-30) Soil									
Chloride	1890	25.0	mg/kg	50	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture	2.5	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	

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Fax: (432) 682-3946

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AH-11 1.0-1.5' (6B23027-31) Soil  Chloride 19.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-12 0-1.0' (6B23027-32) Soil  Chloride 14600 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.7 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation										
Chloride 19.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-12 0-1.0' (6B23027-32) Soil  Chloride 14600 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0  **Moisture 10.7 0.1 % 1 EB62703 02/24/06 02/28/06 **Calculation **  AH-13 0-1.0' (6B23027-33) Soil  Chloride 9300 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0  **Moisture 8.3 0.1 % 1 EB62703 02/24/06 02/28/06 **Calculation **  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  **Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  **Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  **Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  **Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  **Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB62813 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0  **Moisture 5.5.7 0.1 % 1 EB662703 02/24/06 02/28/06 EPA 300.0	Analyte	Result		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-12 0-1.0' (6B23027-32) Soil  Chloride 14600 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.7 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-13 0-1.0' (6B23027-33) Soil  Chloride 9300 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 8.3 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 6930 100 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 1.0-1.5' (6B23027-39) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation	AH-11 1.0-1.5' (6B23027-31) Soil									
Chloride 14600 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.7 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % calculation  AH-13 0-1.0' (6B23027-33) Soil  Chloride 9300 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0 % Calculation  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0 % Calculation  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0 % Calculation  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0 % Calculation  AH-14 1.0-1.6' (6B23027-39) Soil  Chloride 6930 100 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % Calculation EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % Calculation EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC6060	Chloride	19.7	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture       10.7       0.1       %       1       EB62703       02/24/06       02/27/06       % calculation         AH-13 0-1.0' (6B23027-33) Soil       Chloride       9300       200       mg/kg       400       EB62813       02/24/06       02/28/06       EPA 300.0         % Moisture       8.3       0.1       %       1       EB62703       02/24/06       02/28/06       % calculation         AH-13 1.0-1.5' (6B23027-34) Soil         Chloride       1400       25.0       mg/kg       50       EB62813       02/24/06       02/28/06       EPA 300.0         AH-14 0-1.0' (6B23027-36) Soil       Chloride       272       10.0       mg/kg       20       EB62813       02/24/06       02/28/06       EPA 300.0         AH-14 1.0-1.5' (6B23027-37) Soil         Chloride       53.7       5.00       mg/kg       10       EB62813       02/24/06       02/28/06       EPA 300.0         AH-15 0-1.0' (6B23027-39) Soil         Chloride       6930       100       mg/kg       200       EB62813       02/24/06       02/28/06       EPA 300.0         Moisture       10.9       0.1       %       1	AH-12 0-1.0' (6B23027-32) Soil	444								
AH-13 0-1.0' (6B23027-33) Soil  Chloride 9300 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0  'M Moisture 8.3 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0  'M Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  'M Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  'M Moisture 5.7 0.1 % 1 EC60601 03/03/06 02/28/06 EPA 300.0  'M Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 W calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	Chloride	14600	200	mg/kg	400	EB62813	02/24/06	02/28/06	EPA 300.0	
Chloride 9300 200 mg/kg 400 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 8.3 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	% Moisture	10.7	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
% Moisture 8.3 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  % Moisture 5.7 0.1 % 1 EB62813 02/24/06 03/03/06 FPA 300.0  % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	AH-13 0-1.0' (6B23027-33) Soil									
AH-13 1.0-1.5' (6B23027-34) Soil  Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	Chloride	9300	200	mg/kg	400	EB62813	02/24/06	02/28/06	EPA 300.0	
Chloride 1400 25.0 mg/kg 50 EB62813 02/24/06 02/28/06 EPA 300.0  AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 EPA 300.0  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	% Moisture	8.3	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-14 0-1.0' (6B23027-36) Soil  Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/28/06 W calculation  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 W calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	AH-13 1.0-1.5' (6B23027-34) Soil									
Chloride 272 10.0 mg/kg 20 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 4.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0 AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0 % Calculation AH-15 2.0-2.5' (6B23027-41) Soil	Chloride	1400	25.0	mg/kg	50	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture       4.9       0.1       %       1       EB62703       02/24/06       02/27/06       % calculation         AH-14 1.0-1.5' (6B23027-37) Soil       Chloride       53.7       5.00       mg/kg       10       EB62813       02/24/06       02/28/06       EPA 300.0         AH-15 0-1.0' (6B23027-39) Soil       Chloride       6930       100       mg/kg       200       EB62813       02/24/06       02/28/06       EPA 300.0         % Moisture       10.9       0.1       %       1       EB62703       02/24/06       02/28/06       % calculation         Chloride       4120       50.0       mg/kg       100       EB62813       02/24/06       02/28/06       EPA 300.0         % Moisture       5.7       0.1       %       1       EC60601       03/03/06       03/06/06       % calculation         AH-15 2.0-2.5' (6B23027-41) Soil         Chloride       2360       50.0       mg/kg       100       EB62813       02/24/06       02/28/06       EPA 300.0	AH-14 0-1.0' (6B23027-36) Soil									
AH-14 1.0-1.5' (6B23027-37) Soil  Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	Chloride	272	10.0	mg/kg	20	EB62813	02/24/06	02/28/06	EPA 300.0	
Chloride 53.7 5.00 mg/kg 10 EB62813 02/24/06 02/28/06 EPA 300.0  AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0  % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	% Moisture	4.9	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
AH-15 0-1.0' (6B23027-39) Soil  Chloride 6930 100 mg/kg 200 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 10.9 0.1 % 1 EB62703 02/24/06 02/27/06 % calculation  AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	AH-14 1.0-1.5' (6B23027-37) Soil									
Chloride         6930         100 mg/kg         200 EB62813         02/24/06         02/28/06         EPA 300.0           % Moisture         10.9         0.1 %         1 EB62703         02/24/06         02/27/06         % calculation           AH-15 1.0-1.5' (6B23027-40) Soil         Chloride         4120         50.0 mg/kg         100 EB62813         02/24/06         02/28/06         EPA 300.0           % Moisture         5.7         0.1 %         1 EC60601         03/03/06         03/06/06         % calculation           AH-15 2.0-2.5' (6B23027-41) Soil         Chloride         2360         50.0 mg/kg         100 EB62813         02/24/06         02/28/06         EPA 300.0	Chloride	53.7	5.00	mg/kg	10	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture       10.9       0.1       %       1       EB62703       02/24/06       02/27/06       % calculation         AH-15 1.0-1.5' (6B23027-40) Soil         Chloride       4120       50.0       mg/kg       100       EB62813       02/24/06       02/28/06       EPA 300.0         % Moisture       5.7       0.1       %       1       EC60601       03/03/06       03/06/06       % calculation         AH-15 2.0-2.5' (6B23027-41) Soil         Chloride       2360       50.0       mg/kg       100       EB62813       02/24/06       02/28/06       EPA 300.0	AH-15 0-1.0' (6B23027-39) Soil									
AH-15 1.0-1.5' (6B23027-40) Soil  Chloride 4120 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0 % Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	Chloride	6930	100	mg/kg	200	EB62813	02/24/06	02/28/06	EPA 300.0	
Chloride         4120         50.0 mg/kg         100 EB62813 02/24/06 02/28/06 EPA 300.0         EPA 300.0           % Moisture         5.7         0.1 % 1 EC60601 03/03/06 03/06/06 % calculation         03/06/06 % calculation           AH-15 2.0-2.5' (6B23027-41) Soil         2360         50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0         EPA 300.0	% Moisture	10.9	0.1	%	1	EB62703	02/24/06	02/27/06	% calculation	
% Moisture 5.7 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation  AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	AH-15 1.0-1.5' (6B23027-40) Soil									
AH-15 2.0-2.5' (6B23027-41) Soil  Chloride 2360 50.0 mg/kg 100 EB62813 02/24/06 02/28/06 EPA 300.0	Chloride	4120	50.0	mg/kg	100	EB62813	02/24/06	02/28/06	EPA 300.0	
Chloride         2360         50.0 mg/kg         100 EB62813 02/24/06         02/28/06 EPA 300.0	% Moisture	5.7	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	AH-15 2.0-2.5' (6B23027-41) Soil									
<b>4.1</b> 0.1 % 1 EC60601 03/03/06 03/06/06 % calculation	Chloride	2360	50.0	mg/kg	100	EB62813	02/24/06	02/28/06	EPA 300.0	-
	% Moisture	4.1	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-15 3.0-3.5' (6B23027-42) Soil	<u> </u>								
Chloride	598	10.0	mg/kg	20	EB62813	02/24/06	02/28/06	EPA 300.0	
% Moisture	2.0	0.1	%	1	EC60601	03/03/06	03/06/06	% calculation	

Highlander Environmental Corp. 1910 N. Big Spring St.

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

1910 N. Big Spring St. Midland TX, 79705

Project Number: 2589 Project Manager: Ike Tavarez Reported: 03/07/06 13:24

Austra	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC	DDD	RPD	Nlas
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB62414 - Solvent Extraction	(GC)	•••	•					18.00		
Blank (EB62414-BLK1)				Prepared:	02/24/06	Analyzed	: 03/01/06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	11							
Carbon Ranges C28-C35	ND	10.0	11							
Total Hydrocarbon C6-C35	ND	10.0	u							
Surrogate: 1-Chlorooctane	47.6		mg/kg	50.0		95.2	70-130			
Surrogate: 1-Chlorooctadecane	45.9		"	50.0		91.8	70-130			
LCS (EB62414-BS1)				Prepared:	02/24/06	Analyzed	l: 03/01/06			
Carbon Ranges C6-C12	514	10.0	mg/kg wet	500		103	75-125			
Carbon Ranges C12-C28	496	10.0	"	500		99.2	75-125			
Carbon Ranges C28-C35	ND	10.0	и	0.00			75-125			
Surrogate: 1-Chlorooctane	59.7		mg/kg	50.0		119	70-130			
Surrogate: 1-Chlorooctadecane	56.5		"	50.0		113	70-130			
Calibration Check (EB62414-CCV1)				Prepared:	02/24/06	Analyzed	l: 03/02/06			
Carbon Ranges C6-C12	233		mg/kg	250		93.2	80-120			
Carbon Ranges C12-C28	265		II	250		106	80-120			
Total Hydrocarbon C6-C35	498		Ħ	500		99.6	80-120			
Surrogate: 1-Chlorooctane	53.6		"	50.0		107	70-130			
Surrogate: 1-Chlorooctadecane	54.2		"	50.0		108	70-130			
Matrix Spike (EB62414-MS1)	So	urce: 6B230	27-01	Prepared:	02/24/06	Analyzed	1: 03/02/06	ı		
Carbon Ranges C6-C12	594	10.0	mg/kg dry	530	ND	112	75-125			
Carbon Ranges C12-C28	636	10.0	н	530	102	101	75-125			
Carbon Ranges C28-C35	38.6	10.0	**	0.00	82.9		75-125			
Total Hydrocarbon C6-C35	1270	10.0	11	1060	185	102	75-125			
Surrogate: 1-Chlorooctane	60.7		mg/kg	50.0		121	70-130			
Surrogate: 1-Chlorooctadecane	59:0		"	50.0		118	70-130			

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analys	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Nicks -
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB62414 - Solvent Extraction	(GC)									
Matrix Spike Dup (EB62414-MSD1)	So	urce: 6B230	27-01	Prepared:	02/24/06	Analyzed	l: 03/02/06			
Carbon Ranges C6-C12	591	10.0	mg/kg dry	530	ND	112	75-125	0.506	20	
Carbon Ranges C12-C28	628	10.0	н	530	102	99.2	75-125	1.27	20	
Carbon Ranges C28-C35	44.8	10.0	н	0.00	82.9		75-125	14.9	20	
Total Hydrocarbon C6-C35	1260	10.0	11	1060	185	101	75-125	0.791	20	
Surrogate: I-Chlorooctane	60.6		mg/kg	50.0		121	70-130			
Surrogate: 1-Chlorooctadecane	58.0		"	50.0		116	70-130			
Batch EC60311 - Solvent Extraction	(GC)									
Blank (EC60311-BLK1)				Prepared:	03/03/06	Analyzed	l: 03/06/06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	Ħ							
Carbon Ranges C28-C35	ND	10.0	11							
Total Hydrocarbon C6-C35	ND	10.0	**							
Surrogate: 1-Chlorooctane	52.2		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	44.5		"	, 50.0		89.0	70-130			
LCS (EC60311-BS1)				Prepared:	03/03/06	Analyzed	l: 03/06/06	I		
Carbon Ranges C6-C12	543	10.0	mg/kg wet	500		109	75-125			
Carbon Ranges C12-C28	509	10.0	н	500		102	75-125			
Total Hydrocarbon C6-C35	1050	10.0	n	1000	•	105	75-125			
Surrogate: 1-Chlorooctane	63.7	· <u>·</u> ·	mg/kg	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	48.9		"	50.0		97.8	70-130			
Calibration Check (EC60311-CCV1)				Prepared	03/03/06	Analyzed	1: 03/06/06	;		
Carbon Ranges C6-C12	262		mg/kg	250		105	80-120			
Carbon Ranges C12-C28	298		"	250		119	80-120			
Total Hydrocarbon C6-C35	560		н	500		112	80-120			
Surrogate: 1-Chlorooctane	61.7		"	50.0		123	70-130			
Surrogate: 1-Chlorooctadecane	57.3		"	50.0		115	70-130			

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
						,,,,,				1,000
Batch EC60311 - Solvent Extraction	`									
Matrix Spike (EC60311-MS1)		rce: 6C030					: 03/06/06			
Carbon Ranges C6-C12	682	10.0	mg/kg dry	621	ND	110	75-125			
Carbon Ranges C12-C28	631	10.0	"	621	60.9	91.8	75-125			
Total Hydrocarbon C6-C35	1310	10.0	It	1240	89.0	98.5	75-125			
Surrogate: 1-Chlorooctane	38.I		mg/kg	50.0		76.2	70-130			
Surrogate: 1-Chlorooctadecane	35.3		"	50.0		70.6	70-130			
Matrix Spike Dup (EC60311-MSD1)	Sou	rce: 6C030	04-01	Prepared:	03/03/06	Analyzed	: 03/06/06			
Carbon Ranges C6-C12	684	10.0	mg/kg dry	621	ND	110	75-125	0.293	20	
Carbon Ranges C12-C28	640	10.0	#1	621	60.9	93.3	75-125	1.42	20	
Total Hydrocarbon C6-C35	1320	10.0	н	1240	89.0	99.3	75-125	0.760	20	
Surrogate: 1-Chlorooctane	38.2		mg/kg	50.0		76.4	70-130			
Surrogate: 1-Chlorooctadecane	35.2		"	50.0		70.4	70-130			
Batch EC60604 - EPA 5030C (GC)										
Blank (EC60604-BLK1)			-	Prepared	& Analyze	ed: 03/06/0	06			
Benzene	ND	0.0250	mg/kg wet	Troparou	C- 1 11111 / 11	05/00/	-			
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	n							
Xylene (p/m)	ND	0.0250	0				-41			
Xylene (o)	ND	0.0250	u							
Surrogate: a,a,a-Trifluorotoluene	32.1		ug/kg	40.0		80.2	80-120			
Surrogate: 4-Bromofluorobenzene	41.0		"	40.0		102	80-120			
LCS (EC60604-BS1)				Prepared	& Analyz	ed: 03/06/	06			
Benzene	0.0405	0.00100	mg/kg wet	0.0500	, , , , , , , , , , , , , , , , , , ,	81.0	80-120			
Toluene	0.0464	0.00100	"	0.0500		92.8	80-120			
Ethylbenzene	0.0555	0.00100	**	0.0500		111	80-120			
Xylene (p/m)	0.117	0.00100		0.100		117	80-120			
	0.0579	0.00100	**	0.0500		116	80-120			
Xylene (o)	0.0317									
Xylene (o) Surrogate: a,a,a-Trifluorotoluene	37.7		ug/kg	40.0		94.2	80-120			

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC60604 - EPA 5030C (GC)										
Calibration Check (EC60604-CCV1)				Prepared	& Analyze	ed: 03/06/0	06			
Benzene	40.3		ug/kg	50.0		80.6	80-120			
Toluene	42.0		**	50.0		84.0	80-120			
Ethylbenzene	47.3		**	50.0		94.6	80-120			
Xylene (p/m)	99.5		"	100		99.5	80-120			
Xylene (o)	50.2		H	50.0		100	80-120			
Surrogate: a,a,a-Trifluorotoluene	33.6		"	40.0		84.0	80-120			
Surrogate: 4-Bromofluorobenzene	33.3		"	40.0		83.2	80-120			
Matrix Spike (EC60604-MS1)	So	urce: 6C030	04-01	Prepared	& Analyzo	ed: 03/06/0	06			
Benzene	1.25	0.0250	mg/kg dry	1.55	ND	80.6	80-120			
Toluene	1.40	0.0250	11	1.55	ND	90.3	80-120			
Ethylbenzene	1.73	0.0250	11	1.55	ND	112	80-120			
Xylene (p/m)	3.64	0.0250	H	3.11	ND	117	80-120			
Xylene (o)	1.82	0.0250	0	1.55	ND	117	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.0		ug/kg	40.0		85.0	80-120			
Surrogate: 4-Bromofluorobenzene	47.1		"	40.0		118	80-120			
Matrix Spike Dup (EC60604-MSD1)	So	urce: 6C030	04-01	Prepared	& Analyz	ed: 03/06/	06			
Benzene	1.26	0.0250	mg/kg dry	1.55	ND	81.3	80-120	0.865	20	
Toluene	1.40	0.0250	11	1.55	ND	90.3	80-120	0.00	20	
Ethylbenzene	1.69	0.0250	#	1.55	ND	109	80-120	2.71	20	
Xylene (p/m)	3.58	0.0250	U	3.11	ND	115	80-120	1.72	20	
Xylene (o)	1.79	0.0250	11	1.55	ND	115	80-120	1.72	20	
Surrogate: a,a,a-Trifluorotoluene	34.1		ug/kg	40.0		85.2	80-120			
Surrogate: 4-Bromofluorobenzene	44.3		n	40.0		111	80-120			

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1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

Reported: 03/07/06 13:24

Project Number: 2589 Project Manager: Ike Tavarez

### General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

	· ·	Reporting	** **	Spike	Source	. AVDDG	%REC	222	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EB62703 - General Preparation	(Prep)	·-								
Blank (EB62703-BLK1)				Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	100		%							
Duplicate (EB62703-DUP1)	Sou	ırce: 6B2302	8-01	Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	98.4		%		98.4			0.00	20	
Duplicate (EB62703-DUP2)	Sou	ırce: 6B2302	7-20	Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	95.2		%	<del>-</del>	95.2			0.00	20	
Duplicate (EB62703-DUP3)	Soi	ırce: 6B2400	3-01	Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	89.0		%		89.3			0.337	20	
Duplicate (EB62703-DUP4)	So	ırce: 6 <b>B24</b> 00	9-15	Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	93.4		%		93.0		,	0.429	20	
Duplicate (EB62703-DUP5)	So	urce: 6B2401	0-14	Prepared:	02/24/06	Analyzed:	02/27/06			
% Solids	93.2		%		93.6			0.428	20	
Batch EB62812 - Water Extraction										
Blank (EB62812-BLK1)				Prepared:	02/24/06	Analyzed:	02/28/06			
Chloride	ND	0.500	mg/kg							
LCS (EB62812-BS1)				Prepared:	02/24/06	Analyzed:	02/28/06			
Chloride	9.67	0.500	mg/kg	10.0		96.7	80-120			
Calibration Check (EB62812-CCV1)				Prepared:	02/24/06	Analyzed:	: 02/28/06			
Chloride	9.44		mg/L	10.0		94.4	80-120			

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported:

03/07/06 13:24

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
						,				
Batch EB62812 - Water Extraction			<del></del>						· · ·	
Duplicate (EB62812-DUP1)	So	urce: 6B2302	7-01	Prepared:	02/24/06	Analyzed:	02/28/06			
Chloride	7120	0.500	mg/kg		7060			0.846	20	
Batch EB62813 - Water Extraction										
Blank (EB62813-BLK1)				Prepared:	02/24/06	Analyzed:	02/28/06			
Chloride	ND	0.500	mg/kg				*			
LCS (EB62813-BS1)				Prepared:	02/24/06	Analyzed:	02/28/06			
Chloride	9.39	0.500	mg/kg	10.0		93.9	80-120			
Calibration Check (EB62813-CCV1)				Prepared:	02/24/06	Analyzed	02/28/06			
Chloride	9.19		mg/L	10.0		91.9	80-120			
Duplicate (EB62813-DUP1)	So	urce: 6B2302	27-25	Prepared:	02/24/06	Analyzed	: 02/28/06			
Chloride	4390	50.0	mg/kg		4360			0.686	20	
Batch EC60601 - General Preparation	(Prep)									
Blank (EC60601-BLK1)			· 	Prepared:	03/03/06	Analyzed	: 03/06/06			
% Solids	100		%							
Duplicate (EC60601-DUP1)	So	urce: 6C0300	01-01	Prepared:	03/03/06	Analyzed	: 03/06/06			
% Solids	96.0		%		96.7			0.727	20	
Duplicate (EC60601-DUP2)	So	urce: 6B2302	27-26	Prepared:	03/03/06	Analyzed	: 03/06/06			
% Solids	97.0		%		96.9	<del></del>		0.103	20	

1910 N. Big Spring St.

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

Reported:

Midland TX, 79705

S-04

Project Number: 2589 Project Manager: Ike Tavarez

03/07/06 13:24

#### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or

matrix interference's.

The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

DET

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

Date:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

### Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

client: Highlander				
122/21	•			
Pate/Time:2[28]0(0 3-40				
Order #: <u>UB 23027</u>				
nitials:				
Sample Receip	t Checkli	ist		
emperature of container/cooler?	Yes	No	3,0 C	
Shipping container/cooler in good condition?	<u>ক্টে</u>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	Not present	
Custody Seals intact on sample bottles?	Yes	No	Mot present	
Chain of custody present?	(F3)	No		
Sample Instructions complete on Chain of Custody?	(E)	No		
Chain of Custody signed when relinquished and received?	<b>(73</b> )	No		
Chain of custody agrees with sample label(s)	Yes	No	IDON 1108	
Container labels legible and intact?	Yes	No	n/a	
Sample Matrix and properties same as on chain of custody?	YES	No		
Samples in proper container/bottle?	<b>23</b>	No	•	
Samples properly preserved?	(A)	No		
Sample bottles intact?		No		
Preservations documented on Chain of Custody?	YES_	No		
Containers documented on Chain of Custody?		No		
Sufficient sample amount for indicated test?		No		
All samples received within sufficient hold time?		No		
VOC samples have zero headspace?		No	Not Applicable	
Other observations:				
				ï
Contact Person: Date/Time: Regarding:			Contacted by:	
Corrective Action Taken:		<del></del> .		
	· ·			

### Jeanne McMurrey

From:

"Ike T" <itavarez@hec-enviro.com>

To:

"Jeanne - Enviro Lab" <jeanne@elabtexas.com>

Sent:

Friday, March 03, 2006 1:18 PM

Subject:

Pogo Producing - Additional Analysis for the Cotton Draw Project

Pogo Producing Company – Cotton Draw Tank Battery #2, Lea County, New Mexico Lab Order # 6B23027 Project #2589

Jeanne, please additional analysis on samples below. Call me if you have any questions, thanks.

AH-2 (2-2.5) - TPH, BTEX

AH-2 (3-3.5) - TPH, BTEX

AH-2 (5-5.5) - TPH, BTEX

AH-3 (1-1.5') - TPH, BTEX

AH-4 (1-1.5) - TPH, BTEX

AH-5 (1-1.5) - TPH, BTEX

AH-6 (1-1.5) - TPH, BTEX

AH-9 (1-1.5) - TPH, BTEX

AH-15 (1-1.5) - TPH, BTEX

(2-2.5) – TPH, BTEX

(3-3.5) - TPH, BTEX

This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.

٠,	•				1
				(Circle or Specify Metho	Method No.)
HIGH	HIGHLANDER I	NTAL	CORP.	<b>PS</b>	1
	1910 N Midlan	1910 N. Big Spring St. Midland, Texas 79705			
(432) 682-4559		Fax	(432) 682-3946	-23    -23	(Sp)
CLIENT NAME: PO	0900	SITE MANAGER: The Taurez	PRESERVATIVE METHOD	BF CQ	ज्ञाक्ट)
PROJECT NO.: 2589	PROJECT NAI	Cotton Drav IB #2	(N/)	a Ag As a Ag As les Volatific L. Vol. (	SCT , Ho
LAB I.D. DATE 1	THE MATERIX COMP.	COUNTY / N/M SAMPLE IDENTIFICATION	BLEX 80SO NONE ICE HAO3 HCT LITTERED (MATTERED (MATTERED (MATERED	DCR, 8080 CCR2 2000 CCR2 2000 CCR2 2000 LCTS 2000 LCTS NOTED LCTS	Post. 808/ Rop, TSS, J Alpha Beta PLM (Asbes
2/2/106	S X AH	-/ (0-1.0')	× -		X
2	-HHX S	1 1.0'-1.5')	×		X
8	5 X 4/4 -	-2 (0-1.0')	X	X	X
20	- HTX S	2 (1.0'-1.5')	X		<u> </u>
8	- KAH -	2 (2.0'-2.5')	$X \mid X \mid -1 \mid -1$	<u> </u>	`><
D.	- 1/4 / S	2 (3.0'-35')	X,	×	×
Japan Japan	S X 4 H - 2	7 (4.0'-4.5")	Х		<u>&gt;&gt;</u>
8	5 XAH-	2 (5.0'-5.5')	$X \mid X \mid$	×	><
-09	- HHX S	3 (0-1.0')	X	X,	X
10	5 X A# -	3 (1.0'-1.5')	X = X		X
RELINGUISHED BY: (Signature)	ture) Date:	2.12.3.1.06 RECEIVED BY: (Signature)	Dete: Time:	Solventer Br. (Print of Star)	Date: 2/25/10
RELINQUISHED BY: (Signature)	iture) Date:	RECEIVED BY: (Signature)	Date: Time:	SAMPLE SHIPPED BY: (Circle) FEDEX BUS	AIRBILL #
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)	Date:	SAUD DELLYRENCE OF THE SAUD	OTHER: Beaute by:
RECEIVING LABORATORY:	ELT	HECEIVED HA BURNESHIE	200	HIGHLANDER CONTACT PERSON:	RUSH Charges
CONTACT:	STATE: /	zie: DATE: 2/25/00	7.40	The ludge	Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED.		MATRIX: W-Water A-Air SD-Solid	REMARKS:	1107 tot 1 4 4 V	33.0

My label peals none

X Add 03-03-07@ 1400 as per

H													_			į						
	11711	TAI	7.7	Q.J.	E/A/T	Car	TYYE	ENITIONINGENITAL		au	2				<u>Ü</u>	Circle o	r Spe	or Specify Method	(etho	d No.)	_	
**	HIGHLAIVDER 1910	LAI		1910	VER EIVVIRUNIME 1910 N. Big Spring St	Spri	NME ng St			CURF.	7.			900	95 <b>3</b> H	og Br						
(432)	(432) 682-4559	59		Midla	Midland, Texas 79705	exas	79705		Fax (43	(432) 6	682-3946	946		IXI -		Pd 49				<b>_</b> @		
CLIENT NAME:		8060			SITE	SITE MANAGER:	The	Tavate	2		PRESE	PRESERVATIVE METHOD	 	COM S		PP VE		<b>1</b> 29/09		chold		
PROJECT NO.: 2589	2.258		PROJECT	🌂 🍈	cotton Draw	Draw	TB#	#2	CONTAI	(N/.								19 TOA			(AIA)	
NUMBER 12.	DATE	E	MATRIX COMP.	EVES	SAME	<i>Louaty) NT</i> Sample identific	LOUA +ソハバイ SAMPLE IDENTIFICATION	_	NUMBER OF	HCT LITLEBED (J	EONH	NONE ICE	OZOB XXII	MIBE 8080/	BCRA Metals Pah 6870	LCI'S NOPTH	RCI LCI'S Semi	CC'NG Serot	bcB. 808√9 best 8080√	BOD, TSS, p Camma Spe		
	2/21/06		~	X AH	- )	(2.0)	12.0'-2.5	(,				×										
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10				X 411	۲-	- ,0/)	-1.5,					<b>&gt;</b>	×	$\times$						X		
e e			(	HH X	) 5-	(2.0)	-2.5	(,				X										
Ĺ,		-\		X 414	9-	1-01	10,)					×		×						X		
37			\ \ \	X 411 .	9 -	(10.	1.5.1-		)			×	$\geq$	$\times$						X		
79				X DH	9-	(2.0.	2.0'-2.5'		1													
22	>	-		XAH	-7	-0)	1.0')					<u>~</u>		×						Χ		
RELINGUISMEN BY: (Signature)	Pr. (Signa	(ara)		Date:	4234	26 RR	RECEIVED BY:	f: (Signature)		៨ដ	Date:			3/2	(4) (2)	SOUPLED BY: (Print	45 3	18.00 (18.00)	12	Date: Time:	47	
RELINQUISHED BY: (Signature)	BY: (Signal	(aun		Date:		122	CEIVED BY:	RECEIVED BY: (Signature)		4 분	Date:			SAMPL	HS SH	PPED	SAMPLE SHIPPED BY: (Circle)			AIRBILL #	-	
RELINQUISHED BY: (Signature)	BY: (Signet	(aura)		Date:		725	CEIVED BY:	RECEIVED BY: (Signature)		គ្រឹត្ត	Date:			1	CAND DELIVERED	THE CO		UPS		OTHER:		
RECEIVING LABORATORY:	DRATORY: _	14	#	THE T		REC	RECEIVED BY.	(Suggeture)	ROLL					HIGH /	LANDE	CONT.	HIGHLANDER CONTACT PERSON:	RSON:		E E	RUSH Chery	
CONTACT:	54	STA	STATE: PHONE:	<u> </u>	ZIP:	TAM TE	2/1	0)0/5			3:40			$\frac{\tilde{\gamma}}{2}$	1 ke 7	Tavaro	7	,		<b>a</b> ^	Authorised You	
SAMPLE CONDITION WHEN RECEIVED:	TON WHEN	RECEIVE	ë		MATRIX	W-Fater		B	SD-Solid	F	REMARKS	ķ		20	C							

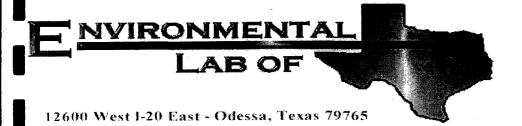
3 OF: 5	SQUEST					808 808 80T , Hq 60E (ALF)		×	X	X	X	X	×		X	×	$  \chi  $	2/23/00 Time: 1:30				Authorizad: Yes No	ral none
PAGE:	ANA !	5 <b>-</b> 8	9H Pd 9H qd 9001XL	-50 -20 (	s Be cq	808) 1.0 80 8.4 8 80 8.4 8 80 8.40 8 80 8.40 8	CCTRS Remaided Remains Remained Remains Remained			×		Х	X		<b>X</b>		X	SAMPLED BY: (Print & Sign)	BY: (Ch	ALAND DISLIFFERED UP-8	DER CONTACT	The lawre	288 3.0 work 11/16/15
V Record		CORP.		Fax (432) 682-3946	PRESERVATIVE	(N/2	BLEX 8050\ NONE ICE HINO3 HICT HILLEGE (A		×	><	×	X,		X	X	X	χ	Date:	Date:	Date:	7	73.40	1
and Chain of Custody	200	NTAL	1910 N. Big Spring St. Midland, Texas 79705		SITE MANAGER. THE TAUMIEZ	ton draw 78#2	Lea County, NPL SAMPLE IDENTIFICATION	(1.0'-1.5')	(2.0'-2.5')	(0-1.0)	(10,-15,	(0-1.0)	( 51-,01)	[2.0'-2.5"]	(0-1.0)	(1.0'-1.5')	(0-1.01)	-5/06 RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: ASIGNATURED OF		#-# 8-8
	<b>"</b>	HIGHLANDER EN	1910 N. B. Midland,			PROJECT NAME: POCO / COTTON OFF	TATRIX GOVE BASE	)	S X 4H-7	8 NAH-8	8-44/8	S X 4H - 9	S X AH - 9	6 - HH / S	S X44-10	5 X 44 -10	11- HT X S	Date: 2/2			ELF	STATE: The ZIP:	CEIVED: MATRIX:
Amoltagia L	Alialysis hequest	HIGHL		(432) 682-4559	CLIENT NAME: PO60	PROJECT NO.: 2584	LAB I.D. DATE TIME	71 2/2/106	72	72	72	Sk	76	2	82	26	A 24	RELIEGUESARED BY: (Signature)	RELINQUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RECEIVING LABORATORY:	CITY: 0 14754 CONTACT:	SAMPLE CONDITION WHEN RECEIVED:

SOTTE ST	Method No.)		*		18/0721 10/d)	808 SQT ,Hd SQC. SQC. (ALF)	PCB's Sond Popt, 188, pole Popt, 188, pole Pop	X		×	×.		×	×		×	X	(4.00/c)   Time: 1:30	AIRBILL #		N: RUSH Charges	Authorizad: Yar No	Stepa Inrone
ANATORIC DEOLINGS	(Circle or Specify	9g 3	H Pd -	1 C3-	\$90\0\$ \$4 \$4 \$4 \$4 \$4 \$4	6840/88 48 48 48 40 40 48 40 48 40 48 40 48 40 48 40 48 40 48 40 48 40 48 40	BCI AOI		\ \	X			X			×	X	Junter Br. (Print & Sign.)	BY: (Cir	KAND DELIVERED UPS		The lawret	And Sala K
Custody Record	CODD	CORF.	,	(432) 082-3940	PRESERVATIVE METHOD		NONE ICE HNO3 HCI LILEBED (X	X	×.	I X I I	X	X     I	X	X .	X	><		Date: Time:	Date: Time:	Date:	el	TIME: 3:40	3,0 400
and chain of custod	ENIVIPONIMENTAL		Ė	FaX	SITE MANAGER. The Taurez	1 Draw TB#2	Lea COUNTY, IV T SAMPLE IDENTIFICATION	(1.0, -1.5,)	(0-1.0)	(0-1.0.)	(101.5")	(2.0'-2.5")	(0-1.0,)	( 1.0'-1.5')	(2.0'-2.5')	[0-1.0]	(10'-1.5')	105 RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED By LEGENTURE) (10	2/06	W-Veter A-Air 3D-Solid
	[	_	Midland,		SITI	PROJECT NAME:	OMP.  SARB  Lea  Color	X AH-11	5 14 14-12	5 14 414 -13	5 X 4H-13	5 X 414 - 13	1 AH-14	1 X 14-14	1 X /H - 14	15 18 AH - 15	S X A11-15	Date: 3/2	Date:	Date:	ELF	STATE: ZIP: ZIP:	VED: MATRIX:
Analysis Request	TITOTIL	HIGHLAIVDER 1910		(432) 682-4559	CLIENT NAME: $\rho_{060}$	PROJECT NO.: 2589	IAB I.D. DATE TIME	2/21/08	32	3	35	22	2%	33	No.	39	4 04	RELIDEDUSHED BY: (Signature)	RELINQUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RECEIVING LABORATORY: 1		ONDITION WHEN REC

ANALYSIS REQUEST	(Circle or Specify Method No.)	95 PH 1	9 1 Pd 45 Pd 45	2510/65 560/65 88 Cq 12 100	608 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	BOD' 123' bear 8080 bear 8080 GCTM2 8080 GCTM2 8080 ICITA 8080	× × ×	Х						SAMPLE 17 (Print & Sug) Date: 212/100	BY:		PERSON:	L/cc / U/d/C Z Authorised:	days 30 millips/land was
Custody Record	CORP		Fax (432) 682-3946	PRESERVATIVE METHOD		ICE HINO3 HCT LITTERED (	X	× -	× -					Date:	Date:	Date:	Weep-	70 3,40	I REMARKS:
and Chain of Custoc	HIGHLANDER ENVIRONMENTAL CORP	1910 N. Big Spring St.	Midiand, lexas rarub Fax	SITE MANAGER: The Tauget	,tten	Leg COUNTY NAME IDENTIFICATION	(-15 (2.0'-2.5")	-15 (30'-35')	- 15 (40'-45')				, , , , , , , , , , , , , , , , , , , ,	7 100 RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY/ (Supplied )	TP: 2/25/06	MATRIX: W-Fater A-Air 3D-Solid (S-Solid SIL-Sindge 0-Other
Analysis Request	ANDER	1910		P060	PROJECT	E GNATAIX COMP.	S X 4H-	XAH	S N 414					ure) Date:			ELT	STATE: X	PECELVED:
Analysis	HICH		(432) 682-4559	CLIENT NAME: PO	PROJECT NO: 2589	LAB I.D. DATE TI	-41 2/21/06	-42 2/21/06	23 2/21/16					RELEGUISHER (Y. (Signature)	RELINQUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	PECETVING LABORATORY:	CONTACT: 0 dr>54	SAMPLE CONDITION WHEN RECEIVED:

### **Analytical Report**

3/13/2006



# Analytical Report

### **Prepared for:**

Ike Tavarez
Highlander Environmental Corp.
1910 N. Big Spring St.
Midland, TX 79705

Project: Pogo/ Cotton Draw TB #2
Project Number: 2589
Location: Lea County, NM

Lab Order Number: 6C07003

Report Date: 03/13/06

Highlander Environmental Corp. 1910 N. Big Spring St.

Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported:
03/13/06 09:04

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-1 T-1 2.0' BEB	6C07003-01	Soil	03/03/06 00:00	03/07/06 14:00
AH-12 T-2 2.0'	6C07003-03	Soil	03/03/06 00:00	03/07/06 14:00
AH-12 T-2 3.5'	6C07003-04	Soil	03/03/06 00:00	03/07/06 14:00
AH-12 T-2 5.0'	6C07003-05	Soil	03/03/06 00:00	03/07/06 14:00

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported: 03/13/06 09:04

### General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-1 T-1 2.0' BEB (6C07003-01) Soil									
Chloride	232	10.0	mg/kg	20	EC60910	03/09/06	03/09/06	EPA 300.0	
AH-12 T-2 2.0' (6C07003-03) Soil									
Chloride	16600	200	mg/kg	400	EC60910	03/09/06	03/09/06	EPA 300.0	
AH-12 T-2 3.5' (6C07003-04) Soil									
Chloride	17700	200	mg/kg	400	EC60910	03/09/06	03/09/06	EPA 300.0	
AH-12 T-2 5.0' (6C07003-05) Soil									
Chloride	112	5.00	mg/kg	10	EC60910	03/09/06	03/09/06	EPA 300.0	

1910 N. Big Spring St.

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

Reported: 03/13/06 09:04

Midland TX, 79705

Project Number: 2589 Project Manager: Ike Tavarez

### General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Danastina		Cuiles	C		0/DEC		DDD	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC60910 - Water Extraction										
Blank (EC60910-BLK1)				Prepared	& Analyzo	ed: 03/09/	06			
Chloride	ND	0.500	mg/kg							
LCS (EC60910-BS1)				Prepared	& Analyzo	ed: 03/09/	06			
Chloride	9.17		mg/L	10.0		91.7	80-120			
Calibration Check (EC60910-CCV1)			,	Prepared	& Analyzo	ed: 03/09/	06			
Chloride	9.39		mg/L	10.0		93.9	80-120			
Duplicate (EC60910-DUP1)	So	urce: 6C080	16-01	Prepared	& Analyz	ed: 03/09/	06			
Chloride	1770	50.0	mg/kg		1760			0.567	20	

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported:
03/13/06 09:04

#### **Notes and Definitions**

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

Ralandic Juli

Date: 3-13-06

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

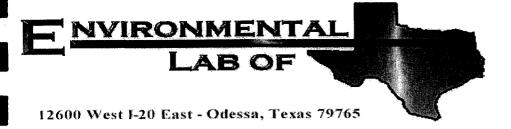
If you have received this material in error, please notify us immediately at 432-563-1800.

# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Light lander			
Client:			
Pate/Time: 31/06 2.00			
Order #: (0 ( 0 1 0 0 3			
A 0/			
nitials:			
Sample Receipt	: Checkli	st	
Temperature of container/cooler?	Yes	No	600 CI
Shipping container/cooler in good condition?	Kes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	(Es	No	
Sample Instructions complete on Chain of Custody?	YES	No	
Chain of Custody signed when relinquished and received?	YOR	No	
Chain of custody agrees with sample label(s)	Yes	No	<u></u>
Container labels legible and intact?		No	<u> </u>
Sample Matrix and properties same as on chain of custody?		No	
Samples in proper container/bottle?		No	
Samples properly preserved?	<b>O</b>	No	
Sample bottles intact?	(ES)	No	
Preservations documented on Chain of Custody?	YES	No	
Containers documented on Chain of Custody?	YES	No	
Sufficient sample amount for indicated test?	<b>©</b>	No	
All samples received within sufficient hold time?	YES	No	<del> </del>
VOC samples have zero headspace?	YES	No	Not Applicable
VOC samples have zero neadspace:	(63/	1 140	1 Not Applicable 1
Other observations:			
Other observations.	•		
	<del></del>		·
Manta			
Variance Docu			
Contact Person: Date/Time:			Contacted by:
Regarding:			
	<del></del>		
	·	<del></del>	
Corrective Action Taken:		•	
			· · · · · · · · · · · · · · · · · · ·
			<del></del>
			<del></del>
			<del></del>

OF:	No.)		Gpr.	. (ट्रांग् <u>र</u>	.os (ALT)	Gemme Spe Alphe Bete PLM (Asbes	×		λ,		*				Date: ///50	AIRBILL #	OTHER:	RUSH Charges	Authorized: Yes No	
PAGE: ( ANALYSIS REQUEST	(Circle or Specify Method		- C2- 1	280/68 280/68 28 C4	908 1. Vol. 18 8240/88 1. Vol. 18 1. V	Lest 808\0 CC'N3 3em CC'N3 3em CC'N3 10'		p) a//							SANDLED BY (Print) & Start	BY: (Circle) BUS		HIGHLANDER CONTACT PERSON:	The lumice	torales wilabel
Custody Record	CORP		Fax (432) 682-3946	PRESERVATIVE METHOD		NONE ICE HNO3 HCT KLUEKED (X		×	X	X	X				Date:	Date: Time:	Date:	72	7:00	
and Chain of Custod	ENVIRONMENTAL CORP	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		SITTE MANAGER: I/LE TOUMEZ	brau TB#2	Lea (canty , WM SAMPLE IDENTIFICATION	T-1) 2.0'BEB	J-11 3.0' BEB	7-21 2.0'	T-21 3.5'	7-21 5.0'			74	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	106	W-Water A-Air SD-Solid REMARKS:  (S-Sol) SL-Sludge 0-Other (0.0)
quest and					PROJECT NAME: 8060 / C6++01 Draw	ANARA EANE:	X AH-1 (	1 / H-1 /	1 X 4 H - 12 /	X4H-12 /	S X 4 H - 12 (			1210	Date: 2/ /// Time: 2.0/	Date:	Date:	11	TE: / X ZIP: -	D: MATRIX:
Analysis Request	HICHIANDER		(432) 682-4559	CLIENT NAME: POGO	PROJECT NO: 2589	ANDWEER DATE TIME NOVINGER	3/3/66	De 3/3/66 5	03 3/1/66 8	5 99/9/2 20-	5 31/1/16				REIDGURGE OF: (Signature)	RELINGUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RECEIVING LABORATORY:	CONTACT: 0 delig STATE: PHONE:	LAPIS CONDITION WHEN RECEIVE

Analytical Report 3/13/2006



# Analytical Report

### **Prepared for:**

Ike Tavarez
Highlander Environmental Corp.
1910 N. Big Spring St.
Midland, TX 79705

Project: Pogo/ Cotton Draw TB #2
Project Number: 2589
Location: Lea County, NM

Lab Order Number: 6C09012

Report Date: 03/13/06

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

**Reported:** 03/13/06 10:49

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-13 (2.0'-2.5')	6C09012-01	Soil	02/21/06 00:00	02/23/06 15:40

1910 N. Big Spring St.

Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

**Reported:** 03/13/06 10:49

### General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-13 (2.0'-2.5') (6C09012-01) Soil									
Chloride	39.1	5.00	mg/kg	10	EC61305	03/10/06	03/13/06	EPA 300.0	,

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589

Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/13/06 10:49

### General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC61305 - Water Extraction						·				
Blank (EC61305-BLK1)				Prepared:	03/10/06	Analyzed	l: 03/13/06			
Chloride	ND	0.500	mg/kg							
LCS (EC61305-BS1)				Prepared:	03/10/06	Analyzed	l: 03/13/06			
Chloride	8.69		mg/L	10.0		86.9	80-120			
Calibration Check (EC61305-CCV1)				Prepared:	03/10/06	Analyzed	1: 03/13/06			
Chloride	8.99		mg/L	10.0		89.9	80-120			
Duplicate (EC61305-DUP1)	So	urce: 6C0900	04-02	Prepared:	03/10/06	Analyzed	I: 03/13/06			
Chloride	516	10.0	mg/kg		509			1.37	20	

1910 N. Big Spring St. Midland TX, 79705

Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

**Reported:** 03/13/06 10:49

#### **Notes and Definitions**

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By

Ralanck Jull

Date:

63-13-06

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

PAGE: c OF: 5	ANALYSIS REQUEST or Specify Method No.)			98	39/02Z	70l. 6 908 91, TDS 96.	RCI CC.MS Vol. 1 Post. 808/6 BOD, TSS, p Gennas Spe Alpha Beta Alpha Beta	X	X	X X	X	X		><		~	×	A Sign) Date: 150	(Circle) BUS ARBILL #		<u></u>		1. Kul (10 a. 1 10 10 a. 1)
7	ANAL (Circle or	) 	S PH Pd	13 th	PO PE	809/ 809/	TCLP Velais	) )	X	X			X			×	×	SAMPLED BY: (Print	SAUPLE SHIPPED BY:	HAND DELIVERED	<b>2</b>	The House	2007
lv Record		CORP.	MdOS	(432) 682-3946	PRESERVATIVE		NONE ICE HINOS HCT EITLEBED (L	×	× -	λ	X	X	X	X	X	X.	X	Date:Time:	Date:	Date:	- 20	71. 3:40	REMARKS:
and Chain of Custody		VTAL	1910 N. Big Spring St. Midland, Texas 79705	Fax	SITE MANAGER. TKE TALVITCE	tin Druw TBHZ	Lea (BUITY IN TI SAMPLE IDENTIFICATION	1 (1.0'-1.5')		13 (0-1.0")	13 (10-15")	13 (2.0'-2.5")	14 (0-1.0')	14 (10'-1.5')	14 (2.0-2.5")	15 10-10]	(51-07)	12 3.106. RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY (Signature) //	00/21	4 63
	•	ANDER E	1910 N. Midland	6	0	PROJECT NAME:  fobol cotton	MATRIX COMP. GRAB	S X AH-11 1	51-41/18 18	SI - HIN X 13	- 111/X X 12	1 - 111/ X S	1 X AH-1	1 × 14 -	· - H/X   5	5 × 4H -	1-111/1	Date: 2.				ONE:	
Analysis Request	ard frame	HIGHT		(432) 682-4559	CLIENT NAME: $\rho_{060}$	PROJECT NO.: 2589	C COCIC LAB I.D. DATE TIME	12/1/10	32.	23	34	K	- 45	16-	X2,	186.	10 1	RELINGUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RECEIVING LABORATORY:	CITY: GUTTS	SAMPLE CONDITION WHEN RECEIVED:

X and CIT as per otherhed e-mail 3-9-6 @ 1345

## Environmental Lab of Texas Variance / Corrective Action Report — Sample Log-In

lient: Highlander			
ate/Time: 2/23/010 3-40	,	(i	200000
der#: 682007/609012		0	COPY
itials:			
Sample Receip	t Checkli	ist	
mperature of container/cooler?	Yes	No	3,0 CI
ipping container/cooler in good condition?	(YES	No	
stody Seals intact on shipping container/cooler?	Yes	No	Cict present
stody Seals intact on sample bottles?	Yes	No	HIL DESERT
nain of custody present?	Y=3	No	
mole Instructions complete on Chain of Custody?	1800	No	
nain of Custody signed when relinquished and received?	(YES)	No	
nain of custody agrees with sample label(s)	Yes	No	IDON 11CB
ontainer labels legible and intact?	Yes	No	nea
ample Matrix and properties same as on chain of custody?	) YES	No	
amples in procer container/bottle?	(23)	No	<u> </u>
amples properly preserved?	(E3)	l No	
ample bottles intact?		No	<u> </u>
eservations documented on Chain of Custody?		l No	<u> </u>
ontainers documented on Chain of Custody?	XES	No	<u> </u>
ufficient sample amount for indicated test?	<u> </u>	l No	<del> </del>
Il samples received within sufficient hold time?	<u> </u>	l No	<u> </u>
OC samples have zero headspace?	<b>'</b>	l No	Not Applicable
ther observations:			
Variance Doci Contact Person: Date/Time: Regarding:			·
Corrective Action Taken:			
	· · · · · · · · · · · · · · · · · · ·		
			· · · · · · · · · · · · · · · · · · ·
	<del></del>		

### Jeanne McMurrey

From:

"Ike T" <itavarez@hec-enviro.com>

To:

"Jeanne - Enviro Lab" <jeanne@elabtexas.com>

Sent:

Thursday, March 09, 2006 1:45 PM

Subject:

FW: Pogo Producing - Additional Analysis for the Cotton Draw Project

Pogo Producing Company – Cotton Draw Tank Battery #2, Lea County, New Mexico Lab Order # 6B23027 Project #2589

Jeanne, please run additional analysis on the sample below. Call me if you have any questions, thanks.

AH-13 (2-2.5') - Chloride

----Original Message----

From: Jeanne McMurrey [mailto:jeanne@elabtexas.com]

Sent: Friday, March 03, 2006 2:30 PM

To: Ike T

Subject: Re: Pogo Producing - Additional Analysis for the Cotton Draw Project

Thanks Ike. I will add your analysis request.

~Jeanne

Jeanne McMurrey Environmental Lab of Texas I, Ltd. 12600 West I-20 East Odessa, Texas 79765 432-563-1800

---- Original Message -----

From: Ike T

To: Jeanne - Enviro Lab

Sent: Friday, March 03, 2006 1:18 PM

Subject: Pogo Producing - Additional Analysis for the Cotton Draw Project

Pogo Producing Company – Cotton Draw Tank Battery #2, Lea County, New Mexico Lab Order # 6B23027
Project #2589

Jeanne, please additional analysis on samples below. Call me if you have any questions, thanks.

AH-2 (2-2.5) - TPH, BTEX

AH-2 (3-3.5) - TPH, BTEX

AH-2 (5-5.5) - TPH, BTEX

AH-3 (1-1.5') - TPH, BTEX

AH-4 (1-1.5) - TPH, BTEX

AH-5 (1-1.5) - TPH, BTEX

AH-6 (1-1.5) - TPH, BTEX

AH-9 (1-1.5) – TPH, BTEX

AH-15 (1-1.5) – TPH, BTEX (2-2.5) – TPH, BTEX (3-3.5) – TPH, BTEX

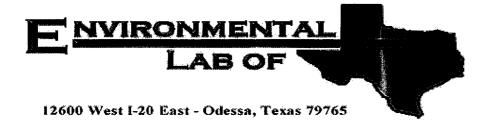
This message has been scanned for viruses and dangerous content by **BasinBroadband**, and is believed to be clean.

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This message has been scanned for viruses and dangerous content by <u>BasinBroadband</u>, and is believed to be clean.

## **Analytical Report**

3/17/2006



# Analytical Report

### Prepared for:

Ike Tavarez
Highlander Environmental Corp.
1910 N. Big Spring St.
Midland, TX 79705

Project: Pogo/ Cotton Draw TB #2
Project Number: 2589
Location: Lea County, NM

Lab Order Number: 6C13019

Report Date: 03/17/06

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

1910 N. Big Spring St. Midland TX, 79705 Project Number: 2589
Project Manager: Ike Tavarez

Reported: 03/17/06 10:28

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-4 (0-1.0') BEB	6C13019-01	Soil	03/09/06 00:00	03/13/06 16:00
AH-5 (0-1.0') BEB	6C13019-02	Soil	03/09/06 00:00	03/13/06 16:00

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported: 03/17/06 10:28

# Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-4 (0-1.0') BEB (6C13019-01) Soil							7, 200		
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61406	03/14/06	03/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	u.	"	,	#	"	Ħ	
Carbon Ranges C28-C35	ND	10.0	n	п	"	н	"	ir.	
Total Hydrocarbon C6-C35	ND	10.0	u	н	n	n	11	u	
Surrogate: 1-Chlorooctane		105 %	70-13	30	"	"	"	"	
Surrogate: 1-Chlorooctadecane		103 %	<b>70-1</b> 3	80	#	"	u	rr .	
AH-5 (0-1.0') BEB (6C13019-02) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EC61406	03/14/06	03/15/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	11	11		H	н	II.	
Carbon Ranges C28-C35	ND	10.0	n	**	11	*	n	u	
Total Hydrocarbon C6-C35	ND	10.0	11	"	11	**	11	**	
Surrogate: 1-Chlorooctane	<del></del>	111 %	70-13	30	"	"	"	n	
Surrogate: 1-Chlorooctadecane		110 %	70-13	30	"	"	"	n	

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

1910 N. Big Spring St. Midland TX, 79705

Project Number: 2589

Project Manager: Ike Tavarez

Reported: 03/17/06 10:28

### General Chemistry Parameters by EPA / Standard Methods **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
AH-4 (0-1.0') BEB (6C13019-01) Soil									
% Moisture	5.4	0.1	%	1	EC61506	03/14/06	03/15/06	% calculation	
AH-5 (0-1.0') BEB (6C13019-02) Soil									
% Moisture	3.3	0.1	%	1	EC61506	03/14/06	03/15/06	% calculation	

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589 Project Manager: Ike Tavarez Fax: (432) 682-3946

Reported: 03/17/06 10:28

### Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC61406 - Solvent Extraction (GC)										
Blank (EC61406-BLK1)				Prepared &	: Analyzed:	03/14/06	<del></del>		1000	
Carbon Ranges C6-C12	ND	10,0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	#							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	50.2		mg/kg	50.0		100	70-130			
Surrogate: 1-Chlorooctadecane	42.2		"	50.0		84.4	70-130			
LCS (EC61406-BS1)				Prepared &	z Analyzed:	03/14/06				
Carbon Ranges C6-C12	494	10.0	mg/kg wet	500		98.8	75-125			
Carbon Ranges C12-C28	434	10.0	"	500		86.8	75-125			
Total Hydrocarbon C6-C35	928	10.0	11	1000		92.8	75-125			
Surrogate: 1-Chlorooctane	53.4		mg/kg	50.0		107	70-130			
Surrogate: 1-Chlorooctadecane	44.3		"	50.0		88.6	70-130			
Calibration Check (EC61406-CCV1)				Prepared: 0	03/14/06 A	nalyzed: 03	/15/06			
Carbon Ranges C6-C12	231		mg/kg	250		92.4	80-120			
Carbon Ranges C12-C28	258		IT	250		103	80-120			
Total Hydrocarbon C6-C35	489		**	500		97.8	80-120			
Surrogate: 1-Chlorooctane	50.5		н	50.0		101	70-130			
Surrogate: 1-Chlorooctadecane	52.8		"	50.0		106	70-130			
Matrix Spike (EC61406-MS1)	Sou	rce: 6C1301'	7-17	Prepared &	k Analyzed:	03/14/06				
Carbon Ranges C6-C12	569	10.0	mg/kg dry	534	ND	107	75-125			
Carbon Ranges C12-C28	511	10.0	"	534	8.14	94.2	75-125			
Total Hydrocarbon C6-C35	1080	10.0	"	1070	ND	101	75-125			
Surrogate: 1-Chlorooctane	59.1		mg kg	50.0		118	70-130	-		
Surrogate: 1-Chlorooctadecane	50.0		"	50.0		100	70-130			

1910 N. Big Spring St. Midland TX, 79705 Project: Pogo/ Cotton Draw TB #2

Project Number: 2589
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Reported: 03/17/06 10:28

### Organics by GC - Quality Control

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EC61406 - Solvent Extraction (GC)										
Matrix Spike Dup (EC61406-MSD1)	Sou	rce: 6C13017	-17	Prepared &	k Analyzed:	03/14/06				
Carbon Ranges C6-C12	565	10.0	mg/kg dry	534	ND	106	75-125	0.705	20	, , , , , , , , , , , , , , , , , , ,
Carbon Ranges C12-C28	506	10.0	"	534	8.14	93.2	75-125	0.983	20	
Total Hydrocarbon C6-C35	1070	10.0	#	1070	ND	100	75-125	0.930	20	
Surrogate: 1-Chlorooctane	58.6		mg/kg	50.0		117	70-130			
Surrogate: 1-Chlorooctadecane	49.7		"	50.0		99.4	70-130			

Project: Pogo/ Cotton Draw TB #2

Fax: (432) 682-3946

1910 N. Big Spring St. Midland TX, 79705 Project Number: 2589
Project Manager: Ike Tavarez

Reported: 03/17/06 10:28

# General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EC61506 - General Preparation (Prep)										
Blank (EC61506-BLK1)				Prepared: (	3/14/06	Analyzed: 03	/15/06			
% Solids	100		%							
Duplicate (EC61506-DUP1)	Sou	rce: 6C13017-	-01	Prepared: (	3/14/06	Analyzed: 03	/15/06			
% Solids	93.5		%		93.6			0.107	20	
Duplicate (EC61506-DUP2)	Sou	rce: 6C13016	-02	Prepared: (	3/14/06	Analyzed: 03	/15/06			
% Solids	95.9		%		97.2			1.35	20	
Duplicate (EC61506-DUP3)	Sou	rce: 6C13016	-22	Prepared: (	03/14/06	Analyzed: 03	/15/06			
% Solids	83.1		%		83.6			0.600	20	
Duplicate (EC61506-DUP4)	Sou	rce: 6C13016	-42	Prepared: (	03/14/06	Analyzed: 03	/15/06			
% Solids	95.4		%		95.7			0.314	20	
Duplicate (EC61506-DUP5)	Sou	rce: 6C13016	-62	Prepared: (	03/14/06	Analyzed: 03	/15/06			
% Solids	81.3		%		80.2			1.36	20	
Duplicate (EC61506-DUP6)	Sou	rce: 6C13016	-82	Prepared: (	03/14/06	Analyzed: 03	/15/06			
% Solids	85.6		%		86.7			1.28	20	
Duplicate (EC61506-DUP7)	Sou	rce: 6C14004	-03	Prepared: (	03/14/06	Analyzed: 03	/15/06			
% Solids	98.8		%		99.0			0.202	20	

Project: Pogo/ Cotton Draw TB #2

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Reported: 03/17/06 10:28

**Notes and Definitions** 

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:	Raland	KJul
Penort Annroved By:	1	-

Date:

3/17/2006

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

PAGE:   OF:	ANALYSIS REQUEST	ircle or specify method		9; i i i i	Be Cd	(AL) (AL) (AL) (AL) (AL) (AL) (AL) (AL)	TTHE SORO,  TOTAL SEMI  TOTAL	>×.	X					SAGFILD BY: (Print & Sign) Date: 1/7/00	BY: (Grale) BUS	CÉAND DELIVERED UPS OTHER: Results by	TOPING CONTROL	LAC LUVEZ Authorimon:	BE FO'C WARRY retains pink copy - Accounting receives Gold copy.
and Chain of Custody Record	or Caroary	ENVIRONMENTAL CORP.	1910 N. Big Spring St. Widland, Texas 79705		SITE MANAGER: The Town 122 B PRESERVATIVE		LCQ COULTY / NY MANOR HICE NOUTHER DENTIFICATION NOUTHER OF HICE	4-4 (0-1.0') BEB 11 X	-015-					7/17/CD RECREIVED BY: (Signature) Date:	RECEIVED BY: (Signature) Dete:	RECEIVED BY: (Signature)	Becertapy Hi: Bagginre 1000	. ATF. DATE: 3/13/00 THE 4:00	F-Fator A-Air 3D-Solid REMARKS:  S-Soly SL-Sudge 0-0ther Havironental Corpl.  - Return original copy to Highlander Knytromental Corpl.
Amolyaia Reallest	The difference	HIGHLANDER ENVIRO	1910	(432) 682-4559	CLIENT NAME: POCO	PROJECT NO. 2589 PROJECT NAM	IAB ID. DATE TIME HIX CORE CORE	-01 3/9/bb 5 X AH	3/9/6/ X X A H					REIN MANER AY: (Signature) Date:	RELINQUISHED BY: (Signature) Date: Time:	ENLINGUISHED BY: (Signature) Date:	173	CONTACT: PHONE: THONE: THONE:	SAMPLE CONDITION THEN RECEIVED:  ( Please Wil out all copies - Laboratory retains yellow copy

and the state of t

# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Client: Himlander				
Date/Time: 3/3/04 4:00				
Order#: 6013019				
Initials:				
Sample Receipt 6	Checklis	st		
Temperature of container/cooler?	Yes	No	4.0 C	
Shipping container/cooler in good condition?	YES >	No	!	
Custody Seals intact on shipping container/cooler?	Yes	No	Mot present 1	
Custody Seals intact on sample bottles?	Yes	No	Not present	
Chain of custody present?	752	No		
Sample Instructions complete on Chain of Custody?	753	No 1		
Chain of Custody signed when relinquished and received?	7 es,	No	:	
Chain of custody agrees with sample label(s)	Yes, I	No		
Container labels legible and intact?	YES	Мо		
Sample Matrix and properties same as on chain of custody?	725	No		
Samples in proper container/bottle?	1 /esp 1	No		
Samples properly preserved?	₹ <del>e</del> s	No		
Sample bottles intact?	(Pes)	No		
Preservations documented on Chain of Custody?	1 Per 1	No		
Containers documented on Chain of Custody?	753	No	,	
Sufficient sample amount for indicated test?	(Yes	No		
All samples received within sufficient hold time?	/ES	No	<u> </u>	
VOC samples have zero headspace?	Yes	No	Not Applicable !	
Other observations:				
Contact Person: Date/Time: Regarding:	mentatic		_Contacted by: _	
Corrective Action Taken:				

### APPENDIX C

### **State of New Mexico Oil Conservation Division**

C-141 Forms

PATEILIS

State of New Mexico

District 1 - (505) 393-6161 State of N	lew Mexico Form C-141				
P. O. Box 1980 Energy Minerals and Not	ural Resources Department Originated 2/13/97				
	ation Division				
8) 1 South First 2040 South	Pacheco Street Submit 2 copies to				
	Medico 87505  Appropriate District Office in accordance				
1000 Rio Brazos Road (505)	327-7131 with Rule 116 on				
Aziec, NM 87410 District IV - (505) 827-7131	back side of form				
	and Corrective Action				
	ERATOR Initial Report Final Report				
Name	Contra				
POGO PROUDERMO COMPINER	4 PAT E1115				
P.O. Box 10340 Midland TX 7970:	Telephone Na. 432-685-8100				
Facilly Name	Facility Type				
Cotton DRAW vait TANK BATTORY TE	2 TANK BATTERY 2				
Surface Owner Mineral Owner	Lease No.				
BLM BLI	91-005247				
LOCATION	OF RELEASE				
Unit Letter Section Township Range Foot from the North/South Lin					
15 255 326	LEA				
NE /4 OF SW	Y WEY EASE				
Type of Release	FRELEASE Volume of Release Volume Recevered				
WATER & oil	35 WATER 501/ 18WATER 12011				
Source of Release	Date and Hour of Occurrence Date and Hour of Discovery				
TAULK	2/18/06 2:00 Pm 2/18/06 2:00 Pm				
Was Immediate Notice Given? 485 No Not Required	If YES, To Whom?				
By Whom?	Date and Hour				
CIBY DSbORN	2/18/06 2:40 Pm.				
Was a Watercopiese Reached?	If YES, Volume Impacing the Watermuse				
\( \sum_{\text{X}_0} \)					
If a Watercourse was Impacted, Describe Fully (Attach Additional Sheets If Necessar	()				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Describe Cause of Problems and Remodula Action Dalem. (Assacs Additional Stress If t VAIVE Plugue up. Row The Rool De Hol.	Pung EVALVE				
VAIVE FINGS DOIS. TEAM VIII					
Replaced.	1				
CAILED BLM-KATHY HAS	100 (2) 1,40 PM.				
Describe Area Affected and Cleanup Aering Taken. (Attach Additional Sheets If Neces	ALY)				
Deplaced Blm-Kathy Has  CAHLED BLM-KATHY HAS  Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Neces  VAC TRUCK PICK LP KREE FELL	12. CRAD UP 15				
I hereby certify that the information given above is true and complete to the best of my into are required to report and/or file certain release notifications and perform corrective action	and understand that pursuant to NMOCD rules and regulations all operators				
1 a C.) 41 report by the NMOCT) marked as "Final Report" does not relieve the operator of l	applifus about their operations have falled to enequaltry inversalists and remadists				
contamination that post a threat to ground water, surface water, human health or the earth operator of responsibility for compliance with any other federal, state, or local laws and	enment. In addition, NMOCD secretance of a C-141 report seed not reserve the for regulations.				
as not	OIL CONSERVATION DIVISION				
September (Chapter)	. 15.				
Printed Name: 0/134 DSBBRN	Approved by District Supervisor:				
Tide C	Approval Date: Expiration Date:				

Phone 432-631-0129

Conditions of Approval:

### SITE INFORMATION

### **ASSESSMENT & CLOSURE REPORT**

Site:	Cotton Draw Unit Tank Battery #2
Company:	Pogo Producing Company
Section, Township and Range	Section 15, Township 25S, Range 32E
Unit Letter:	K
Lease Number:	91-005247
County:	Lea
GPS:	32-07-06.1 N / 103-41-03.2 W
Surface Owner:	BLM
Mineral Owner:	BLM
Directions:	From Jal, take Highway 128 west for 30 miles. Turn left on CR1 and travel south for 6.2
	miles. Turn right and travel west for 0.6 miles. Turn left and travel south 0.3 miles to facility

Date Released:	2/18/2006	(S)	**
Type Release:	Oil & Water	143	S. C.
Source of Contamination:	Valve plugged up, and tank ran over	4	.5 0
Fluid Released:	5 barrels oil / 35 barrels water	0 500	<b>8</b> 33
Fluids Recovered:	1/2 barrel oil / 18 barrels water	12	कुद्ध ु

Name:	Pat Ellis	Don Riggs	lke Tavarez
Company:	Pogo Producing Company	Pogo Producing Company	Highlander Environmental Corp.
Address:	300 N. Marienfeld St.	5 Greenway Plaza, Suite 270	0 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	ltavarez@hec-enviro.com

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

Benzene	Total BTEX	TPH
10	50	5,000

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 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**

						<b>OPERA</b>	ror		Initi	al Report		Final Report
Name of Co	mpany: P	ogo Produci	ng Comp	any		Contact: Pa						
Address: 300 North Marienfeld, Suite 600, Midland TX 79701 Facility Name: Cotton Draw Unit Tank Battery #2						Telephone No. (432) 685-8100						
Facility Nar	ne: Cotto	n Draw Unit	Tank Bat	tery #2	I	Facility Typ	e: Tank Battery					
Surface Owner BLM Mineral Owner					Owner F	r BLM Lease No. 91-005247						
				LOC	ATION	OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North 1	Line	ine	County				
K	15	25S	32E							Lea		
3	2001	<u></u>	L. <u>.</u>	NAT	TURE -	OF REL	EASE	L				
Type of Rele	ase Oil a	nd produced v	vater				Release 5 bbl oil,	, 35	Volume l	Recovered	1/2 BO,	, 18 BW
Source of Re	lease: Valv	ve plugged up	and tank r	an over.		Date and Hour of Occurrence   Date and Hour of Discovery   2:00 pm, 2/18/06   2:00 pm, 2/18/06						
Was Immedi	ate Notice	Given?				If YES, To			2.00 pm,	2/10/00		
		$\boxtimes$	Yes [	No 🗌 Not R	Required	On call page	ger			•		
By Whom?	Clay Osbo	orn				Date and F						
Was a Water	course Rea	ched?				2:40 pm, 2	/18/06 olume Impacting t	he Wate	ercourse			<del></del> -
11454114101	000100100		Yes 🛭	No		N/A	oranie impaeting t		or course.			
If a Watercou	urse was Im	pacted, Descr	ibe Fully.*	•		<u> </u>						
		lem and Reme sing a tank to			was calle	ed in to pick	up fluids. The val	lve and	pump were	e replaced.		
A vacuum tru	uck picked		and the val	ve and pump we			was assessed by I					
regulations a public health should their or or the enviro	Il operators or the envi operations l nment. In	are required to a recomment. The have failed to a	o report and acceptant adequately OCD accep	nd/or file certain ce of a C-141 reprinted investigate and	release no ort by the remediate	otifications a e NMOCD m e contaminat	knowledge and und perform correct parked as "Final Rich that pose a three the operator of	ctive act eport" of reat to gr	ions for re loes not re round wate	leases which lieve the ope er, surface w	may er rator of ater, hu	ndanger Fliability man health
	0				:		OIL CON	SERV	ATION	DIVISIO	NC	
Signature: 6	Latre	17. 8	Ellis	<b>,</b>			ENVIE	اعدی م	<b>L</b> ^			
Printed Nam	e: Pat Elli	s				Approved by	District Supervis	जा:	4	ohus	<u>~</u>	
Title: Divisio	on Environ	nental Safety	& Health	Supervisor		Approval Da	te: ((- <b>78-6</b> )	0	Expiration	Date:		<b>®</b>
E-mail Addre	ess: EllisP	@pogoproduc	ing.com			Conditions o	f Approval:			Attached	ı 🗆	
Date: 6-1	15-06	Phone: (432)	685-8100									
* Attach Addi	tional She	ets If Necess	sary			_						
L	rcili	ty-1	PPAC	:04286 AC062 DAC00	3466 313 l	74 .780				1R	P- 1	000
0	mu	dent	· 17	TICU 4X	(m) C	i 100 i 270	18					•
L	appl	rcatic	m-f	OPTILU	fox o	47 10						