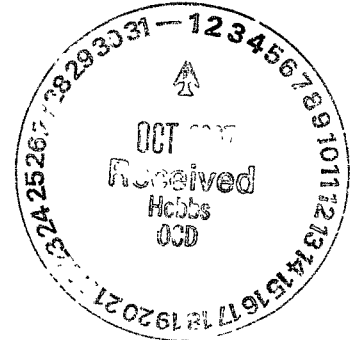




# Highlander Environmental Corp.

Midland, Texas

August 7, 2007



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

**Re: Assessment and Closure Report for the Cimarex Energy Co., Laughlin 5 #3 Tank Battery Release Located in Unit I, Section 5, Township 20 South, Range 37 East, Lea County, New Mexico.**

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by Cimarex Energy Co. (Cimarex) to assess a spill from the Laughlin 5 #3 Tank Battery, located in Unit I, Section 5, Township 20 South, Range 37 East, Lea County, New Mexico (Site). The spill site coordinates are N 32° 36.040', W 103° 16.061'. The Site is shown on Figure 1.

## Background

According to the State of New Mexico C-141 Initial Report, approximately 125 barrels of oil were released from a circulating pump failure at the tank battery which occurred on March 28, 2007. A total of 125 bbls were recovered. The State of New Mexico C-141 (Initial and Final) are included in Appendix C.

## Groundwater and Regulatory

The New Mexico State Engineer's Office database showed 7 water wells located within Section 5, Township 20 South, Range 37 East, with a reported average depth to water of 38 feet below ground surface (bgs). The New Mexico State Engineer water well report is shown in Appendix A.

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

## **Assessment and Remedial Activities**

After a vacuum truck had picked up all of the fluids, Cimarex had a local dirt contractor remove the visually impacted soils and place them on plastic adjacent to the well. On April 12, 2007, Highlander personnel inspected and sampled the spill area. The spill area ran across a closed reserve pit for the Plantation Operating Britt-Laughlin Well # 6 and then east off of the common pad. The spill extended approximately 260' east of the pad at a width of 2' to 10'. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Samples were not collected across the closed reserve pit. Samples were analyzed for TPH analysis by EPA method 8015 modified, and chloride by EPA method 300.0. Selected samples were analyzed for BTEX by EPA Method 8021B. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix B. The sample locations and spill area is shown on Figure 2. The results of the sampling are summarized in Table 1.

Referring to Table 1, the 0-1' samples from AH-1, AH-2 and AH-5 exceeded the RRAL for TPH. All BTEX concentrations were below the RRAL. The chloride concentrations were elevated in the 0-1' samples in AH-1, AH-2 and AH-3, but decreased to below 250 mg/kg at 1.0'-1.5'. The areas around auger holes AH-1, AH-2 and AH-5 were excavated an additional foot with the soils added to the previous stockpiles.

On June 11, 2007 confirmation samples SP-1, SP-2 and SP-3 were collected and analyzed for TPH, BTEX and chloride. TPH and BTEX concentrations were below the RRAL. Chloride concentrations were below 250 mg/kg for SP-2 and SP-3 and were slightly above at 271 mg/kg at SP-1. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix B. The sample point locations are shown on Figure 3. The results of the sampling are summarized in Table 2.

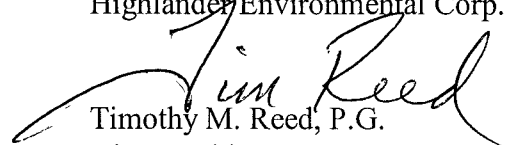
## **Conclusions**

The impacted soils have been excavated and stockpiled on the well pad. No remaining TPH or BTEX concentrations currently exceed the RRAL. The residual chloride concentrations do not appear to be an imminent threat to groundwater. The soil stockpiles will be removed and taken to an approved disposal and the excavation backfilled with clean fill material.



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

Respectfully submitted,  
Highlander Environmental Corp.

  
Timothy M. Reed, P.G.  
Vice President

cc: Evan Wauhob – Cimarex Energy Co.  
Bob Jennings – Cimarex Energy Co.



## SITE INFORMATION

Report Type: ASSESSMENT & CLOSURE REPORT
--

### General Site Information:

<b>Site:</b>	<b>Laughlin 5 #3 Tank Battery</b>
<b>Company:</b>	<b>Cimarex of Colorado</b>
<b>Well Location:</b>	<b>Section 5, T20S R37E</b>
<b>Spill Location:</b>	<b>Section 5, T20S R37E</b>
<b>Unit Letter:</b>	Unit JI
<b>Lease Number:</b>	
<b>County:</b>	Lea
<b>Spill GPS:</b>	32° 36.040', 103° 16.061'
<b>Surface Owner:</b>	Randy Crawford
<b>Mineral Owner:</b>	
<b>Directions:</b>	From the intersection of Hwy 8 and C.R. 322 in Monument, head south on 8 for 1.7 miles.
	Turn right onto lease road. Take right fork for 0.01 miles to fork in road. Take right fork
	200 yards to tank battery.

Release Data:

<i>Date Released:</i>	3/28/2007
<i>Type Release:</i>	Oil
<i>Source of Contamination:</i>	Leak at circulating pump.
<i>Fluid Released:</i>	125 barrels
<i>Fluids Recovered:</i>	125 barrels

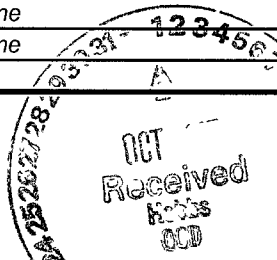
**Official Communication:**

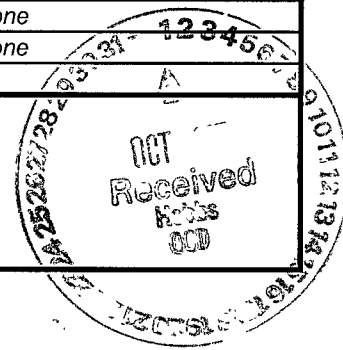
<b>Name:</b>	Hugo Naegle, Jr.	Evan Wauhob	Ike Tavaréz
<b>Company:</b>	Cimarex of Colorado	Cimarex of Colorado	Highlander Environmental Corp.
<b>Address:</b>	300 W. Texas	508 W. Wall, Suite 600	1910 N. Big Spring
<b>P.O. Box</b>	P.O.Box 1237		
<b>City:</b>	Eunice, New Mexico	Midland, Texas 79701	Midland, Texas
<b>Phone number:</b>	(505) 390-9394	(432) 571-7800	(432) 682- 4559
<b>Email:</b>	<a href="mailto:hnaegle@cimarex">hnaegle@cimarex</a>	<a href="mailto:ewauhob@cimarex.com">ewauhob@cimarex.com</a>	<a href="mailto:itavarez@hec-enviro.com">itavarez@hec-enviro.com</a>

## Ranking Criteria

<b>Depth to Groundwater:</b>		<b>Ranking Score</b>	<b>Site Data</b>
<50 ft		20	
50-99 ft		10	
>100 ft.		0	Average Depth <50 BS
<b>WellHead Protection:</b>		<b>Ranking Score</b>	<b>Site Data</b>
Water Source <1,000 ft., Private <200 ft.		20	None
Water Source >1,000 ft., Private >200 ft.		0	
<b>Surface Body of Water:</b>		<b>Ranking Score</b>	<b>Site Data</b>
<200 ft.		20	None
200 ft - 1,000 ft.		10	None
>1,000 ft.		0	
<b>Total Ranking Score:</b>		<b>20</b>	

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	100





## FIGURES



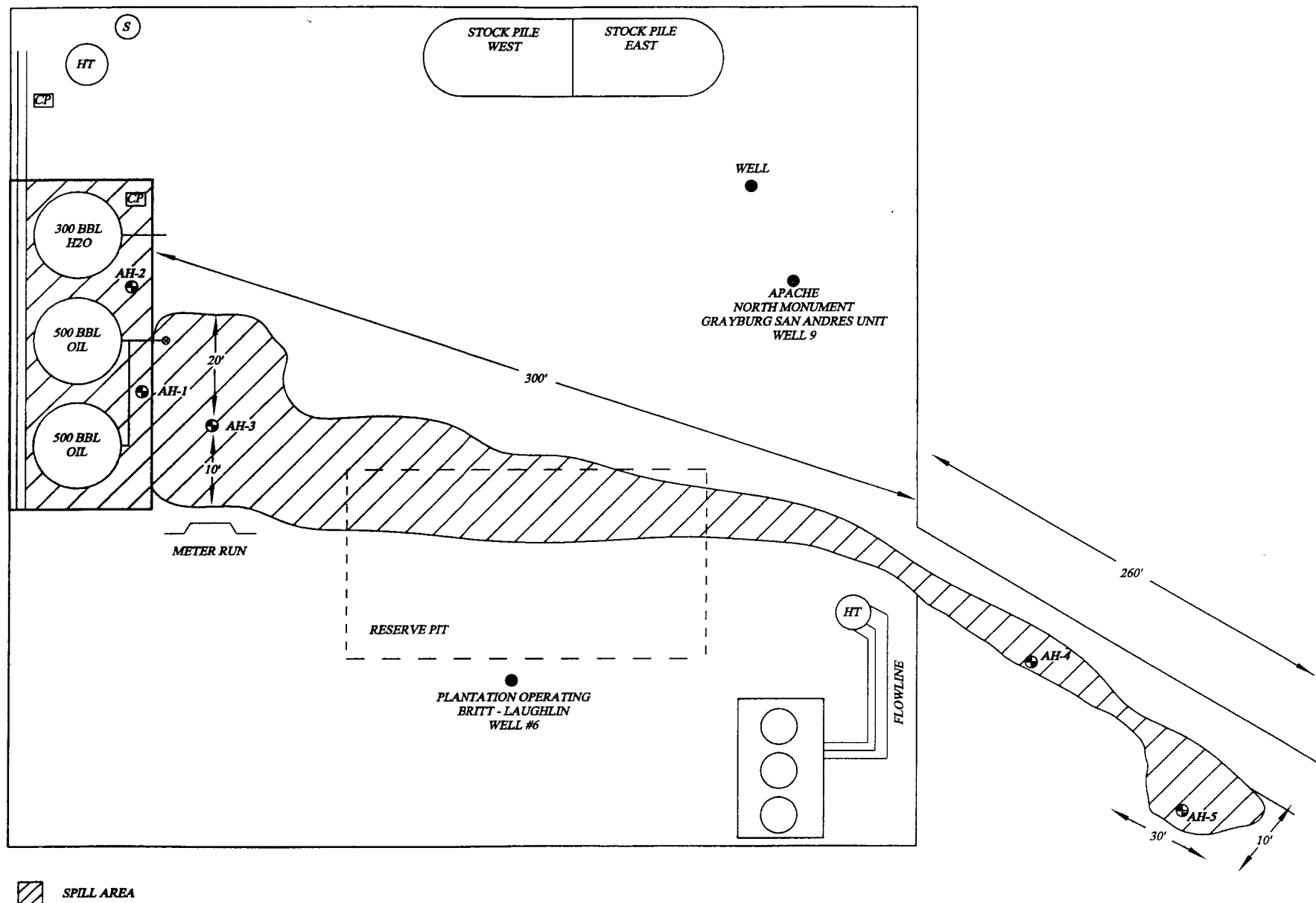


FIGURE .2

LEA COUNTY, NEW MEXICO

CIMAREX ENERGY COMPANY  
LAUGHLIN 5 #3 TB

HIGHLANDER ENVIRONMENTAL CORP.  
MIDLAND, TEXAS

DATE:  
5/2/07  
DWN BY  
RC  
FILE:  
C:\CIMAREX\2005\LAUGHLIN

NOT TO SCALE



DATE: 5/2/07  
OWN. BY RC  
FILE C:\CMAREX\2005\LAUGHELN

**HIGHLANDER ENVIRONMENTAL CORP.**  
**MIDLAND, TEXAS**



## TABLES

Table 1  
Cimarex Energy  
Laughlin 5 #3 TB  
Lea County, NM

Sample ID	Soil Status		Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
	Insitu	Removed			DRO	GRO	Total					
AH-1		X	4/12/2007	0-1.0'	888	473	<b>1,361</b>	0.313	7.76	2.68	10.8	2,690
AH-1	X		4/12/2007	1'-1.5'	<50.0	7.36	7.36	-	-	-	-	16.1
AH-1	X		4/12/2007	2'-2.5'	-	-	-	-	-	-	-	14.9
AH-2		X	4/12/2007	0-1.0'	947	953	<b>1,900</b>	-	-	-	-	671
AH-2	X		4/12/2007	1'-1.5'	<50.0	9.10	9.10	-	-	-	-	11.6
AH-3	X		4/12/2007	0-1.0'	<50.0	4.12	4.12	<0.0100	<0.0100	<0.0100	<0.0100	539
AH-3	X		4/12/2007	1'-1.5'	-	-	-	-	-	-	-	2,390
AH-3	X		4/12/2007	2'-2.5'	-	-	-	-	-	-	-	222
AH-4	X		4/12/2007	0-1.0'	<50.0	9.31	9.31	<0.0100	<0.0100	<0.0100	0.0151	60.4
AH-4	X		4/12/2007	1'-1.5'	<50.0	2.15	2.15	-	-	-	-	-
AH-5		X	4/12/2007	0-1.0'	99.5	162	<b>261.5</b>	-	-	-	-	39.4
AH-5	X		4/12/2007	1'-1.5'	<50.0	4.65	4.65	-	-	-	-	-
<b>Stockpile West</b>		X	4/12/2007	Composite	11,600	2,310	<b>13,910</b>	0.418	39.0	20.0	66.1	3,100
<b>Stockpile East</b>		X	4/12/2007	Composite	12,200	3,480	<b>15,680</b>	0.301	30.7	18.5	63.2	2,790

(-) Not Analyzed

Table 2  
Cimarex Energy  
Laughlin 5 #3 TB  
Lea County, NM

Sample ID	Soils Status		Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
	Insitu	Removed			DRO	GRO	Total					
SP #1 0-1.0' BEB	X		6/11/2007	1.0'	<50.0	3.12	3.12	<0.0100	<0.0100	<0.0100	<0.0100	271
SP #2 0-1.0' BEB	X		6/11/2007	1.0'	<50.0	1.84	1.84	<0.0100	<0.0100	<0.0100	<0.0100	188
SP #3 0-1.0' BEB	X		6/12/2007	1.0'	<50.0	1.43	1.43	<0.0100	<0.0100	<0.0100	<0.0100	192
Stockpile Tank Battery		X	6/13/2007	Composite	6,920	2,700	9,620	-	-	-	-	160
Stockpile Pasture		X	6/13/2007	Composite	747	24.0	771	-	-	-	-	<50.0

(-) Not Analyzed

## APPENDIX A

**Water Well Data**  
**Average Depth to Groundwater (ft)**  
**Cimarex - Laughlin 5 #3 Tank Battery, Lea County, New Mexico**

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

19 South 37 East					
6	50	5	4	39	3
7	43	8	42	9	10
18	53	17	16	15	14
19	48	20	21	33	22
30	20	29	28	30	27
31	24	32	29	33	32

19 South 38 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

20 South 36 East					
6	32	5	4	3	2
7	28	8	9	38	10
18	33	17	16	15	14
19	34	20	21	22	23
30	29	28	27	26	106
31	170	32	33	34	35

20 South 37 East					
6	37	5	4	22	3
7	36	8	35	9	10
18	17	16	15	14	13
19	35	20	21	22	23
30	29	28	27	26	25
31	32	33	34	35	36

20 South 38 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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

21 South 36 East					
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	130
30	29	28	27	26	150
31	32	33	34	35	148

21 South 37 East					
6	73	5	4	75	3
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	53	23
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

34 NMOCD - Groundwater Data

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

Township: 20S Range: 37E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

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

POD / Surface Data Report

Avg Depth to Water Report

Water Column Report

Clear Form

iWATERS Menu

Help

**AVERAGE DEPTH OF WATER REPORT 08/07/2007**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
L	20S	37E	04				1	22	22	22
L	20S	37E	05				7	32	46	38
L	20S	37E	06				8	35	40	37
L	20S	37E	07				4	34	38	36
L	20S	37E	08				10	30	38	35
L	20S	37E	13				2	70	85	78
L	20S	37E	19				6	35	35	35
L	20S	37E	28				2	40	40	40
L	20S	37E	33				2	120	275	198

Record Count: 42

APPENDIX B

## Summary Report

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

Report Date: May 7, 2007

Work Order: 7041709



Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
121908	AH-1 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121909	AH-1 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121910	AH-1 (2.0-2.5')	soil	2007-04-12	00:00	2007-04-17
121911	AH-2 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121912	AH-2 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121914	AH-3 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121915	AH-3 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121916	AH-3 (2.0-2.5')	soil	2007-04-12	00:00	2007-04-17
121917	AH-4 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121918	AH-4 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121920	AH-5 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121921	AH-5 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17

Sample - Field Code	BTX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	MTBE (mg/kg)	DRO (mg/kg)	GRO (mg/kg)
121908 - AH-1 (0-1.0')	0.313	7.76	2.68	10.8		888	473
121909 - AH-1 (1.0-1.5')						<50.0	7.36
121911 - AH-2 (0-1.0')						947	953
121912 - AH-2 (1.0-1.5')						<50.0	9.10
121914 - AH-3 (0-1.0')	<0.0100	<0.0100	<0.0100	<0.0100		<50.0	4.12
121917 - AH-4 (0-1.0')	<0.0100	<0.0100	<0.0100	0.0151		<50.0	9.31
121918 - AH-4 (1.0-1.5')						<50.0	2.15
121920 - AH-5 (0-1.0')						99.5	162
121921 - AH-5 (1.0-1.5')						<50.0	4.65

Sample: 121908 - AH-1 (0-1.0')

Param	Flag	Result	Units	RL
Chloride		2690	mg/Kg	1.00

Sample: 121909 - AH-1 (1.0-1.5')



Param	Flag	Result	Units	RL
Chloride		16.1	mg/Kg	1.00

**Sample: 121910 - AH-1 (2.0-2.5')**

Param	Flag	Result	Units	RL
Chloride		14.9	mg/Kg	1.00

**Sample: 121911 - AH-2 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		671	mg/Kg	1.00

**Sample: 121912 - AH-2 (1.0-1.5')**

Param	Flag	Result	Units	RL
Chloride		11.6	mg/Kg	1.00

**Sample: 121914 - AH-3 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		539	mg/Kg	1.00

**Sample: 121915 - AH-3 (1.0-1.5')**

Param	Flag	Result	Units	RL
Chloride	1	2390	mg/Kg	1.00

**Sample: 121916 - AH-3 (2.0-2.5')**

Param	Flag	Result	Units	RL
Chloride		222	mg/Kg	1.00

**Sample: 121917 - AH-4 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		60.4	mg/Kg	1.00

**Sample: 121920 - AH-5 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		39.4	mg/Kg	1.00

<sup>1</sup>Sample reran May 4, 2007, result confirmed •

# TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9  
200 East Sunset Road, Suite E  
5002 Basin Street, Suite A1  
6015 Harris Parkway, Suite 110

Lubbock, Texas 79424  
El Paso, Texas 79922  
Midland, Texas 79703  
Ft. Worth, Texas 76132

800•378•1296  
888•588•3443

806•794•1296  
915•585•3443  
432•689•6301  
817•201•5260

FAX 806•794•1298  
FAX 915•585•4944  
FAX 432•689•6313

E-Mail lab@traceanalysis.com

## Analytical and Quality Control Report

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

Report Date: May 7, 2007

Work Order: 7041709




Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
121908	AH-1 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121909	AH-1 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121910	AH-1 (2.0-2.5')	soil	2007-04-12	00:00	2007-04-17
121911	AH-2 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121912	AH-2 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121914	AH-3 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121915	AH-3 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121916	AH-3 (2.0-2.5')	soil	2007-04-12	00:00	2007-04-17
121917	AH-4 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121918	AH-4 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121920	AH-5 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121921	AH-5 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17

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

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

  
Dr. Blair Leftwich, Director

### Standard Flags

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

## Case Narrative

Samples for project 'Cimarex/Laughlin 5 #3 TB' were received by TraceAnalysis, Inc. on 2007-04-17 and assigned to work order 7041709. Samples for work order 7041709 were received intact without headspace and at a temperature of 4 deg C.

Samples were analyzed for the following tests using their respective methods.

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

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 7041709 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

## Analytical Report

### Sample: 121908 - AH-1 (0-1.0')

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	36564	Date Analyzed:	2007-04-18	Analyzed By:	ss
Prep Batch:	31714	Sample Preparation:	2007-04-18	Prepared By:	ss

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.313	mg/Kg	1	0.0100
Toluene		7.76	mg/Kg	1	0.0100
Ethylbenzene		2.68	mg/Kg	1	0.0100
Xylene		10.8	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.746	mg/Kg	1	1.00	75	26 - 117.8
4-Bromofluorobenzene (4-BFB)	<sup>1</sup>	1.49	mg/Kg	1	1.00	149	51.1 - 119.1

### Sample: 121908 - AH-1 (0-1.0')

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	36632	Date Analyzed:	2007-04-19	Analyzed By:	AR
Prep Batch:	31771	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2690	mg/Kg	100	1.00

### Sample: 121908 - AH-1 (0-1.0')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	36623	Date Analyzed:	2007-04-18	Analyzed By:	AG
Prep Batch:	31763	Sample Preparation:	2007-04-18	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		888	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	<sup>2</sup>	339	mg/Kg	1	150	226	32.9 - 167

### Sample: 121908 - AH-1 (0-1.0')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	36628	Date Analyzed:	2007-04-20	Analyzed By:	ss
Prep Batch:	31766	Sample Preparation:	2007-04-20	Prepared By:	ss

<sup>1</sup>High surrogate recovery due to peak interference

<sup>2</sup>High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		473	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		45.2	mg/Kg	50	50.0	90	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		51.2	mg/Kg	50	50.0	102	67.5 - 140.3

**Sample: 121909 - AH-1 (1.0-1.5')**

Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 36782      Date Analyzed: 2007-04-25      Analyzed By: AR  
Prep Batch: 31907      Sample Preparation:      Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride	B	16.1	mg/Kg	5	1.00

**Sample: 121909 - AH-1 (1.0-1.5')**

Analysis: TPH DRO      Analytical Method: Mod. 8015B      Prep Method: N/A  
QC Batch: 36623      Date Analyzed: 2007-04-18      Analyzed By: AG  
Prep Batch: 31763      Sample Preparation: 2007-04-18      Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		220	mg/Kg	1	150	147	32.9 - 167

**Sample: 121909 - AH-1 (1.0-1.5')**

Analysis: TPH GRO      Analytical Method: S 8015B      Prep Method: S 5035  
QC Batch: 36562      Date Analyzed: 2007-04-18      Analyzed By: ss  
Prep Batch: 31714      Sample Preparation: 2007-04-18      Prepared By: ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	7.36	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.810	mg/Kg	1	1.00	81	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	67.5 - 140.3

**Sample: 121910 - AH-1 (2.0-2.5')**

Analysis: Chloride (IC)	Analytical Method: E 300.0	Prep Method: N/A
QC Batch: 36782	Date Analyzed: 2007-04-25	Analyzed By: AR
Prep Batch: 31907	Sample Preparation:	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride	B	14.9	mg/Kg	5	1.00

**Sample: 121911 - AH-2 (0-1.0')**

Analysis: Chloride (IC)	Analytical Method: E 300.0	Prep Method: N/A
QC Batch: 36665	Date Analyzed: 2007-04-20	Analyzed By: AR
Prep Batch: 31798	Sample Preparation:	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		671	mg/Kg	50	1.00

**Sample: 121911 - AH-2 (0-1.0')**

Analysis: TPH DRO	Analytical Method: Mod. 8015B	Prep Method: N/A
QC Batch: 36623	Date Analyzed: 2007-04-18	Analyzed By: AG
Prep Batch: 31763	Sample Preparation: 2007-04-18	Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		947	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	<sup>3</sup>	294	mg/Kg	1	150	196	32.9 - 167

**Sample: 121911 - AH-2 (0-1.0')**

Analysis: TPH GRO	Analytical Method: S 8015B	Prep Method: S 5035
QC Batch: 36628	Date Analyzed: 2007-04-20	Analyzed By: ss
Prep Batch: 31766	Sample Preparation: 2007-04-20	Prepared By: ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		953	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		42.2	mg/Kg	50	50.0	84	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		65.0	mg/Kg	50	50.0	130	67.5 - 140.3

<sup>3</sup>High surrogate recovery due to peak interference.

**Sample: 121912 - AH-2 (1.0-1.5')**

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	36782	Date Analyzed:	2007-04-25	Analyzed By:	AR
Prep Batch:	31907	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride	B	11.6	mg/Kg	5	1.00

**Sample: 121912 - AH-2 (1.0-1.5')**

Analysis:	TPH DRO	Analytical Method:	Mod 8015B	Prep Method:	N/A
QC Batch:	36623	Date Analyzed:	2007-04-18	Analyzed By:	AG
Prep Batch:	31763	Sample Preparation:	2007-04-18	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		201	mg/Kg	1	150	134	32.9 - 167

**Sample: 121912 - AH-2 (1.0-1.5')**

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	36562	Date Analyzed:	2007-04-18	Analyzed By:	ss
Prep Batch:	31714	Sample Preparation:	2007-04-18	Prepared By:	ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	9.10	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.805	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	67.5 - 140.3

**Sample: 121914 - AH-3 (0-1.0')**

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	36564	Date Analyzed:	2007-04-18	Analyzed By:	ss
Prep Batch:	31714	Sample Preparation:	2007-04-18	Prepared By:	ss

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

continued ..

sample 121914 continued . .

Parameter	Flag	RL Result	Units	Dilution	RL
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.903	mg/Kg	1	1.00	90	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.874	mg/Kg	1	1.00	87	51.1 - 119.1

**Sample: 121914 - AH-3 (0-1.0')**

Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 36665      Date Analyzed: 2007-04-20      Analyzed By: AR  
Prep Batch: 31798      Sample Preparation:      Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		539	mg/Kg	10	1.00

**Sample: 121914 - AH-3 (0-1.0')**

Analysis: TPH DRO      Analytical Method: Mod. 8015B      Prep Method: N/A  
QC Batch: 36623      Date Analyzed: 2007-04-18      Analyzed By: AG  
Prep Batch: 31763      Sample Preparation: 2007-04-18      Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		244	mg/Kg	1	150	163	32.9 - 167

**Sample: 121914 - AH-3 (0-1.0')**

Analysis: TPH GRO      Analytical Method: S 8015B      Prep Method: S 5035  
QC Batch: 36562      Date Analyzed: 2007-04-18      Analyzed By: ss  
Prep Batch: 31714      Sample Preparation: 2007-04-18      Prepared By: ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	4.12	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.795	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.07	mg/Kg	1	1.00	107	67.5 - 140.3



**Sample: 121915 - AH-3 (1.0-1.5')**

Analysis: Chloride (IC)	Analytical Method: E 300.0	Prep Method: N/A
QC Batch: 36782	Date Analyzed: 2007-04-25	Analyzed By: AR
Prep Batch: 31907	Sample Preparation:	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride	4	2390	mg/Kg	100	1.00

**Sample: 121916 - AH-3 (2.0-2.5')**

Analysis: Chloride (IC)	Analytical Method: E 300.0	Prep Method: N/A
QC Batch: 36980	Date Analyzed: 2007-05-04	Analyzed By: AR
Prep Batch: 32081	Sample Preparation:	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		222	mg/Kg	5	1.00

**Sample: 121917 - AH-4 (0-1.0')**

Analysis: BTEX	Analytical Method: S 8021B	Prep Method: S 5035
QC Batch: 36564	Date Analyzed: 2007-04-18	Analyzed By: ss
Prep Batch: 31714	Sample Preparation: 2007-04-18	Prepared By: ss

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		0.0151	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.908	mg/Kg	1	1.00	91	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.888	mg/Kg	1	1.00	89	51.1 - 119.1

**Sample: 121917 - AH-4 (0-1.0')**

Analysis: Chloride (IC)	Analytical Method: E 300.0	Prep Method: N/A
QC Batch: 36633	Date Analyzed: 2007-04-19	Analyzed By: AR
Prep Batch: 31772	Sample Preparation:	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		60.4	mg/Kg	5	1.00

<sup>4</sup>Sample reran May 4, 2007, result confirmed •

Sample: 121917 - AH-4 (0-1.0')

Analysis:	TPH DRO	Analytical Method:	Mod 8015B	Prep Method:	N/A
QC Batch:	36623	Date Analyzed:	2007-04-18	Analyzed By:	AG
Prep Batch:	31763	Sample Preparation:	2007-04-18	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		206	mg/Kg	1	150	137	32.9 - 167

Sample: 121917 - AH-4 (0-1.0')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	36562	Date Analyzed:	2007-04-18	Analyzed By:	ss
Prep Batch:	31714	Sample Preparation:	2007-04-18	Prepared By:	ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	9.31	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.812	mg/Kg	1	1.00	81	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.09	mg/Kg	1	1.00	109	67.5 - 140.3

Sample: 121918 - AH-4 (1.0-1.5')

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	36623	Date Analyzed:	2007-04-18	Analyzed By:	AG
Prep Batch:	31763	Sample Preparation:	2007-04-18	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		200	mg/Kg	1	150	133	32.9 - 167

Sample: 121918 - AH-4 (1.0-1.5')

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	36562	Date Analyzed:	2007-04-18	Analyzed By:	ss
Prep Batch:	31714	Sample Preparation:	2007-04-18	Prepared By:	ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	2.15	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.801	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.03	mg/Kg	1	1.00	103	67.5 - 140.3

**Sample: 121920 - AH-5 (0-1.0')**

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	36633	Date Analyzed:	2007-04-19	Analyzed By:	AR
Prep Batch:	31772	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		39.4	mg/Kg	5	1.00

**Sample: 121920 - AH-5 (0-1.0')**

Analysis:	TPH DRO	Analytical Method:	Mod 8015B	Prep Method:	N/A
QC Batch:	36623	Date Analyzed:	2007-04-18	Analyzed By:	AG
Prep Batch:	31763	Sample Preparation:	2007-04-18	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO	B	99.5	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		190	mg/Kg	1	150	127	32.9 - 167

**Sample: 121920 - AH-5 (0-1.0')**

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	36628	Date Analyzed:	2007-04-20	Analyzed By:	ss
Prep Batch:	31766	Sample Preparation:	2007-04-20	Prepared By:	ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		162	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		17.4	mg/Kg	20	20.0	87	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		19.8	mg/Kg	20	20.0	99	67.5 - 140.3

Sample: 121921 - AH-5 (1.0-1.5')

Analysis: TPH DRO	Analytical Method: Mod. 8015B	Prep Method: N/A
QC Batch: 36623	Date Analyzed: 2007-04-18	Analyzed By: AG
Prep Batch: 31763	Sample Preparation: 2007-04-18	Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		175	mg/Kg	1	150	117	32.9 - 167

Sample: 121921 - AH-5 (1.0-1.5')

Analysis: TPH GRO	Analytical Method: S 8015B	Prep Method: S 5035
QC Batch: 36567	Date Analyzed: 2007-04-18	Analyzed By: ss
Prep Batch: 31719	Sample Preparation: 2007-04-18	Prepared By: ss

Parameter	Flag	RL Result	Units	Dilution	RL
GRO	B	4.65	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.787	mg/Kg	1	1.00	79	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.03	mg/Kg	1	1.00	103	67.5 - 140.3

Method Blank (1) QC Batch: 36562

QC Batch: 36562	Date Analyzed: 2007-04-18	Analyzed By: ss
Prep Batch: 31714	QC Preparation: 2007-04-18	Prepared By: ss

Parameter	Flag	MDL Result	Units	RL
GRO		0.935	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.901	mg/Kg	1	1.00	90	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.910	mg/Kg	1	1.00	91	67.5 - 140.3

Method Blank (1) QC Batch: 36564

QC Batch: 36564	Date Analyzed: 2007-04-18	Analyzed By: ss
Prep Batch: 31714	QC Preparation: 2007-04-18	Prepared By: ss

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.893	mg/Kg	1	1.00	89	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)		0.768	mg/Kg	1	1.00	77	53.9 - 125.1

Method Blank (1) QC Batch: 36567

QC Batch: 36567 Date Analyzed: 2007-04-18 Analyzed By: ss  
Prep Batch: 31719 QC Preparation: 2007-04-18 Prepared By: ss

Parameter	Flag	MDL Result	Units	RL
GRO		0.741	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.905	mg/Kg	1	1.00	90	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.932	mg/Kg	1	1.00	93	67.5 - 140.3

Method Blank (1) QC Batch: 36623

QC Batch: 36623 Date Analyzed: 2007-04-18 Analyzed By: AG  
Prep Batch: 31763 QC Preparation: 2007-04-18 Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
DRO		15.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		178	mg/Kg	1	150	119	44.7 - 133.6

Method Blank (1) QC Batch: 36628

QC Batch: 36628 Date Analyzed: 2007-04-20 Analyzed By: ss  
Prep Batch: 31766 QC Preparation: 2007-04-20 Prepared By: ss

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.880	mg/Kg	1	1.00	88	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.974	mg/Kg	1	1.00	97	67.5 - 140.3

Matrix Blank (1) QC Batch: 36632

QC Batch: 36632 Date Analyzed: 2007-04-19 Analyzed By: AR  
Prep Batch: 31771 QC Preparation: 2007-04-19 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		3.05	mg/Kg	1

Matrix Blank (1) QC Batch: 36633

QC Batch: 36633 Date Analyzed: 2007-04-19 Analyzed By: AR  
Prep Batch: 31772 QC Preparation: 2007-04-19 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		3.12	mg/Kg	1

Matrix Blank (1) QC Batch: 36665

QC Batch: 36665 Date Analyzed: 2007-04-20 Analyzed By: AR  
Prep Batch: 31798 QC Preparation: 2007-04-20 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		3.11	mg/Kg	1

Matrix Blank (1) QC Batch: 36782

QC Batch: 36782 Date Analyzed: 2007-04-25 Analyzed By: AR  
Prep Batch: 31907 QC Preparation: 2007-04-25 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		3.15	mg/Kg	1

Matrix Blank (1) QC Batch: 36980

QC Batch: 36980 Date Analyzed: 2007-05-04 Analyzed By: AR  
Prep Batch: 32081 QC Preparation: 2007-05-04 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		3.18	mg/Kg	1

Laboratory Control Spike (LCS-1)

QC Batch: 36562 Date Analyzed: 2007-04-18 Analyzed By: ss  
Prep Batch: 31714 QC Preparation: 2007-04-18 Prepared By: ss

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit
GRO	7.58	mg/Kg	1	10.0	<0.739	76	57.7 - 102.5

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

Param	LCSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.93	mg/Kg	1	10.0	<0.739	79	57.7 - 102.5	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.15	1.17	mg/Kg	1	1.00	115	117	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.998	0.995	mg/Kg	1	1.00	100	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 36564 Date Analyzed: 2007-04-18 Analyzed By: ss  
Prep Batch: 31714 QC Preparation: 2007-04-18 Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Benzene	0.863	mg/Kg	1	1.00	<0.00110	86	68.6 - 123.4
Toluene	0.870	mg/Kg	1	1.00	<0.00150	87	74.6 - 119.3
Ethylbenzene	0.853	mg/Kg	1	1.00	<0.00160	85	72.3 - 126.2
Xylene	2.57	mg/Kg	1	3.00	<0.00410	86	76.5 - 121.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.838	mg/Kg	1	1.00	<0.00110	84	68.6 - 123.4	3	20
Toluene	0.850	mg/Kg	1	1.00	<0.00150	85	74.6 - 119.3	2	20
Ethylbenzene	0.844	mg/Kg	1	1.00	<0.00160	84	72.3 - 126.2	1	20
Xylene	2.54	mg/Kg	1	3.00	<0.00410	85	76.5 - 121.6	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil	Spike Amount	LCS Rec.	LCSD Rec.	Rec Limit
Trifluorotoluene (TFT)	0.824	0.849	mg/Kg	1	1.00	82	85	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.814	0.820	mg/Kg	1	1.00	81	82	68.7 - 125.8

**Laboratory Control Spike (LCS-1)**

QC Batch: 36567  
Prep Batch: 31719

Date Analyzed: 2007-04-18  
QC Preparation: 2007-04-18

Analyzed By: ss  
Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.43	mg/Kg	1	10.0	<0.739	74	57.7 - 102.5

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.97	mg/Kg	1	10.0	<0.739	80	57.7 - 102.5	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.15	1.17	mg/Kg	1	1.00	115	117	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.991	0.992	mg/Kg	1	1.00	99	99	70 - 130

**Laboratory Control Spike (LCS-1)**

QC Batch: 36623  
Prep Batch: 31763

Date Analyzed: 2007-04-18  
QC Preparation: 2007-04-18

Analyzed By: AG  
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	283	mg/Kg	1	250	<14.6	113	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	285	mg/Kg	1	250	<14.6	114	47.5 - 144.1	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	193	189	mg/Kg	1	150	129	126	57.3 - 131.6

**Laboratory Control Spike (LCS-1)**

QC Batch: 36628  
Prep Batch: 31766

Date Analyzed: 2007-04-20  
QC Preparation: 2007-04-20

Analyzed By: ss  
Prepared By: ss

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.53	mg/Kg	1	10.0	<0.739	75	57.7 - 102.5

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



Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
GRO	7.42	mg/Kg	1	10.0	<0.739	74	57.7 - 102.5	2	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec	LCS Rec	Rec. Limit
Trifluorotoluene (TFT)	0.815	0.811	mg/Kg	1	1.00	82	81	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	1.05	1.04	mg/Kg	1	1.00	105	104	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 36632  
Prep Batch: 31771

Date Analyzed: 2007-04-19  
QC Preparation: 2007-04-19

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14.9	mg/Kg	1	12.5	1.8	105	90 - 110

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

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	15.0	mg/Kg	1	12.5	1.8	106	90 - 110	1	

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

Laboratory Control Spike (LCS-1)

QC Batch: 36633  
Prep Batch: 31772

Date Analyzed: 2007-04-19  
QC Preparation: 2007-04-19

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14.9	mg/Kg	1	12.5	1.9332	104	90 - 110

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

Param	LCS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	14.7	mg/Kg	1	12.5	1.9332	102	90 - 110	1	

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

Laboratory Control Spike (LCS-1)

QC Batch: 36665  
Prep Batch: 31798

Date Analyzed: 2007-04-20  
QC Preparation: 2007-04-20

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14.9	mg/Kg	1	12.5	2.289	101	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	14.9	mg/Kg	1	12.5	2.289	101	90 - 110	0	

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

**Laboratory Control Spike (LCS-1)**

QC Batch: 36782  
Prep Batch: 31907

Date Analyzed: 2007-04-25  
QC Preparation: 2007-04-25

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14.8	mg/Kg	1	12.5	2.0156	102	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14.8	mg/Kg	1	12.5	2.0156	102	90 - 110	0	

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

**Laboratory Control Spike (LCS-1)**

QC Batch: 36980  
Prep Batch: 32081

Date Analyzed: 2007-05-04  
QC Preparation: 2007-05-04

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit
Chloride	14.9	mg/Kg	1	12.5	2.0971	102	90 - 110

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14.9	mg/Kg	1	12.5	2.0971	102	90 - 110	0	

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

**Matrix Spike (MS-1) Spiked Sample: 121898**

QC Batch: 36562  
Prep Batch: 31714

Date Analyzed: 2007-04-18  
QC Preparation: 2007-04-18

Analyzed By: ss  
Prepared By: ss

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	<sup>5</sup> 8.64	mg/Kg	1	10.0	8.64	0	10 - 141.5

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

*continued ...*

<sup>5</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
GR0	<sup>6</sup> 6.81	mg/Kg	1	10.0	8.64	0	10 - 141.5	24	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec Limit
Trifluorotoluene (TFT)	0.732	0.755	mg/Kg	1	1	73	76	40 - 125.3
4-Bromofluorobenzene (4-BFB)	1.17	1.19	mg/Kg	1	1	117	119	86.7 - 144.5

Matrix Spike (MS-1) Spiked Sample: 121917

QC Batch: 36564  
Prep Batch: 31714

Date Analyzed: 2007-04-18  
QC Preparation: 2007-04-18

Analyzed By: ss  
Prepared By: ss

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
Benzene	0.881	mg/Kg	1	1.00	<0.00110	88	64.4 - 115.7
Toluene	0.916	mg/Kg	1	1.00	<0.00150	92	57.8 - 124.4
Ethylbenzene	0.931	mg/Kg	1	1.00	<0.00160	93	64.8 - 125.8
Xylene	2.82	mg/Kg	1	3.00	0.0151	93	65.2 - 121.8

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
Benzene	0.888	mg/Kg	1	1.00	<0.00110	89	64.4 - 115.7	1	20
Toluene	0.938	mg/Kg	1	1.00	<0.00150	94	57.8 - 124.4	2	20
Ethylbenzene	0.977	mg/Kg	1	1.00	<0.00160	98	64.8 - 125.8	5	20
Xylene	2.97	mg/Kg	1	3.00	0.0151	98	65.2 - 121.8	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec Limit
Trifluorotoluene (TFT)	0.823	0.888	mg/Kg	1	1	82	89	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.868	0.875	mg/Kg	1	1	87	88	66.7 - 131.9

Matrix Spike (MS-1) Spiked Sample: 121909

QC Batch: 36623  
Prep Batch: 31763

Date Analyzed: 2007-04-18  
QC Preparation: 2007-04-18

Analyzed By: AG  
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec Limit
DRO	271	mg/Kg	1	250	<14.6	108	11.7 - 152.3

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

<sup>6</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec Limit	RPD	RPD Limit
DRO	248	mg/Kg	1	250	<14.6	99	11.7 - 152.3	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	190	178	mg/Kg	1	150	127	119	17 - 163.1

Matrix Spike (MS-1) Spiked Sample: 121908

QC Batch: 36632

Date Analyzed: 2007-04-19

Analyzed By: AR

Prep Batch: 31771

QC Preparation: 2007-04-19

Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	3910	mg/Kg	100	1250	2692.32	97	90 - 110

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	3900	mg/Kg	100	1250	2692.32	97	90 - 110	0	

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

Matrix Spike (MS-1) Spiked Sample: 121930

QC Batch: 36633

Date Analyzed: 2007-04-19

Analyzed By: AR

Prep Batch: 31772

QC Preparation: 2007-04-19

Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	2540	mg/Kg	100	1250	1164.22	110	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	2390	mg/Kg	100	1250	1164.22	98	90 - 110	6	

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

Matrix Spike (MS-1) Spiked Sample: 121911

QC Batch: 36665

Date Analyzed: 2007-04-20

Analyzed By: AR

Prep Batch: 31798

QC Preparation: 2007-04-20

Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	171	mg/Kg	50	625	671.223	-80	90 - 110

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

<sup>7</sup>Matrix spike recovery out of control limits due to matrix interference Use LCS/LCSD to demonstrate analysis is under control

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	1360	mg/Kg	50	625	671.223	110	90 - 110	155	

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

**Matrix Spike (MS-1)** Spiked Sample: 121915

QC Batch: 36782 Date Analyzed: 2007-04-25 Analyzed By: AR  
Prep Batch: 31907 QC Preparation: 2007-04-25 Prepared By: AR

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec Limit
Chloride	3600	mg/Kg	100	1250	2394.96	96	90 - 110

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

Param	MSD Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	3550	mg/Kg	100	1250	2394.96	92	90 - 110	1	

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

**Matrix Spike (MS-1)** Spiked Sample:

QC Batch: 36980 Date Analyzed: 2007-05-04 Analyzed By: AR  
Prep Batch: 32081 QC Preparation: 2007-05-04 Prepared By: AR

Param	MS Result	Units	Dil	Spike Amount	Matrix Result	Rec	Rec. Limit
Chloride	<sup>8</sup> 3800	mg/Kg	100	1250	2428.91	110	90 - 110

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec	Rec. Limit	RPD	RPD Limit
Chloride	<sup>9</sup> 3610	mg/Kg	100	1250	2428.91	94	90 - 110	5	

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

**Standard (ICV-1)**

QC Batch: 36562 Date Analyzed: 2007-04-18 Analyzed By: ss

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.09	109	85 - 115	2007-04-18

**Standard (CCV-1)**

QC Batch: 36562 Date Analyzed: 2007-04-18 Analyzed By: ss

<sup>8</sup>MS/MSD for sample 121915, not reported in this batch. •  
<sup>9</sup>MS/MSD for sample 121915, not reported in this batch. •

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.874	87	85 - 115	2007-04-18

Standard (ICV-1)

QC Batch: 36564

Date Analyzed: 2007-04-18

Analyzed By: ss

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0864	86	85 - 115	2007-04-18
Toluene		mg/Kg	0.100	0.0882	88	85 - 115	2007-04-18
Ethylbenzene		mg/Kg	0.100	0.0867	87	85 - 115	2007-04-18
Xylene		mg/Kg	0.300	0.262	87	85 - 115	2007-04-18

Standard (CCV-1)

QC Batch: 36564

Date Analyzed: 2007-04-18

Analyzed By: ss

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0888	89	85 - 115	2007-04-18
Toluene		mg/Kg	0.100	0.0898	90	85 - 115	2007-04-18
Ethylbenzene		mg/Kg	0.100	0.0887	89	85 - 115	2007-04-18
Xylene		mg/Kg	0.300	0.266	89	85 - 115	2007-04-18

Standard (ICV-1)

QC Batch: 36567

Date Analyzed: 2007-04-18

Analyzed By: ss

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	85 - 115	2007-04-18

Standard (CCV-1)

QC Batch: 36567

Date Analyzed: 2007-04-18

Analyzed By: ss

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.04	104	85 - 115	2007-04-18

Standard (ICV-1)

QC Batch: 36623

Date Analyzed: 2007-04-18

Analyzed By: AG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	115	85 - 115	2007-04-18

Standard (CCV-1)

QC Batch: 36623

Date Analyzed: 2007-04-18

Analyzed By: AG

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	249	100	85 - 115	2007-04-18

Standard (CCV-2)

QC Batch: 36623

Date Analyzed: 2007-04-18

Analyzed By: AG

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	249	100	85 - 115	2007-04-18

Standard (ICV-1)

QC Batch: 36628

Date Analyzed: 2007-04-20

Analyzed By: ss

Param	Flag	Units	ICVs True Conc	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	85 - 115	2007-04-20

Standard (CCV-1)

QC Batch: 36628

Date Analyzed: 2007-04-20

Analyzed By: ss

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	85 - 115	2007-04-20

Standard (ICV-1)

QC Batch: 36632

Date Analyzed: 2007-04-19

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.4	99	90 - 110	2007-04-19

Standard (CCV-1)

QC Batch: 36632

Date Analyzed: 2007-04-19

Analyzed By: AR

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.4	100	90 - 110	2007-04-19

Standard (ICV-1)

QC Batch: 36633

Date Analyzed: 2007-04-19

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.4	100	90 - 110	2007-04-19

Standard (CCV-1)

QC Batch: 36633

Date Analyzed: 2007-04-19

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.5	100	90 - 110	2007-04-19

Standard (ICV-1)

QC Batch: 36665

Date Analyzed: 2007-04-20

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.2	98	90 - 110	2007-04-20

Standard (CCV-1)

QC Batch: 36665

Date Analyzed: 2007-04-20

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.3	98	90 - 110	2007-04-20

Standard (ICV-1)

QC Batch: 36782

Date Analyzed: 2007-04-25

Analyzed By: AR



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Param	Flag	Units	ICVs True Conc	ICVs Found Conc	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.2	97	90 - 110	2007-04-25

Standard (CCV-1)

QC Batch 36782

Date Analyzed: 2007-04-25

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.3	98	90 - 110	2007-04-25

Standard (ICV-1)

QC Batch: 36980

Date Analyzed: 2007-05-04

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.2	97	90 - 110	2007-05-04

Standard (CCV-1)

QC Batch: 36980

Date Analyzed: 2007-05-04

Analyzed By: AR

Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	12.5	12.4	99	90 - 110	2007-05-04

7041709

<h1 style="margin: 0;">Analysis Request and Chain of Custody Record</h1> <h2 style="margin: 0;">HIGHLANDER ENVIRONMENTAL CORP.</h2> <p style="margin: 0;">1910 N. Big Spring St. Midland, Texas 79705</p> <p style="margin: 0;">(432) 682-4559      Fax (432) 682-3946</p>										PAGE: 1      OF: 2																											
<b>ANALYSIS REQUEST</b> (Circle or Specify Method No.)										<table border="1" style="width:100%; font-size: 0.8em;"> <tr> <td>TCRA Metals Ag As Ba Cd Cr Pb Hg Se</td> <td>TCPL Metals Ag As Ba Cd Cr Pb Hg Se</td> <td>TCPL Volatiles</td> <td>TCPL Semi Volatiles</td> <td>RCI</td> <td>GC/MS Vol 8240/8280/8284</td> <td>GC/MS Semi Vol 8270/8285</td> <td>PCB's 8080/808</td> <td>Pest. 808/808</td> <td>ROD, TSS, pH, TDS, Chloride</td> <td>Gamma Spec.</td> <td>Alpha Beta (Air)</td> <td>PLM (Asbestos)</td> </tr> <tr> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> <td><input checked="" type="checkbox"/> 418.1</td> </tr> </table>		TCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCPL Metals Ag As Ba Cd Cr Pb Hg Se	TCPL Volatiles	TCPL Semi Volatiles	RCI	GC/MS Vol 8240/8280/8284	GC/MS Semi Vol 8270/8285	PCB's 8080/808	Pest. 808/808	ROD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1	<input checked="" type="checkbox"/> 418.1
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CLIENT NAME: <u>Cimarex</u>			SITE MANAGER: <u>Ike Tavares</u>			PROJECT NO.: <u>2985</u>		PROJECT NAME: <u>Cimarex/Laughlin S #3 TB</u> <u>Lea Co, NM</u>			PRESERVATIVE METHOD:																										
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE																									
121908	4/12/07		S			XA4-1 (0-1.0')	1				X																										
09			S			XA4-1 (1.0'-1.5')	1				X																										
10			S			XA4-1 (2.0'-2.5')	1				X																										
11			S			XA4-2 (0-1.0')	1				X																										
12			S			XA4-2 (1.0'-1.5')	1				X																										
13			S			XA4-2 (2.0'-2.5')	1				X																										
14			S			XA4-3 (0-1.0')	1				X																										
15			S			XA4-3 (1.0'-1.5')	1				X																										
16			S			XA4-3 (2.0'-2.5')	1				X																										
17			S			XA4-4 (0-1.0')	1				X																										

RELINQUISHED BY: (Signature) <u>[Signature]</u>		Date: <u>4/12/07</u>		RECEIVED BY: (Signature) <u>[Signature]</u>		Date: <u>4/12/07</u>		SAMPLED BY: (Print & Sign) <u>Ray Taylor / Kott Harrison</u>		Date: <u>4/13/07</u>	
RELINQUISHED BY: (Signature) _____		Date: _____		RECEIVED BY: (Signature) _____		Date: _____		SAMPLE SHIPPED BY: (Circle)		Date: _____	
RELINQUISHED BY: (Signature) _____		Date: _____		RECEIVED BY: (Signature) _____		Date: _____		FEDEX <input type="checkbox"/> BUS <input type="checkbox"/> AIRBILL # _____		OTHER: _____	
RECEIVING LABORATORY: <u>TX</u>		RECEIVED BY: (Signature) _____		HIGHLANDER CONTACT PERSON: <u>Ike Tavares</u>		Results by:		RUSH Charges		Authorized:	
ADDRESS: <u>Midland</u>		CITY: <u>TX</u>		STATE: <u>TX</u>		ZIP: _____		Yes		No	
CONTACT: _____		PHONE: _____		DATE: _____		TIME: _____		REMARKS: <u>all tests - Midland</u>			
SAMPLE CONDITION WHEN RECEIVED: <u>40</u>		MATRIX: <u>S-Soil</u>		A-Air		SD-Solid					
				SL-Sludge		O-Other					

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.



Report Date: April 23, 2007  
2985

Work Order: 7041712  
Cimarex/Laughlin 5 #3 TB

Page Number: 1 of 1  
Lea County, NM

## Summary Report

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

Report Date: April 23, 2007

Work Order: 7041712



Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
121925	Stockpile West	soil	2007-04-12	00:00	2007-04-17
121926	Stockpile East	soil	2007-04-12	00:00	2007-04-17

Sample - Field Code	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	MTBE (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
121925 - Stockpile West	0.418	39.0	20.0	66.1	<0.0500	11600	2310
121926 - Stockpile East	0.301	30.7	18.5	63.2	<0.0200	12200	3480

### Sample: 121925 - Stockpile West

Param	Flag	Result	Units	RL
Chloride		3100	mg/Kg	1.00

### Sample: 121926 - Stockpile East

Param	Flag	Result	Units	RL
Chloride		2790	mg/Kg	1.00

## Summary Report

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

Report Date: April 23, 2007

Work Order: 7041709



Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
121908	AH-1 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121909	AH-1 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121911	AH-2 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121912	AH-2 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121914	AH-3 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121917	AH-4 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121918	AH-4 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17
121920	AH-5 (0-1.0')	soil	2007-04-12	00:00	2007-04-17
121921	AH-5 (1.0-1.5')	soil	2007-04-12	00:00	2007-04-17

Sample - Field Code	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	MTBE (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
121908 - AH-1 (0-1.0')	0.313	7.76	2.68	10.8	<0.0100	888	473
121909 - AH-1 (1.0-1.5')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	7.36
121911 - AH-2 (0-1.0')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	947	953
121912 - AH-2 (1.0-1.5')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	9.10
121914 - AH-3 (0-1.0')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	4.12
121917 - AH-4 (0-1.0')	<0.0100	<0.0100	<0.0100	0.0151	<0.0100	<50.0	9.31
121918 - AH-4 (1.0-1.5')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	2.15
121920 - AH-5 (0-1.0')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	99.5	162
121921 - AH-5 (1.0-1.5')	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	4.65

Sample: 121908 - AH-1 (0-1.0')

Param	Flag	Result	Units	RL
Chloride		2690	mg/Kg	1.00

Sample: 121911 - AH-2 (0-1.0')

Param	Flag	Result	Units	RL
Chloride		671	mg/Kg	1.00

Report Date: April 23, 2007  
2985

Work Order: 7041709  
Cimarex/Laughlin 5 #3 TB

Page Number: 2 of 2  
Lea County, NM

**Sample: 121914 - AH-3 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		<b>539</b>	mg/Kg	1.00

**Sample: 121917 - AH-4 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		<b>60.4</b>	mg/Kg	1.00

**Sample: 121920 - AH-5 (0-1.0')**

Param	Flag	Result	Units	RL
Chloride		<b>39.4</b>	mg/Kg	1.00

## Summary Report

Tim Reed  
Highlander Environmental Services  
1910 N. Big Spring Street  
Midland, TX, 79705

Report Date: June 26, 2007

Work Order: 7061525



Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127582	SP #1 0-1.0' BEB (1.0)	soil	2007-06-11	00:00	2007-06-15
127583	SP #2 0-1.0' BEB (1.0)	soil	2007-06-11	00:00	2007-06-15
127584	SP #3 0-1.0' BEB (1.0)	soil	2007-06-12	00:00	2007-06-15
127585	Stockpile Tank Battery	soil	2007-06-13	00:00	2007-06-15
127586	Stockpile Pasture	soil	2007-06-13	00:00	2007-06-15

Sample - Field Code	BTEX				MTBE	TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	MTBE (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
127582 - SP #1 0-1.0' BEB (1.0)	<0.0100	<0.0100	<0.0100	<0.0100		<50.0	3.12
127583 - SP #2 0-1.0' BEB (1.0)	<0.0100	<0.0100	<0.0100	<0.0100		<50.0	1.84
127584 - SP #3 0-1.0' BEB (1.0)	<0.0100	<0.0100	<0.0100	<0.0100		<50.0	1.43
127585 - Stockpile Tank Battery						6920	2700
127586 - Stockpile Pasture						747	24.0

**Sample: 127582 - SP #1 0-1.0' BEB (1.0)**

Param	Flag	Result	Units	RL
Chloride		271	mg/Kg	2.00

**Sample: 127583 - SP #2 0-1.0' BEB (1.0)**

Param	Flag	Result	Units	RL
Chloride		188	mg/Kg	2.00

**Sample: 127584 - SP #3 0-1.0' BEB (1.0)**

Param	Flag	Result	Units	RL
Chloride		192	mg/Kg	2.00

Report Date: June 26, 2007  
2985

Work Order: 7061525  
Cimarex/Laughlin 5 #3 TB

Page Number: 2 of 2  
Lea County, NM

**Sample: 127585 - Stockpile Tank Battery**

Param	Flag	Result	Units	RL
Chloride		160	mg/Kg	2.00

**Sample: 127586 - Stockpile Pasture**

Param	Flag	Result	Units	RL
Chloride		<50.0	mg/Kg	2.00





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

## Analytical and Quality Control Report

Tim Reed  
Highlander Environmental Services  
1910 N. Big Spring Street  
Midland, TX, 79705

Report Date: June 26, 2007

Work Order: 7061525



Project Location: Lea County, NM  
Project Name: Cimarex/Laughlin 5 #3 TB  
Project Number: 2985

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
127582	SP #1 0-1.0' BEB (1.0)	soil	2007-06-11	00:00	2007-06-15
127583	SP #2 0-1.0' BEB (1.0)	soil	2007-06-11	00:00	2007-06-15
127584	SP #3 0-1.0' BEB (1.0)	soil	2007-06-12	00:00	2007-06-15
127585	Stockpile Tank Battery	soil	2007-06-13	00:00	2007-06-15
127586	Stockpile Pasture	soil	2007-06-13	00:00	2007-06-15

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

This report consists of a total of 19 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

### Standard Flags

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

## Case Narrative

Samples for project Cimarex/Laughlin 5 #3 TB were received by TraceAnalysis, Inc. on 2007-06-15 and assigned to work order 7061525. Samples for work order 7061525 were received intact at a temperature of 2.5 deg C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 7061525 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

## Analytical Report

Sample: 127582 - SP #1 0-1.0' BEB (1.0)

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	38402	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33238	Sample Preparation:		Prepared By:	JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.900	mg/Kg	1	1.00	90	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.975	mg/Kg	1	1.00	98	51.1 - 119.1

Sample: 127582 - SP #1 0-1.0' BEB (1.0)

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38276	Date Analyzed:	2007-06-18	Analyzed By:	AR
Prep Batch:	33139	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		271	mg/Kg	25	2.00

Sample: 127582 - SP #1 0-1.0' BEB (1.0)

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38384	Date Analyzed:	2007-06-20	Analyzed By:	
Prep Batch:	33157	Sample Preparation:	2007-06-18	Prepared By:	

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		162	mg/Kg	1	150	108	32.9 - 167

Sample: 127582 - SP #1 0-1.0' BEB (1.0)

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38457	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33281	Sample Preparation:	2007-06-21	Prepared By:	JW

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		3.12	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.795	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.978	mg/Kg	1	1.00	98	67.5 - 140.3

**Sample: 127583 - SP #2 0-1.0' BEB (1.0)**

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035  
QC Batch: 38402 Date Analyzed: 2007-06-21 Analyzed By: JW  
Prep Batch: 33238 Sample Preparation: Prepared By: JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.914	mg/Kg	1	1.00	91	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.995	mg/Kg	1	1.00	100	51.1 - 119.1

**Sample: 127583 - SP #2 0-1.0' BEB (1.0)**

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A  
QC Batch: 38277 Date Analyzed: 2007-06-18 Analyzed By: AR  
Prep Batch: 33141 Sample Preparation: Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		188	mg/Kg	25	2.00

**Sample: 127583 - SP #2 0-1.0' BEB (1.0)**

Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A  
QC Batch: 38384 Date Analyzed: 2007-06-20 Analyzed By:  
Prep Batch: 33157 Sample Preparation: 2007-06-18 Prepared By:

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		184	mg/Kg	1	150	123	32.9 - 167

**Sample: 127583 - SP #2 0-1.0' BEB (1.0)**

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38457	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33281	Sample Preparation:	2007-06-21	Prepared By:	JW

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1.84	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.802	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.971	mg/Kg	1	1.00	97	67.5 - 140.3

**Sample: 127584 - SP #3 0-1.0' BEB (1.0)**

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	38402	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33238	Sample Preparation:		Prepared By:	JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.893	mg/Kg	1	1.00	89	26 - 117.8
4-Bromofluorobenzene (4-BFB)		0.976	mg/Kg	1	1.00	98	51.1 - 119.1

**Sample: 127584 - SP #3 0-1.0' BEB (1.0)**

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38277	Date Analyzed:	2007-06-18	Analyzed By:	AR
Prep Batch:	33141	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		192	mg/Kg	25	2.00

**Sample: 127584 - SP #3 0-1.0' BEB (1.0)**

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38384	Date Analyzed:	2007-06-20	Analyzed By:	
Prep Batch:	33157	Sample Preparation:	2007-06-18	Prepared By:	

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		172	mg/Kg	1	150	115	32.9 - 167

**Sample: 127584 - SP #3 0-1.0' BEB (1.0)**

Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	38457	Date Analyzed:	2007-06-21	Analyzed By:	JW
Prep Batch:	33281	Sample Preparation:	2007-06-21	Prepared By:	JW

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1.43	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.795	mg/Kg	1	1.00	80	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.958	mg/Kg	1	1.00	96	67.5 - 140.3

**Sample: 127585 - Stockpile Tank Battery**

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	38277	Date Analyzed:	2007-06-18	Analyzed By:	AR
Prep Batch:	33141	Sample Preparation:		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		160	mg/Kg	25	2.00

**Sample: 127585 - Stockpile Tank Battery**

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	38472	Date Analyzed:	2007-06-24	Analyzed By:	AG
Prep Batch:	33294	Sample Preparation:	2007-06-24	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		6920	mg/Kg	10	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		229	mg/Kg	10	150	153	32.9 - 167

**Sample: 127585 - Stockpile Tank Battery**

Analysis: TPH GRO      Analytical Method: S 8015B      Prep Method: S 5035  
QC Batch: 38482      Date Analyzed: 2007-06-25      Analyzed By: JW  
Prep Batch: 33303      Sample Preparation:      Prepared By: JW

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2700	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		36.5	mg/Kg	50	50.0	73	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)	1	122	mg/Kg	50	50.0	244	67.5 - 140.3

**Sample: 127586 - Stockpile Pasture**

Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 38277      Date Analyzed: 2007-06-18      Analyzed By: AR  
Prep Batch: 33141      Sample Preparation:      Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<50.0	mg/Kg	25	2.00

**Sample: 127586 - Stockpile Pasture**

Analysis: TPH DRO      Analytical Method: Mod. 8015B      Prep Method: N/A  
QC Batch: 38384      Date Analyzed: 2007-06-20      Analyzed By:  
Prep Batch: 33157      Sample Preparation: 2007-06-18      Prepared By:

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		747	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	2	275	mg/Kg	1	150	183	32.9 - 167

**Sample: 127586 - Stockpile Pasture**

Analysis: TPH GRO      Analytical Method: S 8015B      Prep Method: S 5035  
QC Batch: 38460      Date Analyzed: 2007-06-22      Analyzed By: JW  
Prep Batch: 33284      Sample Preparation:      Prepared By: JW

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		24.0	mg/Kg	1	1.00

<sup>1</sup>High surrogate recovery due to peak interference.

<sup>2</sup>High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.843	mg/Kg	1	1.00	84	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		1.13	mg/Kg	1	1.00	113	67.5 - 140.3

Method Blank (1) QC Batch: 38276

QC Batch: 38276  
Prep Batch: 33139

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 38277

QC Batch: 38277  
Prep Batch: 33141

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.500	mg/Kg	2

Method Blank (1) QC Batch: 38384

QC Batch: 38384  
Prep Batch: 33157

Date Analyzed: 2007-06-20  
QC Preparation: 2007-06-18

Analyzed By:  
Prepared By:

Parameter	Flag	MDL Result	Units	RL
DRO		<14.6	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		116	mg/Kg	1	150	77	44.7 - 133.6

Method Blank (1) QC Batch: 38402

QC Batch: 38402  
Prep Batch: 33238

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

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



Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.904	mg/Kg	1	1.00	90	62.6 - 117.6
4-Bromofluorobenzene (4-BFB)		0.854	mg/Kg	1	1.00	85	53.9 - 125.1

Method Blank (1) QC Batch: 38457

QC Batch: 38457  
Prep Batch: 33281

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.929	mg/Kg	1	1.00	93	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.835	mg/Kg	1	1.00	84	67.5 - 140.3

Method Blank (1) QC Batch: 38460

QC Batch: 38460  
Prep Batch: 33284

Date Analyzed: 2007-06-22  
QC Preparation: 2007-06-22

Analyzed By: JW  
Prepared By: JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0900	mg/Kg	1	0.100	90	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.0852	mg/Kg	1	0.100	85	67.5 - 140.3

Method Blank (1) QC Batch: 38472

QC Batch: 38472  
Prep Batch: 33294

Date Analyzed: 2007-06-24  
QC Preparation: 2007-06-24

Analyzed By: AG  
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
DRO		<14.6	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		140	mg/Kg	1	150	93	44.7 - 133.6

Method Blank (1) QC Batch: 38482

QC Batch: 38482  
Prep Batch: 33303

Date Analyzed: 2007-06-25  
QC Preparation: 2007-06-25

Analyzed By: JW  
Prepared By: JW

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.882	mg/Kg	1	1.00	88	52.4 - 123.7
4-Bromofluorobenzene (4-BFB)		0.841	mg/Kg	1	1.00	84	67.5 - 140.3

Laboratory Control Spike (LCS-1)

QC Batch: 38276  
Prep Batch: 33139

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.0	mg/Kg	1	100	<0.500	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	97.9	mg/Kg	1	100	<0.500	98	85 - 115	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 38277  
Prep Batch: 33141

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	mg/Kg	1	100	<0.500	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.1	mg/Kg	1	100	<0.500	98	85 - 115	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 38384  
Prep Batch: 33157

Date Analyzed: 2007-06-20  
QC Preparation: 2007-06-18

Analyzed By:  
Prepared By:

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	250	mg/Kg	1	250	<14.6	100	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	263	mg/Kg	1	250	<14.6	105	47.5 - 144.1	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	153	166	mg/Kg	1	150	102	111	57.3 - 131.6

#### Laboratory Control Spike (LCS-1)

QC Batch: 38402  
Prep Batch: 33238

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.939	mg/Kg	1	1.00	<0.00110	94	68.6 - 123.4
Toluene	0.961	mg/Kg	1	1.00	<0.00150	96	74.6 - 119.3
Ethylbenzene	0.933	mg/Kg	1	1.00	<0.00160	93	72.3 - 126.2
Xylene	2.82	mg/Kg	1	3.00	<0.00410	94	76.5 - 121.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.786	mg/Kg	1	1.00	<0.00110	79	68.6 - 123.4	18	20
Toluene	0.926	mg/Kg	1	1.00	<0.00150	93	74.6 - 119.3	4	20
Ethylbenzene	0.925	mg/Kg	1	1.00	<0.00160	92	72.3 - 126.2	1	20
Xylene	2.79	mg/Kg	1	3.00	<0.00410	93	76.5 - 121.6	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.815	0.817	mg/Kg	1	1.00	82	82	64.1 - 118.2
4-Bromofluorobenzene (4-BFB)	0.920	0.913	mg/Kg	1	1.00	92	91	68.7 - 125.8

#### Laboratory Control Spike (LCS-1)

QC Batch: 38457  
Prep Batch: 33281

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	9.23	mg/Kg	1	10.0	<0.739	92	57.7 - 102.5

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	9.60	mg/Kg	1	10.0	<0.739	96	57.7 - 102.5	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.16	1.14	mg/Kg	1	1.00	116	114	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.998	1.00	mg/Kg	1	1.00	100	100	70 - 130

#### Laboratory Control Spike (LCS-1)

QC Batch: 38460  
Prep Batch: 33284

Date Analyzed: 2007-06-22  
QC Preparation: 2007-06-22

Analyzed By: JW  
Prepared By: JW

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.90	mg/Kg	1	10.0	<0.739	79	57.7 - 102.5

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.43	mg/Kg	1	10.0	<0.739	74	57.7 - 102.5	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.18	0.809	mg/Kg	1	1.00	118	81	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.912	0.921	mg/Kg	1	1.00	91	92	70 - 130

#### Laboratory Control Spike (LCS-1)

QC Batch: 38472  
Prep Batch: 33294

Date Analyzed: 2007-06-24  
QC Preparation: 2007-06-24

Analyzed By: AG  
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	232	mg/Kg	1	250	<14.6	93	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	239	mg/Kg	1	250	<14.6	96	47.5 - 144.1	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	158	159	mg/Kg	1	150	105	106	57.3 - 131.6

**Laboratory Control Spike (LCS-1)**

QC Batch: 38482  
Prep Batch: 33303

Date Analyzed: 2007-06-25  
QC Preparation: 2007-06-25

Analyzed By: JW  
Prepared By: JW

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.79	mg/Kg	1	10.0	<0.739	78	57.7 - 102.5

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.13	mg/Kg	1	10.0	<0.739	71	57.7 - 102.5	9	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.17	0.804	mg/Kg	1	1.00	117	80	36.8 - 152.5
4-Bromofluorobenzene (4-BFB)	0.939	0.930	mg/Kg	1	1.00	94	93	70 - 130

**Matrix Spike (MS-1) Spiked Sample: 127582**

QC Batch: 38276  
Prep Batch: 33139

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	2660	mg/Kg	25	2500	271.028	96	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	2680	mg/Kg	25	2500	271.028	96	85 - 115	1	20

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

**Matrix Spike (MS-1) Spiked Sample: 127586**

QC Batch: 38277  
Prep Batch: 33141

Date Analyzed: 2007-06-18  
QC Preparation: 2007-06-18

Analyzed By: AR  
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	2540	mg/Kg	25	2500	97.726	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	2560	mg/Kg	25	2500	97.726	102	85 - 115	1	20

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

**Matrix Spike (MS-1)** Spiked Sample: 127573

QC Batch: 38384  
Prep Batch: 33157

Date Analyzed: 2007-06-20  
QC Preparation: 2007-06-18

Analyzed By:  
Prepared By:

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	251	mg/Kg	1	250	<14.6	100	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	276	mg/Kg	1	250	<14.6	110	11.7 - 152.3	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	136	145	mg/Kg	1	150	91	97	17 - 163.1

**Matrix Spike (MS-1)** Spiked Sample: 127642

QC Batch: 38402  
Prep Batch: 33238

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.10	mg/Kg	1	1.00	<0.00110	110	64.4 - 115.7
Toluene	1.16	mg/Kg	1	1.00	<0.00150	116	57.8 - 124.4
Ethylbenzene	1.18	mg/Kg	1	1.00	<0.00160	118	64.8 - 125.8
Xylene	3.59	mg/Kg	1	3.00	<0.00410	120	65.2 - 121.8

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	0.973	mg/Kg	1	1.00	<0.00110	97	64.4 - 115.7	12	20
Toluene	1.03	mg/Kg	1	1.00	<0.00150	103	57.8 - 124.4	12	20
Ethylbenzene	1.03	mg/Kg	1	1.00	<0.00160	103	64.8 - 125.8	14	20
Xylene	3.26	mg/Kg	1	3.00	<0.00410	109	65.2 - 121.8	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.791	0.797	mg/Kg	1	1	79	80	52.8 - 121.7
4-Bromofluorobenzene (4-BFB)	0.950	0.972	mg/Kg	1	1	95	97	66.7 - 131.9

**Matrix Spike (MS-1)** Spiked Sample: 127642

QC Batch: 38457  
Prep Batch: 33281

Date Analyzed: 2007-06-21  
QC Preparation: 2007-06-21

Analyzed By: JW  
Prepared By: JW

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	41.4	mg/Kg	1	10.0	36.6192	48	10 - 141.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	43.4	mg/Kg	1	10.0	36.6192	68	10 - 141.5	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.666	0.616	mg/Kg	1	1	67	62	40 - 125.3
4-Bromofluorobenzene (4-BFB)	<sup>3 4</sup> 1.49	1.52	mg/Kg	1	1	149	152	86.7 - 144.5

**Matrix Spike (MS-1)** Spiked Sample: 127628

QC Batch: 38460  
Prep Batch: 33284

Date Analyzed: 2007-06-22  
QC Preparation: 2007-06-22

Analyzed By: JW  
Prepared By: JW

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	7.27	mg/Kg	1	10.0	5.75	15	10 - 141.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	7.38	mg/Kg	1	10.0	5.75	16	10 - 141.5	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.763	0.716	mg/Kg	1	1	76	72	40 - 125.3
4-Bromofluorobenzene (4-BFB)	1.01	1.03	mg/Kg	1	1	101	103	86.7 - 144.5

**Matrix Spike (MS-1)** Spiked Sample: 128343

QC Batch: 38472  
Prep Batch: 33294

Date Analyzed: 2007-06-24  
QC Preparation: 2007-06-24

Analyzed By: AG  
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	246	mg/Kg	1	250	<14.6	98	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	279	mg/Kg	1	250	<14.6	112	11.7 - 152.3	13	20

<sup>3</sup>High surrogate recovery due to peak interference.

<sup>4</sup>High surrogate recovery due to peak interference.

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	128	137	mg/Kg	1	150	85	91	17 - 163.1

**Matrix Spike (MS-1)** Spiked Sample: 127639

QC Batch: 38482  
Prep Batch: 33303

Date Analyzed: 2007-06-25  
QC Preparation: 2007-06-25

Analyzed By: JW  
Prepared By: JW

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	1970	mg/Kg	50	500	1816.24	31	10 - 141.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	<sup>5</sup> 1850	mg/Kg	50	500	1816.24	7	10 - 141.5	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	32.6	31.8	mg/Kg	50	50	65	64	40 - 125.3
4-Bromofluorobenzene (4-BFB)	<sup>6 7</sup> 85.8	80.2	mg/Kg	50	50	172	160	86.7 - 144.5

**Standard (ICV-1)**

QC Batch: 38276

Date Analyzed: 2007-06-18

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.1	98	85 - 115	2007-06-18

**Standard (CCV-1)**

QC Batch: 38276

Date Analyzed: 2007-06-18

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2007-06-18

**Standard (ICV-1)**

QC Batch: 38277

Date Analyzed: 2007-06-18

Analyzed By: AR

<sup>5</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>6</sup> High surrogate recovery due to peak interference.

<sup>7</sup> High surrogate recovery due to peak interference.



Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2007-06-18

Standard (CCV-1)

QC Batch: 38277

Date Analyzed: 2007-06-18

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2007-06-18

Standard (CCV-1)

QC Batch: 38384

Date Analyzed: 2007-06-20

Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	272	109	85 - 115	2007-06-20

Standard (CCV-2)

QC Batch: 38384

Date Analyzed: 2007-06-20

Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	250	100	85 - 115	2007-06-20

Standard (ICV-1)

QC Batch: 38402

Date Analyzed: 2007-06-21

Analyzed By: JW

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene	<sup>8</sup>	mg/Kg	1.00	0.767	77	85 - 115	2007-06-21
Toluene		mg/Kg	1.00	0.906	91	85 - 115	2007-06-21
Ethylbenzene		mg/Kg	1.00	0.879	88	85 - 115	2007-06-21
Xylene		mg/Kg	3.00	2.64	88	85 - 115	2007-06-21

Standard (CCV-1)

QC Batch: 38402

Date Analyzed: 2007-06-21

Analyzed By: JW

<sup>8</sup>Benzene outside of control limits on CCV(ICV). CCV(ICV) component average is 0.85 which is within acceptable range. This is acceptable by Method 8000.

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	1.00	0.867	87	85 - 115	2007-06-21
Toluene		mg/Kg	1.00	0.882	88	85 - 115	2007-06-21
Ethylbenzene		mg/Kg	1.00	0.847	85	85 - 115	2007-06-21
Xylene		mg/Kg	3.00	2.55	85	85 - 115	2007-06-21

**Standard (ICV-1)**

QC Batch: 38457

Date Analyzed: 2007-06-21

Analyzed By: JW

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.874	87	85 - 115	2007-06-21

**Standard (CCV-1)**

QC Batch: 38457

Date Analyzed: 2007-06-21

Analyzed By: JW

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.971	97	85 - 115	2007-06-21

**Standard (ICV-1)**

QC Batch: 38460

Date Analyzed: 2007-06-22

Analyzed By: JW

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.11	111	85 - 115	2007-06-22

**Standard (CCV-1)**

QC Batch: 38460

Date Analyzed: 2007-06-22

Analyzed By: JW

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.917	92	85 - 115	2007-06-22

**Standard (CCV-2)**

QC Batch: 38472

Date Analyzed: 2007-06-24

Analyzed By: AG

Report Date: June 26, 2007  
2985

Work Order: 7061525  
Cimarex/Laughlin 5 #3 TB

Page Number: 19 of 19  
Lea County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	241	96	85 - 115	2007-06-24

Standard (CCV-3)

QC Batch: 38472

Date Analyzed: 2007-06-24

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	238	95	85 - 115	2007-06-24

Standard (ICV-1)

QC Batch: 38482

Date Analyzed: 2007-06-25

Analyzed By: JW

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.963	96	85 - 115	2007-06-25

Standard (CCV-1)

QC Batch: 38482

Date Analyzed: 2007-06-25

Analyzed By: JW

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.01	101	85 - 115	2007-06-25



APPENDIX C

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

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

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☒ Final Report

Name of Company	Cimarex Energy Co. of Colorado	Contact	Zeno Farris
Address	PO Box 140907; Irving, TX 75014	Telephone No.	972-443-6489
Facility Name	Laughlin 5 No. 3	Facility Type	300 bbl oil tank

Surface Owner	State	Mineral Owner	State	Lease No.	V0-5271-0001
---------------	-------	---------------	-------	-----------	--------------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	5	20S	37E	2100	South	740	East	Lea

Latitude 326023 N Longitude 1032731 W

**NATURE OF RELEASE**

Type of Release	Oil	Volume of Release	125 bbls	Volume Recovered	125 bbls
Source of Release	Oil tank	Date and Hour of Occurrence	03-28-07, 12:00 am to 6:00 am	Date and Hour of Discovery	8:15 am 03-28-07
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Malcolm Coombs (landowner), Larry Johnson (NMOCD)		
By Whom?	Hugo Naegele	Date and Hour	Coombs 9:45 am 03-28-07, Sanders 8:30 am 03-28-07		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
There was an oil spill while the tank bottom was being circulated.

Describe Area Affected and Cleanup Action Taken.\*  
All oil was spilled into dikes (65 bbls) and on location (60 bbls). A vacuum truck was called to suck up the spill, a gang was called in to clean the tanks, and a backhoe was hired to pick contaminated soil and put on plastic. Micro-Blaze will be sprayed.

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

Signature: <i>Zeno Farris</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Zeno Farris	Approved by District Supervisor <i>[Signature]</i>	
Title: Manager Operations Administration	Approval Date: 6-5-07	Expiration Date:
E-mail Address: zfarris@cimarex.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 03-29-07	Phone: 972-443-6489	

\* Attach Additional Sheets If Necessary

RPH #1261  
1421

District I  
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side of form

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Cimarex Energy Co. of Colorado	Contact	Zeno Farris
Address	PO Box 140907; Irving, TX 75014	Telephone No.	972-443-6489
Facility Name	Laughlin 5 No. 3	Facility Type	300 bbl oil tank

Surface Owner	State	Mineral Owner	State	Lease No.	V0-5271-0001
---------------	-------	---------------	-------	-----------	--------------

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	5	20S	37E	2100	South	740	East	Lea

Latitude 326023 N Longitude 1032731 W

#### NATURE OF RELEASE

Type of Release	Oil	Volume of Release	125 bbls	Volume Recovered	125 bbls
Source of Release	Oil tank	Date and Hour of Occurrence	03-28-07, 12:00 am to 6:00 am	Date and Hour of Discovery	8:15 am 03-28-07
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Malcolm Coombs (landowner), Larry Johnson (NMOCD)		
By Whom?	Hugo Naegle	Date and Hour	Coombs 9:45 am 03-28-07, Sanders 8:30 am 03-28-07		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse			

If a Watercourse was Impacted, Describe Fully \*

Describe Cause of Problem and Remedial Action Taken \*  
There was an oil spill while the tank bottom was being circulated

Describe Area Affected and Cleanup Action Taken \*  
All oil was spilled into dikes (65 bbls) and on location (60 bbls) A vacuum truck was called to suck up the spill, a gang was called in to clean the tanks, and a backhoe was hired to pick contaminated soil and put on plastic. Micro-Blaze will be sprayed

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

#### OIL CONSERVATION DIVISION

Signature: <i>Zeno Farris</i>	Approved by District Supervisor:		
Printed Name: Zeno Farris			
Title: Manager Operations Administration	Approval Date:	Expiration Date:	
E-mail Address: zfarris@cimarex.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 03-29-07	Phone: 972-443-6489		

\* Attach Additional Sheets If Necessary

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### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Cimarex Energy Co. of Colorado	Contact	Zeno Farris
Address	PO Box 140907; Irving TX 75014	Telephone No.	972-443-6489
Facility Name	Laughlin 5 No. 3	Facility Type	300 bbl oil tank

Surface Owner	State	Mineral Owner	State	Lease No.	V0-5271-0001
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Latitude 326023 N Longitude 1032731 W

#### NATURE OF RELEASE

Type of Release	Oil	Volume of Release	125 bbls	Volume Recovered	125 bbls
Source of Release	Oil tank	Date and Hour of Occurrence	03-28-07, 12:00 a.m. to 6:00a.m.	Date and Hour of Discovery	8:15 am 03-28-07
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Malcolm Coombs (landowner), Larry Johnson (NMOCD)		
By Whom?		Date and Hour	Coombs 9:45 am 03-28-07, Sanders 8:30 am 03-28-07		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* (See Attached Initial C-141)  
There was an oil spill while the tank bottom was being circulated

Describe Area Affected and Cleanup Action Taken.\*

All oil was spilled into dikes (65 bbls) and on location (60 bbls). A vacuum truck picked up all the fluids. Cimarex had a local dirt contractor remove the visually impacted soils. Highlander Environmental personnel inspected and sampled the spill area. The impacted areas exceeding the RRAL were excavated and hauled to proper disposal. A final closure report was prepared and submitted to the NMOCD.

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

Signature: <u>Evan L Wauhob</u>		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Evan L Wauhob		Approved by District Supervisor:	
Title: Production Superintendent	Approval Date:	Expiration Date:	
E-mail Address: ewauhob@cimarex.com	Conditions of Approval:	Attached <input type="checkbox"/>	
Date: <u>8/21/07</u>	Phone: 432-571-7848		

\* Attach Additional Sheets If Necessary