Application No. Application Type Oil/Gas	Order No. Am Applicant
pPAC0604053765 1R - Remediation Permit - Ho	486 MACLASKEY OIL FIELD SER
pCJC0735455222 1R - Remediation Permit - Ho	486 0 PLAINS PIPELINE, L.P.

County	Revie Distri Issuir	BLM_Office Notes Addl.CC: Applications Logged
Lea	John Hob Hob	Release of Permit -
Lea	Chav Hob Sant	

Last 25 Order Numb BLM?	SLO?	Major Mod?	Environmental Pern	Dt_Mod
			Α	02/09/2006
			A	12/20/2007

## Administrative/Environmental Order Search - Select Documents to View

Please click on any thumbnail below in order to view the document. Access to the OCD Internet images does not grant permission to reproduce, disseminate, disclose, or otherwise utilize materials subject to protection of United States copyright or trademark laws. Contact the copyright owner for specific permission to utilize any such materials. Image size and approximate download times are shown below each thumbnail. Download times are based upon a 28.8Kb modem speed.

Clicking the "View All" button below will download a single file containing all documents. "View All" will select only those thumbnails shown in the currently selected API Number. If you wish to select a different API Number, please use the "Go Back" button. "View All" may take several minutes.

Sort Order:

Ascending Descending

**Order Number** 

County

**Order Date** 

1RP-486

Lea

6/21/2004

**Entity: Maclaskey Monument Treating Plant** 

API Number(s):

Operator: MACLASKEY OIL FIELD SERVICES

Note: If you are using Microsoft Internet Explorer and your system does not allow you to open TIFF images from the Internet without saving them first, please contact your administrator. You may be experiencing a problem with the Internet Explorer Cumulative Patch. Please refer to the Microsoft Knowledge Base Article, Q319829, "Cannot Open a Tagged Information File Format (TIFF) File in Internet Explorer", located here.



( 1842 Kb ~10 min.)

View All Go Back



## SITE ASSESSMENT REPORT AND SITE CLOSURE PROPOSAL

## **RUTH PROPERTY UNIT P, SECTION 28, TOWNSHIP 21 SOUTH, RANGE 37 EAST CITY OF EUNICE** LEA COUNTY, NEW MEXICO

Plains SRS #: Eunice Historical

Prepared for:

Plains Marketing, L.P. 333 Clay Street, Suite 1600 Houston, Texas 77002



Prepared by:

NOVA Safety and Environmental 2057 Commerce Drive Midland, Texas 79703

September 2007

Curt D. Stanley Project Manager Todd K. Choban, P.G.

Vice President, Technical Services

Dutten V 19

## TABLE OF CONTENTS

**③** 

1.0	INTR	ODUCTION1									
2.0	NMOCD SITE CLASSIFICATION										
3.0	SUMMARY OF FIELD ACTIVITIES1										
4.0	SITE ASSESSMENT CONCLUSIONS										
5.0	SITE	CLOSURE PROPOSAL3									
6.0	QA/C	OC PROCEDURES4									
	6.1 6.2 6.3	Soil Sampling									
7.0	REPORTING										
8.0	LIMITATIONS5										
9.0	DIST	RIBUTION6									
FIGU	RES										
Figure Figure Figure	2:	Site Location Map Site and Sample Location Map Proposed Excavation Map									
TABL	LES										
Table	1:	Concentrations of BTEX, TPH and Chloride in Soil									
APPE	NDIC	ES									
Appen Appen	dix B:	Laboratory Reports Soil Boring Lithology Logs Photographs									

## 1.0 INTRODUCTION AND BACKGROUND

On behalf of Plains Marketing, L.P. (Plains), NOVA Safety and Environmental (NOVA) has prepared this Site Assessment Report and Site Closure Proposal for the site known as the Ruth Property (Plains SRS # Eunice Historical). A site location map and site details map are provided as Figures 1 and 2, respectively.

On August 2, 2007, at the request of the New Mexico Oil Conservation Division (NMOCD), Plains submitted a *Site Assessment Work Plan* to investigate the area formerly occupied by the J. N. Carson crude oil pump station (decommissioned) for evidence of a hydrocarbon release. On August 3, 2007, the Work Plan was approved by the NMOCD. The former pump station area is located in Unit Letter P, Section 28, Township 21 South, Range 37 East in Lea County, New Mexico and the property is owned by Delinda Ruth.

## 2.0 NMOCD SITE CLASSIFICATION

Depth to groundwater at this site is approximately fifty feet below ground surface (bgs). This depth to groundwater results in a ranking score of twenty points being assigned to this site based on the NMOCD ranking criteria. Information obtained from the New Mexico Office of the State Engineer indicates the distance to the nearest water source is less than 1,000 feet, resulting in twenty points being assigned to the site on this ranking criterion. There is no surface water body located with 1,000 feet of the site, resulting in no points being assigned on this ranking criterion.

The NMOCD's Guidelines for Remediation of Leaks, Spills and Releases (NMOCD, 1993), indicates the Ruth Property site has a ranking score of forty points. The soil cleanup levels for a site with a ranking of forty requires benzene concentrations below 10 mg/Kg, total benzene, toluene, ethylbenzene and xylene (BTEX) concentrations below 50 mg/Kg and total petroleum hydrocarbons gasoline range organics / diesel range organics (TPH-GRO/DRO) concentrations below 100 mg/Kg.

## 3.0 SUMMARY OF FIELD ACTIVITIES

On August 18, 2007, a backhoe was utilized to begin investigation trenching activities east and north of the former pump station. The investigation trenches were located to allow detailed visual assessment of the soil to the east and north of the former pump station. The east trench was approximately one hundred feet in length, three feet in width and six feet in depth. The north trench was approximately forty feet in length, three feet in width and six feet in depth. The *Site Assessment Work Plan*, dated August 2007, proposed the investigation trenches be excavated to a depth of twelve feet bgs. Due to a moderately hard layer of caliche encountered at six feet bgs, the excavation of the investigation trenches was ceased at this depth. A site map is provided as Figure 2 and illustrates the location of the investigation trenches.

Field evaluation utilizing olfactory and visual techniques, indicated no hydrocarbon odor or hydrocarbon staining was present on the trench sidewalls, floor or in the excavated soil.

Confirmation sidewall soil samples were collected on a twenty five linear feet sampling interval at depths of zero (surface), three feet and six feet bgs. A portion of each soil sample was placed in a disposable sample bag and sealed for headspace analysis using a Photo-Ionization Detector (PID). The results of the headspace analysis indicated all of the collected soil samples exhibited a PID reading of zero (0.0) ppm. Headspace analysis techniques are described in detail in Section 6.1 of this report. Based on the headspace PID readings, the five sidewall soil samples collected from six feet bgs (A-6. B-6, C-6, D-6 and E-6) were submitted for laboratory analysis for total benzene, toluene, eythlbenzene, and xylene (BTEX) by EPA Method SW846-8021b and total petroleum hydrocarbon (TPH) analysis by EPA Method SW846-8015b. Analytical results of the soil samples indicated the total BTEX concentration for all five samples was below the laboratory method detection limit (MDL) of 0.01 mg/Kg. Analytical results indicated the concentration of total TPH was below the MDL of 50 mg/Kg. A table summarizing the BTEX, TPH and Chloride concentrations in soil is provided as Table 1. Laboratory reports are provided in Appendix A.

Mr. Larry Johnson of the NMOCD, Hobbs district office was present during the investigation trench soil sampling activities. Mr. Johnson concurred with the findings of Plains and NOVA representatives, indicating no hydrocarbon impact was observed in the investigation trenches. Following the trench sampling activities, Mr. Johnson approved the backfilling of the trenches. Photographs of the investigation trenches are provided in Appendix C.

On August 20, 2007, six soil borings were advanced to investigate and delineate the hydrocarbon soil impact at and adjacent to the former pump station. Soil boring SB-1 was advanced at the approximate location of the former pump station to a depth of thirty feet bgs, soil samples were collected at five foot boring intervals utilizing a coring bit. At a boring depth of approximately ten feet bgs hydrocarbon odors were detected. Hydrocarbon odors were not detected in the soil samples collected below 15 feet bgs. Hydrocarbon staining was not observed in any of the collected soil samples.

A portion of each soil sample was placed in a disposable sample bag and sealed for headspace analysis using a PID. The results of the headspace analysis indicated PID readings ranged from 7 ppm in the two feet and thirty feet bgs soil samples to 237 ppm in the soil sample collected at ten feet bgs. Headspace analysis techniques are described in detail in Section 6.1 of this report.

All collected soil samples from soil boring SB-1 were submitted to the laboratory for total benzene, toluene, eythlbenzene, and xylene (BTEX) and total petroleum hydrocarbon (TPH) analysis. The analytical results indicated benzene concentrations were below the MDL of 0.01 mg/Kg in all the submitted soil samples. The analytical results indicated total BTEX concentrations were less than 0.01 mg/Kg in all the submitted soil samples, with the exception of the soil sample collected at ten feet bgs. The analytical results indicated the sample identified as SB-1 @ 10' had a total BTEX concentration of 14.95 mg/Kg. The results indicated TPH concentrations ranged from below the MDL of 50 mg/Kg to 2,380 (SB-1@ 10'). Soil Sample SB-1 @ 5' was submitted to the laboratory for chloride analysis and analytical results indicate chloride concentrations were below the MDL of 100 mg/Kg. A table summarizing the concentration of BTEX and TPH in soil is provided as Table 1. Laboratory reports are provided in Appendix A and the soil boring lithology logs are provided in Appendix B.

Soil borings SB-2 through SB-6 were each advanced to a depth of 15 feet bgs. No hydrocarbon odors or staining was observed during the advancement of the soil borings. A portion of each soil sample was placed in a disposable sample bag and sealed for headspace analysis using a PID. The results of the headspace analysis indicated PID readings ranged from zero (0.0) ppm to 6 ppm (SB-4 @ 15').

Based on field evaluation of the soil samples collected from soil borings SB-2 through SB-6, bottom hole soil samples were collected from each soil boring at 15 feet bgs and were submitted to the laboratory for analysis. The soil samples were analyzed for concentrations of BTEX utilizing EPA Method SW-846 8021b and concentrations of TPH utilizing Method 8015b. The analytical results indicated benzene and total BTEX concentrations were less than 0.01 mg/Kg for all of the submitted samples. The analytical results indicated TPH concentrations were below the MDL of 50 mg/Kg for all of the submitted samples.

## 4.0 SITE ASSESSMENT CONCLUSIONS

Based on the data collected and reviewed during the excavation of the investigation trenches and the advancement of six soil borings, the following conclusions can be ascertained.

- The hydrocarbon impact encountered during the advancement of soil boring SB-1 is vertically limited to less than twenty feet bgs.
- The horizontal extent of hydrocarbon impact encountered in soil boring SB-1 is limited and delineated by soil borings SB-2 through SB-6 and the northern investigation trench.
- The investigation trenches located to the east and north of the former J. N. Carson pump station were non-impacted. This data clearly illustrates that there is no connection between the hydrocarbon impacted soils in the immediate vicinity of the former crude oil pump station and the impacted areas further to the north and east as identified by the NMOCD. The areas located to the north and/or east of the investigation trenches appear to have been impacted by sources other than the J. N. Carson pump station.

## 5.0 SITE CLOSURE PROPOSAL

Based on analytical results, no additional subsurface investigation is planned at this time. Plains proposes the following risk-based closure to progress the site toward site closure:

The hydrocarbon impacted soil encountered during the advancement of soil boring SB-1 will be excavated to a depth of approximately twelve feet bgs. Figure 3 illustrates the proposed extent of excavation. The proposed area of excavation contains approximately 550 cubic yards of soil by volume. The impacted soil will be transported to the Plains Lea Station Landfarm. Following excavation activities confirmation soil samples will be collected from each of the four sidewalls. The confirmation soil samples will be analyzed for concentrations of benzene and total BTEX using EPA Method SW846 8021b and concentrations of TPH utilizing method 8015b. Analytical results will determine the final extent of the excavation, which will progress until soil samples indicate TPH and BTEX constituent concentrations are below the NMOCD regulatory standard of 100 mg/Kg for TPH, 10 mg/Kg for benzene and 50 mg/Kg for total BTEX.

Upon confirmation that the lateral extent of excavation meets regulatory standards, Plains will place a twenty millimeter synthetic liner on the floor of the excavation. This engineered control will inhibit vertical migration of contaminants below the liner, by the process of shedding moisture to the edge of the liner and beyond the maximum horizontal extent of underlying impacted soil. Prior to the installation of the liner a six inch thick layer of non-impacted sand will be placed on the excavation floor to protect the liner from tears. The sand will be contoured and the liner edge will turned under to encourage moisture collecting on top of the liner to flow to the edges of the liner. A layer of non-impacted sand will be placed on top the liner to protect the liner from rips and tears during the backfilling process. Following the synthetic liner installation, the excavation will be backfilled with locally purchased non-impacted soil. Photographs of the liner installation will be provided in the Site Closure Request as required by the NMOCD.

## **QA/QC PROCEDURES**

## 6.1 Soil Sampling

Soil samples were obtained utilizing single-use, disposable, nitrile gloves. Representative soil samples were divided into two separate portions using clean, disposable gloves and clean sampling tools. One portion of the soil samples was placed in a disposable sample bag. The bag was labeled and sealed for headspace analysis using a PID calibrated to a 100-ppm isobutylene standard. Each sample was allowed to volatilize for approximately fifteen to thirty minutes at ambient temperature prior to conducting the analysis.

The other portion of the soil sample was placed in a sterile glass container equipped with a Teflon-lined lid furnished by the analytical laboratory. The container was filled to capacity to limit the amount of headspace present. Each container was labeled and placed on ice in an insulated cooler. Upon selection of samples for analysis, the cooler was sealed for shipment to the laboratory. Proper chain-of-custody documentation was maintained throughout the sampling process.

## 6.2 Decontamination of Equipment

Soil sampling tools such as small hand shovels were washed with Liqui-Nox® detergent and rinsed with distilled water between the collection of soil samples.

## 6.3 Laboratory Protocol

The laboratory will be responsible for proper QA/QC procedures after signing the chain-of-custody form.

## 6.0 **REPORTING**

On NMOCD approval of this proposed Site Closure Proposal, Plains will commence the activities as outlined above. On completion of these remediation activities, Plains will submit a

Site Closure Request to the NMOCD. The Site Closure Request will document all remediation activities completed at the Ruth Property Site.

## 7.0 LIMITATIONS

NOVA has prepared this *Site Assessment Report and Site Closure Proposal* to the best of its ability. No other warranty, expressed or implied, is made or intended. NOVA has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. NOVA has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This Site Assessment Report and Site Closure Proposal has been prepared for the benefit of Plains. The information contained in this report including all exhibits and attachments may not be used by any other party without the express written consent of NOVA and/or Plains.

## 9.0 DISTRIBUTION

6

Copy 1: Mr. Carl J. Chavez

New Mexico Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive

Santa Fe, NM 87505

Copy 2: Mr. Larry Johnson

New Mexico Oil Conservation Division (District 1)

1625 French Drive Hobbs, NM 88240

Copy 3: The Honorable Matt White

Mayor, City of Eunice

P.O. Box 147 Eunice, NM 88231

Copy 4: Joshua and Delinda Ruth

P.O. Box 1212 Eunice, NM 88231

Copy 5: Mr. Matthew Hudson

Chevron Environmental Management Company

1400 Smith St, 19001A Houston, TX 77002

Copy 6: Mr. James Lingnau

Targa Resources P.O. Box 1909 Eunice, NM 88231

Copy 7: Mr. Jeff Dann

Plains Marketing, L.P. 333 Clay Street, Suite 1600 Houston, Texas 77002 jpdann@paalp.com

Copy 8: Mr. Daniel Bryant

Plains Marketing, LP

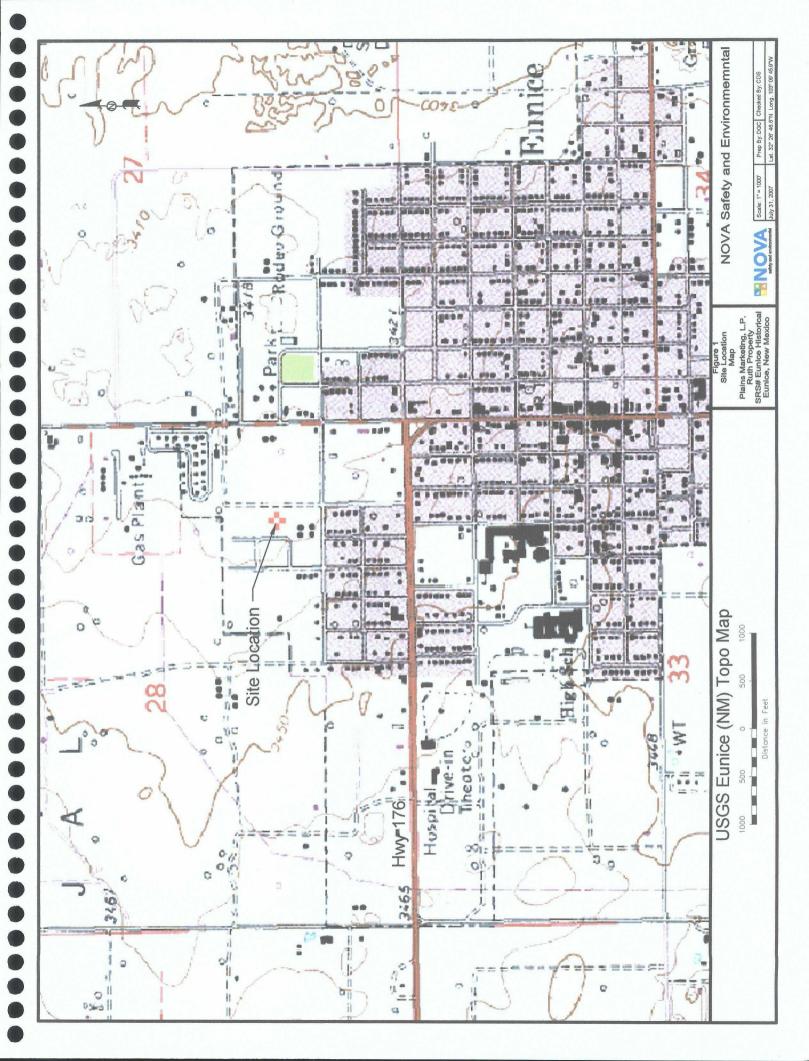
P.O. Box 3119

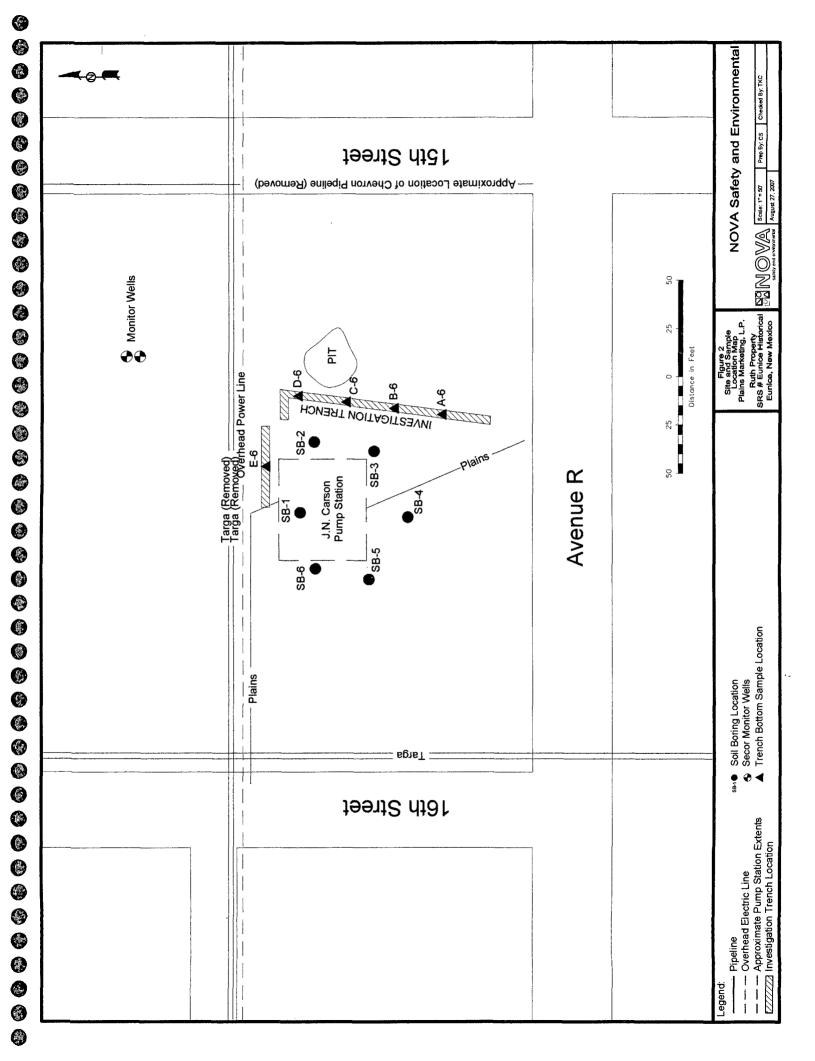
Midland, Texas 79702 dmbryant@paalp.com

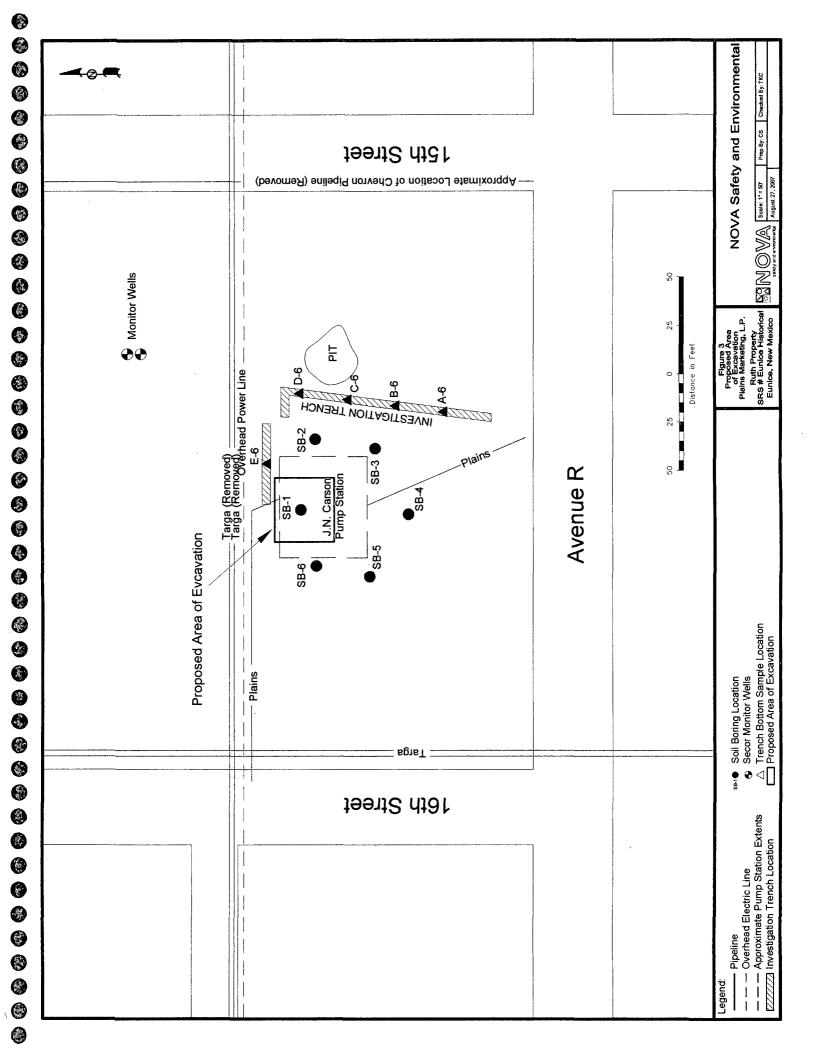
Copy 9:

• 

NOVA Safety and Environmental. 2057 Commerce Drive Midland, Texas 79703 cstanley@novatraining.cc Figures







Tables

## TABLE 1

# CONCENTRATIONS OF BTEX, TPH AND CHLORIDE IN SOIL

## PLAINS MARKETING, L.P. RUTH PROPERTY (EUNICE HISTORICAL) EUNICE, NEW MEXICO

15b (DRO/GRO)	TOTAL 4500-C1 B TOTAL CHLORIDE	100	8 <50	00 <50	00 <50	00 <50	00 <50	00 847	001> <50 <100	0 2380	2 189	2 <50	4 <50	9 <50	1 <50	00 <50	00 <50	00 <50	00 <50	
METHOD: mod 8015b (DRO/GRO)	Odo hat Odu hat		<50.0 2.88	<50.0 <1.00	<50.0 <1.00	<50.0 <1.00	<50.0 <1.00	847 <1.00	<50.0 <1.00	1990 390	156 33.2	<50.0 3.22	<50.0 2.14	<50.0	<50.0 1.31	<50.0 <1.00	<50.0 <1.00	<50.0 <1.00	<50.0 <1.00	
y/Kg	O- TOTAL	┼	<0.01	<0.01	1 <0.01	<0.01	10.0>	1 <0.01	10.0>	14.95	10.0>	<0.01	10.0>	1 <0.01	1 <0.01	1 <0.01	<0.01	<0.01	<0.01	
All concentrations are reported in mg/Kg METHODS: SW 846-80210b	m, p -	Sakaark	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	0 9.650	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	1 <0.01	
All concent METHOL	ETHYL-		<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 5.300	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	
	ANA ENAR	<u> </u>	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	71111
	SAMPLE PID	<u> </u>	08/17/07 0	08/17/07 0	08/17/07 0	08/17/07 0	0 //11/00	08/20/07	08/20/07 23	08/20/07 237	08/20/07 25	08/20/07 0	08/20/07 6	70/02/80	08/20/07 0	08/20/07 0	08/20/07 6	08/20/07 0	08/20/07 0	
	SAMPLE SA	] la	9-Q	C-6	80 9-8	A-6 08	E-6 08	SB-1 @ 2' 08	SB-1 @ 5' 08		SB-1 @ 15' 08	SB-1 @ 20' 08	SB-1 @ 25' 08	SB-1 @ 30' 08	SB-2 @ 15' 08	SB-3 @ 15' 08	SB-4 @ 15' 08	SB-5 @ 15' 08	SB-6 @ 15' 08	

Appendices

Appendix A Laboratory Reports



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin-Street, Suite A1

Lubbock, Texas 79424 El Paso; Texas, 79922 Midland, Texas 79703

888 • 588 • 3443

915 • 585 • 3443 432 • 689 • 6301

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

3015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

E-Mail: lab@traceanalysis.com

817 \* 201 \* 5260

## Analytical and Quality Control Report

Julie Koonce Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: August 24, 2007

Work Order: 7082016 

Project Location: Eunice, NM Project Name: **Eunice Historical** Project Number: Eunice Historical

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
133703	D-6	soil	2007-08-17	14:10	2007-08-20
133704	C-6	soil	2007-08-17	14:15	2007-08-20
133705	B-6	soil	2007-08-17	14:25	2007-08-20
133706	A-6	soil	2007-08-17	14:31	2007-08-20
133707	E-6	soil	2007-08-17	14:50	2007-08-20

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 11 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.

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 2 of 11 Eunice, NM

## **Analytical Report**

Sample: 133703 - D-6

BTEX Analysis: QC Batch: 40328 Prep Batch: 34898

Analytical Method: Date Analyzed:

S 8021B

2007-08-22 Sample Preparation: 2007-08-21

Prep Method: S 5035

Analyzed By: Prepared By:

n	т
к	Ιı

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.934	m mg/Kg	1	1.00	93	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.08	${ m mg/Kg}$	1	1.00	108	47.3 - 144.2

Sample: 133703 - D-6

Analysis: QC Batch:

TPH DRO 40260 Prep Batch: 34842

Analytical Method: Date Analyzed:

Mod. 8015B 2007-08-21 Sample Preparation: 2007-08-21

Prep Method: N/A Analyzed By: Prepared By:

RL

Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

					$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		202	${ m mg/Kg}$	1	150	135	17.3 - 169.6

Sample: 133703 - D-6

Prep Batch: 34898

Analysis: QC Batch:

0

TPH GRO 40346

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Sample Preparation: 2007-08-21

Prep Method: S 5035

Analyzed By: Prepared By:

RL

Parameter	Flag	Result	Units	Dilution	RL
GRO		2.88	${ m mg/Kg}$	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1 145	0.857	$\frac{\rm mg/Kg}{\rm mg}$	1	1.00	86	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	50.8 - 131.6

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 3 of 11 Eunice, NM

Sample: 133704 - C-6

Analysis: QC Batch:

Prep Batch:

BTEX 40328 34898

Analytical Method: Date Analyzed:

S 8021B

2007-08-22 Sample Preparation: 2007-08-21

Prep Method: S 5035 Analyzed By:

Prepared By:

		$_{ m RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Benzene	,	< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.981	mg/Kg	1	1.00	98	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.08	${ m mg/Kg}$	1	1.00	108	47.3 - 144.2

Sample: 133704 - C-6

Analysis: QC Batch: Prep Batch:

(G)

TPH DRO 40260

34842

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2007-08-21 2007-08-21

Prep Method: N/A Analyzed By: Prepared By:

RLParameter Flag Result < 50.0 DRO

Dilution Units RLmg/Kg50.0

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		147	mg/Kg	1	150	98	17.3 - 169.6

Sample: 133704 - C-6

Analysis: QC Batch: Prep Batch: TPH GRO 40346

34898

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Sample Preparation: 2007-08-21 Prep Method: S 5035 Analyzed By: Prepared By:

RL

1.00

RLFlag Result Units Dilution Parameter GRO <1.00 mg/Kg

Surrogate	Flag	Result	Units	Dilution	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	Percent Recovery	$egin{array}{c}  ext{Recovery} \  ext{Limits} \end{array}$
Trifluorotoluene (TFT)		0.726	mg/Kg	1	1.00	73	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.07	mg/Kg	1	1.00	107	50.8 - 131.6

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 4 of 11

Eunice, NM

Sample: 133705 - B-6

Analysis: QC Batch: BTEX 40328

Analytical Method: Date Analyzed:

S 8021B

2007-08-22 Sample Preparation:

Prep Method: S 5035

Prep Batch: 34898

2007-08-21

Analyzed By: Prepared By:

Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	m mg/Kg	1	0.0100
Ethylbenzene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.973	${ m mg/Kg}$	1	1.00	97	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.10	${ m mg/Kg}$	1	1.00	110	47.3 - 144.2

Sample: 133705 - B-6

Analysis: QC Batch: Prep Batch: TPH DRO

40260 34842

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2007-08-21

2007-08-21

Prep Method: N/A

Analyzed By: Prepared By:

Flag Parameter DRO

RLResult Units < 50.0 mg/Kg

Dilution

50.0

RL

					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		185	${ m mg/Kg}$	1	150	123	17.3 - 169.6

Sample: 133705 - B-6

Analysis: QC Batch: Prep Batch: TPH GRO 40346

34898

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 2007-08-21 Sample Preparation:

Prep Method: S 5035 Analyzed By: Prepared By:

RLUnits Parameter Flag Result Dilution RL<1.00 mg/Kg GRO 1.00

Surrogate	Flag	Result	Units	Dilution	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1	0.934	mg/Kg	1	1.00	93	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.04	mg/Kg	1	1.00	104	50.8 - 131.6

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

Report Date: August 24, 2007 Work Order: 7082016
Eunice Historical Eunice Historical

Sample: 133706 - A-6

0

Analysis:BTEXAnalytical Method:S 8021BQC Batch:40328Date Analyzed:2007-08-22Prep Batch:34898Sample Preparation:2007-08-21

Prep Method: S 5035 Analyzed By: Prepared By:

		${ m RL}$			
Parameter	$\operatorname{Flag}$	Result	$_{ m Units}$	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	${ m mg/Kg}$	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1100	1.11	mg/Kg	1	1.00	111	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	11	1.00	110	47.3 - 144.2

Sample: 133706 - A-6

Analysis: TPH DRO QC Batch: 40260 Prep Batch: 34842 Analytical Method: Mod. 8015B Date Analyzed: 2007-08-21 Sample Preparation: 2007-08-21

Prep Method: N/A Analyzed By: Prepared By:

Page Number: 5 of 11

Eunice, NM

	•	$\mathrm{RL}$			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
DRO		<50.0	${ m mg/Kg}$	1	50.0

					$\operatorname{Spike}$	Percent	$\operatorname{Recovery}$
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		168	mg/Kg	1	150	112	17.3 - 169.6

Sample: 133706 - A-6

Analysis: TPH GRO QC Batch: 40346 Prep Batch: 34898 Analytical Method: S 8015B
Date Analyzed: 2007-08-22
Sample Preparation: 2007-08-21

Prep Method: S 5035 Analyzed By: Prepared By:

		m RL			
Parameter	Flag	Result	Units	Dilution	$\mathrm{RL}$
GRO		<1.00	${ m mg/Kg}$	1	1.00

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	$_{ m Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	2	0.909	mg/Kg	1	1.00	91	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.05	${ m mg/Kg}$	1	1.00	105	50.8 - 131.6

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

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 6 of 11

Eunice, NM

Sample: 133707 - E-6

Analysis: QC Batch: BTEX 40328

Analytical Method:

S 8021B

2007-08-22

Prep Method: S 5035

Prep Batch: 34898

Date Analyzed: Sample Preparation:

2007-08-21

Analyzed By: Prepared By:

RL

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Ethylbenzene		< 0.0100	m mg/Kg	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	····	1.02	mg/Kg	1	1.00	102	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.09	${ m mg/Kg}$	1	1.00	109	47.3 - 144.2

Sample: 133707 - E-6

Analysis:

DRO

TPH DRO 40260

Analytical Method: Date Analyzed:

RL

Mod. 8015B 2007-08-21

Prep Method: N/A Analyzed By:

QC Batch: Prep Batch: 34842

Sample Preparation:

2007-08-21

Prepared By:

Flag Parameter

Result < 50.0

Units Dilution mg/Kg 1

RL50.0

					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
n-Triacontane	-	158	mg/Kg	1	150	105	17.3 - 169.6

Sample: 133707 - E-6

Analysis: QC Batch: TPH GRO 40346

Analytical Method: Date Analyzed:

S 8015B 2007-08-22

Prep Method: S 5035 Analyzed By:

Prep Batch:

34898

Sample Preparation:

2007-08-21

Prepared By:

RL

Units Parameter Flag Result Dilution RLGRO <1.00 mg/Kg 1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.929	mg/Kg	1	1.00	93	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.03	mg/Kg	1	1.00	103	50.8 - 131.6

Method Blank (1)

QC Batch: 40260

QC Batch: 40260 Prep Batch: 34842 Date Analyzed: 2007-08-21 QC Preparation: 2007-08-21

Analyzed By: Prepared By:

Report Date: August 24, 2007 Eunice Historical Work Order: 7082016 Eunice Historical Page Number: 7 of 11 Eunice, NM

Parameter	Flag		MDL Result		Units	$_{ m RL}$	
DRO				<13.4	1	50	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		153	mg/Kg	1	150	102	32.9 - 156.1

Method Blank (1) QC Batch: 40328

QC Batch: 40328 Prep Batch: 34898

Date Analyzed: 2007-08-22 QC Preparation: 2007-08-21 Analyzed By: Prepared By:

		$\mathrm{MDL}$		
Parameter	$\mathbf{Flag}$	Result	Units	RL
Benzene		< 0.00110	mg/Kg	0.01
Toluene		< 0.00150	${ m mg/Kg}$	0.01
Ethylbenzene		< 0.00160	${ m mg/Kg}$	0.01
Xylene		< 0.00410	mg/Kg	0.01

					Spike	$\operatorname{Percent}$	$\operatorname{Recovery}$
Surrogate	$\mathbf{Flag}$	Result	${ m Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.959	${ m mg/Kg}$	1	1.00	96	58.2 - 121.3
4-Bromofluorobenzene (4-BFB)		0.985	mg/Kg	1	1.00	98	53.1 - 111.6

Method Blank (1) QC Batch: 40346

QC Batch: 40346 Prep Batch: 34898 Date Analyzed: 2007-08-22 QC Preparation: 2007-08-21

Analyzed By: Prepared By:

		$\mathrm{MDL}$		
Parameter	$\operatorname{Flag}$	Result	$\mathbf{Units}$	RL
GRO		< 0.739	mg/Kg	1

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.02	mg/Kg	1	1.00	102	67.8 - 103
4-Bromofluorobenzene (4-BFB)		0.924	${ m mg/Kg}$	1	1.00	92	55.4 - 111.8

Laboratory Control Spike (LCS-1)

QC Batch: 40260 Prep Batch: 34842 Date Analyzed: 2007-08-21 QC Preparation: 2007-08-21

Analyzed By: Prepared By:

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$
DRO	232	mg/Kg	1	250	<13.4	93	49.1 - 142.3

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

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 8 of 11

Eunice, NM

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$
DRO	217	mg/Kg	1	250	<13.4	87	49.1 - 142.3	7	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	$\mathbf{Result}$	Result	$_{ m Units}$	Dil.	Amount	Rec.	Rec.	$_{ m Limit}$
n-Triacontane	106	94.4	mg/Kg	1	150	71	63	49 - 133.2

## Laboratory Control Spike (LCS-1)

QC Batch: 40328 Prep Batch: 34898 Date Analyzed: 2007-08-22 QC Preparation: 2007-08-21 Analyzed By: Prepared By:

Param	$egin{array}{c}  ext{LCS} \  ext{Result} \end{array}$	Units	Dil.	$egin{array}{c}  ext{Spike} \  ext{Amount} \end{array}$	$egin{array}{l}  ext{Matrix} \  ext{Result} \end{array}$	Rec.	Rec. Limit
Benzene	0.980	mg/Kg	1	1.00	< 0.00110	98	71.2 - 119
Toluene	1.04	mg/Kg	1	1.00	< 0.00150	104	76.3 - 116.5
Ethylbenzene	1.04	mg/Kg	1	1.00	< 0.00160	104	77.6 - 114
Xylene	3.11	mg/Kg	1	3.00	< 0.00410	104	78.8 - 113.9

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	$\mathbf{Units}$	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.990	mg/Kg	1	1.00	< 0.00110	99	71.2 - 119	1	20
Toluene	1.06	${ m mg/Kg}$	1	1.00	< 0.00150	106	76.3 - 116.5	2	20
Ethylbenzene	1.07	mg/Kg	1	1.00	< 0.00160	107	77.6 - 114	3	20
Xylene	3.15	mg/Kg	1	3.00	< 0.00410	105	78.8 - 113.9	1	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.944	0.968	mg/Kg	1	1.00	94	97	56.1 - 107.8
4-Bromofluorobenzene (4-BFB)	0.943	0.970	${ m mg/Kg}$	1	1.00	94	97	56.2 - 118.8

## Laboratory Control Spike (LCS-1)

QC Batch:

40346 Prep Batch: 34898

Date Analyzed:

2007-08-22

QC Preparation: 2007-08-21

Analyzed By: Prepared By:

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit GRO 8.33 mg/Kg 10.0 < 0.739 83 56 - 105.2

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	8.33	${ m mg/Kg}$	1	10.0	< 0.739	83	56 - 105.2	0	20

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

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 9 of 11

Eunice, NM

Surrogate	$rac{ ext{LCS}}{ ext{Result}}$	$\begin{array}{c} LCSD \\ Result \end{array}$	Units	Dil.	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.979	0.960	mg/Kg	1	1.00	98	96	61.1 - 148.1
4-Bromofluorobenzene (4-BFB)	0.960	0.959	${ m mg/Kg}$	1	1.00	96	96	67.2 - 119.2

Matrix Spike (MS-1) Spiked Sample: 133707

QC Batch:

Prep Batch: 34842

40260

Date Analyzed:

2007-08-21

QC Preparation: 2007-08-21

Analyzed By: Prepared By:

MS Spike Matrix Rec. Result Units Dil. Amount Result Param Rec. Limit DRO 367 mg/Kg 250 <13.4 147 30.2 - 201.4 1

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

MSD Spike Matrix Rec. RPD Param Result Units Dil. Amount Result Rec. Limit RPD Limit DRO 320 mg/Kg 250 <13.4 128 30.2 - 201.4  $\overline{14}$ 20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	$_{ m Units}$	Dil.	Amount	Rec.	Rec.	Limit
n-Triacontane	199	190	mg/Kg	1	150	133	127	10 - 194

Matrix Spike (MS-1) Spiked Sample: 133707

QC Batch: Prep Batch: 34898

40328

Date Analyzed:

2007-08-22 QC Preparation: 2007-08-21

Analyzed By: Prepared By:

MS Spike Matrix Rec. Result Units Dil. Amount Result Limit Param Rec. Benzene 1.27mg/Kg 1 1.00 < 0.00110 127 65.7 - 119.1 Toluene 1.33 mg/Kg 1 1.00 < 0.00150 133 47.7 - 153.8 4 mg/Kg 1.38 1 1.00 < 0.00160 Ethylbenzene 138 73.5 - 126.3 3.00 4.11 mg/Kg 1 < 0.00410 Xylene 137 73.6 - 125.9

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$	RPD	Limit
Benzene	1.07	mg/Kg	1	1.00	< 0.00110	107	65.7 - 119.1	17	20
Toluene	1.15	mg/Kg	1	1.00	< 0.00150	115	47.7 - 153.8	14	20
Ethylbenzene	1.19	mg/Kg	1	1.00	< 0.00160	119	73.5 - 126.3	15	20
Xylene	3.55	mg/Kg	1	3.00	< 0.00410	118	73.6 - 125.9	15	20

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

continued ...

<sup>&</sup>lt;sup>3</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control,

<sup>&</sup>lt;sup>4</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

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

Eunice Historical

Work Order: 7082016 Eunice Historical

Page Number: 10 of 11

Eunice, NM

	, MS	MSD			$\mathbf{Spike}$	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.959	0.937	mg/Kg	1	1	96	94	51 - 109.6
4-Bromofluorobenzene (4-BFB)	1.03	1.04	${ m mg/Kg}$	1	1	103	104	60.3 - 124.3

Matrix Spike (MS-1)

Spiked Sample: 133707

QC Batch:

40346

Date Analyzed:

2007-08-22

Prepared By:

Prep Batch: 34898

QC Preparation: 2007-08-21

Analyzed By:

		MS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	6	11.6	${ m mg/Kg}$	1	10.0	< 0.739	110	10 - 102.2

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	7	12.1	$\mathrm{mg}/\mathrm{Kg}$	1	10.0	< 0.739	115	10 - 102.2	4	20

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

	MS	MSD			Spike	MS	MSD	$\mathrm{Rec}.$
Surrogate	Result	Result	Units	Dil.	Amount	${ m Rec.}$	Rec.	Limit
Trifluorotoluene (TFT) 8	0.751	0.860	mg/Kg	1	1	75	86	47.2 - 84.2
4-Bromofluorobenzene (4-BFB)	1.06	1.08	${ m mg/Kg}$	1	1	106	108	58 - 162.6

## Standard (ICV-1)

QC Batch: 40260

Date Analyzed: 2007-08-21

Analyzed By:

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	253	101	85 - 115	2007-08-21

## Standard (CCV-1)

QC Batch: 40260

Date Analyzed: 2007-08-21

Analyzed By:

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	<b>2</b> 50	224	90	85 - 115	2007-08-21

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

<sup>8</sup>High surrogate recovery due to peak interference.

<sup>&</sup>lt;sup>7</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Report Date: August 24, 2007 Eunice Historical Work Order: 7082016 Eunice Historical Page Number: 11 of 11 Eunice, NM

## Standard (ICV-1)

QC Batch: 40328

Date Analyzed: 2007-08-22

Analyzed By:

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	85 - 115	2007-08-22
Toluene		mg/Kg	0.100	0.107	107	85 - 115	2007-08-22
Ethylbenzene		mg/Kg	0.100	0.107	107	85 - 115	2007-08-22
Xylene		mg/Kg	0.300	0.323	108	85 - 115	2007-08-22

## Standard (CCV-1)

0

QC Batch: 40328

Date Analyzed: 2007-08-22

Analyzed By:

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.105	105	85 - 115	2007-08-22
Toluene		mg/Kg	0.100	0.105	105	85 - 115	2007-08-22
Ethylbenzene		mg/Kg	0.100	0.104	104	85 - 115	2007-08-22
Xylene		mg/Kg	0.300	0.311	104	85 - 115	2007-08-22

## Standard (ICV-1)

QC Batch: 40346

Date Analyzed: 2007-08-22

Analyzed By:

			ICVs True	ICVs Found	$egin{array}{l}  ext{ICVs} \  ext{Percent} \end{array}$	Percent Recovery	Date
Param	$\operatorname{Flag}$	$_{ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.06	106	85 - 115	2007-08-22

## Standard (CCV-1)

QC Batch: 40346

Date Analyzed: 2007-08-22

Analyzed By:

			$\mathrm{CCVs}$	$\operatorname{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	$\mathbf{Date}$
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.986	99	85 - 115	2007-08-22



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

Lubbock, Texas: 79424 El Paso, Texas 79922 Midland, Texas 79703

888 • 588 • 3443

915 • 586 • 3443 432 • 689 • 6301 817 \*201 \*5260

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 889 • 6313

E-Mail: lab@traceanalysis.com

## Analytical and Quality Control Report

Julie Koonce Nova Safety & Environmental 2057 Commerce St. Midland, TX, 79703

Report Date: August 27, 2007

Work Order: 7082123 

Project Location: Eunice, NM Project Name: Eunice Historical Eunice Historical Project Number:

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
133807	SB-1 @ 2'	soil	2007-08-20	10:06	2007-08-21
133808	SB-1 @ 5'	soil	2007-08-20	11:16	2007-08-21
133809	SB-1 @ 10'	soil	2007-08-20	11:25	2007-08-21
133810	SB-1 @ 15'	soil	2007-08-20	11:35	2007-08-21
133811	SB-1 @ 20'	soil	2007-08-20	11:46	2007-08-21
133812	SB-1 @ 25'	soil	2007-08-20	11:56	2007-08-21
133813	SB-1 @ 30'	soil	2007-08-20	12:15	2007-08-21
133814	SB-2 @ 15'	soil	2007-08-20	14:17	2007-08-21
133815	SB-3 @ 15'	soil	2007-08-20	14:52	2007-08-21
133816	SB-4 @ 15'	soil	2007-08-20	15:46	2007-08-21
133817	SB-5 @ 15'	soil	2007-08-20	16:49	2007-08-21
133818	SB-6 @ 15'	soil	2007-08-20	16:56	2007-08-21

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 21 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Standard Flags

0

 ${\bf B}\,$  - The sample contains less than ten times the concentration found in the method blank.

Work Order: 7082123 Eunice Historical

Page Number: 3 of 21 Eunice, NM

# **Analytical Report**

Sample: 133807 - SB-1 @ 2'

BTEX Analysis: QC Batch: 40358 Prep Batch: 34919

Analytical Method: Date Analyzed:

S 8021B

2007-08-22 Sample Preparation: 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

RL

Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	m mg/Kg	1	0.0100
Toluene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Ethylbenzene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.952	${ m mg/Kg}$	1	1.00	95	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.16	mg/Kg	11	1.00	116	47.3 - 144.2

Sample: 133807 - SB-1 @ 2'

TPH DRO Analysis: QC Batch: 40308 Prep Batch: 34874

DRO

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2007-08-22 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

Parameter Flag

RLResult 847

Units mg/Kg Dilution

RL50.0

					$_{ m Spike}$	Percent	Recovery
Surrogate	${f Flag}$	Result	Units	Dilution	$_{\_}$ Amount	Recovery	Limits
n-Triacontane	I	372	mg/Kg	5	150	248	17.3 - 169.6

Sample: 133807 - SB-1 @ 2'

TPH GRO Analysis: 40372 QC Batch: Prep Batch: 34919

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Prep Method: S 5035 Analyzed By:

Sample Preparation: 2007-08-22 Prepared By:

RLFlag ResultUnits Dilution Parameter RL<1.00 mg/Kg GRO 1 1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.853	m mg/Kg	1	1.00	85	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	50.8 - 131.6

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

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 4 of 21 Eunice, NM

Sample: 133808 - SB-1 @ 5'

Analysis: QC Batch:

Prep Batch:

BTEX 40358 34919

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B

2007-08-22 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

		m RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Ethylbenzene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	. 1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.978	mg/Kg	1	1.00	98	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.14	${ m mg/Kg}$	1	1.00	114	47.3 - 144.2

Sample: 133808 - SB-1 @ 5'

Analysis: QC Batch: Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B 2007-08-24

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

40451 Prep Batch: 34995

Sample Preparation:

		RL			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
Chloride		<100	mg/Kg	50	2.00

Sample: 133808 - SB-1 @ 5'

Analysis: QC Batch: Prep Batch: TPH DRO

40308 34874 Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2007-08-22 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

RLFlag Parameter Result Units Dilution RLDRO < 50.0 mg/Kg 50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	$\begin{array}{c} {\rm Recovery} \\ {\rm Limits} \end{array}$
n-Triacontane		183	$_{ m mg/Kg}$	1	150	122	17.3 - 169.6

Sample: 133808 - SB-1 @ 5'

Analysis: QC Batch:

Prep Batch:

TPH GRO 40372 34919

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Prep Method: S 5035

Analyzed By: Sample Preparation: 2007-08-22 Prepared By:

 $continued \dots$ 

Work Order: 7082123 Eunice Historical

Page Number: 5 of 21 Eunice, NM

sample 133808 continued ...

Parameter	Flag		RL Result		Units		Dilution	RL
			RL					
Parameter	$\operatorname{Flag}$		Result		Units		$\operatorname{Dilution}$	RL
GRO			<1.00		${ m mg/Kg}$		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT	Γ)	2	1.07	mg/Kg	1	1.00	107	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)			1.09	${ m mg/Kg}$	11	1.00	109	50.8 - 131.6

Sample: 133809 - SB-1 @ 10'

BTEX Analysis: QC Batch: 40358 Prep Batch: 34919

Analytical Method: S 8021B Date Analyzed: Sample Preparation:

2007-08-22 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

		$\operatorname{RL}$			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	RL
Benzene		< 0.0200	· mg/Kg	2	0.0100
Toluene		< 0.0200	m mg/Kg	2	0.0100
Ethylbenzene		5.30	${ m mg/Kg}$	2	0.0100
Xylene		9.65	mg/Kg	2	0.0100

ı					Spike	$\operatorname{Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.64	${ m mg/Kg}$	2	2.00	82	39.6 - 116
4-Bromofluorobenzene (4-BFB)	3	5.34	${ m mg/Kg}$	2	2.00	267	47.3 - 144.2

Sample: 133809 - SB-1 @ 10'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

Analytical Method: Date Analyzed: Sample Preparation:

Mod. 8015B 2007-08-22 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

		RL			
Parameter	Flag	Result	Units	Dilution	RL
DRO		1990	${ m mg/Kg}$	1	50.0

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane	4	312	${ m mg/Kg}$	1	150	208	17.3 - 169.6

Sample: 133809 - SB-1 @ 10'

TPH GRO Analysis: 40372 QC Batch: Prep Batch: 34919

Analytical Method: S 8015B Date Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: S 5035 Analyzed By:

Prepared By:

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

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

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

Eunice Historical

0

•

**(3)** 

• 

Work Order: 7082123 Eunice Historical

Page Number: 6 of 21 Eunice, NM

			RL					
Parameter	Fla	ıg	Result		Units		Dilution	RL
GRO			390		mg/Kg	<del></del>	2	1.00
			•			Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ne (TFT)	1 145	1.49	mg/Kg	2	2.00	74	50.2 - 89.3
	obenzene (4-BFI	3) 5	12.6	mg/Kg	$\frac{2}{2}$	2.00	630	50.8 - 131.6
1 Bromondor	oodiizana (T ST I	-,		0/0				00.0 101.0
Sample: 13	3810 - SB-1 @	15'						
Analysis:	BTEX		Analytical I	Method:	S 8021B		Prep Me	ethod: S 5035
QC Batch:	40358		Date Analy		2007-08-22		Analyze	
Prep Batch:	34919		Sample Pre		2007-08-22		Prepare	
rep baten.	04515		Sumple 1 10	paracion	200. 00 22		ricpare	a by.
			RI					
Parameter	F	lag	Resul		Units		Dilution	RL
Benzene			< 0.010		mg/Kg		1	0.0100
Toluene			< 0.0100		mg/Kg		1	0.0100
Ethylbenzene	)		< 0.0100		${ m mg/Kg}$		1	0.0100
Xylene		<del></del>	< 0.010	0	mg/Kg		1	0.0100
						Spike	Percent	D
Cumarata		Flag	Result	Units	Dilution	Amount	Recovery	Recovery Limits
								LIMIUS
	one (TET)	Flag						
Trifluorotolue	ene (TFT) robenzene (4-BFI		1.03 1.30	mg/Kg mg/Kg	1 1	1.00 1.00	103 130	39.6 - 116
Trifluorotolue 4-Bromofluor Sample: 13: Analysis:	3810 - SB-1 @	3)	1.03 1.30 Analytica	mg/Kg mg/Kg	1 1 Mod. 8015E	1.00 1.00	103 130 Prep 1	39.6 - 116 47.3 - 144.2 Method: N/A
Trifluorotolue 4-Bromofluor Sample: 13: Analysis: QC Batch:	3810 - SB-1 @ TPH DRO 40308	3)	1.03 1.30 Analytica Date Ana	mg/Kg mg/Kg	1 1 Mod. 8015E 2007-08-22	1.00 1.00	103 130 Prep 1 Analy	39.6 - 116 47.3 - 144.2 Method: N/A zed By:
Trifluorotolue 4-Bromofluor Sample: 13: Analysis:	3810 - SB-1 @	3)	1.03 1.30 Analytica Date Ana Sample P	mg/Kg mg/Kg	1 1 Mod. 8015E 2007-08-22	1.00 1.00	103 130 Prep 1 Analy	39.6 - 116 47.3 - 144.2 Method: N/A
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch:	3810 - SB-1 @ TPH DRO 40308	3) 15'	1.03 1.30  Analytica Date Ana Sample P  RL Result	mg/Kg mg/Kg	1 1 Mod. 8015E 2007-08-22 2007-08-22	1.00 1.00	103 130 Prep 1 Analy	39.6 - 116 47.3 - 144.2 Method: N/A zed By: red By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch:	3810 - SB-1 @ TPH DRO 40308 34874	3) 15'	1.03 1.30 Analytica Date Ana Sample P	mg/Kg mg/Kg	1 1 Mod. 8015E 2007-08-22 2007-08-22	1.00 1.00	103 130 Prep 1 Analy Prepa	39.6 - 116 47.3 - 144.2 Method: N/A zed By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch:	3810 - SB-1 @ TPH DRO 40308 34874	3) 15'	1.03 1.30  Analytica Date Ana Sample P  RL Result	mg/Kg mg/Kg	1 1 Mod. 8015E 2007-08-22 2007-08-22 Units mg/Kg	1.00	103 130  Prep Analy Prepa Dilution 1	39.6 - 116 47.3 - 144.2 Method: N/A zed By: red By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch: Pranmeter DRO	3810 - SB-1 @ TPH DRO 40308 34874	3) 15'	1.03 1.30  Analytica Date Ana Sample P  RL Result 156	mg/Kg mg/Kg	1 1 Mod. 8015F 2007-08-22 2007-08-22 Units mg/Kg	1.00 1.00	Prep Analy Prepa	39.6 - 116 47.3 - 144.2 Method: N/A zed By: red By: RL 50.0
Sample: 13 Analysis: QC Batch: Prep Batch: Parameter	3810 - SB-1 @ TPH DRO 40308 34874	3) 15'	1.03 1.30  Analytica Date Ana Sample P  RL Result	mg/Kg mg/Kg	1 1 Mod. 8015F 2007-08-22 2007-08-22 Units mg/Kg	1.00	103 130  Prep Analy Prepa Dilution 1	39.6 - 11 47.3 - 144 Method: N/ zed By: red By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch: Parameter DRO  Surrogate n-Triacontan	3810 - SB-1 @ TPH DRO 40308 34874  Flag	Result 201	1.03 1.30  Analytica Date Ana Sample P  RL Result 156  Units mg/Kg	mg/Kg mg/Kg al Method: alyzed: Preparation:	1 1 Mod. 8015F 2007-08-22 2007-08-22 Units mg/Kg	1.00 1.00	Prep I Analy Prepa Dilution 1 Percent Recovery 134	39.6 - 116 47.3 - 144. Method: N/Azed By: red By: Recovery Limits 17.3 - 169
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch: Pranmeter DRO  Surrogate n-Triacontan  Sample: 13	78810 - SB-1 @ TPH DRO 40308 34874  Flag  Flag  13810 - SB-1 @	Result 201	1.03 1.30  Analytica Date Ana Sample P  RL Result 156  Units mg/Kg	mg/Kg mg/Kg mg/Kg al Method: Preparation: Dilu	1 1 1 Mod. 8015E 2007-08-22 2007-08-22 Units mg/Kg 1tion A	1.00 1.00	Prep Dilution I Percent Recovery 134  Prep M	39.6 - 116 47.3 - 144.5 Method: N/Azed By: red By: Recovery Limits 17.3 - 169.
Trifluorotolue 4-Bromofluor  Sample: 13 Analysis: QC Batch: Prep Batch:  Parameter DRO  Surrogate n-Triacontan  Sample: 13 Analysis:	TPH DRO 40308 34874  Flag  E TPH GRO	Result 201	Analytica Date Ana Sample P RL Result 156 Units mg/Kg Analytica Date Ana	mg/Kg mg/Kg mg/Kg al Method: Preparation: Dilu	1 1 1 Mod. 8015E 2007-08-22 2007-08-22 Units mg/Kg 1 S 8015B 2007-08-22	1.00 1.00	Prep I Analy Prepa Dilution 1 Percent Recovery 134	39.6 - 116 47.3 - 144.2 Method: N/Azed By: red By: RI 50.6 Recovery Limits 17.3 - 169.6 ethod: S 5033 d By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch:  Parameter DRO  Surrogate n-Triacontan  Sample: 13  Analysis: QC Batch:	TPH GRO 40372	Result 201	Analytica Date Ana Sample P RL Result 156 Units mg/Kg Analytica Date Ana	mg/Kg mg/Kg mg/Kg  Method: Preparation: Dilu Method:	1 1 1 Mod. 8015E 2007-08-22 2007-08-22 Units mg/Kg  tion A 1  S 8015B 2007-08-22 2007-08-22	1.00 1.00	Prep Dilution I Percent Recovery 134  Prep M Analyze	39.6 - 116 47.3 - 144.2 Method: N/Azed By: red By: RI 50.6 Recovery Limits 17.3 - 169.6 ethod: S 5033 d By:
Trifluorotolue 4-Bromofluor  Sample: 13  Analysis: QC Batch: Prep Batch:  Parameter DRO  Surrogate n-Triacontan  Sample: 13  Analysis: QC Batch:	TPH GRO 40372	Result 201	Analytica Date Ana Sample P RL Result 156 Units mg/Kg  Analytica Date Ana Sample P	mg/Kg mg/Kg mg/Kg  Method: Preparation: Dilu Method:	1 1 1 Mod. 8015E 2007-08-22 2007-08-22 Units mg/Kg 1 S 8015B 2007-08-22	1.00 1.00	Prep Dilution I Percent Recovery 134  Prep M Analyze	39.6 - 116 47.3 - 144.2 Method: N/Azed By: red By: RI 50.6 Recovery Limits 17.3 - 169.6 ethod: S 5033 d By:

<sup>&</sup>lt;sup>5</sup>High surrogate recovery due to peak interference.

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 7 of 21

Eunice, NM

Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	$egin{array}{c}  ext{Spike} \  ext{Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	6	1.07	mg/Kg	1	1.00	107	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		0.940	mg/Kg	1	1.00	94	50.8 - 131.6

Sample: 133811 - SB-1 @ 20'

BTEX Analysis: QC Batch: 40358 Prep Batch: 34919

Analytical Method: S 8021B Date Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: S 5035 Analyzed By: Prepared By:

RL.

		101			
Parameter	Flag	Result	$\mathbf{Units}$	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					$\operatorname{Spike}$	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	7	1.35	m mg/Kg	1	1.00	135	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.43	m mg/Kg	1	1.00	143	47.3 - 144.2

Sample: 133811 - SB-1 @ 20'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

DRO

Mod. 8015B Analytical Method: 2007-08-22 Date Analyzed: Sample Preparation: 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

RL

50.0

Parameter Flag

RLResult Units Dilution <50.0 mg/Kg 1

					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
n-Triacontane		185	mg/Kg	1	150	123	17.3 - 169.6

Sample: 133811 - SB-1 @ 20'

TPH GRO Analysis: QC Batch: 40372Prep Batch: 34919

Analytical Method: S 8015B 2007-08-22 Date Analyzed: Sample Preparation: 2007-08-22 Prep Method: S 5035 Analyzed By:

Prepared By: RL

 $<sup>\</sup>mathbf{Result}$ Units Parameter Flag Dilution RLGRO 3.22 mg/Kg 1.00

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

<sup>&</sup>lt;sup>7</sup>High surrogate recovery. Sample non-detect, result bias high.

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 8 of 21 Eunice, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	8	0.00610	mg/Kg	1	1.00	1	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.09	mg/Kg	1	1.00	109	50.8 - 131.6

Sample: 133812 - SB-1 @ 25'

Analysis: BTEX QC Batch: 40358 Prep Batch: 34919 Analytical Method: S 8021B Date Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: S 5035 Analyzed By: Prepared By:

RLUnits Dilution Parameter Flag Result RLmg/Kg Benzene < 0.0100 0.0100 mg/Kg Toluene < 0.0100 1 0.0100 Ethylbenzene mg/Kg 1 < 0.0100 0.0100 mg/Kg Xylene < 0.0100 1 0.0100

				Spike	Percent	Recovery
$\operatorname{Flag}$	Result	$_{ m Units}$	Dilution	Amount	Recovery	Limits
	1.16	mg/Kg	1	1.00	116	39.6 - 116
	1.24	${ m mg/Kg}$	1	1.00	124	47.3 - 144.2
	Flag	1.16	1.16 mg/Kg	1.16 mg/Kg 1	Flag Result Units Dilution Amount  1.16 mg/Kg 1 1.00	Flag Result Units Dilution Amount Recovery  1.16 mg/Kg 1 1.00 116

Sample: 133812 - SB-1 @ 25'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

Analytical Method: Mod. 8015B Date Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

					$\mathbf{Spike}$	$\operatorname{Percent}$	$\operatorname{Recovery}$
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane	<u> </u>	190	${ m mg/Kg}$	1	150	127	17.3 - 169.6

Sample: 133812 - SB-1 @ 25'

Analysis: TPH GRO QC Batch: 40372 Prep Batch: 34919 Analytical Method: S 8015B
Date Analyzed: 2007-08-22
Sample Preparation: 2007-08-22

Prep Method: S 5035 Analyzed By: Prepared By:

<sup>&</sup>lt;sup>8</sup>Surrogate out due to peak interference.

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 9 of 21 Eunice, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	9	0.984	mg/Kg	1	1.00	98	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.24	mg/Kg	1	1.00	124	50.8 - 131.6

Sample: 133813 - SB-1 @ 30'

**BTEX** Analysis: QC Batch: 40358 Prep Batch: 34919

Analytical Method: S 8021B Date Analyzed: Sample Preparation:

2007-08-22 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

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

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.02	mg/Kg	1	1.00	102	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.13	mg/Kg	11	1.00	113	47.3 - 144.2

Sample: 133813 - SB-1 @ 30'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

Analytical Method: Mod. 8015B 2007-08-22 Date Analyzed: Sample Preparation:

Prep Method: N/A Analyzed By: 2007-08-22 Prepared By:

RLUnitsFlag Dilution Parameter Result RL< 50.0 DRO mg/Kg 50.0

					$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		185	${ m mg/Kg}$	1	150	123	17.3 - 169.6

Sample: 133813 - SB-1 @ 30'

TPH GRO Analysis: QC Batch: 40372 Prep Batch: 34919

Analytical Method: Date Analyzed: Sample Preparation:

S 8015B 2007-08-22 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

		$\operatorname{RL}$		_	
Parameter	Flag	Result	Units	Dilution	RL
GRO		1.89	mg/Kg	1	1.00

<sup>&</sup>lt;sup>9</sup>High surrogate recovery due to peak interference.

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 10 of 21

Eunice, NM

Surrogate	Flag	Result	Units	Dilution	$\begin{array}{c} {\rm Spike} \\ {\rm Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.844	mg/Kg	1	1.00	84	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		$1.12_{}$	mg/Kg	1	1.00	112	50.8 - 131.6

Sample: 133814 - SB-2 @ 15'

BTEX Analysis: 40358 QC Batch: Prep Batch: 34919

Analytical Method: Date Analyzed: Sample Preparation:

S 8021B 2007-08-22 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

		$\mathrm{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	m mg/Kg	1	0.0100
Ethylbenzene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Xylene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100

					Spike	$\operatorname{Percent}$	$\operatorname{Recovery}$
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.03	${ m mg/Kg}$	1	1.00	103	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.13	${ m mg/Kg}$	1	1.00	113	47.3 - 144.2

Sample: 133814 - SB-2 @ 15'

TPH DRO Analysis: 40308 QC Batch: Prep Batch: 34874

Analytical Method: Mod. 8015B Date Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: N/A

Analyzed By: Prepared By:

		$\mathrm{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
DRO		< 50.0	${ m mg/Kg}$	1	50.0

					Spike	$\operatorname{Percent}$	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		186	${ m mg/Kg}$	1	<b>15</b> 0	124	17.3 - 169.6

Sample: 133814 - SB-2 @ 15'

TPH GRO Analysis: QC Batch: 40372Prep Batch: 34919

Analytical Method: S 8015BDate Analyzed: 2007-08-22 Sample Preparation: 2007-08-22 Prep Method: S 5035 Analyzed By: Prepared By:

		RL			
Parameter	Flag	Result	Units	Dilution	RL
GRO		1.31	mg/Kg	1	1.00

Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Spike Amount	Percent Recovery	$egin{array}{c}  ext{Recovery} \  ext{Limits} \end{array}$
Trifluorotoluene (TFT)		0.816	mg/Kg	1	1.00	82	50.2 - 89.3
							$continued \dots$

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 11 of 21

Eunice, NM

sample	continued				
--------	-----------	--	--	--	--

					Бріке	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB)		1.08	${ m mg/Kg}$	1	1.00	108	50.8 - 131.6

### Sample: 133815 - SB-3 @ 15'

BTEX Analysis: QC Batch: 40358

Analytical Method: Date Analyzed:

S 8021B 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

Prep Batch:	34919	Sample Preparation:	2007-08-22

		$\kappa_{ m L}$			
Parameter	Flag	Result	$\operatorname{Units}$	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					$\operatorname{Spike}$	$\mathbf{Percent}$	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.06	${ m mg/Kg}$	1	1.00	106	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.13	${ m mg/Kg}$	1	1.00	113	47.3 - 144.2

#### Sample: 133815 - SB-3 @ 15'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

DRO

Analytical Method: Date Analyzed:

Mod. 8015B 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: N/A Analyzed By:

Prepared By:

		]
Parameter	$\operatorname{Flag}$	Res

m RL			
$\mathbf{Result}$	Units	Dilution	$\operatorname{RL}$
< 50.0	mø/Kø	1	50.0

Surrogate	Flag	Result	Units	Dilution	$egin{array}{c}  ext{Spike} \  ext{Amount} \end{array}$	Percent Recovery	$egin{array}{c}  ext{Recovery} \  ext{Limits} \end{array}$
n-Triacontane		186	${ m mg/Kg}$	1	150	124	17.3 - 169.6

#### Sample: 133815 - SB-3 @ 15'

TPH GRO Analysis: QC Batch: 40372Prep Batch: 34919

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Prep Method: S 5035 Analyzed By:

Sample Preparation: 2007-08-22

Prepared By:

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

 $continued \dots$ 

Report	Date:	August	27,	2007
Eunice	Histor	ical		

Work Order: 7082123 Eunice Historical

Page Number: 12 of 21 Eunice, NM

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	10	0.911	mg/Kg	1	1.00	91	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.06	${ m mg/Kg}$	1	1.00	106	50.8 - 131.6

## Sample: 133816 - SB-4 @ 15'

Analysis: BTEX 40358 QC Batch: 34919 Prep Batch:

Analytical Method: S 8021B Date Analyzed: Sample Preparation:

2007-08-22 2007-08-22 Prep Method: S 5035 Analyzed By:

Prepared By:

		RL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	$\mathrm{mg}/\mathrm{Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

					Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.06	m mg/Kg	1	1.00	106	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	47.3 - 144.2

#### Sample: 133816 - SB-4 @ 15'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

Analytical Method: Date Analyzed:

Mod. 8015B 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: N/A Analyzed By:

Prepared By:

		RL			
Parameter	Flag	Result	$\mathbf{Units}$	Dilution	RL
DRO		< 50.0	mg/Kg	1	50.0

					Spike	Percent	Recovery
Surrogate	Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
n-Triacontane		182	${ m mg/Kg}$	1	150	121	17.3 - 169.6

#### Sample: 133816 - SB-4 @ 15'

TPH GRO Analysis: QC Batch: 40372 Prep Batch: 34919

Analytical Method: Date Analyzed:

S 8015B 2007-08-22 Sample Preparation: 2007-08-22 Prep Method: S 5035

Analyzed By: Prepared By:

		m RL			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	$\operatorname{RL}$
GRO		<1.00	mg/Kg	1	1.00

<sup>10</sup> High surrogate recovery due to peak interference.

Eunice Historical

Work Order: 7082123

Eunice Historical

Page Number: 13 of 21

Eunice, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.827	mg/Kg	1	1.00	83	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.04	m mg/Kg	1	1.00	104	50.8 - 131.6

Sample: 133817 - SB-5 @ 15'

BTEX Analysis: 40358 QC Batch: Prep Batch: 34919

Analytical Method: S 8021B Date Analyzed: Sample Preparation: 2007-08-22

2007-08-22

Prep Method: S 5035

Analyzed By: Prepared By:

		$\mathrm{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Benzène		< 0.0100	mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		< 0.0100	mg/Kg	1	0.0100

				۵	Spike	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	$_{ m Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.970	mg/Kg	1	1.00	97	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.08	mg/Kg	1	1.00	108	47.3 - 144.2

Sample: 133817 - SB-5 @ 15'

TPH DRO Analysis: QC Batch: 40308 Prep Batch: 34874

Analytical Method: Mod. 8015B Date Analyzed: 2007-08-22 Sample Preparation:

Prep Method: N/A Analyzed By: 2007-08-22 Prepared By:

RLFlag Result Units Dilution Parameter RL< 50.0 DRO mg/Kg 50.0

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		199	m mg/Kg	1	150	133	17.3 - 169.6

Sample: 133817 - SB-5 @ 15'

Analysis: TPH GRO QC Batch: 40372 Prep Batch: 34919

Analytical Method: S 8015BDate Analyzed: 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: S 5035 Analyzed By: Prepared By:

RLParameter Flag Result Units Dilution RL $\overline{\text{GRO}}$ <1.00 mg/Kg 1.00

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 14 of 21 Eunice, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.796	mg/Kg	1	1.00	80	50.2 - 89.3
4-Bromofluorobenzene (4-BFB)		1.02	${ m mg/Kg}$	1	1.00	102	50.8 - 131.6

Sample: 133818 - SB-6 @ 15'

Analysis: BTEX QC Batch: 40358 Prep Batch: 34919

Analytical Method: Date Analyzed:

S 8021B 2007-08-22 Prep Method: S 5035 Analyzed By:

Sample Preparation: 2007-08-22 Prepared By:

		$\mathtt{RL}$			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0100	m mg/Kg	1	0.0100
Toluene		< 0.0100	${ m mg/Kg}$	1	0.0100
Ethylbenzene		< 0.0100	${ m mg/Kg}$	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	$egin{array}{c}  ext{Spike} \  ext{Amount} \end{array}$	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.962	mg/Kg	1	1.00	96	39.6 - 116
4-Bromofluorobenzene (4-BFB)		1.06	mg/Kg	1	1.00	106	47.3 - 144.2

Sample: 133818 - SB-6 @ 15'

Analysis: TPH DRO QC Batch: 40308 Prep Batch: 34874

Analytical Method: Date Analyzed:

Mod. 8015B 2007-08-22 Sample Preparation: 2007-08-22

Prep Method: N/A Analyzed By: Prepared By:

RLFlag Dilution Result Units RLParameter DRO < 50.0 mg/Kg 50.0

					$\mathbf{Spike}$	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		204	${ m mg/Kg}$	1	150	136	17.3 - 169.6

Sample: 133818 - SB-6 @ 15'

Analysis: TPH GRO QC Batch: 40372Prep Batch: 34919

Analytical Method: Date Analyzed: Sample Preparation:

S 8015B 2007-08-22 2007-08-22 Prep Method: S 5035 Analyzed By:

Prepared By:

RLParameter Flag Result Units Dilution RLGRO <1.00 mg/Kg 1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.877	mg/Kg	1	1.00	88	50.2 - 89.3

continued ...

Work Order: 7082123 Eunice Historical Page Number: 15 of 21 Eunice, NM

 $sample\ continued\ \dots$ 

					$_{ m Spike}$	Percent	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB)		1.00	${ m mg/Kg}$	1	1.00	100	50.8 - 131.6

Method Blank (1)

QC Batch: 40308

QC Batch: 40308 Prep Batch: 34874 Date Analyzed: 2007-08-22 QC Preparation: 2007-08-22 Analyzed By: Prepared By:

MDL

					Spike	$\operatorname{Percent}$	Recovery
Surrogate	$\operatorname{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		94.2	${ m mg/Kg}$	1	150	63	32.9 - 156.1

Method Blank (1)

QC Batch: 40358

QC Batch: 40358 Prep Batch: 34919

Date Analyzed: 2007-08-22 QC Preparation: 2007-08-22 Analyzed By: Prepared By:

MDL Flag Result Units RLParameter < 0.00110 mg/Kg 0.01 Benzene < 0.00150 Toluene mg/Kg 0.01 Ethylbenzene < 0.00160 mg/Kg 0.01 Xylene < 0.00410 mg/Kg0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	$egin{array}{c}  ext{Recovery} \  ext{Limits} \end{array}$
Trifluorotoluene (TFT)		0.991	mg/Kg	1	1.00	99	58.2 - 121.3
4-Bromofluorobenzene (4-BFB)		0.996	${ m mg/Kg}$	1	1.00	100	53.1 - 111.6

Method Blank (1)

QC Batch: 40372

QC Batch: 40372 Prep Batch: 34919 Date Analyzed: 2007-08-22 QC Preparation: 2007-08-22

Analyzed By: Prepared By:

MDL

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.02	m mg/Kg	1	1.00	102	67.8 - 103
4-Bromofluorobenzene (4-BFB)		0.953	mg/Kg	11	1.00	95	55.4 - 111.8

Work Order: 7082123 Eunice Historical

Page Number: 16 of 21 Eunice, NM

Method Blank (1)

QC Batch: 40451

QC Batch:

40451 Prep Batch: 34995 Date Analyzed:

2007-08-24

Analyzed By: AR

QC Preparation: 2007-08-24 Prepared By: AR

MDL

Parameter	$\operatorname{Flag}$	Result	${f Units}$	RL
Chloride		<0.500	mg/Kg	2

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

QC Batch:

40308

Date Analyzed:

2007-08-22

Analyzed By:

Prep Batch: 34874

QC Preparation: 2007-08-22

Prepared By:

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	188	mg/Kg	1	250	<13.4	75	49.1 - 142.3

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

	LCSD			$\mathbf{S}_{\mathbf{P}}$ ike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	184	mg/Kg	1	250	<13.4	74	49.1 - 142.3	2	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	$\mathbf{Units}$	Dil.	Amount	Rec.	Rec.	Limit
n-Triacontane	191	195	mg/Kg	1	150	127	130	49 - 133.2

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

QC Batch:

40358

Date Analyzed:

2007-08-22

Analyzed By:

Prep Batch: 34919

QC Preparation: 2007-08-22

Prepared By:

	LCS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{Result}$	$_{ m Units}$	Dil.	Amount	Result	Rec.	Limit
Benzene	0.994	${ m mg/Kg}$	1	1.00	< 0.00110	99	71.2 - 119
Toluene	1.08	${ m mg/Kg}$	1	1.00	< 0.00150	108	76.3 - 116.5
Ethylbenzene	1.07	${ m mg/Kg}$	1	1.00	< 0.00160	107	77.6 - 114
Xylene	3.18	mg/Kg	1	3.00	< 0.00410	106	78.8 - 113.9

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

Param	$\begin{array}{c}  ext{LCSD} \\  ext{Result} \end{array}$	Units	Dil.	Spike Amount	$egin{array}{l}  ext{Matrix} \  ext{Result} \end{array}$	Rec.	Rec. Limit	RPD	$\begin{array}{c} \text{RPD} \\ \text{Limit} \end{array}$
Benzene	0.952	mg/Kg	1	1.00	< 0.00110	95	71.2 - 119	4	20
Toluene	1.02	${ m mg/Kg}$	1	1.00	< 0.00150	102	76.3 - 116.5	6	20
Ethylbenzene	1.02	mg/Kg	1	1.00	< 0.00160	102	77.6 - 114	5	20
Xylene	3.07	mg/Kg	1	3.00	< 0.00410	102	78.8 - 113.9	4	20

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

Eunice Historical

Work Order: 7082123 Eunice Historical

Page Number: 17 of 21

Eunice, NM

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.930	0.967	mg/Kg	1	1.00	93	97	56.1 - 107.8
4-Bromofluorobenzene (4-BFB)	0.969	0.963	${ m mg/Kg}$	1	1.00	97	96	56.2 - 118.8

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 34919

40372

Date Analyzed:

2007-08-22

QC Preparation: 2007-08-22 Analyzed By: Prepared By:

LCS Spike Matrix Rec. Units Dil. Result Amount Result Rec. Limit Param GRO 8.58 mg/Kg 10.0 < 0.73986 56 - 105.2

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

LCSD Spike Matrix Rec. RPD Dil. Result Param Result Units Amount Rec. Limit RPD Limit 8.28 10.0 < 0.739GRO mg/Kg1 83 56 - 105.2 4 20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	$\mathrm{Rec}.$	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.948	0.967	mg/Kg	1	1.00	95	97	61.1 - 148.1
4-Bromofluorobenzene (4-BFB)	0.958	0.964	mg/Kg	1	1.00	96	96	67.2 - 119.2

Laboratory Control Spike (LCS-1)

QC Batch:

40451

Prep Batch: 34995

Date Analyzed:

2007-08-24

QC Preparation: 2007-08-24 Analyzed By: AR Prepared By: AR

LCS Spike Matrix Rec. Dil. Param Result Units Amount Result Rec. Limit Chloride 99.6 mg/Kg 100 < 0.500 100 85 - 115

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

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

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

Spiked Sample: 133811 Matrix Spike (MS-1)

QC Batch:

40308

Date Analyzed:

2007-08-22

Analyzed By: Prepared By:

2007-08-22 Prep Batch: 34874 QC Preparation:

	MS			Spike	Matrix		$\operatorname{Rec}$ .
Param	Result	Units	Dil.	Amount	Result	Rec.	$_{ m Limit}$
DRO	207	mg/Kg	1	250	<13.4	83	30.2 - 201.4

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

Work Order: 7082123 Eunice Historical Page Number: 18 of 21

Eunice, NM

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\operatorname{Limit}$
DRO	205	mg/Kg	1	250	<13.4	82	30.2 - 201.4	1	20

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

	MS	MSD			$\mathbf{Spike}$	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Triacontane	194	178	mg/Kg	1	150	129	119	10 - 194

Matrix Spike (MS-1) Spiked Sample: 133820

QC Batch: 40358 Prep Batch: 34919 Date Analyzed: 2007-08-22 QC Preparation: 2007-08-22

Analyzed By: Prepared By:

		MS			Spike	Matrix		${ m Rec.}$	
Param		Result	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$	
Benzene	11	1.96	mg/Kg	1	1.00	< 0.00110	196	65.7 - 119.1	
Toluene	12	2.00	mg/Kg	1	1.00	< 0.00150	200	47.7 - 153.8	
Ethylbenzene	13	2.07	mg/Kg	1	1.00	< 0.00160	207	73.5 - 126.3	
Xylene	14	6.21	${ m mg/Kg}$	1	3.00	< 0.00410	207	73.6 - 125.9	

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

		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	15	1.01	mg/Kg	1	1.00	< 0.00110	101	65.7 - 119.1	64	20
Toluene	16	1.06	$\mathrm{mg}/\mathrm{Kg}$	1	1.00	< 0.00150	106	47.7 - 153.8	61	20
Ethylbenzene	17	1.10	m mg/Kg	1	1.00	< 0.00160	110	73.5 - 126.3	61	20
Xylene	18	3.25	mg/Kg	1	3.00	< 0.00410	108	73.6 - 125.9	63	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	$\mathbf{Result}$	Result	Units	Dil.	Amount	$\operatorname{Rec}$ .	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.941	0.927	${ m mg/Kg}$	1	1	94	93	51 - 109.6
4-Bromofluorobenzene (4-BFB)	1.02	1.03	${ m mg/Kg}$	1	1	102	103	60.3 - 124.3

Matrix Spike (MS-1) Spiked Sample: 133820

QC Batch: 40372 Prep Batch: 34919

Date Analyzed: 2007-08-22 QC Preparation: 2007-08-22 Analyzed By: Prepared By:

	MS			Spike	Matrix		$\mathrm{Rec}.$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	9.67	mg/Kg	1	10.0	< 0.739	92	10 - 102.2

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

<sup>11</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>12</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>13</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>14</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>15</sup>RPD is out of control limits due to extraction process. Use LCS/LCSD to demonstrate method is under control. •

 $<sup>^{16}</sup>$ RPD is out of control limits due to extraction process. Use LCS/LCSD to demonstrate method is under control. •  $^{17}$ RPD is out of control limits due to extraction process. Use LCS/LCSD to demonstrate method is under control. •

<sup>&</sup>lt;sup>18</sup>RPD is out of control limits due to extraction process. Use LCS/LCSD to demonstrate method is under control. •

Eunice Historical

Work Order: 7082123 Eunice Historical Page Number: 19 of 21 Eunice, NM

MSD RPD Spike Matrix Rec. Dil. RPD Result Units Amount Result Rec. Limit Limit Param  $< 0.73\overline{9}$ 75 GRO 7.92 mg/Kg 10.0 10 - 102.2 20 20

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

	MS	MSD			$\operatorname{Spike}$	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.765	0.800	mg/Kg	1	1	76	80	47.2 - 84.2
4-Bromofluorobenzene (4-BFB)	1.04	1.04	mg/Kg	1	1	104	104	58 - 162.6

Matrix Spike (MS-1) Spiked Sample: 133922

QC Batch: 40451 Prep Batch: 34995 Date Analyzed: 2007-08-24 QC Preparation: 2007-08-24 Analyzed By: AR Prepared By: AR

MS Spike Matrix Rec. Dil. Result Units Amount Result Limit Param Rec. 8360 3652.48 Chloride mg/Kg 50 5000  $\overline{94}$ 85 - 115

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

MSD Spike Matrix Rec. R.P.D Param Result Units Dil. Amount Result Rec. Limit RPD Limit 5000 3652.48Chloride 8400 mg/Kg 50 95 85 - 115 0 20

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

Standard (ICV-1)

QC Batch: 40308

Date Analyzed: 2007-08-22

Analyzed By:

**ICVs ICVs ICVs** Percent True Found Percent Recovery Date Units Conc. Conc. Recovery Limits Analyzed Param Flag mg/Kg 250 230  $\overline{92}$ 85 - 115 2007-08-22 DRO

Standard (CCV-1)

QC Batch: 40308

Date Analyzed: 2007-08-22

Analyzed By:

**CCVs CCVs** CCVs Percent Found True Percent Recovery Date Units Conc. Conc. Param Flag Recovery Limits Analyzed 232  $\overline{DRO}$ mg/Kg 250 93 85 - 115 2007-08-22

Standard (CCV-2)

QC Batch: 40308

Date Analyzed: 2007-08-22

Analyzed By:

Eunice Historical

Work Order: 7082123 Eunice Historical Page Number: 20 of 21 Eunice, NM

Param	$\operatorname{Flag}$	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	230	92	85 - 115	2007-08-22

Standard (ICV-1)

QC Batch: 40358

Date Analyzed: 2007-08-22

Analyzed By:

			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0944	94	85 - 115	2007-08-22
Toluene		mg/Kg	0.100	0.104	104	85 - 115	2007-08-22
Ethylbenzene		$_{ m mg/Kg}$	0.100	0.102	102	85 - 115	2007-08-22
Xylene		mg/Kg	0.300	0.302	101	85 - 115	2007-08-22

Standard (CCV-1)

QC Batch: 40358

Date Analyzed: 2007-08-22

Analyzed By:

			CCVs	CCVs	CCVs	Percent	
			$\operatorname{True}$	Found	$\operatorname{Percent}$	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0954	95	85 - 115	2007-08-22
Toluene		${ m mg/Kg}$	0.100	0.103	103	85 - 115	2007-08-22
Ethylbenzene		${ m mg/Kg}$	0.100	0.100	100	85 - 115	2007-08-22
Xylene		mg/Kg	0.300	0.300	100	85 - 115	2007-08-22

Standard (ICV-1)

QC Batch: 40372

Date Analyzed: 2007-08-22

Analyzed By:

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		${ m mg/Kg}$	1.00	1.12	112	85 - 115	2007-08-22

Standard (CCV-1)

QC Batch: 40372

Date Analyzed: 2007-08-22

Analyzed By:

	•		CCVs	CCVs	$\mathrm{CCVs}$	Percent	
			$\operatorname{True}$	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		${ m mg/Kg}$	1.00	1.02	102	85 - 115	2007-08-22

Standard (ICV-1)

QC Batch: 40451

Date Analyzed: 2007-08-24

Analyzed By: AR

Work Order: 7082123 Eunice Historical Page Number: 21 of 21 Eunice, NM

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2007-08-24

Standard (CCV-1)

**6** 

**6** 

**9** 

•

QC Batch: 40451

Date Analyzed: 2007-08-24

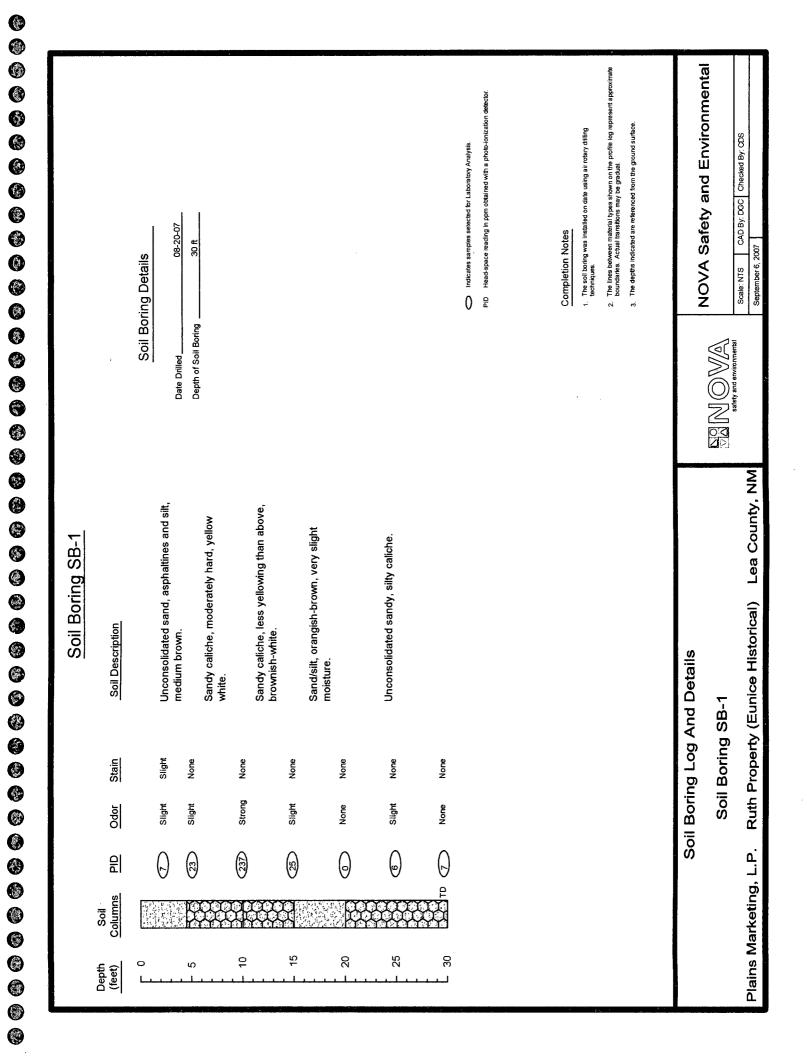
Analyzed By: AR

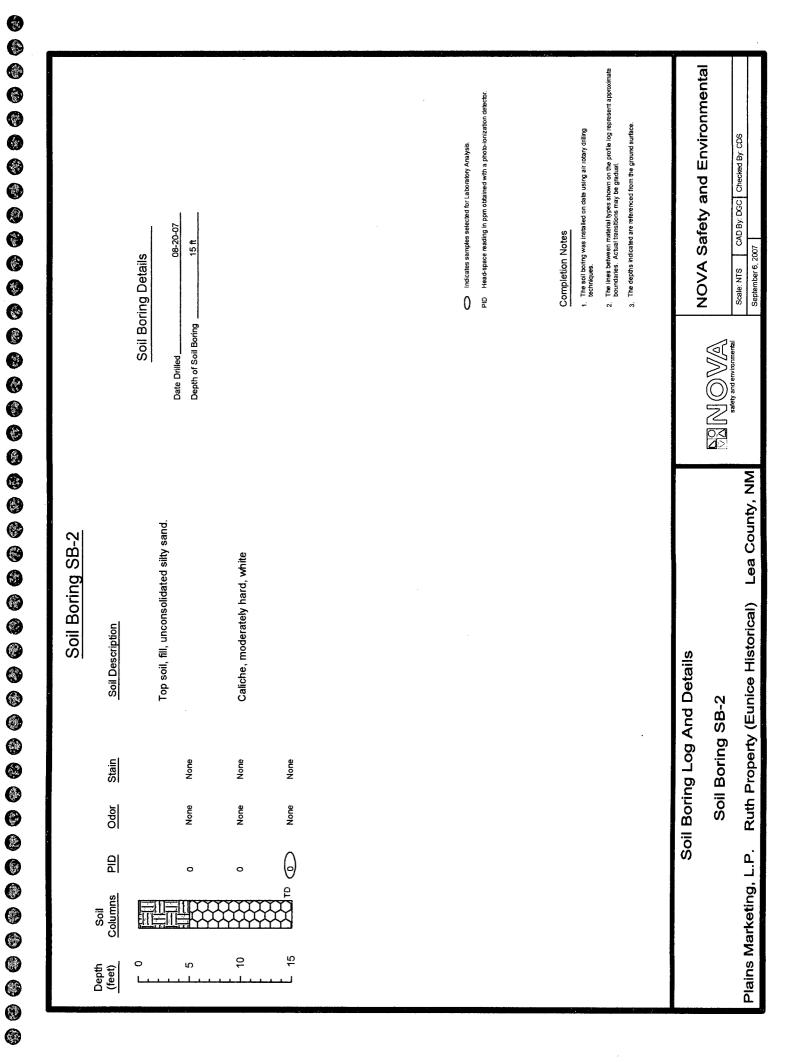
Param	$\operatorname{Flag}$	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
raram	riag	Ollius	Conc.	Conc.	recovery	Diffiles	Anaryzeu
Chloride		mg/Kg	100	101	101	85 - 115	2007-08-24

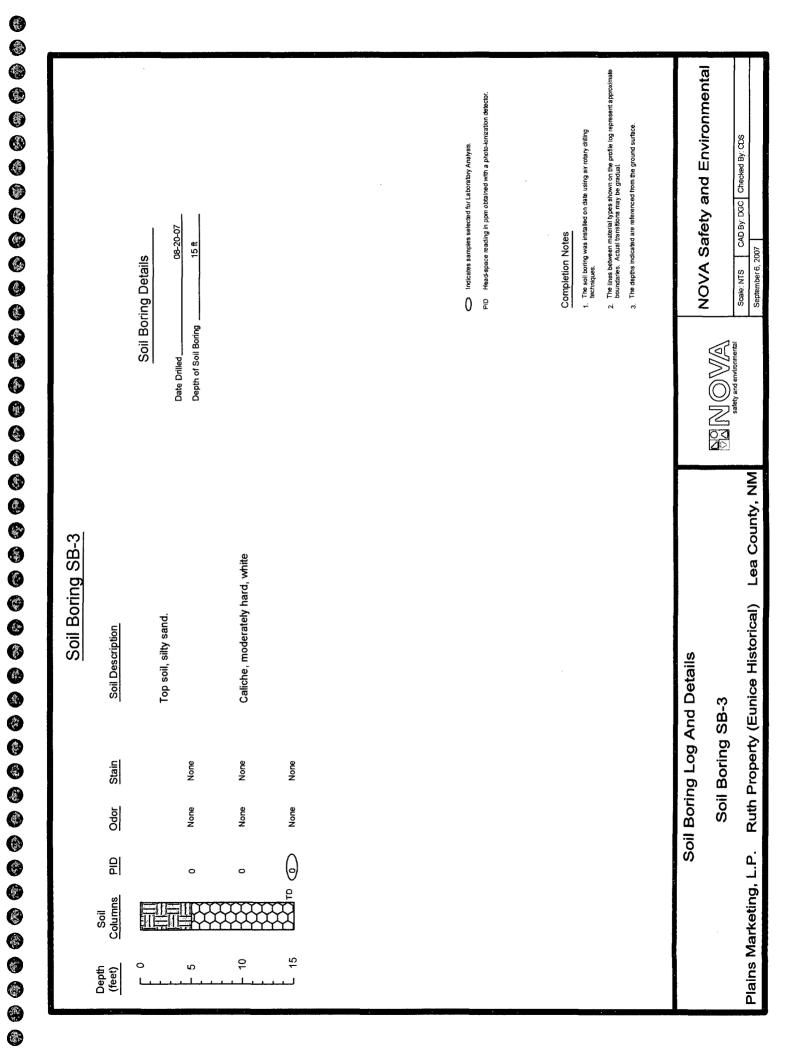
0 рюн 6015 Harris Pkwy., Suite 110 Ft. Worth, Texas 76132 Tel (817) 201-5260 Turn Around Time if different from standard ö 2 2 All tests - Midlang Circle or Specify Method Dry Weight Basis Required Check If Special Reporting Limits Are Needed × TRRP Report Required Meisture Content ANALYSIS REQUEST 200 East Sunset Rd., Suite E El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443 Hq , SST Pesticides 8081A \ 608 PCB's 8082 / 608 GC/MS Semi. Vol. 8270C / 625 REMARKS: GC/W2 A91 8560B / 624 BCI TCLP Pesticides TCLP Semi Volatiles TCLP Volatiles 5002 Basin Street, Sulte A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 TCLP Metals Ag As Ba Cd Cr Pb Se Hg LABUSE Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 ∑ S O PAH 8270C / 625 Log-In-Review TPH 80 6 GRO / DRO / TVHC BTEK 8021E >602 \ 8260B \ 624 TT1005 Ext(C35) Carrier # intact 7082123 0 8021B / 602 / 8266B / 624 MTBE 138 = :4e · Si ₹.2 なさし Szaio: o 于三 11:25 13:11 KEDNEFE NOWITCHINING () () () 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 20.0 SAMPLING TIME 7703 422-520-1 7 0 3 **BTA** AB Order ID # Time NONE PRESERVATIVE 6 21 0T ICE METHOD Submittal of samples constitutes agreement to Terms and Conditions listed onlyeverse side of C. O. 979 HOPN Date: OS<sup>z</sup>H Project Name <sup>E</sup>ONH Phone #: HCI ORIGINAL COPY at Laboratory by: STADGE MATRIX TOUR BOWNERS ЯІА MICAND TraceAnalysis, Inc. X TIOS **MATER** ₹ email: lab@traceanalysis.com JunomA \ emuloV 0 # CONTAINERS B 1670 9 となる 何かまろ lime: N B K 人の一十の一人 SR-3015 33-20 IS 878 100 al FIELD CODE 1 वि ७ <u>0</u> 9/21 Date: uding state); Date: (J) SB-1 (if different from above) りるこ んのと 58-1 Relinguished by Project Location Relineurished <u>≥</u> 30 9 8 0 (3) S S 933 න ව 1 20 LAB USE ONLY \_ 60 3390I Project # 1.48# 

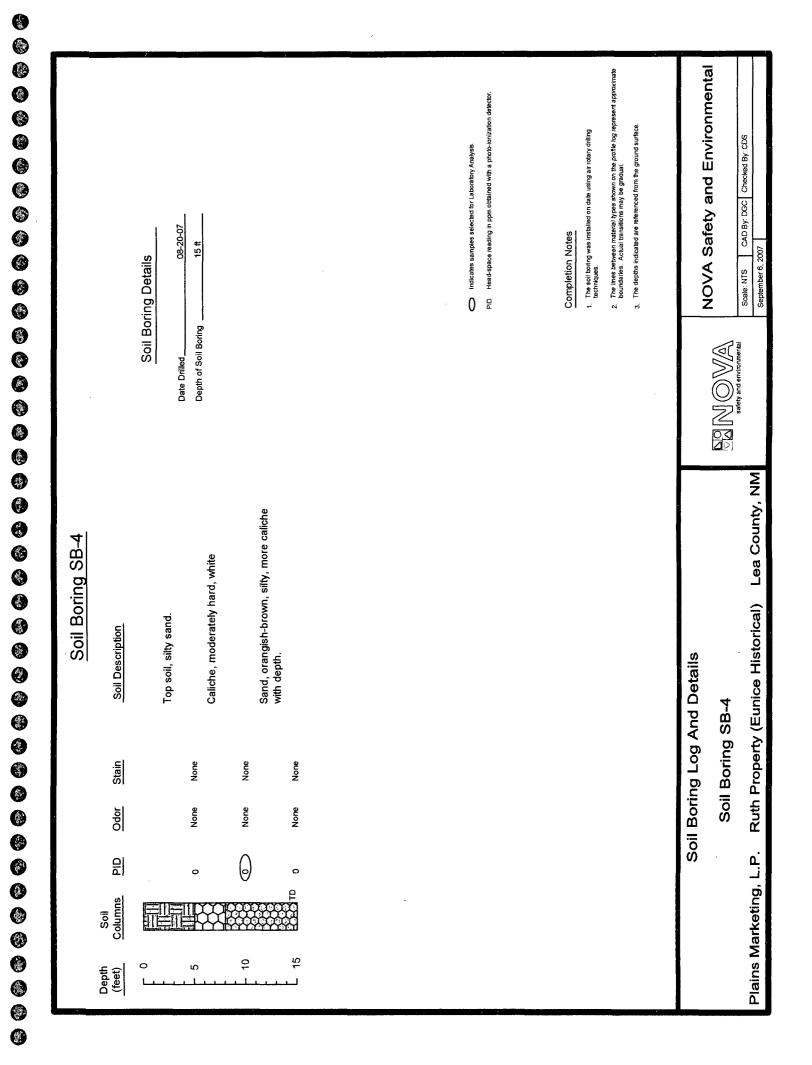
• PIOH 6015 Harris Pkwy., Suite 110 Ft. Worth, Texas 76132 Tel (817) 201-5260 **0** Turn Around Time if different from standard ਰ No. or Specify Method Dry Weight Basis Required Check If Special Reporting Limits Are Needed All texts - Midland TRRP Report Required **ANALYSIS REQUEST** Moisture Content 200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443 Hq ,2ST ,QOB Pesticides 8081A / 608 PCB's 8082 / 608 GC/MS Semi, Vol. 8270C / 625 REMARKS GC/W2 API 85808 / 854 RCI TCLP Pesticides TCLP Semi Volatiles Circle TCLP Volatiles 5002 Basin Street, Suile A1 Midland, Texas 79703 Tel (432) 689-6301 Fax (432) 689-6313 TCLP Metals Ag As Ba Cd Cr Pb Se Hg AB USE Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 ZINO O Log-In-Review CHUT (ORO I DRO) 108 HAT TPH 418.1 / TX1005 / TX1005 Ext(C35) Carrier # Intact BTEX 8021BY 602 / 8260B / 624 LAB Order ID # 70 82173 8051B \ e05 \ 85<del>9</del>0B \ e5<del>4</del> **BETM** S S LEDINE CNOUNTRINK 6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 17/10-ANJ PTOS 432-520 SAMPLING TIME ے و STORY -075-**DATE** PRESERVATIVE NONE Submittal of samples constitutes agreement to Terms and Conditions listed oureverse side of C. O. C. ICE METHOD 12 12 13 HOPN Date °OS<sup>z</sup>H <sup>E</sup>ONH က HCI ORIGINAL COPY obratory by: **人**LYUICONMENTE STADGE MATRIX ЯIA TraceAnalysis, Inc. TIOS **MATER** email: lab@traceanalysis.com **()** d ceived JnuomA \ emuloV TANGES T # CONTAINERS ON WIE RE NSIX. 2/21/07/6:0 HOBAN 5.07 Time: PEF7 FIELD CODE Date: ভ (If different from above) Relinquished by: LAB USE ONLY Invoice to 33919 Project # 1.48# elindu Project

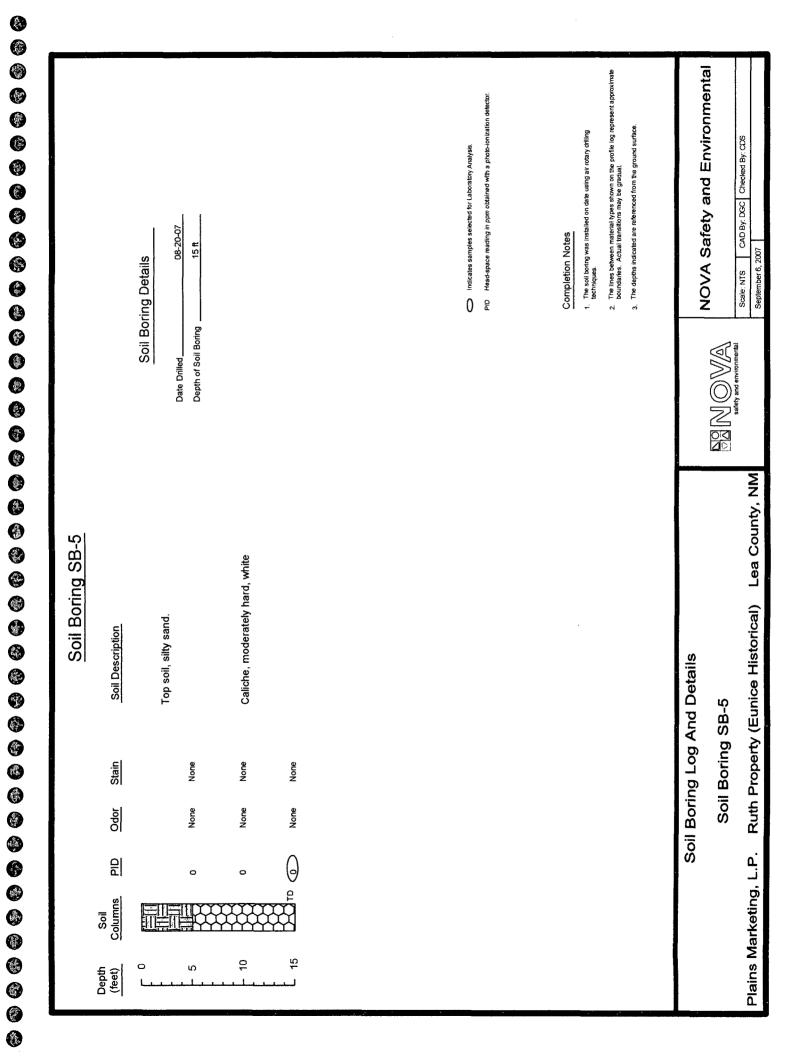
Appendix B Soil Boring Lithology Logs

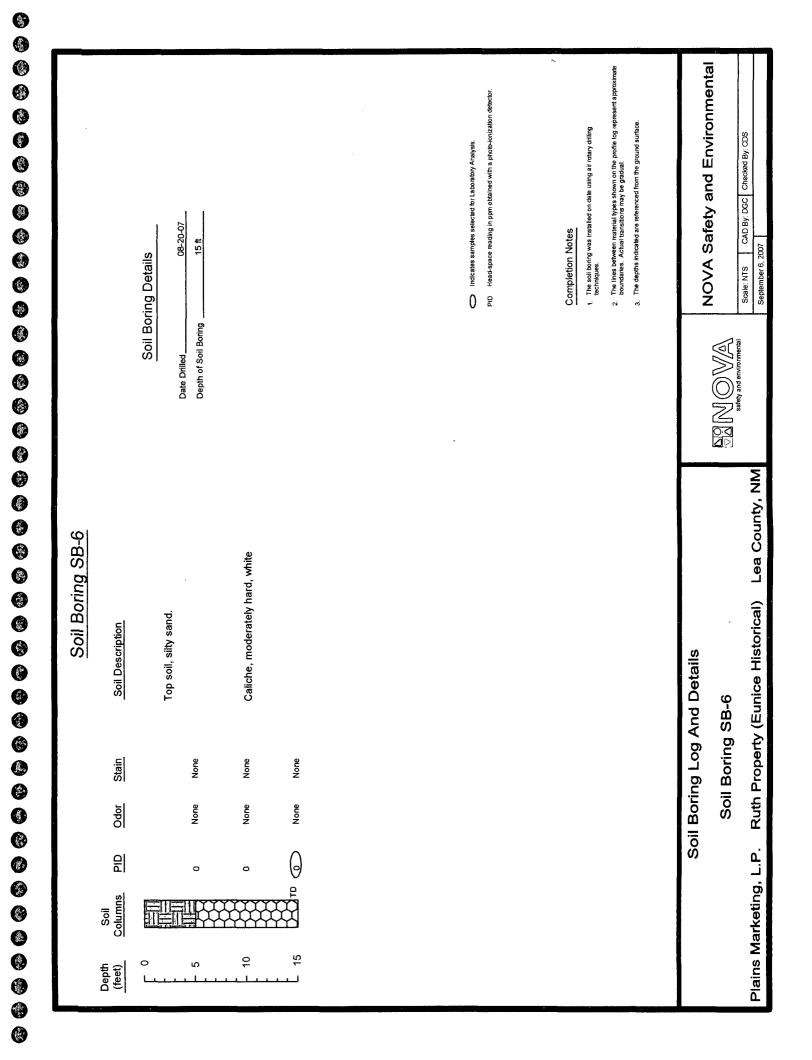












Appendix C Photographs

**(3)** 



## Photographic Documentation

Client: Plains Marketing, L.P. Site Location: Eunice, New Mexico Photograph Date: August 18, 2007 Prepared by: NOVA
Photographer: Brittan Byerly
Project Name: Ruth Property
(Eunice Historical)

Photograph No. 1

Date: 08/18/2007

**Direction:** South

**Description:** View of east investigation trench from the east-north trench intersection



Photograph No. 2

Date: 08/18/2007

Direction: North

**Description:** View of east investigation trench from south end of trench.

