State of New Mexico Energy Minerals and Natural Resources

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

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

# **Release Notification and Corrective Action**

# 1RP-1887

		OPERATOR	Initial Report	X Final Report
Name of Company	Plains Pipeline, LP	Contact Jason Henry		
Address	2530 Hwy 214 - Denver City, Tx 79323	Telephone No. (575) 441-1099		
Facility Name	E.K. Queen 4 Inch Poly	Facility Type 4 Inch Poly Pipe	line	

		· · · · · · · · · · · · · · · · · · ·
Surface Owner <b>BLM</b>	Mineral Owner	Lease No.

### **LOCATION OF RELEASE**

1	Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
1	I	22	18S	33E					Lea

Latitude N 32° 43' 47.7" Longitude W 103 ° 38' 42.8"

## NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 8 bbls	Volume Recovered 0 bbls			
Source of Release 4" poly pipeline	Date and Hour of Occurrence	Date and Hour of Discovery			
	06/24/2008 @ 10:00	06/24/2008 @ 10:00			
Was Immediate Notice Given?	If YES, To Whom?				
Yes No Not Required	Larry Johnson				
By Whom? Camille Bryant	Date and Hour 06/24/2008 @ 1				
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.			
🗌 Yes 🖾 No					
If a Watercourse was Impacted, Describe Fully.*		RECEIVED			
·		JUL 2 9 2009			
Describe Cause of Problem and Remedial Action Taken.*		HOBBSOCD			
Failure of 4 – inch poly line resulted in the release of sweet crude oil. The line is a 4 – inch poly gathering line that has a throughput of approximately 645 bbls of oil per day. The pressure on the line is approximately 55 psi and the gravity of the sweet crude is 40. The H <sub>2</sub> S concentration is <10 ppm and the line is approximately 3.5 bgs at the release point.					
Describe Area Affected and Cleanup Action Taken.*					
Please see the attached Talon/LPE Soil Closure Report for details of r	emedial activities conducted for site	e closure.			
I hereby certify that the information given above is true and complete to tregulations all operators are required to report and/or file certain release r public health or the environment. The acceptance of a C-141 report by th should their operations have failed to adequately investigate and remediat or the environment. In addition, NMOCD acceptance of a C-141 report of federal, state, or local laws and/or regulations.	notifications and perform corrective ac e NMOCD marked as "Final Report" the contamination that pose a threat to p	tions for releases which may endanger does not relieve the operator of liability ground water, surface water, human health			
Signature: Jason Henry	OIL CONSER	ATION DIVISION			
	Approved by DistricESuperRison	1			
Title: Remediation Coordinator	Approval Date: 7-30.09	Expiration Date:			
E-mail Address: jhenry@paalp.com Date: 07-30-2009 Phone: (575) 441-1099	Conditions of Approval:	Attached []			

<sup>\*</sup> Attach Additional Sheets If Necessary



AMARILLO 921 North Bivins Amarillo, Texas 79107 Phone 806.467.0607 Fax 806.467.0622

AUSTIN 911 West Anderson Lane Suite 202 Austin, Texas 78757 Phone 512.989.3428, Fax 512.989.3487

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TYLER 719 West Front Street Suite 255 Tyler, Texas 75702 Phone 903.531.9971 Fax 903.531.9979

ENVIRONMENTAL CONSULTING ENGINEERING DRILLING CONSTRUCTION EMERGENCY RESPONSE

> Toll Free: 866 742 0742 www.talonlpe.com

# SOIL CLOSURE REPORT E.K. QUEEN 4" POLY LEA COUNTY, NEW MEXICO PLAINS SRS #200<del>8-169</del> NMOCD REF # 1R-1887 SECTION 12, TOWNSHIP 18 SOUTH, RANGE 33 EAST

**PREPARED FOR:** 

PLAINS PIPELINE, L.P. 333 CLAY STREET SUITE 1600 HOUSTON, TEXAS 77002

RECEIVED

JUL 2 9 2009 HOBBSOCD

**PREPARED BY:** 

TALON/LPE 318 EAST TAYLOR STREET HOBBS, NEW MEXICO 88240

# **DISTRIBUTION:**

COPY 1 – PLAINS PIPELINE, L.P. – DENVER CITY COPY 2 – PLAINS PIPELINE, L.P. – HOUSTON COPY 3 – NMOCD – HOBBS COPY 4 – BLM – CARSBAD COPY 5 – TALON/LPE

JULY 23, 2009

# SOIL CLOSURE REPORT

E.K. QUEEN 4" POLY LEA COUNTY, NEW MEXICO PLAINS SRS #2008-169 NMOCD REF. # 1R-1887

## PLAINS PIPELINE, L.P. 333 CLAY STREET, SUITE 1600 HOUSTON, TEXAS

### TALON/LPE PROJECT NO. PLAINS076SPL

Prepared by:

Shanna Smith Project Manager

Waggoner, P. G. histrict Manager

Talon/LPE 318 East Taylor Street Hobbs, New Mexico 88240

July 2009

## **Distribution** List

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File		Talon/LPE	318 East Taylor Street Hobbs, New Mexico 88240	ssmith@talonlpe.com

NMOCD - New Mexico Oil Conservation Division

BLM - New Mexico Bureau of Land Management

# **TABLE OF CONTENTS**

1.0	INT	RODUCTION	1
,	1.1 1.2	Objectives and Site Background         Regulatory Framework         1.2.1       Soil Delineation and Remediation	1
	1.3	Archeological Survey	2
2.0	SOJ	IL EXCAVATION AND REMEDIATION ACTIVITIES	3
	2.1 2.2 2.3	Remedial Excavation Activities Soil Remediation Activities Backfill, Compaction and Site Grading Activities	3
3.0	SOI	IL SAMPLING ACTIVITIES	5
	3.1	Excavation Confirmation Soil Sampling	5
	3.2	<ul> <li>3.1.2 Analytical Results</li> <li>Remediated Soil Stockpile Sampling</li> <li>3.2.1 Sample Collection</li> <li>3.2.2 Analytical Results</li> </ul>	5 5
4.0	CO	NCLUSIONS AND RECOMMENDATIONS	7
	4.1 4.2	Conclusions Recommendations	

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# **APPENDICES**

Appendix A	Figures
	Figure 1 – Topographic Map
	Figure 2 – Site Plan with Confirmation Sampling Location Map
Appendix B	Archeological Survey
Appendix C	Tables
	Table 1 – Summary of Soil Analytical Data
Appendix D	Laboratory Analytical Data Reports and Chain of Custody Documentation
Appendix E	Photographic Documentation
Appendix F	BLM Undesirable Event Form
Appendix G	NMOCD Documentation
	Initial C-141

Final C-141

# **1.0 INTRODUCTION**

# 1.1 Objectives and Site Background

Talon/LPE was retained by Plains Pipeline, L.P. (Plains) to conduct an assessment and remediation activities at the E.K. Queen 4" Poly crude oil pipeline release site in Lea County, New Mexico. The purpose of this report is to summarize the assessment and remediation activities conducted at this site and to document the current conditions supporting closure of this site.

The E.K. Queen 4" Poly release site is located approximately 25 miles east of Loco Hills in Lea County, New Mexico. The GPS coordinates for the site are 32° 43' 47.7" N latitude and 103° 38' 42.8" W longitude. The release occurred on property owned by the United States Department of Interior Bureau of Land Management (BLM) and is utilized as pasture land. The site is located in a rural area with no residences or surface water within a 1,000 foot radius. A topographic map is provided as Figure 1 in Appendix A.

A crude oil release occurred at the site on June 24, 2008. Plains personnel estimated that eight barrels of crude oil were released and zero barrels were recovered during emergency response activities. The release was verbally reported to the New Mexico Oil Conservation Division (NMOCD) on June 24, 2008 and a C-141 Form was submitted to the NMOCD on June 30, 2008. The Bureau of Land Management was notified on June 27, 2008. The site was assigned NMOCD Reference number 1R-1887. The release was the result of a four-inch poly line failure on the Plains E.K. Queen 4" poly pipeline.

# 1.2 Regulatory Framework

# 1.2.1 Soil Delineation and Remediation

The NMOCD has developed guidance for all federal, state, and fee lands in New Mexico for remediating contaminants resulting from leaks, spills, and releases of oilfield wastes or products. This guidance assigns ranking scores to sites based on depth to groundwater, distance from water supply sources, and distance to surface water bodies, and provides remediation/clean-up targets for benzene, Total BTEX (benzene, toluene, ethylbenzene, and xylenes), and total petroleum hydrocarbons (TPH). Based on site visits, the E.K. Queen 4" Poly site is located in a rural area with no permanent residence or surface water within a 1,000 foot radius of the release point. According to information available from the New Mexico Office of the State Engineer, the nearest water well is not within 1,000 feet of the site. Based on this groundwater elevation data, the approximate depth from land surface to groundwater at the site is greater than 100 feet below ground surface (bgs). However, because the final excavation exhibited a total depth of 24 feet bgs, a more conservative depth to groundwater value of 50-99 feet was utilized for ranking purposes.

According to NMOCD guidance, and based on depth to groundwater, distance from water supply sources, and distance to surface water bodies the site ranking for this site is ten (10). The ranking process is summarized below:

<u>Criteria:</u>	Site Condition:	<b>Ranking Score:</b>
Depth to Groundwater	50-99 feet	10
<1,000 Feet to Water Source?	No	0
<200 Feet to Private Domestic Water Source?	No	0
Distance to Surface Water Body	>1,000 feet	0
Total Ranking:		10

Based on the calculated rating, the applicable remediation guidelines for this site are as follows:

Benzene	10 ppm
Total BTEX	50 ppm
TPH	1000 ppm

# 1.3 Archeological Survey

An archeological survey was performed by Mr. Danny Boone on December 17, 2008, as part of the initial investigation activities required by the BLM. The survey was intended to identify and inventory archeological evidence in the immediate area (3.77 acres centered at the release). The location, footage, and acres are estimates based on a hand held global positioning satellite (GPS) unit. A 100 foot buffer was surveyed around the impacted area and marked with a combination of pink and orange tape. This study did not identify/document any archeological evidence in the surveyed area. The archeological survey is provided as Appendix B of this report.

# 2.0 SOIL EXCAVATION AND REMEDIATION ACTIVITIES

## 2.1 Remedial Excavation Activities

Talon mobilized equipment and personnel to the site to initiate soil excavation and remediation activities on June 30, 2008. Talon personnel began locating the poly lines (by excavating with shovels) which were located in the planned excavation area. A trackhoe was utilized to excavate the source area and a backhoe was used to stockpile the impacted soil on a plastic. Details of the soil sampling activities and certified laboratory results are presented in Section 3.0 of this report.

Upon completion of excavation activities, grab samples were collected from the sidewalls (SW-1, SW-2, SW-3, and SW-4) and bottom of the excavation (BH-1 18') to document the successful removal of soil impacted above the NMOCD remedial thresholds. Laboratory analyses of the samples collected on August 28, 2008 indicated the sample locations of BH-1 and SW-3 to be above the NMOCD remedial thresholds for TPH (reference Table 1).

On September 16, 2008, over-excavation activities were performed on the impacted sidewall (SW-3) and bottom (BH-1) of excavation. A confirmation soil sample was collected from the bottom of the excavation (BH-2 24') on September 19, 2008. Subsequent to completion of the over-excavation activities, soil samples were collected on September 30 and November 6, 2008 from the sidewall (SW-3) and bottom hole (BH-1 24'). Laboratory analyses of the sidewall and bottom of the excavation indicated BTEX and TPH concentrations below NMOCD remedial thresholds. The location of the confirmation samples are presented on Figure 2.

The excavation limits were initially determined during excavation activities using visual and olfactory observations. Certified laboratory analyses for soil samples obtained from the walls and the bottom of the excavation determined actual excavation limits. Details of the soil sampling activities and certified laboratory results are presented in Section 3.0 of this report.

The final excavation limits measured approximately 40 feet in width, 40 feet in length, and an approximate depth of 24 feet. Approximately 1,422 cubic yards of affected soil were excavated and subsequently blended and aerated with native soil. Figure 2 depicts the final excavation limits. Photographic documentation of the soil excavation activities is presented in Appendix E.

## 2.2 Soil Remediation Activities

Following the initial excavation activities, stockpile samples (SP-1 and SP-2) that were collected on August 28, 2008 exhibited TPH concentrations above the NMOCD remedial thresholds. On February 17, 2009, all excavated affected soil was blended and aerated with non-affected surrounding native soil to promote bio-remediation and reduction of petroleum hydrocarbon concentrations. Four stockpile soil samples were collected on February 20, 2009. Laboratory analyses of the stockpile samples (SP-1 through SP-4) indicate TPH concentrations above the NMOCD remedial threshold of 1,000 mg/kg. The four remediated stockpile (SP-1 through SP-4) sample analytical results for BTEX concentrations were below the NMOCD remedial threshold of 10 mg/kg for benzene and 50 mg/kg for total BTEX.

Further blending and aeration activities continued on March 6, 2009, four additional stockpile samples were collected. Stockpile samples SP-1 and SP-2 were below the NMOCD TPH remediation thresholds. The analytical results for stockpile samples SP-3 and SP-4 indicated TPH concentrations above regulatory guidelines. After further blending and aeration, stockpile SP-3 and SP-4 soil samples were collected on April 9, 2009. Laboratory analyses of the stockpile samples indicate TPH concentrations below NMOCD remedial thresholds. Final confirmation stockpile soil samples collected indicated residual petroleum hydrocarbon concentrations to be below applicable cleanup levels. Details of the soil sampling activities and certified laboratory results are presented in Section 3.0 of this report.

# 2.3 Backfill, Compaction and Site Grading Activities

Subsequent to soil remediation activities and verbal approval from the NMOCD and BLM, the excavated area was backfilled with remediated soil. A backhoe was utilized to restore the site to natural grade. Blending, backfilling, and contouring to original grade activities were completed on May 23, 2009. The entire site was then seeded with a seed mix recommended by the BLM.

# 3.0 SOIL SAMPLING ACTIVITIES

## 3.1 Excavation Confirmation Soil Sampling

## 3.1.1 <u>Sample Collection</u>

During and at the completion of excavation activities (based on visual observations and field screenings), eight (8) discrete confirmation soil samples were collected from various locations within the excavation area (bottom and sidewall samples). Additional confirmation soil samples were collected following over-excavation activities when initial soil samples indicated concentrations of petroleum hydrocarbons above applicable remedial thresholds. Additional confirmation soil samples are designated with a deeper sample depth when compared to the original soil sample. A total of eight (8) confirmation soil samples were collected from August 28, 2008 to November 6, 2008. Confirmation soil samples were collected by Talon personnel wearing clean nitrile gloves with disposal sampling tools. Confirmation soil sampling locations are depicted on Figure 2.

The confirmation soil samples were containerized in laboratory provided sample containers, immediately placed on ice, and transported to TraceAnalysis in Midland, Texas for benzene, toluene, ethylbenzene, and xylenes (BTEX) analysis using EPA SW-846 Method 8021B and TPH analysis using EPA SW-846 Method 8015B. All analytical testing was performed on a standard turn-around basis.

## 3.1.2 Analytical Results

Analytical results indicate BTEX concentrations in the final confirmation soil samples to be below the respective NMOCD remedial thresholds. Final TPH concentrations were determined to be below the NMOCD remediation threshold for TPH of 1,000 mg/kg. Certified copies of the laboratory analytical results and proper chain of custody documentation are presented in Appendix D. A summary of the excavation confirmation soil sample analytical results is presented on Table 1.

# 3.2 Remediated Soil Stockpile Sampling

## 3.2.1 Sample Collection

During soil remediation activities (blending, aeration, and stockpiling), a total twelve (12) discrete soil samples (designated as SP-1 through SP-4) were collected from August 28, 008 to April 9, 2009 from the remediated soil. The soil samples were collected by Talon personnel wearing clean nitrile gloves with disposal sampling tools.

The confirmation soil samples were containerized in laboratory provided sample containers, immediately placed on ice, and transported to TraceAnalysis in Midland, Texas for BTEX analysis using EPA SW-846 Method 8021B and TPH analysis using EPA SW-846 Method 8015B. All analytical testing was performed on a standard turn-around basis.

### 3.2.2 Analytical Results

Analytical results indicate the final BTEX concentrations in the four (4) stockpile soil samples dated March 6 (SP-1 and SP-2) and April 9, 2009 (SP-3 and SP-4) to be below the respective NMOCD Soil Remediation Threshold. TPH concentrations were determined to be below the NMOCD Soil Remediation Thresholds for TPH of 1,000 mg/kg in the final four (4) stockpile samples. Certified copies of the laboratory analytical results and proper chain of custody documentation are presented in Appendix D. A summary of the remediated soil sample analytical results is presented on Table 1.

# 4.0 CONCLUSIONS AND RECOMMENDATIONS

## 4.1 Conclusions

A crude oil release occurred at the site on June 24, 2008. Plains personnel estimated that eight barrels of crude oil were released and zero barrels were recovered during emergency response activities. Following the emergency response activities, excavation and remediation activities were initiated. A total of approximately 1,066 yards of crude oil affected soil was excavated, blended/aerated, and utilized as backfill material. Soil samples were collected from the excavation and remediated soil throughout the soil remediation activities. All final soil samples indicate BTEX and TPH concentrations are below applicable NMOCD Remediation Thresholds.

# 4.2 **Recommendations**

The following activities/actions are recommended for the site:

• Based on soil sample analytical results from samples collected from the excavation and remediated soil indicating BTEX and TPH concentrations below NMOCD Remediation Thresholds, no further action is proposed and closure of site soils should be requested from the NMOCD.

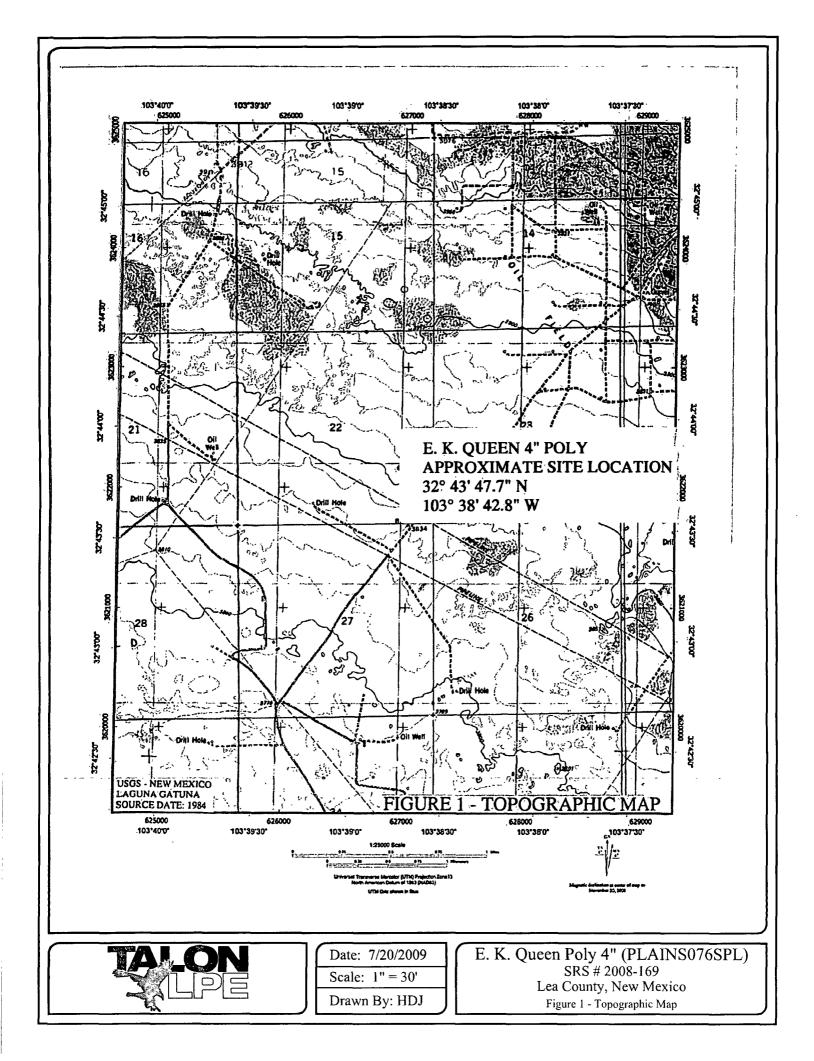
# **APPENDIX A**

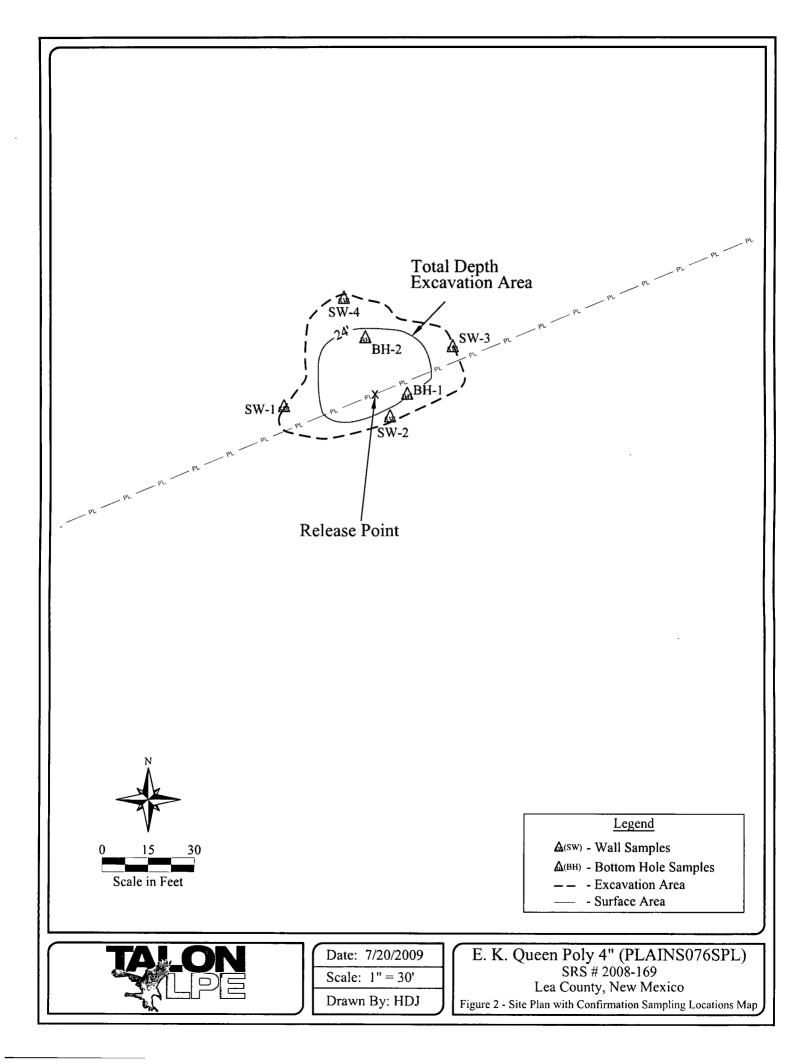
# **FIGURES**

Figure 1 – Topographic Map

Figure 2 – Site Plan with Confirmation Sample Location Map

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# **APPENDIX B**

Archeological Survey

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1

<b>NMCRIS</b>	INVESTI	GATION	ABSTR	ACT	FORM (	(NIAF)

		1.4			
1. NMCRIS Activity No.: 112468	2a. Lead (Sponsorin BLM, CFO	ig) Agency:	2b. Other Permi	itting Agency(ies):	3. Lead Agency Report No.
4. Title of Report: EK Qu		troloum laak	l		5. Type of Report
Author(s) Ann and Da		suoleum iean.			Negative D Positive
6. Investigation Type Research Design Overview/Lit Review	Survey/Inventory		cavation 🔲 Ex aphic study 🗍 S	-	ections/Non-Field Study
					d has leaked from a buried 4"
Poly pipeline. The affects See attached photos. Los	ed area has been excav	ated and the	current survey is	a 100 feet buffer zor	ne around the impacted area.
3. Dates of Investigation				9. Report Date: 19	9 Dec. 08
10. Performing Agency/C 2030 North Canal, C		aeological Sei	vices, LLC	11. Performing A BAS 12-08-06	gency/Consultant Report No.:
575-885-1352 Principal Investigato	or: Danny Boone Fi	ield Superviso	r: Danny Boone	12. Applicable Cu	Iltural Resource Permit No(s):
Field Personnel Nar				BLM: 190-2920-00	
				STATE: NM-08-15	
3. Client/Customer (pro			P	14. Client/Custon	ner Project No.:
Address: 1301 S Co	exas 79706-4476	LPE)		SRS# 2008-169	
5. Land Ownership Stat	tus ( <u>Must</u> be indicated on )	project map):	2 3070 A		
S. Land Ownership Stat Land Owner BLM	tus ( <u>Must</u> be indicated on )	project map):	Acres S	urveyed Acres in +/-)   1.2 (-/	
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Additional Narrat ape tied to vege	ive: A 100 feet buffer zo	one around the impa	cted area was surve	eyed and the bounda	aries were flagged with orang
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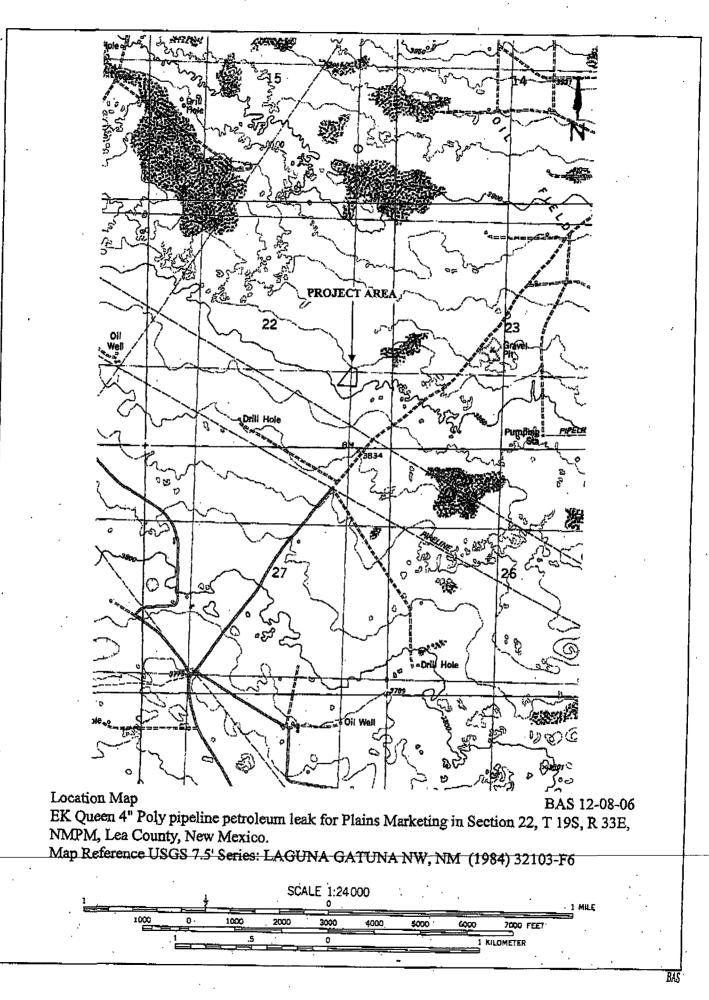
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# CULTURAL RESOURCE FINDINGS

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1. NMCR/5 112468	5 Activity No.:	2. Lead (Sponsori BLM, CFO	ng) Agency:		3. Lead Agency Report No.:
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			lo. Eligible? (Y/N,	applicable criteria)	
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Tested LA r	EXCAVATION	LA NUMBER LOG (s	Ite form required)		
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# **APPENDIX C**

# **TABLES**

Table 1 – Summary of Soil Analytical Data

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#### TABLE 1 SUMMARY OF SOIL ANALYTICAL DATA PLAINS PIPELINE, L.P. - SRS# 2008-169 E.K. QUEEN 4" POLY NMOCD REF. # 1RP-1887 LEA COUNTY, NEW MEXICO TALON/LPE PROJECT NUMBER PLAINS076SPL

All concentrations are in mg/Kg

Sample Designation	Date Sampled	Depth (feet bgs)	Status	Chloride	DRO	GRO	Total TPH	Benzene	Toluene	Ethyl benzene	Xylenes	Total BTEX
BH-1	08/28/08	18	Excavated		9490	1560	11050 r					
SW-1	08/28/08	12	In-Place		360	38 4	398.4	<0 100	<0 100	0 300	1 12	1 420
SW-2	08/28/08	12	In-Place		758	18 4	776 4	<0 0500	<0 0500	<0 0500	0 0752	0 0752
SW-3	08/28/08	12	Excavated		5310	283	5593 •	-0.0100	(0.0100	-0.0100	-0.0100	-0.0100
SW-4	08/28/08	12	In-Place		<50 0	<1 00	<51.0	<0.0100	<0.0100	<0 0100	<0 0100	<0 0100
SP-1	08/28/08				2650	158	2808 ·					
SP-2	08/28/08				4620	145	4765 ·					
CHL-1	08/28/08			<32 5				1				
BH-2	09/19/08	24	In-Place		251	53 5	304 5	<0 0100	<0 0100	0 0609	0 0894	0 2397
SW-3	09/30/08	12	In-Place		<50 0	<1.00	<51.0	<0 0100	<0 0100	< 0.0100	<0 0100	<0.0100
311-3	09/30/08	14							<0 0100	<0.0100	0 0375	0 0375
BH.1	11/06/08	24	In Diaca				215			~00100 1		
BH-1	11/06/08	24	In-Place		<50 0	2 15 Rianding Rasi	2 15	<0 0100				SECTION AND A SECTION A
							et a sta		C. P. C. S. B	all an a start and		
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SP 1 SP 2 SP 3 SP 4 SP-1	02/20/09 02/20/09 02/20/09 02/20/09 02/20/09 02/20/09				144	Blending Resu	4970 ? 1350 · 1350 · 1550 ;	<0 0100 <0.0100 <0 0100	<0 0100 <0 0100 0 0412	<0.0100 <0.0100 0 0332	0 0788 <0.0100 0 137	0 0788 <0 0100 0 2114
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SP 1           SP 2           SP 3           SP 4           SP-1           SP-2           SP-3	02/20/09 02/20/09 02/20/09 02/20/09 02/20/09 03/06/09 03/06/09 03/06/09				144 <50 0 1710	Blending Resu 154 14 2 132	4970           1350           1350           1550           298           14 2           1842	<0 0100 <0.0100 <0 0100	<0 0100 <0 0100 0 0412	<0.0100 <0.0100 0 0332	0 0788 <0.0100 0 137	0 0788 <0 0100 0 2114
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<sup>1</sup> Bolded values are in excess of the NMOCD Remediation Thresholds <sup>2</sup> PCC = Palari Cramed Surface

<sup>2</sup>BGS = Below Ground Surface

ALL BLENDED TO MEET REGS

# **APPENDIX D**

# LABORATORY ANALYTICAL DATA REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

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6701 Aberdeen Avenue, Suite 9Lubbock, Texas 79424200 East Sunset Road, Suite EEl Paso, Texas 799225002 Basin Street, Suite A1Midland, Texas 797036015 Harris Parkway, Suite 110Ft. Worth, Texas 76132

T104704219-08-TX

LELAP-02003

Kansas E-10317

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79922 888 • 588 • 3443 Midland, Texas 79703 't, Worth, Texas 76132 E-Mail: lab@traceanalysis.com

El Paso:

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

6 FAX 806+794+1298 3 FAX 915+585+4944 1 FAX 432+689+6313

Midland: T104704392-08-TX

Eb Taylor

Talon LPE-Hobbs 318 E Taylor

Lubbock:

# Analytical and Quality Control Report

**NELAP** Certifications

T104704221-08-TX

LELAP-02002

Report Date: September 8, 2008

Work Order: 8082926

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Hobbs, NM, 88240 Project Location: Lea Co

Project Location:Lea County, NMProject Name:EK Queen 4" PollyProject Number:Plains076SPLSRS#:2008-169

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
172372	BH-1	soil	2008-08-28	13:25	2008-08-29
172373	SW-1	soil	2008-08-28	13:31	2008-08-29
172374	SW-2	soil	2008-08-28	13:36	2008-08-29
172375	SW-3	soil	2008-08-28	13:43	2008-08-29
172376	SW-4	soil	2008-08-28	13:57	2008-08-29
172377	SP-1	soil	2008-08-28	14:15	2008-08-29
172378	SP-2	soil	2008-08-21	14:21	2008-08-29

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

Michael Abr

Dr. Blair Leftwich, Director

#### Standard Flags

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

Page 2 of 17

# **Case Narrative**

Samples for project EK Queen 4" Polly were received by TraceAnalysis, Inc. on 2008-08-29 and assigned to work order 8082926. Samples for work order 8082926 were received intact at a temperature of 2.8 deg. C.

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

Test	Method
BTEX	S 8021B
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 8082926 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.

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# **Analytical Report**

### Sample: 172372 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 51983 44578		Analytical 1 Date Analy Sample Pre	zed: 2008-0	9-02	Analyz	Method: N/A zed By: MN red By: MN
			$\mathbf{RL}$				
Parameter		Flag	$\mathbf{Result}$	Un	its	Dilution	$\operatorname{RL}$
DRO			9490	mg/l	Kg	10	50.0
					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	$\mathbf{A}\mathbf{m}\mathbf{o}\mathbf{u}\mathbf{n}\mathbf{t}$	Recovery	Limits
n-Triacontan	e <sup>1</sup>	1610	mg/Kg	10	100	1610	49.5 - 185

### Sample: 172372 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 52078 44649	GRO Analytical Method: S B Date Analyzed: 20		S 8015B 2008-09-04 2008-09-04	Prep Method: S 50 Analyzed By: ER			
			$\operatorname{RL}$					
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$
GRO			1560		mg/Kg		50	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)	2	0.437	mg/Kg	50	1.00	44	55.3 - 161.9
	robenzene (4-BFB)	3	92.2	mg/Kg	50	1.00	9220	45.6 - 214.7

#### Sample: 172373 - SW-1

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51972	Date Analyzed:	2008-09-02	Analyzed By:	$\mathbf{ER}$
Prep Batch:	44568	Sample Preparation:	2008-09-02	Prepared By:	$\mathbf{ER}$
		$\mathbf{RL}$			
Parameter	$\operatorname{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
Benzene	4	<0.100	mg/Kg	10	0.0100
Toluene surro	gate recovery due to peak interference	<0.100	mg/Kg	10	0.0100
Ethylbegaenout due to peak interference.		0.300	$\mathrm{mg/Kg}$	10	0.0100
	gate recovery due to peak interference			continued	

<sup>3</sup>High surrogate recovery due to peak interference. <sup>4</sup>Sample ran at dilution due to hydrocarbons with a retention time greater than xylene.

Report Date: September 8, 2008	Work Order: 8082926	Page Number: 5 of 17
Plains076SPL	EK Queen 4" Polly	Lea County, NM

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### sample 172373 continued ...

			$\mathbf{RL}$					
Parameter	Flag		$\mathbf{Result}$		Units	Ι	Dilution	$\mathbf{RL}$
Xylene			1.12		mg/Kg		10	0.0100
						Spike	Percent	Recovery
Surrogate		Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	$\operatorname{Limits}$
Trifluorotoluene (TFT)		5	1.42	mg/Kg	10	1.00	142	59 - 136.1
4-Bromofluorobenzene (4-BF	B)	6	1.83	mg/Kg	10	1.00	183	54.4 - 176.2

## Sample: 172373 - SW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 51983 44578		Analytical Me Date Analyze Sample Prepa	d: 2	Aod. 8015] 008-09-02 008-09-02		1	fethod: N/A ed By: MN ed By: MN
			RL					
Parameter	Flag	5	$\mathbf{Result}$		Units		Dilution	$\operatorname{RL}$
DRO			360		mg/Kg		1	50.0
						Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	Result	Units	Diluti	on .	$\operatorname{Amount}$	Recovery	Limits
n-Triacontan	e	75.3	mg/Kg	1		100	75	49.5 - 185

#### Sample: 172373 - SW-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 52078 44649	-	Date Ana	l Method: lyzed: reparation:	S 8015B 2008-09-04 2008-09-04		Prep Me Analyze Preparec	d By: ER
			$\mathbf{RL}$					
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Units		Dilution	$\operatorname{RL}$
GRO			38.4		mg/Kg		10	1.00
						Spike	Percent	Recovery
Surrogate		Flag	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		0.949	mg/Kg	10	1.00	95	55.3 - 161.9
4-Bromofluor	obenzene (4-BFB)		1.88	mg/Kg	10	1.00	188	45.6 - 214.7

<sup>5</sup>High surrogate recovery due to peak interference. <sup>6</sup>High surrogate recovery due to peak interference.

Report Date: September 8, 2008	Work Order: 8082926	Page Number: 6 of 17
Plains076SPL	EK Queen 4" Polly	Lea County, NM

#### Sample: 172374 - SW-2

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 51972 44568			Analytical Date Analy Sample Pre	yzed:	S 8021B 2008-09-02 2008-09-02		Prep Me Analyzed Prepared	By: ER	-
				RI						
Parameter		Flag		Result	t	Units	Ι	Dilution		$\mathbf{RL}$
Benzene		7		< 0.0500	)	mg/Kg		5	0.0	0100
Toluene				< 0.0500	)	mg/Kg		5	0.0	)100
Ethylbenzene	e			< 0.0500	)	mg/Kg		5	0.0	0100
Xylene				0.0752	2	mg/Kg		5	0.0	0100
							Spike	Percent	Recove	ery
Surrogate			Flag	Result	Units	Dilution	$\operatorname{Amount}$	Recovery	$\operatorname{Limit}$	s
Trifluorotolu	ene (TFT)	•		1.13	mg/Kg	5	1.00	113	59 - 13	6.1
4-Bromofluor	obenzene (4-I	3FB)		1.32	mg/Kg	5	1.00	132	54.4 - 17	76.2

### Sample: 172374 - SW-2

					Spike	Percent	Recovery
DRO			758	mg/I	Kg	1	50.0
Parameter	Fla	5	$\operatorname{RL}$ Result	Uni		Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 51983 44578		Analytical Me Date Analyze Sample Prepa	d: 2008-0	9-02	Prep M Analyz Prepar	ed By: MN

### Sample: 172374 - SW-2

.

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 51974 44568	Analytical Method: Date Analyzed: Sample Preparation:	S 8015B 2008-09-02 2008-09-02	Prep Method: Analyzed By: Prepared By:	$\mathbf{ER}$
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
GRO		18.4	mg/Kg	5	1.00

<sup>7</sup>Sample ran at dilution due to hydrocarbons with a retention time greater than xylene. <sup>8</sup>High surrogate recovery due to peak interference.

Report Date: September 8, 2008 Plains076SPL			Work Order: 8082926 EK Queen 4" Polly				Page Number: 7 of 17 Lea County, NM		
Surrogate		Flag	$\operatorname{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotolue	ne (TFT)		1.08	mg/Kg	5	1.00	108	55.3 - 161.9	
4-Bromofluoro	obenzene (4-BFB)	9	2.39	mg/Kg	5	1.00	239	45.6 - 214.7	
Sample: 172	2375 - SW-3								
Analysis: QC Batch:	Lubbock TPH DRO 51983 44578		Date Ana	l Method: lyzed: reparation:	Mod. 8015 2008-09-02 2008-09-02		Analy	Method: N/A zed By: MN red By: MN	
			$\mathbf{RL}$						
Parameter	Flag		Result		Units		Dilution	RL	
DRO			5310		mg/Kg		5	50.0	
						Spike	Percent	Recovery	
Surrogate	Flag	Result	Units		ition	Amount	Recovery	Limits	
n-Triacontane	10	1050	mg/Kg		5	100	1050	49.5 - 185	

## Sample: 172375 - SW-3

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 51974 44568		Date Ana	l Method: lyzed: reparation:	S 8015B 2008-09-02 2008-09-02		Prep Me Analyzeo Prepareo	d By: ER
			$\mathbf{RL}$					
Parameter	Flag		$\mathbf{Result}$		$\mathbf{Units}$		Dilution	$\operatorname{RL}$
GRO			283		mg/Kg		10	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT) robenzene (4-BFB)	11	$\begin{array}{c} 1.20\\ 11.5\end{array}$	mg/Kg mg/Kg	10 10	1.00 1.00	120 1150	55.3 - 161.9 45.6 - 214.7

## Sample: 172376 - SW-4

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	51972	Date Analyzed:	2008-09-02	Analyzed By:	$\mathbf{ER}$
Prep Batch:	44568	Sample Preparation:	2008-09-02	Prepared By:	$\mathbf{ER}$

<sup>9</sup>High surrogate recovery due to peak interference.
<sup>10</sup>High surrogate recovery due to peak interference.
<sup>11</sup>High surrogate recovery due to peak interference.

Report Date: September 8, 20 Plains076SPL	08			Work Orde EK Queer		Page Number: 8 of 17 Lea County, NM		
			RI					
Parameter Fl	ag		Resul	t	Units	]	Dilution	$\mathbf{RL}$
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
						Spike	Percent	Recovery
Surrogate	I	Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		12	1.57	mg/Kg	1	1.00	157	59 - 136.1
4-Bromofluorobenzene (4-BFB	)		1.55	mg/Kg	1	1.00	155	54.4 - 176.2

## Sample: 172376 - SW-4

n-Triacontane	e	122	mg/Kg	1	100	122	49.5 - 185
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO	· · · · · · · · · · · · · · · · · · ·	·	<50.0	mg/l	Хg	1	50.0
Parameter	Fla	ıg	RL Result	Un		Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 51983 44578		Analytical Me Date Analyze Sample Prepa	d: 2008-0	9-02	Prep M Analyz Prepar	•

### Sample: 172376 - SW-4

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 51974 44568		Analytical Date Ana Sample Pr		S 8015B 2008-09-02 2008-09-02		Prep Me Analyzec Preparec	d By: ER
			$\mathbf{RL}$					
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$
GRO			<1.00		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)	<u>×</u>	1.52	mg/Kg	1	1.00	152	55.3 - 161.9
4-Bromofluor	obenzene (4-BFB)		1.80	mg/Kg	1	1.00	180	45.6 - 214.7

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<sup>12</sup>High surrogate recovery. Sample non-detect, result bias high.

Report Date: September 8, 2008 Plains076SPL	}		Work Orde EK Queer	er: 8082926 n 4" Polly			umber: 9 of 17 ea County, NM
Sample: 172377 - SP-1					•		
Laboratory: Lubbock							
Analysis: TPH DRO		Analytica	l Method:	Mod. 8013	5B	Prep M	Method: N/A
QC Batch: 51983		Date Ana	lyzed:	2008-09-02	2	Analy	zed By: MN
Prep Batch: 44578		Sample P	reparation:	2008-09-02	2	Prepa	red By: MN
		$\mathbf{RL}$					
Parameter Flag		Result		Units		Dilution	$\mathbf{RL}$
DRO		2650		mg/Kg		5	50.0
		<u> </u>					· ······
<b>a b</b>					Spike	Percent	Recovery
Surrogate Flag n-Triacontane <sup>13</sup>	Result 565	Units mg/Kg		ution5	Amount 100	Recovery 565	Limits 49.5 - 185
Sample: 172377 - SP-1 Laboratory: Lubbock Analysis: TPH GRO		Analytica	l Method:	S 8015B		Prep Me	thod: S 5035
QC Batch: 51974		Date Ana		2008-09-02	2	Analyze	
Prep Batch: 44568			reparation:	2008-09-02	2	Prepare	•
-		RL					
Parameter Flag		$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$
GRO		158		mg/Kg	n (n) (	2	1.00
			·		Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.995	mg/Kg	$\frac{-\frac{D \Pi d \pi 0 \Pi}{2}}{2}$	1.00	100	55.3 - 161.9
4-Bromofluorobenzene (4-BFB)	14	8.87	mg/Kg	<b>2</b>	1.00	887	45.6 - 214.7
			0, 0				ź
Sample: 172378 - SP-2							

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Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 51983 44578	Analytical Method: Date Analyzed: Sample Preparation:	Mod. 8015B 2008-09-02 2008-09-02	Prep Method: Analyzed By: Prepared By:	MN
		$\mathbf{RL}$			
Parameter	$\mathbf{Flag}$	Result	Units	Dilution	$\mathbf{RL}$
DRO		4620	mg/Kg	10	50.0

<sup>13</sup>High surrogate recovery due to peak interference. <sup>14</sup>High surrogate recovery due to peak interference.

8	Work Order: 8082926 Page 1 EK Queen 4" Polly					umber: 10 of 1 ea County, NM
Result	Units			Spike Amount	Percent Recovery	Recovery Limits
961	mg/Kg		10	100	961	49.5 - 185
	Analytical	Method:	S 8015B		Prep Me	thod: S 5035
	Date Ana	yzed:	2008-09-02		Analyze	d By: ER
	Sample P	reparation	: 2008-09-02		Prepareo	•
	RL					
	Result		Units		Dilution	RL
	145		mg/Kg		5	1.00
				Spike	Percent	Recovery
$\mathbf{Flag}$	Result	Units	Dilution	Amount	Recovery	Limits
	1.14	mg/Kg	5	1.00	114	55.3 - 161.9
16	5.12	mg/Kg	5	1.00	512	45.6 - 214.7
atch: 51972						yzed By: ER ared By: ER
		М	DL			
Flag			sult		its	RL
- 14g					/TZ .	0.01
1 106		< 0.00		mg		
1 146		< 0.00	525	mg	/Kg	0.01
± 146		<0.00 <0.00	525 607	mg, mg,	/Kg /Kg	0.01 0.01
		< 0.00	525 607	mg	/Kg /Kg	0.03 0.03
	Result	<0.00 <0.00 <0.00	525 607 724	mg, mg, mg, Spike	/Kg /Kg /Kg Percent	0.01 0.01 0.01 Recovery
Flag	Result 0.945	<0.00 <0.00	525 607	mg, mg, mg,	/Kg /Kg /Kg	0.01 0.01 0.01 0.01 Recovery Limits 69.3 - 110.2
	961 Flag	961 mg/Kg Analytical Date Anal Sample Pr RL Result 145 Flag Result 1.14 16 5.12 Satch: 51972 Date Ana	Result     Units     Di       961     mg/Kg       Analytical Method:     Date Analyzed:       Date Analyzed:     Sample Preparation       RL     Result       145       Flag     Result       1.14     mg/Kg       16     5.12       Satch:     51972       Date Analyzed:     2	Result       Units       Dilution         961       mg/Kg       10         Analytical Method: S 8015B         Date Analyzed:       2008-09-02         Sample Preparation:       2008-09-02         RL       Result       Units         145       mg/Kg         Flag       Result       Units         16       5.12       mg/Kg         Satch:       51972         Date Analyzed:       2008-09-02	ResultUnitsDilutionAmount961mg/Kg10100961mg/Kg10100Analytical Method: S 8015B Date Analyzed: 2008-09-02 Sample Preparation: 2008-09-02RL ResultUnits145mg/KgSpike AmountInternational SpikeFlag ResultUnits DilutionAmount1.14mg/Kg51.00165.12mg/KgSpike SpikeFlag ResultUnits1.14mg/Kg51.00165.12mg/Kg51.00Satch: 51972Date Analyzed: 2008-09-02	ResultUnitsDilutionSpike AmountPercent Recovery961mg/Kg10100961Analytical Method:S 8015B 2008-09-02Prep Me Analyzed Sample Preparation:2008-09-02Analyzed: 2008-09-022008-09-02RL ResultUnitsDilution145mg/Kg5Flag 1.14MitsDilution1.14 16mg/Kg51.14 5.12 mg/Kg51.00114 5.1251.00Spike 

# Method Blank (1) QC Batch: 51974

QC Batch:	51974	Date Analyzed:	2008-09-02	Analyzed By:	$\mathbf{ER}$
Prep Batch:	44568	QC Preparation:	2008-09-02	Prepared By:	$\mathbf{ER}$

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<sup>15</sup>High surrogate recovery due to peak interference.
<sup>16</sup>High surrogate recovery due to peak interference.

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Report Date: September 8, 2 Plains076SPL	008							umber: 11 of 17 Lea County, NM		
			MDL							
Parameter	$\mathbf{Flag}$	•	$\operatorname{Result}$		· Uni			$\mathbf{RL}$		
GRO			< 0.144		mg/	Kg	•	1		
Surrogate	Flag	Result	Units	Dilution	${f Spike} \ {f Amount}$	Percent Recovery	Reco Lin	v		
Trifluorotoluene (TFT)	8	0.914	mg/Kg	1	1.00	91	83.3 -			
4-Bromofluorobenzene (4-BFI	3)	0.771	mg/Kg	1	1.00	77	34.5 -			
Method Blank (1) QC QC Batch: 51983 Prep Batch: 44578	Batch: 51983	Date Ana QC Prepa		08-09-02 08-09-02			zed By: red By:	MN MN		
		d o 1 rope				110pa	200 DJ1			
Parameter	Flag		${ m MDL} { m Result}$		Uni	its		$\mathbf{RL}$		
DRO	1 1008		<6.77		mg/			50		
					87	0				
					Spike	Percent		overy		
Surrogate Flag	Result	Units	Dilu		Amount	Recovery		mits		
n-Triacontane	96.7	mg/Kg	]		100	97	49.5	- 185		
Method Blank (1) QC QC Batch: 52078 Prep Batch: 44649	Batch: 52078	Date Ana QC Prepa	v	08-09-04 08-09-04			yzed By: ared By:	ER ER		
Parameter	Flag	•	MDL Result		Uni			рт		
GRO	Flag		<0.144		mg/			<u>RL</u>		
			<u></u>			ng		1		
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Reco Lin	nits		
Trifluorotoluene (TFT)		0.890	mg/Kg	1	1.00	89	83.3 -			
4-Bromofluorobenzene (4-BFB	<b>{</b> }	0.810	mg/Kg	1	1.00	81	34.5 -	105.9		

# Laboratory Control Spike (LCS-1)

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•	-	,				
QC Batch: Prep Batch:			Date Analyzed: QC Preparation:		Analyzed By: Prepared By:	

-

Report Date: September 8, 2008 Plains076SPL		Work EK (	Page Number: 12 of 17 Lea County, NM				
Param	$\begin{array}{c} \mathbf{LCS} \\ \mathbf{Result} \end{array}$	Units	Dil.	Spike Amount	${f Matrix} {f Result}$	Rec.	${f Rec.}\ {f Limit}$
Benzene	0.978	mg/Kg	1	1.00	< 0.00347	98	80.5 - 115.5
Toluene	0.990	mg/Kg	1	1.00	< 0.00525	99	80 - 114.7
Ethylbenzene	1.02	mg/Kg	1	1.00	< 0.00607	102	77.1 - 114.2
Xylene	3.01	mg/Kg	1	3.00	< 0.00724	100	77.6 - 114.5

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit	$\mathbf{RPD}$	$\operatorname{Limit}$
Benzene	1.01	mg/Kg	1	1.00	< 0.00347	101	80.5 - 115.5	3	20
Toluene	1.01	mg/Kg	1	1.00	< 0.00525	101	80 - 114.7	<b>2</b>	<b>20</b>
Ethylbenzene	0.994	mg/Kg	1	1.00	< 0.00607	99	77.1 - 114.2	3	<b>20</b>
Xylene	2.99	mg/Kg	1	3.00	< 0.00724	100	77.6 - 114.5	1	<b>20</b>

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	$\mathbf{Result}$	$\mathbf{Result}$	Units	Dil.	$\operatorname{Amount}$	Rec.	Rec.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.897	1.00	mg/Kg	1	1.00	90	100	74.2 - 114.7
4-Bromofluorobenzene (4-BFB)	0.887	0.954	mg/Kg	1	1.00	89	95	69.7 - 118.7

### Laboratory Control Spike (LCS-1)

QC Batch:	51974	Date Analyzed:	2008-09-02	Analyzed By:	$\mathbf{ER}$
Prep Batch:	44568	QC Preparation:	2008-09-02	Prepared By:	$\mathbf{ER}$

	LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit
GRO	10.6	mg/Kg	1	10.0	< 0.144	106	73.1 - 114.7

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

	LCSD			Spike	Matrix		Rec.		$\mathbf{RPD}$
Param	Result	Units	Dil.	$\operatorname{Amount}$	$\mathbf{Result}$	Rec.	$\operatorname{Limit}$	RPD	Limit
GRO	10.8	mg/Kg	1	10.0	< 0.144	108	73.1 - 114.7	2	20

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

LCS	LCSD			$\mathbf{Spike}$	LCS	LCSD	Rec.
Result	$\mathbf{Result}$	Units	Dil.	Amount	Rec.	Rec.	$\mathbf{Limit}$
1.09	0.972	mg/Kg	1	1.00	109	97	77.4 - 111.4
1.02	0.944	mg/Kg	1	1.00	102	94	70.3 - 116.1
	Result 1.09	ResultResult1.090.972	ResultResultUnits1.090.972mg/Kg	ResultResultUnitsDil.1.090.972mg/Kg1	ResultResultUnitsDil.Amount1.090.972mg/Kg11.00	ResultUnitsDil.AmountRec.1.090.972mg/Kg11.00109	ResultUnitsDil.AmountRec.Rec.1.090.972mg/Kg11.0010997

### Laboratory Control Spike (LCS-1)

QC Batch:	51983	Date Analyzed:	2008-09-02	Analyzed By:	MN
Prep Batch:	44578	QC Preparation:	2008-09-02	Prepared By:	MN

Plains076SPL	2008		ork Order: 8 X Queen 4"			0	lumber: Lea Cou	
		CS		Spike		trix		Rec.
Param		sult Uni		Amour		sult Rec		Limit
DRO		89 mg/		250		6.77 116	73	.9 - 138
ercent recovery is based on	the spike result	t. RPD is base	ed on the spi	ke and spike	e duplicate	result.		
	LCSD		Spik	e Matri	v	Rec.		RPD
Param	Result	Units	Dil. Amou			Limit	RPD	Limit
DRO	267	mg/Kg	1 250			73.9 - 138	8	20
Percent recovery is based on			ed on the spi					
Ţ	LCS LCS	ח		Spike	LC	S LCSD		Rec.
	Lesult Resu		5 Dil.	Amour				Limit
	84.9 71.			100	85			$\frac{1}{5} - 185$
Laboratory Control Spike	e (LCS-1)	Date Analy	zed: 2008	-09-04		Ana	lyzed B	y: ER
Prep Batch: 44649		QC Prepara	ation: 2008	-09-04		Pre	pared By	7: ER
	L	CS		Spike	Mata	rix		Rec.
Danam	Da	sult Unit	s Dil.	Amount	t Resi	ilt Rec.	T	limit
								-
		00 mg/H		10.0	<0.1			-
Param GRO Percent recovery is based on	9.	00 mg/H	Kg 1	10.0	<0.1	44 90		- 114.7
GRO	9.	00 mg/H	Kg 1	10.0 ke and spike	<0.1 e duplicate	44 90		-
GRO Percent recovery is based on	9. the spike result	00 mg/H t. RPD is base	Kg 1 ed on the spi	10.0 ke and spike e Matrix	<0.1 e duplicate	44 90 result.		- 114.7
GRO Percent recovery is based on Param	9. the spike result LCSD	00 mg/H t. RPD is base Units I	Kg 1 ed on the spi Spike	10.0 ke and spike e Matrix nt Result	<0.1 e duplicate Rec.	44 90 result. Rec.	73.1	- 114.7 RPD
GRO Percent recovery is based on Param GRO	9. the spike result LCSD Result 10.3	00 mg/H t. RPD is base Units I mg/Kg	Kg     1       ed on the spi     Spike       Dil.     Amoun       1     10.0	10.0 ke and spike e Matrix nt Result <0.144	<0.1 e duplicate Rec. 103	44 90 result. Rec. Limit 73.1 - 114.7	73.1 RPD	- 114.7 RPD Limit
GRO	9. the spike result LCSD Result 10.3 the spike result	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base	Kg     1       ed on the spi     Spike       Dil.     Amoun       1     10.0	10.0 ke and spike e Matrix nt Result <0.144 ke and spike	<0.1 e duplicate Rec. 103 e duplicate	44 90 result. Rec. Limit 73.1 - 114.7	73.1 RPD 14	- 114.7 RPD Limit
GRO Percent recovery is based on Param GRO	9. the spike result LCSD Result 10.3	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD	Kg     1       ed on the spi     Spike       Dil.     Amoun       1     10.0	10.0 ke and spike Matrix nt Result <0.144 ke and spike	<0.1 e duplicate Rec. 103 e duplicate Spike 1	44 90 result. Rec. Limit 73.1 - 114.7 result.	73.1 RPD 14	- 114.7 RPD Limit 20
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate	9. the spike result LCSD Result 10.3 the spike result LC	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result	$\begin{array}{ccc} & 1 \\ \mbox{ed on the spi} \\ \mbox{Spike} \\ \mbox{Dil.} & \mbox{Amoun} \\ 1 & 10.0 \\ \mbox{ed on the spi} \end{array}$	10.0 ke and spike e Matrix nt Result <0.144 ke and spike S Dil. An	<0.1 e duplicate Rec. 103 e duplicate Spike I nount I	44 90 result. Rec. Limit 73.1 - 114.7 result. LCS LCSD	73.1 RPD 14 I 77.4	RPD Limit 20 Rec. Limit - 111.4
GRO Percent recovery is based on Param GRO Percent recovery is based on	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937	$\frac{\sqrt{g}}{2}$ 1 ed on the spi Spike Dil. Amoun 1 10.0 ed on the spi Units	10.0 ke and spike e Matrix nt Result <0.144 ke and spike S Dil. An 1	<0.1 e duplicate Rec. 103 e duplicate Spike 1 nount 1 1.00	44         90           result.         Rec.           Limit         73.1 - 114.7           result.         CS           LCS         LCSD           Rec.         Rec.	73.1 RPD 14 I 77.4	RPD Limit 20 Rec. Limit - 111.4
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BF Matrix Spike (MS-1)	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937 96 0.924	Kg     1       ed on the spi     Spike       Dil.     Amount       1     10.0       ed on the spi     Units       Mg/Kg     Mg/Kg	10.0 ke and spike mt Result <0.144 ke and spike <u>Dil. An</u> 1 1	<0.1 e duplicate Rec. 103 e duplicate Spike I nount I 1.00	44         90           result.         Rec.           Limit         73.1 - 114.7           78.1 - 114.7         result.           LCS         LCSD           Rec.         Rec.           89         94           100         92	73.1 RPD 14 I 77.4 70.3	- 114.7 RPD Limit 20 Rec. Limit - 111.4 - 116.1
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BF	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8 (TB) 0.9	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937 96 0.924	Kg     1       ed on the spi     Spike       Dil.     Amound       1     10.0       ed on the spi     Units       Units     mg/Kg       mg/Kg     mg/Kg	10.0 ke and spike e Matrix nt Result <0.144 ke and spike S Dil. An 1	<0.1 e duplicate Rec. 103 e duplicate Spike I nount I 1.00	44         90           result.         Rec.           Limit         73.1 - 114.7           result.         CS           LCS         LCSD           Rec.         Rec.           89         94           100         92	73.1 RPD 14 I 77.4	- 114.7 RPD Limit 20 Rec. .imit - 111.4 - 116.1
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) S QC Batch: 51972 Prep Batch: 44568	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8 TB) 0.9 Spiked Sample:	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937 96 0.924 172379 Date Analy QC Prepara	$\overline{\chi g}$ 1ed on the spiSpikeDil.Amound110.0ed on the spiUnitsmg/Kgmg/Kgzed:2008ation:2008	10.0 ke and spike Matrix nt Result <0.144 ke and spike Dil. An 1 1 1 -09-02 -09-02 Spike	<0.1 e duplicate Rec. 103 e duplicate 5pike I nount 1 1.00 1.00 Matr	44         90           result.         Rec.           Limit         73.1 - 114.7           result.         CCS         LCSD           LCS         LCSD         Rec.           Rec.         Rec.         Rec.           89         94         100         92           Ana         Pres         Integration	73.1 RPD 14 14 77.4 70.3	- 114.7 RPD Limit 20 Rec. Jimit - 111.4 - 116.1 y: ER y: ER y: ER Rec.
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) S QC Batch: 51972 Prep Batch: 44568 Param	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8 TB) 0.9 Spiked Sample: Magnetic Res	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937 96 0.924 172379 Date Analy QC Prepara S ult Units	$\overline{\chi_g}$ 1         ed on the spi       Spike         Dil.       Amount         1       10.0         ed on the spi       1         units       mg/Kg         mg/Kg       mg/Kg         zed:       2008         ation:       2008         ation:       2008         bil.       Dil.	10.0 ke and spike e Matrix nt Result <0.144 ke and spike Dil. An 1 1 1 -09-02 -09-02 Spike Amount	<0.1 e duplicate Rec. 103 e duplicate 5pike 1 nount 1 1.00 1.00 Matr Resu	44         90           result.         Rec.           Limit         73.1 - 114.7           result.         CCS         LCSD           LCS         LCSD         Rec.           Rec.         Rec.         Rec.           89         94         100         92           Int         Ana         President of the sec.           It         Rec.         Rec.	73.1 RPD 14 14 77.4 70.3	- 114.7 RPD Limit 20 Rec. Limit - 111.4 - 111.4 - 116.1 y: ER y: ER Rec. Limit
GRO Percent recovery is based on Param GRO Percent recovery is based on Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) S QC Batch: 51972 Prep Batch: 44568	9. the spike result LCSD Result 10.3 the spike result LC Res 0.8 TB) 0.9 Spiked Sample:	00 mg/H t. RPD is base Units I mg/Kg t. RPD is base CS LCSD ult Result 91 0.937 96 0.924 172379 Date Analy QC Prepara S ult Units 1 mg/K	$\begin{array}{c c} \underline{Kg} & 1 \\ \hline \mathbf{Kg} & 0 \\ \hline \mathbf{Spike} \\ \hline \mathbf{Spike} \\ \hline \mathbf{Spike} \\ \hline \mathbf{Spike} \\ \hline 1 & 10.0 \\ \hline 2 \\ 0$	10.0 ke and spike Matrix nt Result <0.144 ke and spike Dil. An 1 1 1 -09-02 -09-02 Spike	<0.1 e duplicate Rec. 103 e duplicate 5pike I nount 1 1.00 1.00 Matr	44         90           result.         Rec.           Limit         73.1 - 114.7           7sult.         CCS           LCS         LCSD           Rec.         Rec.           89         94           100         92           Ana           Pre           ix           lt         Rec.           347         111	73.1 <u>RPD</u> 14 14 77.4 70.3 ulyzed B pared B 1 42.9	- 114.7 RPD Limit 20 Rec. Limit - 111.4 - 116.1 y: ER y: ER Rec. Rec.

						-		
			-					Rec.
Result	Units		Amount					imit
3.95	mg/Kg	1	3.00	<0.0	0724	132	48.8	- 150.9
pike result. RH	PD is based	on the spik	e and spike	duplicat	e result	•		
MSD		Spike	Matrix		F	lec.		RPD
Result Ur	nits Dil.	Amount	Result	Rec.			RPD	Limit
0.979 mg	Kg 1	1.00	< 0.00347	98	42.9	- 130.7	12	· 20
1.04 mg	/Kg 1	1.00	< 0.00525	104	46.9	- 135.4	13	20
1.14 mg	/Kg 1	1.00	< 0.00607	114	48.3	- 149.3	15	20
3.39 mg	/Kg 1	3.00	< 0.00724	113	48.8	- 150.9	15	<b>20</b>
pike result. RI	PD is based	on the spik	e and spike	duplicat	e result	•		
MS	MSD		S	pike	MS	MSD	J	Rec.
$\mathbf{Result}$	Result	Units		-	Rec.	Rec.	L	imit
1.22	1.09	mg/Kg	1	1	122	109	63.2	- 128.3
1.23			1	1	123	110		- 161.2
MS			Spike	Ma	ıtrix		]	Rec.
Result	Units		Amount			Rec.		imit
14.3	mg/Kg	; 1	10.0	<0	.144	143	48.9	- 155.8
pike result. RF	PD is based	on the spik	e and spike	duplicat	e result	•		
MSD		Spike	Matrix					RPD
				Rec.			RPD	Limit
14.6 mg	g/Kg 1	10.0	< 0.144	146	48.9 -	155.8	2	20
pike result. RF	PD is based	on the spik	e and spike	duplicat	e result	•		
MS	MSD		S	pike	MS	MSD	]	Rec.
Result	Result	Units	Dil. Ar	nount	Rec.	Rec.	L	imit
1.36	1.34	mg/Kg	1	1	136	134		- 145.4
1.83	1.84	mg/Kg	1	1	183	184	50.3	- 197.8
-			0.02				1 D	MN
Da	ate Analyze						vzed By	
~ ~ ~								
Q	C Preparati	ion: 2008-0	9-02			Prepa	ared By:	MN
Q(	U Preparati	ion: 2008-0	9-02			Prepa	area by:	MN
	$\begin{array}{r} 3.95 \\ \hline 3.95 \\ \hline \text{pike result. RI} \\ MSD \\ \hline \text{Result Ur} \\ 0.979 mg \\ 1.04 mg \\ 1.14 mg \\ 3.39 mg \\ \hline \text{pike result. RI} \\ MS \\ \hline \text{Result } 1.22 \\ 1.23 \\ \hline \text{I.22} \\ 1.23 \\ \hline \text{I.23} \\ \hline \text{Sample: 1723} \\ \hline \text{Sample: 1723} \\ \hline \text{D} \\ Q \\ \hline \text{MS} \\ \hline \text{Result } 14.3 \\ \hline \text{pike result. RI} \\ \hline \text{MSD} \\ \hline \text{Result } U \\ \hline 14.6 mg \\ \hline \text{pike result. RI} \\ \hline \text{MSD} \\ \hline \text{Result } U \\ \hline 14.6 mg \\ \hline \text{pike result. RI} \\ \hline \text{MSD} \\ \hline \text{Result } U \\ \hline 14.6 mg \\ \hline \text{pike result. RI} \\ \hline \text{MSD} \\ \hline \text{Result } U \\ \hline 14.6 mg \\ \hline \text{pike result. RI} \\ \hline \text{MSD} \\ \hline \text{Result } 1.36 \\ \hline 1.83 \\ \hline \text{Sample: 1723} \\ \hline \ \ \ \text{Sample: 1723} \\ \hline \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	EKMSResult Unitsunits $3.95$ mg/Kgpike result. RPD is basedMSMSDResult UnitsI.04 mg/Kg 11.04 mg/Kg 11.04 mg/Kg 11.04 mg/Kg 11.14 mg/Kg 13.39 mg/Kg 1pike result. RPD is basedMSMSDResult Result1.22 1.091.23 1.10I Sample: 172376MSMSResult Units14.3 mg/Kgpike result. RPD is basedMSMSDResult Units Dill14.6 mg/Kg 1pike result. RPD is basedMSMSDResult Units Dill14.6 mg/Kg 1pike result. RPD is basedMSMSDResult Result1.36 1.341.83 1.84Sample: 172374	EK Queen 4" HMSResultUnitsDil. $3.95$ mg/Kg1pike result.RPD is based on the spikeMSDSpikeResultUnitsDil.0.979mg/Kg11.04mg/Kg11.04mg/Kg11.04mg/Kg13.39mg/Kg13.39mg/Kg13.39mg/Kg13.00pike result.RPD is based on the spikeMSMSDResultResultUnits1.221.09mg/Kg1.231.10mg/Kg1.231.10mg/Kg1.231.10mg/Kg1.231.10mg/Kg1.4.3mg/Kg1pike result.RPD is based on the spikeMSSpikeResultUnitsDil.14.3mg/Kg1pike result.RPD is based on the spikeMSMSDResultUnitsDil.14.6mg/Kg11.361.34mg/Kg1.831.84mg/Kg1.831.84mg/Kg	ResultUnitsDil.Amount $3.95$ mg/Kg1 $3.00$ pike result.RPD is based on the spike and spikeMSDSpikeMatrixResultUnitsDil.Amount0.979mg/Kg1 $1.00$ $<0.00347$ $1.04$ mg/Kg1 $1.00$ $<0.00347$ $1.04$ mg/Kg1 $1.00$ $<0.00347$ $1.04$ mg/Kg1 $1.00$ $<0.00607$ $3.39$ mg/Kg1 $3.00$ $<0.00724$ pike result.RPD is based on the spike and spikeMSMSDSResultResultUnitsDil. $1.22$ $1.09$ mg/Kg1 $1.23$ $1.10$ mg/Kg1 $1.43$ mg/Kg1 $10.0$ QC Preparation: $2008-09-02$ MSSpikeResultUnitsDil.Amount14.3mg/Kg $1.43$ mg/Kg1 $14.6$ mg/Kg1 $10.0$ $<0.144$ pike result.RPD is based on the spike and spikeMSMSDSResultUnitsDil. $4.6$ mg/Kg1 $1.36$ $1.34$ mg/Kg $1.83$ $1.84$ mg/Kg $1.83$ $1.2374$ <td>MSSpikeMa ResultMa UnitsDil.Amount Res ResultRes Res Natrix ResultMatrix Res ResultMatrix Res ResultRes Res Res NGNatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA NGMatrix Res Res NGRes NATRIA NGNatrix NATRIA NGNatrix NATRIA NGNatrix NATRIA&lt;</td> <td>EK Queen 4" PollyMSSpike ResultMatrix ResultResult Result3.95mg/Kg13.00&lt;0.00724</td> pike result. RPD is based on the spike and spike duplicate resultMSDSpike MatrixMatrix Rec.EMSDSpike MatrixMatrix ResultFResultRec.Li0.979mg/Kg11.00<0.00347	MSSpikeMa ResultMa UnitsDil.Amount Res ResultRes Res Natrix ResultMatrix Res ResultMatrix Res ResultRes Res Res NGNatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA Res NGMatrix Res Res NGRes NATRIA NGMatrix Res Res NGRes NATRIA NGNatrix NATRIA NGNatrix NATRIA NGNatrix NATRIA<	EK Queen 4" PollyMSSpike ResultMatrix ResultResult Result3.95mg/Kg13.00<0.00724	EK Queen 4" Polly         I           MS         Spike         Matrix         Result         Result         Res.         Result         Res.         Limit         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00724         132         0.00714         143         10.0         20.00325         104         46.9 - 135.4         1.14         1.04         mg/Kg         1         1.00         <0.00525         104         46.9 - 135.4         1.14         1.14         Res.         140.3         149.3         3.39         mg/Kg         1         10.22         10.9         10.1         132         110           ResultResultResultUnitsDilAmount </td <td>EK Queen 4" Polly         Lea Cour           MS         Spike         Matrix         I           Result         Units         Dil.         Amount         Result         Rec.         I           3.95         mg/Kg         1         3.00         &lt;0.00724</td> 132         48.8           pike result.         RPD is based on the spike and spike duplicate result.         Rec.         Limit         RPD           0.979         mg/Kg         1         1.00         <0.00525	EK Queen 4" Polly         Lea Cour           MS         Spike         Matrix         I           Result         Units         Dil.         Amount         Result         Rec.         I           3.95         mg/Kg         1         3.00         <0.00724

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Report Date: September 8, Plains076SPL		Work Order: 8082926 EK Queen 4" Polly						P.			15 of 17 nty, NM	
		М	S			Spi	ke	Matri	x			Rec.
Param		Res	ult	Units	Dil.	Amo	$\operatorname{unt}$	Resul	t	Rec.		Limit
DRO	17	11	20	mg/Kg	1	25	0	758		145	50	.7 - 134
Percent recovery is based or	n the spik	e result.	RPD i	s based on	the spike a	and spil	ke duplio	cate res	sult.			
		MSD			Spike	Mat	rix		Rec			RPD
Param		$\mathbf{Result}$	Unit		Amount			ec.	Lim		RPD	Limit
DRO	18	1140	mg/l	Kg 1	250	75	8 1	53 5	50.7 -	134	2	20
Percent recovery is based or	the spik	e result.	RPD i	s based on	the spike a	and spil	ke duplio	cate res	sult.			
	MS	M	SD			$\mathbf{S}_{\mathbf{F}}$	oike	MS		MSD		Rec.
Surrogate	$\mathbf{Result}$		sult	Units	Dil.		ount	Rec.		Rec.		Limit
n-Triacontane <sup>19 20</sup>	335	34	49	mg/Kg	1	1	, 00	335		349	49	.5 - 185
Prep Batch: 44649		MS		reparation:		Spike		Matrix	-	-		Rec.
Param		Resu		Units	Dil. 10	Amou	nt I	Result	1	$\frac{\text{Rec.}}{07}$		imit
GRO		48.1		mg/Kg		10.0		38.4		97	48.9	- 155.8
Percent recovery is based or	1 the spik	e result.	RPD i	s based on	the spike a	and spil	ke duplio	cate res	sult.			
		MSD			Spike	Matr			Rec.			$\operatorname{RPD}$
Param		Result	Unit		Amount	Resu			Limi		RPD	Limit
GRO	21	56.3	mg/k	Kg 10	10.0	<b>38</b> .4	17	9 48	8.9 - 1	55.8	16	20
Percent recovery is based or	1 the spik	e result.	RPD i	s based on	the spike a	and spil	ke duplie	cate res	sult.			
			MS	MSD			Spike		1S	MSD		Rec.
Surrogate			esult	Result	Units	Dil.	Amoun		ec.	Rec.		imit
Trifluorotoluene (TFT)	<b></b> ) 99		.12	1.12	mg/Kg	10	1		12	112		- 145.4
4-Bromofluorobenzene (4-B)	FB) 22		2.06	2.70	mg/Kg	10	1	2	06	270	50.3	- 197.8
Standard (ICV-1)												
QC Batch: 51972			Date .	Analyzed:	2008-09-0	2				Anal	yzed By	v: ER

 <sup>&</sup>lt;sup>17</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>18</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>19</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>20</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>21</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>21</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>22</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>23</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>23</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
 <sup>23</sup> Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: September 8, 2008 Plains076SPL				ork Order: 808 K Queen 4" Po	Page Number: 16 of 17 Lea County, NM			
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Benzene		mg/Kg	0.100	0.101	101	85 - 115	2008-09-02	
Toluene		mg/Kg	0.100	0.102	102	85 - 115	2008-09-02	
Ethylbenzene		mg/Kg	0.100	0.106	106	85 - 115	2008-09-02	
Xylene		mg/Kg	0.300	0.313	104	85 - 115	2008-09-02	

### Standard (CCV-1)

QC Batch: 519'	72		Date Analyz	Analyzed By: EF				
			CCVs	CCVs	$\mathrm{CCVs}$	Percent		
			True	Found	Percent	Recovery	Date	
Param	$\mathbf{F}$ lag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		mg/Kg	0.100	0.0929	93	85 - 115	2008-09-02	
Toluene		mg/Kg	0.100	0.0938	94	85 - 115	2008-09-02	
Ethylbenzene		mg/Kg	0.100	0.0924	92	85 - 115	2008-09-02	
Xylene		mg/Kg	0.300	0.288	96	85 - 115	2008-09-02	

### Standard (ICV-1)

QC Batch	51974	κ.	Date Ana	alyzed: 2008-0	Analyzed By: ER				
			ICVs	ICVs	ICVs	Percent			
			True	Found	Percent	Recovery	Date		
$\mathbf{Param}$	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
GRO		mg/Kg	1.00	0.997	100	85 - 115	2008-09-02		

### Standard (CCV-1)

QC Batch:	51974		Date Ana	alyzed: 2008-0	9-02	Analyzed By: ER				
			$\mathbf{CCVs}$	CCVs	CCVs	Percent				
			True	Found	Percent	Recovery	Date			
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed			
GRO		mg/Kg	1.00	1.12	112	85 - 115	2008-09-02			

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#### Standard (ICV-1)

QC Batch: 51983

Date Analyzed: 2008-09-02

Analyzed By: MN

Report Date: September 8, 2008 Plains076SPL			ı 	Work Order: 8 EK Queen 4"	Page Number: 17 of 17 Lea County, NM				
Danam	Flor	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed		
Param DRO	Flag	mg/Kg	250	281	112	85 - 115	2008-09-02		
Standard	(CCV-1)			,					
QC Batch:			Date Ana	alyzed: 2008-0	9-02	Anal	yzed By: MN		
			CCVs	CCVs	$\mathrm{CCVs}$	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
DRO	0	mg/Kg	250	223	89	85 - 115	2008-09-0		
Param DRO	Flag	Units mg/Kg	CCVs True Conc. 250	CCVs Found Conc. 258	CCVs Percent Recovery 103	Percent Recovery Limits 85 - 115	Date Analyzee 2008-09-0		
Standard	(ICV-1)								
QC Batch:	52078		Date Ana	alyzed: 2008-0	9-04	Anal	yzed By: ER		
			ICVs	ICVs	ICVs	Percent	_		
D		<b>TT</b> •	True	Found	Percent	Recovery	Date		
Param GRO	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzeo 2008-09-0		
		mg/Kg	1.00	0.872	87	85 - 115	2008-09-0		
Standard				1 1 2000 0	0.04	<b>A</b> -			
QC Batch:	92078		Date Ana				lyzed By: ER		
			CCVs	CCVs	CCVs	Percent	_		
D		<b>TT</b> •.	True	Found	Percent	Recovery	Date		
Param GRO	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed 2008-09-0		
GNU		mg/Kg	1.00	0.935	94	85 - 115	2008-09-0		

					LAI	B Order	r ID #8	630	921	'+						P	age_	_/	o	f		
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Address: (Street, City, Zip) <u>318 5 774-787 HORR</u> Contact Person:	s NM	8824	Fax #								(Cir		or a	pe 	cny 	y 18	leti		140.	,	g	l
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	ERS nount	MAT	RIX				SAMPLIN	8021B / 602 / 8260B / 624	B / 602 /	RO C	g As Ba ( s Ag As	es Volatile:	ides	8260B	No No	081A/(	S, pH Content				Time if	
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172372 BH-1	1	X			×	(	8/28 13:	25		×						1						5
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374 500-2	1	X			X	(	8/28 13:			X												>
375 SW-3 376 SW-4	1	X			) )	(	8/28 13:	#3		X									$\square$			7
376 50-4	1	X			>	<	8/28/3:	57		X												>
J1//SP-1	1	X			<u> </u>	<	8/28 14	:15	,	X												
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Submittal of samples constitutes agreement to T	erms and Cor	ditions liste	d on reve	rse side	of C. O.	<b>C</b> .		c	arner #	(	ĊÓ	ine	l	<u> </u>								1



 6701 Aberdeen Avenue, Suite 9
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 200 East Sunset Road, Suite E
 El Paso, Texas 79922

 5002 Basin Street, Suite A1
 Midland, Texas 79703

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 Ft Worth, Texas 76132

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79922 888 • 588 • 3443 Midland, Texas 79703 t Worth, Texas 76132 E-Mail, lab@traceanalvsis.com

800•378•1296 806•794•1296 888•588•3443 915•585•3443 432•689•6301 817•201•5260

96 FAX 806 • 794 • 1298 43 FAX 915 • 585 • 4944 01 FAX 432 • 689 • 6313 60

**NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

## Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E Taylor Hobbs, NM, 88240

Report Date: September 9, 2008

Work Order: 8082925

Project Location:Lea County, NMProject Name:EK Queen 4" PollyProject Number:Plains076SPLSRS#:2008-169

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

			Date	$\operatorname{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
172371	CHL-1	soil	2008-08-28	14:04	2008-08-29

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

wich Blain for

Dr. Blair Leftwich, Director

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#### **Standard Flags**

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

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# **Case Narrative**

Samples for project EK Queen 4" Polly were received by TraceAnalysis, Inc. on 2008-08-29 and assigned to work order 8082925. Samples for work order 8082925 were received intact at a temperature of 2.8 deg. C.

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

Test		Method					
Chloride (	Titration)	SM 4500-Cl B					

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 8082925 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.

Report Date: September 9, 2008 Plains076SPL

# **Analytical Report**

#### Sample: 172371 - CHL-1

Flag		$\mathbf{RL}$						pared By:	$\mathbf{RG}$
Flag									
		Result			Units		Dilution		RL
		<32.5	)	m	lg/Kg		10		3.25
ık (1) QC Bat	ch: 52179								
52179		Date A	nalvzed:	2008-0	9-09		Ana	alvzed By	: RG
14743			•					• •	
			м	זר					
Ŧ	lag					Ur	its		$\mathbf{RL}$
<u> </u>	145								3.25
Control Spike (LC	CS-1)								
59170		Date A	nalvzed	2008-0	9-09		An	alvzed By	: RG
44743			•					• •	
	LCS				Spike	Mat	rix	F	Rec.
	Resul	t	Units	Dil.	Amount	$\operatorname{Res}$	ult Rec.	$\mathbf{L}^{2}$	$\operatorname{imit}$
	98.3	n	ng/Kg	1	100	<1	.80 98	96.5	- 104.4
ry is based on the s	pike result.	RPD is	based on	the spik	e and spike d	luplicate	e result.		
	LCSD			Spike	Matrix		Rec.		RPD
	Result	Units	Dil.	-		Rec.	Limit	RPD	Limit
	99.0	mg/Kg	1	100	<1.80	99	96.5 - 104.4	1	20
	52179 14743 Eontrol Spike (LC 52179 14743	Flag Flag Control Spike (LCS-1) 52179 14743 LCS Resul 98.3 ry is based on the spike result. LCSD Result	22179 Date A QC Pre Flag Control Spike (LCS-1) 52179 Date A QC Pre LCS Result 98.3 r ry is based on the spike result. RPD is LCSD Result Units	52179     Date Analyzed: QC Preparation:       MI     Flag       Flag     Res        <1.	22179     Date Analyzed: 2008-0       44743     QC Preparation: 2008-0       MDL       Flag       MDL       Result          Control Spike (LCS-1)       52179       Date Analyzed: 2008-0       LCS       Result       Units       Dil.       98.3       mg/Kg       LCS       Result       Units       Dil.       98.3       mg/Kg       LCS       Result       Units       Dil.       MDL       Analyzed: 2008-0       LCS       Result       Units       Dil.       Spike       Result       Units       Dil.       Mg/Kg       Spike       Result       Units       Dil.	Date Analyzed:     2008-09-09       QC Preparation:     2008-09-08         MDL       Flag     Result        <1.80	Date Analyzed:     2008-09-09       QC Preparation:     2008-09-08         MDL       Flag     Result     Un       <1.80	22179       Date Analyzed:       2008-09-09       Analyzed:         QC Preparation:       2008-09-08       Pre         MDL       MDL       Inits       Pre         Flag       Result       Units       Inits          <1.80	22179     Date Analyzed:     2008-09-09     Analyzed By:       V4743     QC Preparation:     2008-09-08     Prepared By:       MDL     MDL     Vinits     Prepared By:       Flag     Result     Units       <1.80

#### Matrix Spike (MS-1) Spiked Sample: 172380

QC Batch:	52179	Date Analyzed:	2008-09-09	Analyzed By:	RG
Prep Batch:	44743	QC Preparation:	2008-09-08	Prepared By:	RG

Report Date: September 9 Plains076SPL	, 2008		Pa	Page Number: 5 of 5 Lea County, NM				
	Ν	MS		Spike	Mat	rix		Rec.
Param		esult Un	its Dil.	Amount	Resi			Limit
Chloride		576 mg/		500	103.			- 123.
Percent recovery is based o	on the spike resul	lt. RPD is ba	sed on the spik	e and spike d	uplicate	result.		
	MSD		$\mathbf{Spike}$	Matrix		Rec.		RPI
Param	Result	Units	Dil. Amount		Rec.	Limit	RPD	Limi
Chloride	608	mg/Kg	10 500	103.65	101	74.7 - 123.2	5	20
Standard (ICV-1) QC Batch: 52179		Date Anal	lyzed: 2008-09	-09		Ar	nalyzed By	7: RG
<b>x</b>		Date Anal ICVs	lyzed: 2008-09 ICVs	-09 ICVs		Ar	· .	
QC Batch: 52179		ICVs True	ICVs Found	ICVs Percent		Percent Recovery	• •	Date
QC Batch: 52179 Param Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	7	Percent Recovery Limits	AI	Date nalyze
QC Batch: 52179	Units mg/Kg	ICVs True	ICVs Found	ICVs Percent	7	Percent Recovery	AI	Date nalyzed
QC Batch: 52179 Param Flag		ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	7	Percent Recovery Limits	AI	Date nalyzeo
QC Batch: 52179 Param Flag Chloride		ICVs True Conc.	ICVs Found Conc. 99.6	ICVs Percent Recovery 100	7	Percent Recovery Limits 85 - 115	AI	Date nalyzeo 08-09-0
QC Batch: 52179 Param Flag Chloride Standard (CCV-1)		ICVs True Conc. 100 Date Anal CCVs	ICVs Found Conc. 99.6 lyzed: 2008-09 CCVs	ICVs Percent Recovery 100 -09 CCVs		Percent Recovery Limits 85 - 115 Ar Percent	Ar 200 nalyzed By	Date halyzed 18-09-0 7: RC
QC Batch: 52179 Param Flag Chloride Standard (CCV-1) QC Batch: 52179	mg/Kg	ICVs True Conc. 100 Date Anal CCVs True	ICVs Found Conc. 99.6 lyzed: 2008-09 CCVs Found	ICVs Percent Recovery 100 -09 CCVs Percent		Percent Recovery Limits 85 - 115 Ar Percent Recovery	An 200 nalyzed By	Date nalyzeo 08-09-0 7: RC Date
QC Batch: 52179 Param Flag Chloride Standard (CCV-1)		ICVs True Conc. 100 Date Anal CCVs	ICVs Found Conc. 99.6 lyzed: 2008-09 CCVs	ICVs Percent Recovery 100 -09 CCVs		Percent Recovery Limits 85 - 115 Ar Percent	Ar 200 nalyzed By Ar	Date nalyzed 08-09-0 7: RO

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LAB#	FIELD CODE		CONTAINERS	Volume / Amount														8021B /	8021B / 602 / 8260B	- 10	PAH 8015 GRU /	ls Ag	TCLP Metals Ag As	TCLP Volatiles	TCLP Pesticides		GC/MS Vol. 8260B / 624	i je	PCB's 8082 / 608	Pesticides 8081A / 608	Moisture Content	CHINC LOC S					pun
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Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79922 888•588•3443 Midland Texas 79703 t Worth, Texas 76132 E-Mail lab@traceanalysis.com 806 • 794 • 1296 FAX 915 • 585 • 3443 FAX 432 • 689 • 6301 FAX 817 • 201 • 5260

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

**WBENC:** 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

**DBE:** VN 20657

### **NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

## Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E Taylor Hobbs, NM, 88240

Report Date: September 29, 2008

Work Order: 8091933

Project Location:Lea Co., NMProject Name:EK Queens 4 inch PollyProject Number:SRS# 2008-169

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

			Date	Lime	Date
Sample	Description	Matrix	Taken	Taken	Received
174016	BH-2	soil	2008-09-19	07:30	2008-09-19

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 10 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director

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#### Standard Flags

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

-4

Page 2 of 10

## **Case Narrative**

Samples for project EK Queens 4 inch Polly were received by TraceAnalysis, Inc. on 2008-09-19 and assigned to work order 8091933. Samples for work order 8091933 were received intact at a temperature of 3.1 deg. C.

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

Test	Method
BTEX	S 8021B
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 8091933 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: 174016 - BH-2

Laboratory:MidlanAnalysis:BTEXQC Batch:52620Prep Batch:45093	d		Analytical Date Analy Sample Pre	yzed:	S 8021B 2008-09-22 2008-09-22		Prep Me Analyzee Preparec	d By: DC
			RI					
Parameter	Flag		$\mathbf{Resul}$	t	Units	I	Dilution	$\mathbf{RL}$
Benzene			< 0.010	)	mg/Kg		1	0.0100
Toluene			< 0.0100	0	mg/Kg		1	0.0100
Ethylbenzene			0.0609	•	mg/Kg		1	0.0100
Xylene			0.0894	1	mg/Kg		1	0.0100
						Spike	Percent	Recovery
Surrogate		Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TF)	Г)		1.02	mg/Kg	1	1.00	102	82.9 - 125.1
4-Bromofluorobenzen	e (4-BFB)		1.02	mg/Kg	· 1	1.00	102	48.9 - 160.4

#### Sample: 174016 - BH-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 52677 45145		Analytical Me Date Analyze Sample Prepa	d: 2008-0	9-24	-	fethod: N/A ed By: LD ed By: LD
Parameter	, F	lag	RL Result	Un	its	Dilution	RL
DRO			251	mg/1	Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	${f Spike} \ {f Amount}$	Percent Recovery	$\begin{array}{c} \mathbf{Recovery} \\ \mathbf{Limits} \end{array}$
n-Triacontan	e	156	mg/Kg	1	100	156	10 - 250.4

#### Sample: 174016 - BH-2

.

Laboratory: Midland				
Analysis: TPH G	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch: 52621	Date Analyzed:	2008-09-22	Analyzed By:	DC
Prep Batch: 45093	Sample Preparation:	2008-09-22	Prepared By:	AG

continued ...

.

Report Date: September 29, 2008	Work Order: 8091933	Page Number: 5 of 10
SRS# 2008-169	EK Queens 4 inch Polly	Lea Co., NM

sample 174016 continued ...

Parameter	Flag		RL Result		Units	D	Dilution	RL
			RL			_		
Parameter	$\operatorname{Flag}$		$\mathbf{Result}$		$\mathbf{Units}$	D	liution	$\mathbf{RL}$
GRO			53.5		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (7	(FT)	ŭ	0.846	mg/Kg	1	1.00	85	75 - 117.2
	Bromofluorobenzene (4-BFB)		1.21	mg/Kg	1	1.00	121	66 - 142.8

#### Method Blank (1) QC Batch: 52620

QC Batch: 52620 Prep Batch: 45093	Date An QC Prep		008-09-22 008-09-22		yzed By: DC ared By: AG		
			ME	)L			
Parameter	Flag		Resu	llt	Un	its	$\operatorname{RL}$
Benzene			< 0.01	10	mg/	Kg	0.01
Toluene			< 0.01	09	mg/	ΊKg	0.01
${f Ethylbenzene}$			< 0.01	09	mg/	ΊKg	0.01
Xylene			< 0.03	31	mg/	Kg	0.01
					Spike	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.01	mg/Kg	1	1.00	101	82.3 - 121.6
4-Bromofluorobenzene (4-BFB)		0.972	mg/Kg	1	1.00	97	72 - 123

#### Method Blank (1) QC Batch: 52621

QC Batch: 52621 Prep Batch: 45093		Date Ana QC Prepa	J	8-09-22 8-09-22		-	d By: DC d By: AG
<b>D</b>			MDL				
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Units		$\mathbf{RL}$
GRO			0.841		mg/Kg	3	1
					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{Amount}$	Recovery	Limits
Trifluorotoluene (TFT)		0.900	mg/Kg	1	1.00	90	70 - 130
$\underline{4}$ -Bromofluorobenzene (4-BFB)		0.867	mg/Kg	1	1.00	87	70 - 130

Report Date: September 29, 200 SRS# 2008-169	18			Order: 8 ieens 4 in		7			Page N	lumber: Lea C	
Method Blank (1) QC Ba	utch: 52677										
QC Batch: 52677 Prep Batch: 45145		Date Ar QC Prej								yzed By ared By	
			ľ	MDL							
Parameter ,	Flag		$\mathbf{R}$	$\mathbf{esult}$			Unit	ts			I
DRO			<	15.8			mg/I	Kg			Ę
						Spike		Perce	ent	Rec	over
Surrogate Flag	Result	Units		Dilution	I	Amount		Recov	very		mits
n-Triacontane	120	mg/Kg		1		100		120	)	30.9	- 146
	LCS				Spil	(P	Matri	x		F	?ec
	LCS	3			Spil	ke	Matrix	x		F	Rec.
Param	Resu		nits	Dil.	Amo	unt	Result		Rec.		imit
Benzene	1.09		g/Kg	1	1.0		< 0.011		109	72.7	
Toluene	1.08		g/Kg	1	1.0		< 0.010		108	71.6	
Ethylbenzene Xylene	1.10 3.2		g/Kg g/Kg	1 1	1.0 3.0		<0.010 <0.033		$\frac{110}{107}$	70.8 70.9	
Percent recovery is based on the									107	10.9	- 12
	-	101 2 10 1		_		-	11000001				
Danam	LCSD Descript	TTmita	D:1	Spike	Mat			Re		חחח	RF
Param Benzene	Result 1.08	Units mg/Kg	Dil. 1	Amount 1.00	Res <0.0		tec. 108 7	Lin	$\frac{111}{129.8}$	RPD 0	Lir 2
Toluene	1.08	mg/Kg	1	1.00	<0.0				129.6	0	$\frac{2}{2}$
Ethylbenzene	1.10	mg/Kg	1	1.00	<0.0				129.7	0 0	2
Xylene	3.19	mg/Kg	1	<b>3</b> .00	<0.0				129.4	1	2
Percent recovery is based on the											
	LCS	5 LCS	SD			Spike	L	CS	LCSD	F	lec.
	Resu			Units	Dil.	Amoun		ec.	Rec.		imit
Surrogate		1.0	2 n	ng/Kg	1	1.00		02	102	82.9	
Trifluorotoluene (TFT)	1.02							00			
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	1.02 0.99			ng/Kg	1	1.00	1(	00	100	73.8	- 12
Trifluorotoluene (TFT)	0.99				1	1.00	10	00	100	73.8	- 12
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	0.99		99 n			1.00	1(	0		73.8 yzed By	- 12: : D

Report Date: September SRS# 2008-169	29, 2008			Vork Order: 8 C Queens 4 in			I	Page Numbe Lea	r: 7 of 10 Co., NM
		$\mathbf{LC}$			${ m Spik}$		atrix		Rec.
Param		Resi					esult	Rec.	Limit
GRO		8.6	6,		10.0		.841	78	70 - 130
Percent recovery is based	on the sp	oike result.	RPD is base	d on the spil	ce and spike	$\operatorname{duplicate}$	result.		
		LCSD		Spil	ke Matri	ix	Rec	•	RPD
Param		Result	Units	Dil. Amo			Lim		Limit
GRO		9.47	mg/Kg	1 10.			70 - 1		20
Percent recovery is based	on the sp	oike result.		d on the spil	ke and spike	duplicate	result.		
		LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate		Resul		Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)		0.97		mg/Kg	1	1.00	97	92	70 - 130
4-Bromofluorobenzene (4-	·BFB)	0.90		mg/Kg	1	1.00	90	90	70 - 130
Prep Batch: 45145		LCS			09-24 Spike	Matr		Prepared I	Rec.
Param		Resul			Amount			Rec.	Limit
DRO		248	mg/K		250	<15		99 27	.8 - 152.1
Percent recovery is based	on the sp	oike result.	RPD is base	d on the spil	ce and spike	duplicate	result.		
		LCSD		Spike	Matrix		Rec.		RPD
				.•1 A		-			
		$\mathbf{Result}$	Units D			Rec.	Limit		Limit
		$\mathbf{Result}$		$\frac{1}{1} \qquad \frac{1}{250}$	t Result <15.8		Limit 27.8 - 15		Limit 20
DRO	on the sp	Result 233	mg/Kg	1 250	<15.8	93	27.8 - 15		
DRO	_	Result 233 bike result.	mg/Kg	1 250	<15.8 ke and spike	93 duplicate	27.8 - 15 result.	52.1 6	20
DRO Percent recovery is based	on the sp LCS Result	Result 233	mg/Kg	1 250 d on the spil	<15.8	93 duplicate LCS	27.8 - 15 result. 5 L		
DRO Percent recovery is based Surrogate	LCS	Result 233 Dike result. LCSD	mg/Kg RPD is base	1 250 d on the spil Dil.	<15.8 ke and spike Spike	93 duplicate LCS	27.8 - 15 result. 5 L . 1	52.1 6 CSD Rec.	20 Rec. Limit
DRO Percent recovery is based Surrogate n-Triacontane Matrix Spike (MS-1) QC Batch: 52620	LCS Result 121	Result 233 Dike result. LCSD Result 118 Sample: 17	mg/Kg RPD is base Units mg/K	1 250 d on the spil Dil. g 1 zed: 2008-4	<15.8 ke and spike Spike Amound 100	93 duplicate LCS t Rec 121	27.8 - 15 result. 5 L . 1	52.1 6 CSD Rec.	20 Rec. Limit 8 - 130.4
DRO Percent recovery is based Surrogate n-Triacontane Matrix Spike (MS-1) QC Batch: 52620	LCS Result 121	Result 233 Dike result. LCSD Result 118 Sample: 17	mg/Kg RPD is base Units mg/K 4053 Date Analyz	1 250 d on the spil Dil. g 1 zed: 2008-4	<15.8 xe and spike Spike Amound 100 09-22 09-22	93 duplicate LCS t Rec 121	27.8 - 15 result. 3 L . 1	S2.1 6 CSD Rec. 118 3 Analyzed F	20 Rec. Limit <sup>18</sup> - 130.4 By: DC By: AG
DRO Percent recovery is based Surrogate n-Triacontane Matrix Spike (MS-1) QC Batch: 52620 Prep Batch: 45093	LCS Result 121	Result 233 Dike result. LCSD Result 118 Sample: 17	mg/Kg RPD is base Units mg/K 4053 Date Analyz QC Prepara	1 250 d on the spil Dil. g 1 zed: 2008-1 tion: 2008-1	<15.8 ke and spike Spike Amound 100	93 duplicate LCS t Rec 121	27.8 - 15 result. 5 L . 1	S2.1 6 CSD Rec. 118 3 Analyzed F	20 Rec. Limit 8 - 130.4 By: DC
DRO Percent recovery is based Surrogate n-Triacontane Matrix Spike (MS-1) QC Batch: 52620 Prep Batch: 45093 Param Benzene	LCS Result 121	Result 233 oike result. LCSD Result 118 Sample: 17 MS Result 1.13	mg/Kg RPD is base Units mg/K 4053 Date Analyz QC Prepara	1 250 d on the spil Dil. g 1 zed: 2008- tion: 2008- Dil.	<15.8 ke and spike Amount 100 09-22 09-22 Spike	93 duplicate LCS t Rec 121	27.8 - 15 result. 5 L . 1	22.1 6 CSD Rec. 118 3 Analyzed E Prepared E	20 Rec. Limit <sup>18</sup> - 130.4 By: DC By: AG Rec.
•	LCS Result 121	Result 233 oike result. LCSD Result 118 Sample: 17 MS Result	mg/Kg RPD is base Units mg/K 4053 Date Analyz QC Prepara Units	$\begin{array}{c c} 1 & 250 \\ \hline d \text{ on the spil} \\ \hline \\ \hline \\ \hline \\ g & 1 \\ \hline \\ \hline \\ g & 1 \\ \hline \\ \hline \\ \\ \hline \\ \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\$	<15.8 se and spike Amount 100 09-22 09-22 Spike Amount	93 duplicate LCS t Rec 121 Matri Resu	27.8 - 15 result. 5 L . 1 . 1 . 1 . 1 . 1 . 1 . 1 . 1 . 1 . 1	22.1 6 CSD Rec. 118 3 Analyzed F Prepared F Rec. 113 58 112 64	20 Rec. Limit <sup>18</sup> - 130.4 By: DC by: AG Rec. Limit

Report Date: September 29, 2008 SRS# 2008-169	\$			Queens 4 in	0 <b>91933</b> ch Polly			I age I	Number: Lea (	Co., NM
natrix spikes continued	2.6	<b>a</b>			0.1					
Param	M: Resi		Units	Dil.	Spike Amount		trix sult	Dee		Rec. Jimit
Xylene	3.3		ig/Kg	<u> </u>	3.00		$\frac{\sin t}{0331}$	Rec. 112		$\frac{11111}{-155.3}$
Percent recovery is based on the s									01.1	- 100.0
	MSD			_	_	-				חחח
Donom	Result	Units	Dil.	Spike Amount	Matriz Result			ec. mit	RPD	RPD Limit
Param								-		Limit
Benzene Toluene	$\begin{array}{c} 1.11\\ 1.11\end{array}$	mg/Kg	1	1.00	< 0.011			- 165.2	2	20
		mg/Kg	1	1.00	< 0.010			- 153.8	1	20
Ethylbenzene	1.13	mg/Kg	1	1.00	< 0.010			- 159.4	1	20
<b>Kylene</b>	3.31	mg/Kg	1	3.00	< 0.033			- 155.3	2	20
Percent recovery is based on the s	pike result	. RPD is	based	on the spike	e and spik	e duplicat	te result			
	M	s м	SD			Spike	MS	MSD	]	Rec.
Surrogate	Res	ult Re	$\operatorname{sult}$	Units	Dil. A	Amount	Rec.	Rec.	L	imit
Irifluorotoluene (TFT)	1.0	)2 1	.01	mg/Kg	1	1	102	101	76.5	- 127.9
l-Bromofluorobenzene (4-BFB)	0.9'	77 0.	980	mg/Kg	1	1	98	98		- 127.8
QC Batch: 52621	l Sample: 1	Date A	•						yzed By ared By	
QC Batch: 52621	l Sample: 1		•						yzed By ared By	
QC Batch: 52621	l Sample: I M	Date A QC Pre	•			Ma	atrix		ared By	
QC Batch: 52621 Prep Batch: 45093	-	Date A QC Pre	•		9-22		atrix sult		ared By	: AG
QC Batch: 52621 Prep Batch: 45093	M	Date A QC Pre S ult	eparati	on: 2008-0	9-22 Spike	t Re		Prep	ared By	: AG Rec.
QC Batch: 52621 Prep Batch: 45093 Param GRO	M Res 1 79	Date A QC Pre S ult .1 n	eparatio Units ng/Kg	on: 2008-0 Dil. 1	9-22 Spike <u>Amoun</u> 10.0	t Re 53.	sult 5289	Prep Rec. 256	ared By	: AG Rec. .imit
QC Batch: 52621 Prep Batch: 45093 Param GRO	M Res 1 79 pike result	Date A QC Pre S ult .1 n	eparatio Units ng/Kg	on: 2008-0 Dil. 1 on the spike	9-22 Spike Amoun 10.0 e and spik	t Re 53. e duplicat	esult 5289 te result	Prep Rec. 256	ared By	: AG Rec. .imit - 134.6
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the s	M Res 1 79 pike result MSD	Date A QC Pre S ult .1 n . RPD is	units ng/Kg based	Dil. 1 on the spike	9-22 Spike Amoun 10.0 e and spik Matrix	t Re 53. e duplicat x	sult 5289 te result R	Prep 	ared By	: AG Rec. .imit - 134.6 RPD
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the sp Param	M Res <u>179</u> pike result MSD Result	Date A QC Pre S ult .1 n . RPD is Units	eparatio Units ng/Kg	on: 2008-0 Dil. 1 on the spike Amount	9-22 Spike Amoun 10.0 e and spik Matriz Result	t Re 53. e duplicat k t Rec.	sult 5289 te result R Li	Prep Rec. 256 ec. mit	ared By	: AG Rec. imit - 134.6 RPD Limit
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the spontational sector of the spontation of th	M Res 1 79 pike result MSD Result 78.9	Date A QC Pre S ult .1 n . RPD is Units mg/Kg	Units ng/Kg based Dil. 1	on: 2008-0 Dil. 1 on the spike Amount 10.0	9-22 Spike Amoun 10.0 e and spik Matriz Result 53.528	t Re 53. e duplicat k t Rec. 9 254	sult 5289 te result Li 22.3	Prep <u>Rec.</u> 256	ared By	: AG Rec. .imit - 134.6 RPD
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the sp Param	M Res <sup>1</sup> 79 pike result MSD Result 78.9 pike result	Date A QC Press ult .1 n . RPD is Units mg/Kg . RPD is	Units ng/Kg based Dil. 1 based	on: 2008-0 Dil. 1 on the spike Amount 10.0	9-22 Spike Amoun 10.0 e and spik Matriz Result 53.528	t Re 53. e duplicat k t Rec. 9 254 e duplicat	sult 5289 te result <u>R</u> Li 22.3 - te result	Prep Rec. 256	ared By	: AG Rec. - 134.6 RPD Limit 20
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the spectrum of the s	M Res 1 79 pike result MSD Result 78.9 pike result	Date A QC Press ult .1 n . RPD is Units mg/Kg . RPD is S M	Units ng/Kg based Dil. 1 based SD	on: 2008-0 Dil. 1 on the spike Amount 10.0 on the spike	9-22 Spike Amoun 10.0 e and spik Matriz Result 53.528 e and spik	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike	sult 5289 te result Li 22.3 - te result MS	Prep <u>Rec.</u> 256 ec. mit - 134.6 MSD	ared By	: AG Rec. <u>imit</u> - 134.6 RPD Limit 20 Rec.
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the s Param GRO 2 Percent recovery is based on the s Surrogate	M Res 1 79 pike result MSD Result 78.9 pike result MS Result	Date A QC Press ult .1 n . RPD is Units mg/Kg . RPD is S M ult Re	Units ng/Kg based Dil. 1 based SD sult	on: 2008-0 Dil. 1 on the spike Amount 10.0 on the spike Units	9-22 Spike Amoun 10.0 e and spik Matrix Result 53.528 e and spik Dil. A	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike Amount	sult 5289 te result Li 22.3 - te result MS Rec.	Prep Rec. 256 ec. mit - 134.6 MSD Rec.	ared By	: AG Rec. <u>imit</u> - 134.6 RPD Limit 20 Rec. .imit
QC Batch:       52621         Prep Batch:       45093         Param       GRO         Percent recovery is based on the spectrum         Param       GRO         Percent recovery is based on the spectrum         Opercent recovery is based on the spectrum         Param         GRO       2         Percent recovery is based on the spectrum         GRO       2         Percent recovery is based on the spectrum         GRO       2         Percent recovery is based on the spectrum         Gurrogate         Crifluorotoluene (TFT)	M Res 1 79 pike result MSD Result 78.9 pike result MS Result 0.83	Date A QC Press ult .1 n . RPD is <u>Units</u> mg/Kg . RPD is S M ult Re 33 0.4	Units ng/Kg based Dil. 1 based SD sult 810	on: 2008-0 Dil. 1 on the spike Amount 10.0 on the spike Units mg/Kg	9-22 Spike Amoun 10.0 e and spik Matrix Result 53.528 e and spik Dil. A 1	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike Amount 1	sult 5289 te result Li 22.3 - te result MS Rec. 83	Prep Rec. 256 ec. mit - 134.6 MSD Rec. 81	ared By 1 22.3 <u>RPD</u> 0 1 68.4	: AG Rec. <u>imit</u> - 134.6 RPD Limit 20 Rec. <u>imit</u> - 113.1
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the s Param GRO 2 Percent recovery is based on the s Surrogate Diffuorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	M Res 1 79 pike result MSD Result 78.9 pike result MS Result 0.83 1.3	Date A QC Press ult .1 n . RPD is <u>Units</u> mg/Kg . RPD is S M ult Re 33 0.4	Units ng/Kg based Dil. 1 based SD sult	on: 2008-0 Dil. 1 on the spike Amount 10.0 on the spike Units	9-22 Spike Amoun 10.0 e and spik Matrix Result 53.528 e and spik Dil. A	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike Amount	sult 5289 te result Li 22.3 - te result MS Rec.	Prep Rec. 256 ec. mit - 134.6 MSD Rec.	ared By 1 22.3 <u>RPD</u> 0 1 68.4	: AG Rec. <u>imit</u> - 134.6 RPD Limit 20 Rec. .imit
QC Batch:       52621         Prep Batch:       45093         Param       GRO         Percent recovery is based on the spectrum         CRO       2         Percent recovery is based on the spectrum         GRO       2         Percent recovery is based on the spectrum         GRO       2         Percent recovery is based on the spectrum         Gurrogate         Drifluorotoluene (TFT)         I-Bromofluorobenzene (4-BFB)	M Res 1 79 pike result MSD Result 78.9 pike result MS Result 0.83	Date A QC Press ult .1 n . RPD is <u>Units</u> mg/Kg . RPD is S M ult Re 33 0.4	Units ng/Kg based Dil. 1 based SD sult 810	on: 2008-0 Dil. 1 on the spike Amount 10.0 on the spike Units mg/Kg	9-22 Spike Amoun 10.0 e and spik Matrix Result 53.528 e and spik Dil. A 1	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike Amount 1	sult 5289 te result Li 22.3 - te result MS Rec. 83	Prep Rec. 256 ec. mit - 134.6 MSD Rec. 81	ared By 1 22.3 <u>RPD</u> 0 1 68.4	: AG Rec. <u>imit</u> - 134.6 RPD Limit 20 Rec. <u>imit</u> - 113.1
QC Batch: 52621 Prep Batch: 45093 Param GRO Percent recovery is based on the s Param GRO 2 Percent recovery is based on the s Surrogate Irifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	M Res 1 79 pike result MSD Result 78.9 pike result MS Result 0.83 1.3	Date A QC Press ult .1 n . RPD is <u>Units</u> mg/Kg . RPD is S M ult Re 33 0.4	Units ng/Kg based Dil. 1 based SD sult 31	on: 2008-0 Dil. 1 on the spike Spike Amount 10.0 on the spike Units mg/Kg mg/Kg	9-22 Spike Amoun 10.0 e and spik Matrix Result 53.528 e and spik Dil. A 1 1	t Re 53. e duplicat t Rec. 9 254 e duplicat Spike Amount 1	sult 5289 te result Li 22.3 - te result MS Rec. 83	Prep Rec. 256 ec. mit - 134.6 MSD Rec. 81 131	ared By 1 22.3 <u>RPD</u> 0 1 68.4	: AG Rec. imit - 134.6 RPD Limit 20 Rec. imit - 113.1 - 134.3

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Report Date: Septe SRS# 2008-169	mber 2	9, 2008			k Order: 8091 Jueens 4 inch 1			Page 1		9 of 10 Co., NM
Param			MS Result		Dil.	Spike Amount	Matri Resu	lt Rec.		Rec. Limit
DRO			396	mg/Kg	1	250	251	58	18	- 179.5
Percent recovery is b	based o	n the spike	e result. R	RPD is based of	on the spike a	nd spike du	plicate re	sult.		
		,	MSD		Spike	Matrix		Rec.		RPD
Param			Result	Units Dil.	-	Result	Rec.	Limit	RPD	Limit
DRO				$\frac{0.005}{\text{mg/Kg}}$ 1	250	251		18 - 179.5	10	20
Percent recovery is l	hased o	n the snike							10	20
refeeling feedvery is i	babca o	-			on the spine a	-	-			
~		MS	MSD			Spike	MS	MSD		Rec.
Surrogate	3	Result	Result		Dil.	Amount	Rec.	Rec.		Limit
n-Triacontane	5	163	126	mg/Kg	1	100	163	126	34	.1 - 158
Standard (ICV-1)	)									
QC Batch: 52620			Ι	Date Analyzed	l: 2008-09-22			Anal	yzed By	: DC
				ICVs	ICVs	ICVs		Percent		
				True	Found	Percent	J	Recovery		Date
Param	Flag	Un	its	Conc.	Conc.	Recovery	7	Limits	Ar	alyzed
Benzene		mg/	/Kg	0.100	0.106	106		85 - 115	200	8-09-22
Toluene		mg/	′Kg	0.100	0.106	106		85 - 115	200	8-09-22
Ethylbenzene		mg/	′Kg	0.100	0.108	108		85 - 115	200	8-09-22
Xylene		mg/	/Kg	0.300	0.312	104		85 - 115	200	8-09-22
Standard (CCV-1	.)									
QC Batch: 52620			Ι	Date Analyzed	: 2008-09-22			Anal	yzed By	: DC
				CCVs	CCVs	CCVs		Percent		
				True	Found	Percent	]	Recovery		Date
Param	Flag	Un		Conc.	Conc.	Recovery		Limits		alyzed
Benzene	<u> </u>	mg/	′Kg	0.100	0.112	112		85 - 115		8-09-22
Toluene		mg/	′Kg	0.100	0.110	110		85 - 115	200	8-09-22
Ethylbenzene		mg/	'Kg	0.100	0.111	111		85 - 115	200	8-09-22
Xylene		mg/	Kg	0.300	0.323	108		85 - 115	200	8-09-22
Standard (ICV-1)	)									
QC Batch: 52621			Γ	Date Analyzed	: 2008-09-22			Anal	yzed By	: DC

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

Report Date: September 29, 2008 SRS# 2008-169				EK Queens 4 in	Page Number: 10 of 10 Lea Co., NM		
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.07	107	85 - 115	2008-09-22
Standard (C	CV-1)						
QC Batch: 52	2621		Date Analyzed: 2008-09-22			Anal	yzed By: DC
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.06	106	85 - 115	2008-09-22
Standard (IC	CV-1)						
QC Batch: 55	2677		Date An	alyzed: 2008-0	9-24	Ana	lyzed By: LD
D		<b>TT</b> 14	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param DRO	Flag	Units mg/Kg	<u>Conc.</u> 250	Conc. 260	Recovery 104	Limits 85 - 115	Analyzed 2008-09-24
Standard (C		····		-1 -1 -0000 0	0.04		
QC Batch: 55	2077		Date An	alyzed: 2008-0	9-24	Ana	lyzed By: LD
Param	Flag	TT 14 -	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
	H DAO	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed

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	LAB Order ID #_ 809193	<u>3</u>	Page of
TraceAnalysis, Inc. email: lab@traceanalysis.com	Lubbock, Texas 79424 Midland,	Street, Suite A1         200 East Sunset Rd , Suite E           Texas 79703         El Paso, Texas 79922           2) 689-6301         Tel (915) 585-3443           12) 689-6313         Fax (915) 585-4944           1 (888) 588-3443	8608 Camp Bowie Blvd. West, Suite 180 Ft. Worth, Texas 76116 Tel (817) 201-5260 Fax (817) 560-4336
TALON 43	ne#: 	ANALYSIS RE (Circle or Specify	
Address: (Street, City, Zip) <u> 318 E THANNA HORSS NM 88240</u> Contact Person: Err			
LB TAYING		C (35)	tande la
Invoice to: (If different from above) PLA: wS SRS # 2005 Project #: Project #:	- 169 Ject Name:	7 TVHC 5 / TVHC 5 / TVHC Cd Cr Pb Se Hg Ba Cd Cr Pb Se Hg Ba Cd Cr Pb Se Hg (624	
SK QUEEN	4" 10114	8260B / TX1005 0- TX1005 0- TX1005 624 Cr Pb Ss 624 Cr	
Project Location (including state): LEA COUNTY NIM	ipler Signature:	21 8260B / 12/1005 55 / TX/1005 70 Cr Pb Se 58 Cd Cr 58 Ba Cd Cr 58 Ba Cd Cr 71 624	608 If diffe
	r 169 ject Name: 4 <sup>11</sup> کی 114 pler Signature: PRESERVATIVE METHOD SAMPLING	7 1 602 7 1 602 7 1 602 7 625 625 625 638 608 608 1 001 8 7 608 7 608	s 8081A/1 S, pH Content Und Time i
LAB# FIELD CODE WATRIX LAB# FIELD CODE Volume / WATRIX LABUSE SOIL NILY WATRIX VOLUME / WATRIX	HCI HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> NaOH NAOH NAOH DATE DATE AND		Pesticides 8081A/ 608 BOD, TSS, pH Moisture Content Moisture Content Turn Around Time if different from standard Hold
14016 BH-2 1 X	× 9/19 7:30		
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Submittal of samples constitutes agreement to Terms and Conditions listed on re-	verse side of C. O. C.	Carrier #	

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Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79922 888 • 588 • 3443 Midland, Texas 79703 t. Worth, Texas 76132 E-Mail lab@traceanalysis.com

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16 FAX 806+794+1298 13 FAX 915+585+4944 11 FAX 432+689+6313 10

**WBENC:** 237019

 Certifications

 HUB:
 1752439743100-86536

 NCTRCA
 WFWB38444Y0909

**DBE:** VN 20657

# **NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

## Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E Taylor Hobbs, NM, 88240

Report Date: October 3, 2008

Work Order: 8093017

Project Location:Lea Co., NMProject Name:EK Queens 4 inch PollyProject Number:Plains076SPLSRS #:2008-169

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
175029	SW3	soil	2008-09-30	07:45	2008-09-30

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

Michael about

Dr. Blair Leftwich, Director

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#### Standard Flags

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

## **Case Narrative**

Samples for project EK Queens 4 inch Polly were received by TraceAnalysis, Inc. on 2008-09-30 and assigned to work order 8093017. Samples for work order 8093017 were received intact at a temperature of 3.2 deg. C.

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

Test	Method
BTEX	S 8021B
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 8093017 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.

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# **Analytical Report**

#### Sample: 175029 - SW3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 52963 45376		Analytical M Date Analyz Sample Prep	zed:	S 8021B 2008-10-02 2008-10-02		Prep Meth Analyzed Prepared 1	By: DC
			$\mathbf{RL}$					
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		$\mathbf{Units}$	D	ilution	$\mathbf{RL}$
Benzene			< 0.0100		mg/Kg		1	0.0100
Toluene			< 0.0100		mg/Kg		1	0.0100
Ethylbenzene	9		< 0.0100		mg/Kg		1	0.0100
Xylene			< 0.0100		mg/Kg		1	0.0100
						Spike	Percent	Recovery
Surrogate		$\mathbf{F}\mathbf{lag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		0.793	mg/Kg	1	1.00	79	68 - 136.9
4-Bromofluor	robenzene (4-BFB)		0.811	mg/Kg	1	1.00	81	48.2 - 155

#### Sample: 175029 - SW3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 52962 45349		Analytical M Date Analyze Sample Prepa	d: 2008	. 8015B -10-02 -10-02	Analyz	fethod: N/A ed By: LD ed By: LD
			$\operatorname{RL}$				
Parameter	$\mathbf{Fla}_{\mathbf{f}}$	S	$\mathbf{Result}$	τ	Jnits	Dilution	$\mathbf{RL}$
DRO			<50.0	mg	;/Kg	1	50.0
					Spike	Percent	Recovery
Surrogate	$\mathbf{Flag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
n-Triacontan	e	157	mg/Kg	1	100	157	10 - 250.4

#### Sample: 175029 - SW3

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	52964	Date Analyzed:	2008-10-02	Analyzed By:	DC
Prep Batch:	45376	Sample Preparation:	2008-10-02	Prepared By:	DC

continued ...

Report Date: October 3, 2008	Work Order: 8093017	Page Number: 5 of 10
Plains076SPL	EK Queens 4 inch Polly	Lea Co., NM

sample 175029 continued ...

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		RL		<b>T</b> T •/			DI
Parameter	Flag	Result		Units		Dilution	RL
		$\mathbf{RL}$					
Parameter	Flag	Result		Units		Dilution	$\mathbf{RL}$
GRO	0	<1.00		mg/Kg		1	1.00
				0, 0			
					$\mathbf{Spike}$	Percent	Recovery
Surrogate	Flag	$\mathbf{Result}$	$\mathbf{Units}$	Dilution		Recovery	Limits
Trifluorotoluene (TFT)		0.835	mg/Kg	1	1.00	84	67.5 - 135.2
4-Bromofluorobenzene (4	-BFB)	0.818	mg/Kg	1	1.00	82	63.8 - 141
							•
Method Blank (1)	QC Batch: 52962						
QC Batch: 52962		Date Ana	alvzed: 20	008-10-02		Analy	zed By: LD
Prep Batch: 45349		QC Prepa		008-10-02			ared By: LD
*		• •					v
			MDL				
Parameter	$\mathbf{Flag}$		$\operatorname{Result}$		Un		RL
DRO			<15.8		mg/	′Kg	50
					Spiles	Doncont	Decorror
Surrogata Fla	a Bosult	Unite	Dilut	ion	Spike A mount	Percent	Recovery
Surrogate Fla		Units mg/Kg	Dilut 1		Amount	Recovery	Limits
Surrogate Fla n-Triacontane	g Result 134	Units mg/Kg	Dilut 1		•		
					Amount	Recovery	Limits
n-Triacontane	134				Amount	Recovery	Limits
					Amount	Recovery	Limits
n-Triacontane Method Blank (1) QC Batch: 52963	134	mg/Kg Date Ana	1 lyzed: 20	008-10-02	Amount	Recovery 134 Analy	Limits 30.9 - 146.4 rzed By: DC
n-Triacontane Method Blank (1)	134	mg/Kg	1 lyzed: 20		Amount	Recovery 134 Analy	Limits 30.9 - 146.4
n-Triacontane Method Blank (1) QC Batch: 52963	134	mg/Kg Date Ana	lyzed: 20 aration: 20	)08-10-02 )08-10-02	Amount	Recovery 134 Analy	Limits 30.9 - 146.4 rzed By: DC
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376	134 QC Batch: 52963	mg/Kg Date Ana	1 alyzed: 20 aration: 20 MD	008-10-02 008-10-02 DL	Amount 100	Recovery 134 Analy Prepa	Limits 30.9 - 146.4 zed By: DC ared By: DC
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter	134	mg/Kg Date Ana	1 alyzed: 20 aration: 20 MD Resu	008-10-02 008-10-02 0L 1lt	Amount 100 Un	Recovery 134 Analy Prepa	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene	134 QC Batch: 52963	mg/Kg Date Ana	1 alyzed: 20 aration: 20 MD Resu <0.0058	008-10-02 008-10-02 DL 1lt 80	Amount 100 Un mg	Recovery 134 Analy Prepa nits /Kg	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene	134 QC Batch: 52963	mg/Kg Date Ana	1 alyzed: 20 aration: 20 MD Resu <0.0058 <0.004	008-10-02 008-10-02 DL ilt 80 70	Amount 100 Un mg mg	Recovery 134 Analy Prepa hits /Kg /Kg	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL 0.01 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene Ethylbenzene	134 QC Batch: 52963	mg/Kg Date Ana	1 alyzed: 20 aration: 20 MD Resu <0.0058	008-10-02 008-10-02 DL 1lt 80 70 30	Amount 100 Un mg mg mg	Recovery 134 Analy Prepa hits /Kg /Kg /Kg	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL 0.01 0.01 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene	134 QC Batch: 52963	mg/Kg Date Ana	1 alyzed: 20 aration: 20 ME Resu <0.0053 <0.004' <0.0053	008-10-02 008-10-02 DL 1lt 80 70 30	Amount 100 Un mg mg mg	Recovery 134 Analy Prepa hits /Kg /Kg	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL 0.01 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene Ethylbenzene Xylene	134 QC Batch: 52963 Flag	mg/Kg Date Ana	1 alyzed: 20 aration: 20 ME Resu <0.0053 <0.004' <0.0053	008-10-02 008-10-02 DL 1lt 80 70 30	Amount 100 Un mg mg mg	Recovery 134 Analy Prepa hits /Kg /Kg /Kg	Limits 30.9 - 146.4 rzed By: DC ared By: DC RL 0.01 0.01 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene Ethylbenzene Xylene Surrogate	134 QC Batch: 52963	mg/Kg Date Ana QC Prepa	1 alyzed: 20 aration: 20 MD Resu <0.0053 <0.004 <0.0053 <0.0053 <0.0053 <0.0053 <0.0053 <0.0053 <0.0053	008-10-02 008-10-02 DL 1lt 80 70 30	Amount 100 Un mg mg mg Spike Amount	Recovery 134 Analy Prepa hits /Kg /Kg /Kg /Kg /Kg Percent Recovery	Limits 30.9 - 146.4 22ed By: DC ared By: DC RL 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
n-Triacontane Method Blank (1) QC Batch: 52963 Prep Batch: 45376 Parameter Benzene Toluene Ethylbenzene Xylene	134 QC Batch: 52963 Flag	mg/Kg Date Ana QC Prepa	1 alyzed: 20 aration: 20 ME Resu <0.0053 <0.004' <0.0053 <0.013	008-10-02 008-10-02 0L 1lt 80 70 30 36	Amount 100 Un mg mg mg mg mg mg	Recovery 134 Analy Prepa hits /Kg /Kg /Kg /Kg /Kg Percent	Limits 30.9 - 146.4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

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Method Blank (1)	QC Batch: 529	964							
				0000 1	0.00		Á 1	D	DC
QC Batch: 52964 Prep Batch: 45376			e Analyzed: Preparation	2008-1 2008-1				yzed By: ared By:	
Trep Daten. 40070		QU .	i reparation	2000-1	0-02		пср	area by.	DU
_				IDL					DI
Parameter GRO	Flag			sult .794		Units mg/Kg			RL1
GRU			0	.194		iiig/ K	5		1
						Spike	Percent	$\operatorname{Rec}$	overy
Surrogate	Flag				ilution	Amount	Recovery		mits
Trifluorotoluene (TFT)	`	0.83	0,		1	1.00	83		- 135.2
4-Bromofluorobenzene (4	4-BFB)	0.81	11 mg/ł	(g	1	1.00	81	16.8	- 138.1
Prep Batch: 45349		LCS	Preparation	: 2008-1	Spike	Matrix	1.05	ared By: R	Lec.
Param		Result	Units	Dil.	Amount		Rec.		mit
DRO		237	mg/Kg	1	250	<15.8	95		- 152.1
Percent recovery is base	d on the spike re	sult. RPD	is based on	the spike	e and spike	duplicate res	sult.		
_	LCS			Spike	Matrix	_	Rec.		RPD
Param	Resu			Amount		Rec.	Limit	RPD	Limit
DRO	248	0,		250	<15.8		.8 - 152.1	4	20
Percent recovery is based	d on the spike rea	sult. RPD	is based on	the spike	e and spike	duplicate res	sult.		
	LCS L	CSD			Spike	LCS	LCSD	]	Rec.
Surrogate	Result R	lesult	Units	Dil.	Amount		Rec.		imit
n-Triacontane	102	104	mg/Kg	1	100	102	104	38	- 130.4
	pike (LCS-1)							yzed By:	
Laboratory Control S QC Batch: 52963 Prep Batch: 45376			e Analyzed: Preparation:	2008-1 2008-1				ared By:	DC
QC Batch: 52963 Prep Batch: 45376		QC I	Preparation	2008-1	0-02 Spike	Matrix	Prep	ared By: R	lec.
QC Batch: 52963 Prep Batch: 45376 Param	Ι	QC I LCS Result	Preparation: Units	2008-1 Dil.	0-02 Spike Amount	$\operatorname{Result}$	Prep <sup>4</sup> Rec.	ared By: R Li	ec. mit
QC Batch: 52963 Prep Batch: 45376 Param Benzene	I	QC I LCS Result 0.872	Preparation: Units mg/Kg	2008-1 Dil. 1	0-02 Spike Amount 1.00	Result <0.00580	Prep Rec. 87	ared By: R Li 73.3	ec. mit - 116.6
QC Batch: 52963 Prep Batch: 45376 Param	I	QC I LCS Result	Preparation: Units	2008-1 Dil.	0-02 Spike Amount	$\operatorname{Result}$	Prep 4 Rec. 9 87 9 89	ared By: R Li 73.3 78.6	ec. mit

Report Date: October 3, 2008	Work Order: 8093017	Page Number: 7 of 10
Plains076SPL	EK Queens 4 inch Polly	Lea Co., NM

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\mathbf{Limit}$	RPD	$\operatorname{Limit}$
Benzene	0.955	mg/Kg	1	1.00	< 0.00580	95	73.3 - 116.6	9	20
Toluene	0.976	mg/Kg	1	1.00	< 0.00470	<b>9</b> 8	78.6 - 115.1	9	<b>20</b>
${f Ethylbenzene}$	0.985	mg/Kg	1	1.00	< 0.00530	<b>9</b> 8	77.4 - 114.9	11	20
Xylene	2.97	mg/Kg	1	3.00	< 0.0136	99	78.2 - 114.7	11	<b>20</b>

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	Units	Dil.	Amount	Rec.	Rec.	$\mathbf{Limit}$
Trifluorotoluene (TFT)	0.773	0.812	mg/Kg	1	1.00	77	81	45 - 124.2
4-Bromofluorobenzene (4-BFB)	0.798	0.835	mg/Kg	1	1.00	80	83	47.2 - 130.4

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

QC Batch:	52964	Date Analyzed:	2008-10-02	Analyzed By:	$\mathbf{DC}$
Prep Batch:	45376	QC Preparation:	2008-10-02	Prepared By:	$\mathbf{DC}$

	LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	Result	$\mathbf{Units}$	Dil.	Amount	$\mathbf{Result}$	Rec.	$\mathbf{Limit}$
GRO	8.43	mg/Kg	1	10.0	0.794	76	57.5 - 106.4

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

	LCSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	Result	Units	Dil.	$\mathbf{Amount}$	Result	Rec.	$\mathbf{Limit}$	RPD	Limit
GRO	8.56	mg/Kg	1	10.0	0.794	78	57.5 - 106.4	2	20

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

	LCS	LCSD			$\mathbf{Spike}$	LCS	LCSD	Rec.
Surrogate	Result	$\mathbf{Result}$	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.820	0.838	mg/Kg	1	1.00	82	84	63.8 - 134.3
4-Bromofluorobenzene (4-BFB)	0.814	0.836	mg/Kg	1	1.00	81	84	53.3 - 123.6

#### Matrix Spike (MS-1) Spiked Sample: 175029

QC Batch: Prep Batch:	52962 45349		e Analyzed: Preparation:	2008-10 2008-10				ed By: LD ed By: LD
Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		267	mg/Kg	1	250	<15.8	107	18 - 179.5

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

Report Date: October 3, Plains076SPL	2008		I		Order: 809 eens 4 inch					Page I		: 8 of 10 Co., NM
		MSD			Spike		atrix			Rec.		RPD
Param		Result	Units	Dil.			esult	Rec.		Limit	RPD	Limit
DRO	_	252	mg/Kg	1	. 250	<	15.8	101	18	- 179.5	6	20
Percent recovery is based	on the sp	ike result.	RPD is l	based o	on the spike	e and s	pike d	uplicat	e resu	lt.		
	MS	MSD	)			S	pike	I	MS	MSD		Rec.
Surrogate	$\mathbf{Result}$	Resul	t l	Jnits	Dil.	Ar	nount	F	lec.	Rec.		$\operatorname{Limit}$
n-Triacontane	135	132	m	g/Kg	1		100	]	135	132	34	.1 - 158
Matrix Spike (MS-1) QC Batch: 52963 Prep Batch: 45376	Spiked	Sample: 1'	75046 Date Ar QC Prej	•							yzed By ared By	
Param		MS Resu	1+ T	nits	Dil.	Spil Amou		Mat Res		Rec.		Rec. Limit
Benzene	1			g/Kg	1	1.0		$-\frac{1000}{<0.0}$		178		2 - 134.3
Toluene	2			g/Kg	1	1.0		0.0		189		- 145.4
Ethylbenzene	3			g/Kg	1	1.0		< 0.0		196		- 146.4
Xylene	4	5.96	mį	g/Kg	1	3.0	0	<0.0	)136	199	64.3	- 148.8
Percent recovery is based	on the sp	ike result.	RPD is	based o	on the spike	e and s	pike d	uplicat	e resu	lt.		
		MSD			Spike	Ma	trix			Rec.		RPD
Param		Result	Units	Dil.	$\mathbf{A}\mathbf{m}\mathbf{o}\mathbf{u}\mathbf{n}\mathbf{t}$	Re	$\operatorname{sult}$	Rec.		Limit	RPD	$\mathbf{Limit}$
Benzene	5		mg/Kg	1	1.00		0580	181		2 - 134.3	2	20
Toluene	6		mg/Kg	1	1.00		109	189		6 - 145.4	0	20
Ethylbenzene	7 8		mg/Kg	1	1.00		0530	196		6 - 146.4	0	20
Xylene			mg/Kg	1	3.00		0136	199		3 - 148.8	0	20
Percent recovery is based	on the sp	ike result.	RPD is l	based of	on the spike	e and s	pike d	uplicat	e resu	lt.		
		MS	MS	SD			$\mathbf{Sp}$	ike	MS	MSD	]	Rec.
Surrogate		Resu	lt Res	sult	$\mathbf{Units}$	Dil.	Amo	ount	Rec.	Rec.	I	Limit
Trifluorotoluene (TFT)		0.75			mg/Kg	1	1		76	75		- 127.5
4-Bromofluorobenzene (4-		0.80	6 0.7	01	mg/Kg	1	1		81	78	40.2	- 142.4

QC Batch:	52964	Date Analyzed:	2008-10-02	Analyzed By:	DC
Prep Batch:	45376	QC Preparation:	2008-10-02	Prepared By:	DC

<sup>1</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>2</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>3</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>4</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>5</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>6</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>7</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date Plains076SH	e: October 3, 2 PL	008			rder: 8093 ns 4 inch 1				Page N		: 9 of 10 Co., NM
		1	мS			Spi	ke	Matrix			Rec.
Param		Re	esult l	Jnits	Dil.	Amo		$\mathbf{Result}$	Rec.		Limit
GRO		8	.02 m	g/Kg	1	10	.0	< 0.442	80	10	- 139.3
Percent reco	overy is based o	n the spike resul	t. RPD is b	ased on	the spike	and sp	ike duplio	cate result			
		MSD			Spike	Ma			ec.		RPD
Param		Result	Units	Dil.	Amount				mit	RPD	Limit
GRO		7.26	mg/Kg	1	10.0	<0.	442 7	3 10 -	139.3	10	20
Percent reco	overy is based o	n the spike resul	t. RPD is b	ased on	the spike	and sp	ike duplio	cate result			
			AS MS				Spike	MS	MSD		Rec.
Surrogate			sult Res		Units	Dil.	Amoun		Rec.		Limit
Trifluorotolu			803 0.8		ng/Kg	1	1	80	85		.3 - 119
4-Bromofluo	probenzene (4-B	BFB) 0.	821 0.8	42 r	ng/Kg	1	1	82	84	52	.5 - 154
Standard (	(ICV-1)										
QC Batch:	52962		Date An	alyzed:	2008-10-0	0 <b>2</b>			Analy	yzed By	: LD
			ICVs	IC	Vs	IC	Vs	Perce	ent		
			True	For	und	Per	$\operatorname{cent}$	Recov	very		Date
Param	Flag	Units	Conc.	Co	onc.	Reco	very	$\operatorname{Lim}$		Ar	nalyzed
DRO		mg/Kg	250	2	88	11	15	85 -	115	200	8-10-02
Standard (	(CCV-1)						*				
QC Batch:	52962		Date An	alyzed:	2008-10-0	02			Analy	yzed By	7: LD
			CCVs	CC	CVs	CC	Vs	Perc	ent		
			True	For	und	Pere	cent	Recov	/ery		Date
Param	Flag	Units	Conc.	Co	onc.	Reco	overy	$\operatorname{Lim}$	its	Ar	nalyzed
DRO		mg/Kg	250	2:	27	9	1	85 -	115	200	8-10-02
Standard (	(ICV-1)										
QC Batch:	52963		Date An	alyzed:	2008-10-0	02			Analy	zed By	r: DC
			ICVs		ICVs	1	CVs	Per	$\operatorname{cent}$		
			True		Found		ercent	Reco	overy		Date
Param	Flag	Units	Conc.		Conc.		covery	Lin			alyzed
Benzene		mg/Kg	0.100		0.100		100	85 -			8-10-02
Toluene		mg/Kg	0.100		0.102		102	85 -			8-10-02
Ethylbenzen Xylene	le	mg/Kg	0.100		0.0973		97	85 -			8-10-02
		mg/Kg	0.300		0.295		98	05	115	000	8-10-02

\* •

Report Date Plains076SP	e: October 3, 2 PL	008		ork Order: 809 Queens 4 inch	Page Number: 10 of 10 Lea Co., NM						
Standard (	CCV-1)										
QC Batch:	52963		Date Anal	yzed: 2008-10	-02	Anal	yzed By: DC				
			CCVs	CCVs	CCVs	Percent					
			True	Found	Percent	Recovery	Date				
Param	$\mathbf{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed				
Benzene	v	mg/Kg	0.100	0.0850	85	85 - 115	2008-10-02				
Toluene		mg/Kg	0.100	0.0865	86	85 - 115	2008-10-02				
Ethylbenzen	e	mg/Kg	0.100	0.0850	85	85 - 115	2008-10-02				
Xylene		mg/Kg	0.300	0.257	86	85 - 115	2008-10-02				
QC Batch:	52964		Date Anal	yzed: 2008-10	-02	Anal	yzed By: DC				
			ICVs	ICVs	ICVs	Percent					
			True	Found	Percent	Recovery	Date				
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed				
GRO	-	mg/Kg	1.00	0.909	91	85 - 115	2008-10-02				
Standard ( QC Batch:	,		Date Anal CCVs	yzed: 2008-10 CCVs	-02 CCVs		yzed By: DC				
						Percent	Dete				
			True	Found	Percent	Recovery	Date				

			True	Found	Percent	Recovery	Date
$\mathbf{Param}$	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.07	107	85 - 115	2008-10-02
					,		

										LAB	Orde	er II	D#	80	19	30	<u>)</u>	7								F	age	e	1	(	of	1		
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	RS	Volume / Amount		MAT	RIX					HOD			SAMF	PLING	8021B / 602 / 8260B / 624	8021B 502	TPH 8015 540 1005 / 1X1005 EX(U35)	625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg Tru D Matatilas	TCLP Semi Volatiles	des		GC/MS Vol. 8260B / 624	ş	PCB'S 8082 / 608 Decticidae 8081 4 / 608	H	Content					Turn Around Time if different from	
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# Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E Taylor Hobbs, NM, 88240

Report Date: November 13, 2008

Work Order: 8111101

Project Location:Lea County, NMProject Name:EK Queen 4" PollyProject Number:Plains076SPLSRS#:2008-169

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

			Date	$\mathbf{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
178900	BH-1	soil	2008-11-06	10:30	2008-11-11

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

Blair Leptinich

Dr. Blair Leftwich, Director

### Standard Flags

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



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### Case Narrative

Samples for project EK Queen 4" Polly were received by TraceAnalysis, Inc. on 2008-11-11 and assigned to work order 8111101. Samples for work order 8111101 were received intact at a temperature of 3.3 deg. C.

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

Test	$\mathbf{Method}$
BTEX	S 8021B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

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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 8111101 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: 178900 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 54172 46351			Analytical Date Analy Sample Pre	yzed:	S 8021B 2008-11-12 2008-11-12		Prep Me Analyzeo Prepareo	d By:	S 5035 AG AG
				RI	J					
Parameter		Flag		$\mathbf{Resul}$	t	$\mathbf{Units}$	I	Dilution		$\mathbf{RL}$
Benzene				< 0.010	)	mg/Kg		1		0.0100
Toluene				< 0.010	)	mg/Kg		1		0.0100
Ethylbenzene	•			< 0.010	)	mg/Kg		1		0.0100
Xylene				0.037	5	mg/Kg		1		0.0100
							Spike	Percent	Rec	covery
Surrogate			Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	${ m Li}$	mits
Trifluorotolue	ene (TFT)			0.885	mg/Kg	1	1.00	88	49 -	129.7
4-Bromofluor	obenzene (4	-BFB)		0.851	mg/Kg	$\cdot 1$	1.00	85	45.2	- 144.3

#### Sample: 178900 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Analysis: TPH DRO QC Batch: 54168		Analytical Me Date Analyze Sample Prepa	d: 2008	. 8015B -11-11 -11-11	Analyz	fethod: N/A ed By: LD ed By: LD
Parameter	$\mathbf{Fl}$	ag	RL Result	τ	Jnits	Dilution	RL
DRO			<50.0	mg	g/Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	${f Spike} \ {f Amount}$	Percent Recovery	$\begin{array}{c} \mathbf{Recovery} \\ \mathbf{Limits} \end{array}$
n-Triacontan	e	91.2	mg/Kg	1	100	91	10 - 250.4

#### Sample: 178900 - BH-1

Laboratory:	Midland						
Analysis:	TPH GRO	۰.	Analytical Method:	S 8015B		Prep Method:	S 5035
QC Batch:	54175		Date Analyzed:	2008-11-12		Analyzed By:	AG
Prep Batch:	46351		Sample Preparation:	2008-11-12		Prepared By:	AG
·					continued		·

continued ...

sample 178900 continued ...

Parameter	Flag	<b>7</b>	$\operatorname{RL}$ Result		Units		Dilution	$\mathbf{RL}$
	1 14	Ď	Itesuit		011105		Dilucion	
		~	$\mathbf{RL}$					
Parameter	Flag	g	Result		Units		Dilution	RL
GRO			2.15		mg/Kg		1	1.00
						<b>S</b> miles	Percent	Decement
Surrogate		Flag	Result	Units	Dilution	Spike n Amount	Recovery	Recovery Limits
Trifluorotoluene (TF	<del>۳</del> ۳۱	Tiag	1.03	mg/Kg	1		103	75 - 117.2
4-Bromofluorobenze		)	0.808	mg/Kg	1	1.00	81	66 - 142.8
T Diomondorobenize.		/						00 112.0
	۰ od	D-4-1. 54169						
Method Blank (1)	) QC	Batch: 54168						
QC Batch: 54168			Date Ana	lvzed: 20	08-11-11		Analy	zed By: LD
Prep Batch: 46331			QC Prepa	•	08-11-11			red By: LD
			•	MDL				
Parameter		Flag		$\mathbf{Result}$		Un	its	$\mathbf{RL}$
DRO				<15.8		mg/	'Kg	50
							<b>D</b>	
<b>a</b> .	<b>T</b> -1		<b>T</b> T •/	<b>D</b> 11 (		Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Diluti	lon	Amount	Recovery	Limits
n-Triacontane		104	mg/Kg	1		100	104	30.9 - 146.4
								•
Method Blank (1)	) QC	Batch: 54172						
QC Batch: 54172			Date Anal	•	08-11-12		•	zed By: AG
Prep Batch: 46351			QC Prepa	ration: 20	08-11-12		Prepa	red By: AG
				MD	T.			
Parameter		Flag		Resul		Th	nits	$\mathbf{RL}$
Benzene		1 106	<u> </u>	<0.0080			/Kg	0.01
Toluene				< 0.0080			/Kg	0.01
Ethylbenzene				< 0.0082	-		/Kg	0.01
Xylene				< 0.0096			/Kg	0.01
· · · · · ·					-		<u> </u>	

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.940	mg/Kg	1	1.00	94	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		0.851	mg/Kg	1	1.00	85	51.9 - 128.1

Report Date: November Plains076SPL	er 13, 2008	_	Work Ord EK Que	der: 8111 en 4" Po				lumber: ( ea Count	
Method Blank (1)	QC Batch: 5417	'5							
QC Batch: 54175		Date Ana	alvzed: 0	2008-11-1	12		Analy	zed By:	AG
Prep Batch: 46351		QC Prep	•	2008-11-1				ared By:	AG
•				_				· .	
D	<b>E</b> 1		MDI Boaul			Unite			RI
Parameter GRO	Flag		Result 0.794			Units mg/Kg			$\frac{\pi}{1}$
3110		•	0.15	<b>_</b>		1116/ IN	2		
						Spike	Percent		covery
Surrogate	Flag	Result	Units		ution	Amount	Recovery		imits
Frifluorotoluene (TFT)		0.847	mg/Kg		1	1.00	85		- 130
-Bromofluorobenzene	(4-BFB)	0.828	mg/Kg		1	1.00	83		- 130
Aboratory Control	Spike (LCS-1)	Date An	•	2008-11-1				yzed By:	
Prep Batch: 46331		QC Prep	aration:	2008-11-1	11		Prepa	ared By:	LD
		LCS			Spike	Matrix	_	-	ec.
Param	F			Dil.	Amount	Result	Rec.		mit
DRO			g/Kg	1	250	<15.8	94	27.8 -	152.]
Percent recovery is bas	ed on the spike res	ult. RPD is b	ased on the	e spike a	nd spike d	uplicate res	ult.		
	LCSI	)	{	Spike	Matrix		Rec.		RPD
Param	Resul			mount	Result	Rec.	Limit	RPD	Limi
DRO	249	mg/Kg	1	250	<15.8	100 27	.8 - 152.1	5	20
	1 11 11	ult RPD is h	ased on th	e snike a	nd spike d	uplicate res	sult.		
Percent recovery is bas	ed on the spike res		asea on m	ie opine u		aprioace rec			
Percent recovery is bas			ased on th	ie opine u				F	lec.
	LCS LO	CSD		Dil.	Spike Amount	LCS Rec.	LCSD Rec.		Rec. imit
urrogate	LCS LC Result Re	CSD esult Ui			Spike	LCS	LCSD	L	imit
Percent recovery is bas Surrogate n-Triacontane Laboratory Control QC Batch: 54172 Prep Batch: 46351	LCS LC Result Re 89.4 9	CSD esult Ui	nits ;/Kg alyzed: 2	Dil.	Spike Amount 100	LCS Rec.	LCSD Rec. 91 Analy	L	imit • 130. AG
Surrogate n-Triacontane Laboratory Control QC Batch: 54172 Prep Batch: 46351	LCS LO Result Re 89.4 9 Spike (LCS-1)	CSD esult Un 1.2 mg Date And QC Prep LCS	nits ;/Kg alyzed: paration:	Dil. 1 2008-11-3 2008-11-3	Spike Amount 100 12 12 Spike	LCS Rec. 89 Matrix	LCSD Rec. 91 Analy	Li 38 - yzed By: ared By: R	imit 130. AG AG ec.
Surrogate Triacontane <b>Laboratory Control</b> QC Batch: 54172 Prep Batch: 46351 Param	LCS LO Result Re 89.4 9 Spike (LCS-1)	CSD esult Un 1.2 mg Date Ana QC Prep LCS esult Ur	nits 2 3/Kg alyzed: 2 paration: 2 nits D	Dil. 1 2008-11-1 2008-11-1 Dil. A	Spike Amount 100 12 12 Spike Amount	LCS Rec. 89 Matrix Result	LCSD Rec. 91 Analy Prepa Rec.	Li 38 - yzed By: ared By: Ra Lin	imit 130 AG AG ec. mit
Surrogate -Triacontane Laboratory Control QC Batch: 54172 Prep Batch: 46351 Param Benzene	LCS LO Result Re 89.4 9 Spike (LCS-1)	CSD esult Un 1.2 mg Date And QC Prep LCS esult Un .924 mg	nits ;/Kg alyzed: paration: nits /Kg	Dil. 1 2008-11-1 2008-11-1 Dil. A 1	Spike Amount 100 12 12 Spike Amount 1.00	LCS Rec. 89 Matrix Result <0.00800	LCSD Rec. 91 Analy Prepa Rec.	Li 38 - yzed By: ared By: Ra Lin 72.7 -	imit - 130 AG AG ec. mit - 129
Surrogate n-Triacontane Laboratory Control QC Batch: 54172	LCS LO Result Re 89.4 9 Spike (LCS-1)	CSD esult Un 1.2 mg Date An QC Prep CCS esult Un .924 mg .903 mg	nits alyzed: paration: nits /Kg /Kg	Dil. 1 2008-11-1 2008-11-1 Dil. A	Spike Amount 100 12 12 Spike Amount	LCS Rec. 89 Matrix Result	LCSD Rec. 91 Analy Prepa Rec. 9 92 90	Li 38 - yzed By: ared By: Ra Lin	imit - 130 AG AG - 129 - 129

Report Date: November 13, 2008	Work Order: 8111101	Page Number: 7 of 10
Plains076SPL	EK Queen 4" Polly	Lea County, NM

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\mathbf{L}\mathbf{i}\mathbf{m}\mathbf{i}\mathbf{t}$	$\operatorname{RPD}$	Limit
Benzene	0.942	mg/Kg	1	1.00	< 0.00800	94	72.7 - 129.8	2	20
Toluene	0.916	mg/Kg	1	1.00	< 0.00800	92	71.6 - 129.6	1	<b>20</b>
Ethylbenzene	0.898	mg/Kg	1	1.00	< 0.00820	90	70.8 - 129.7	<b>2</b>	<b>20</b>
Xylene	2.73	mg/Kg	1	3.00	< 0.00960	91	70.9 - 129.4	3	<b>20</b>

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	$\mathbf{Result}$	$\operatorname{Result}$	$\mathbf{Units}$	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.872	0.865	mg/Kg	1	1.00	87	86	65.9 - 132
4-Bromofluorobenzene (4-BFB)	0.864	0.878	mg/Kg	1	1.00	86	88	55.2 - 128.9

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

QC Batch:	54175	Date Analyzed:	2008-11-12	Analyzed By:	$\mathbf{AG}$
Prep Batch:	46351	QC Preparation:	2008-11-12	Prepared By:	AG

	LCS			$\mathbf{Spike}$	Matrix		Rec.
Param	$\mathbf{Result}$	$\mathbf{Units}$	Dil.	$\operatorname{Amount}$	$\mathbf{Result}$	Rec.	$\mathbf{Limit}$
GRO	7.79	mg/Kg	1	10.0	< 0.171	78	70 - 130

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	$\mathbf{Units}$	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	8.06	mg/Kg	1	10.0	< 0.171	81	70 - 130	3	20

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

	LCS	LCSD			$\mathbf{Spike}$	LCS	LCSD	Rec.
Surrogate	Result	Result	$\mathbf{Units}$	Dil.	$\operatorname{Amount}$	Rec.	Rec.	$\operatorname{Limit}$
Trifluorotoluene (TFT)	0.920	0.868	mg/Kg	1	1.00	92	87	70 - 130
4-Bromofluorobenzene (4-BFB)	0.849	0.854	mg/Kg	1	1.00	85	85	70 - 130

#### Matrix Spike (MS-1) Spiked Sample: 178900

QC Batch: Prep Batch:	54168 46331		e Analyzed: Preparation:	2008-11 2008-11			•	ed By: LD ed By: LD
Param		${ m MS} { m Result}$	Units	Dil.	Spike	${f Matrix} {f Result}$	Doo	Rec.
		Result	Units	$D_{II}$ .	Amount	nesun	Rec.	$\operatorname{Limit}$
DRO		278	mg/Kg	1	250	30.3	99	18 - 179.5

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

Report Date: November 13 Plains076SPL	, 2008				k Order: 81 Queen 4"							8 of 10 nty, NM
Param		MSD Result 269	Units mg/Kg	Dil	Spike . Amoun 250	t Re	$\frac{1}{0.3}$	Rec. 95	$\mathbf{L}$	Rec. imit 179.5	RPD 3	RPD Limit 20
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					·······							20
Percent recovery is based or	n the sp	ike result.	RPD is	Dased	on the spike	e and sp	Jike a	upneau	e result			
	MS	MSD				S	pike	N	ΛS	MSD		Rec.
Surrogate	$\mathbf{Result}$	Result	t .	Units	Dil.	Am	nount	R	ec.	Rec.		Limit
n-Triacontane	90.8	88.2	n	ng/Kg	1	]	00		91	88	34	.1 - 158
Matrix Spike (MS-1)	Spiked	Sample: 17	8900									
QC Batch: 54172			Date A	nalyzed	l: 2008-1	1-12				Anal	yzed By	: AG
Prep Batch: 46351			QC Pre	parati	on: 2008-1	1-12				Prepa	ared By	: AG
-		MS			<b>D</b> 11	Spik		Mat		-		Rec.
Param		Result		Jnits		Amou		Res		Rec.		imit
Benzene		0.911		g/Kg	1	1.00		<0.00		91		- 165.2
Toluene		0.891		g/Kg	1	1.00		< 0.00		89 80		- 153.8 - 159.4
Ethylbenzene Xylene		$0.894 \\ 2.63$		g/Kg g/Kg	1 1	$1.00 \\ 3.00$		<0.00 <0.00		89 88		- 159.4
							-		·			- 100.0
Percent recovery is based or	n the sp	ike result.	RPD is	based	on the spike	e and sp	pike ai	upricate	e result	•		
		MSD			Spike	Mat	rix		F	lec.		RPD
Param		Result	Units	Dil.	Amount	Res	$\mathbf{ult}$	Rec.	Li	imit	RPD	$\operatorname{Limit}$
Benzene		0.855 1	mg/Kg	1	1.00	< 0.00	0800	86	58.6	- 165.2	6	20
Toluene		0.874	mg/Kg	1	1.00	<0.00	0800	87		- 153.8	<b>2</b>	20
Ethylbenzene			mg/Kg	1	1.00	<0.00		90		- 159.4	0	<b>20</b>
Xylene		2.64 1	mg/Kg	1	3.00	<0.00	0960	88	64.4	- 155.3	0	20
Percent recovery is based or	n the sp	ike result.	RPD is	based	on the spike	e and sp	pike d	uplicate	e result			
		MS	М	SD			Spi	ke	MS	MSD		Rec.
Surrogate		Resul		sult	Units	Dil.	Amo		Rec.	Rec.		imit
Trifluorotoluene (TFT)	\	0.950		848	mg/Kg	1	1		95	85		- 127.9
4-Bromofluorobenzene (4-B	FB)	0.889	0.8	859	mg/Kg	1	1		89	86	72 -	- 127.8
Matrix Spike (MS-1)	Spiked	Sample: 17	8900									
QC Batch: 54175			Date A	•					-		yzed By	
Prep Batch: 46351			QC Pre	paratio	on: 2008-1	1-12				Prep	ared By	: AG
						~ -					-	_
Deserve		MS			D'1	Spi		Mat		D		Rec.
Param		Resul		Units		Amo	-	Res		Rec.		imit
GRO		15.3		ng/Kg	1	10	.0	2.	15	132	22.3	- 134.6

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

Report Date Plains076SI	e: November 13 PL	3, 2008			Queen 4" F					umber: Jea Cour	
		MSD			Spike	Matrix	ī.	Re	ec.		RPD
Param		$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	Liı	$\operatorname{mit}$	RPD	$\operatorname{Limit}$
GRO		14.8	mg/Kg	1	10.0	2.15	126	22.3 -	134.6	3	20
Percent reco	overy is based or	n the spike resul		ased o	on the spike	and spik	e duplicat	e result	•		
		Ν	IS MS	D			Spike	MS	MSD	I	Rec.
Surrogate		Re	sult Res	ult	Units	Dil. A	mount	Rec.	Rec.		imit
Trifluorotolu	uene (TFT)	0.9	969 1.0	4	mg/Kg	1	1	97	104	68.4	- 113.1
4-Bromofluo	probenzene (4-B	FB) 0.8	334 0.86	69	mg/Kg	1	1	83	87	66.7	- 134.3
Standard (	(ICV-1)										
QC Batch:	54168		Date An	alyzed	: 2008-11-	11			Anal	yzed By	: LD
			ICVs	т	CVs	ICV	2	Perce	ont		
			True		ound	Perce		Recov		1	Date
Param	Flag	Units	Conc.		Conc.	Recove		Limi	•		alyzed
DRO	1 1008	mg/Kg	250		227	91	<u></u>	85 - 1			8-11-11
Standard ( QC Batch:	. ,		Date An	alyzed	: 2008-11-	11			Anal	yzed By	: LD
			CCVs	C	CCVs	CCV	a	Perce	ont		
			True		ound	Perce		Recov		1	Date
Param	Flag	Units	Conc.		Conc.	Recove		Limi	•		alyzed
DRO	1 146	mg/Kg	250		270	108		85 - 1			8-11-11
<b>Standard</b> ( QC Batch:	. ,		Date An							yzed By	
			ICVs		ICVs	IC	Vs	Per	cent		
			True		Found	Per	cent	Reco	overy	]	Date
Param	Flag	Units	Conc.		Conc.	Reco	overy	Lin	nits	An	alyzed
Benzene		mg/Kg	0.100		0.0968	9	7		115	200	8-11-12
<b>T</b> .1		mg/Kg	0.100		0.0969	9	7	85 -	115	200	8-11-12
Toluene							-	05	115	000	
Toluene Ethylbenzen	ne	mg/Kg	0.100		0.0949	9	5	85 -	115	200	8-11-12

### Standard (CCV-1)

.

QC Batch: 54172

Date Analyzed: 2008-11-12

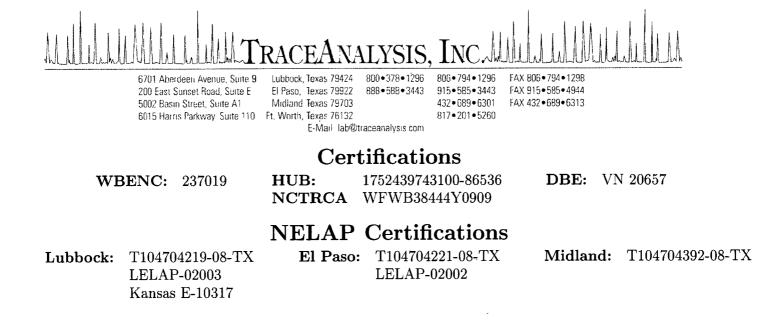
Analyzed By: AG

Report Da Plains076S	te: November 1 PL	.3, 2008	•	Vork Order: 81 EK Queen 4" H	0	Page Number: 10 of 10 Lea County, NM			
			CCVs	$\rm CCVs$	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed		
Benzene		mg/Kg	0.100	0.0908	91	85 - 115	2008-11-12		
Toluene		mg/Kg	0.100	0.0873	87	85 - 115	2008 - 11 - 12		
Ethylbenze	ne	mg/Kg	0.100	0.0871	87	85 - 115	2008 - 11 - 12		
Xylene		mg/Kg	0.300	0.258	86	85 - 115	2008-11-12		
Standard QC Batch:			Date Analy				yzed By: AG		
			ICVs	ICVs	ICVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed		
GRO		mg/Kg	1.00	1.02	102	85 - 115	2008-11-12		
Standard QC Batch:			Date Analy	yzed: 2008-11-	-12	Anal	yzed By: AG		
			CCVs	CCVs	CCVs	Percent			
			True	Found	Percent	Recovery	Date		
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed		
GRO		mg/Kg	1.00	0.986	99	85 - 115	2008-11-12		

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LAB # FIELD CODE (LAB USE) ONLY	# CONTAINERS	Volume / Amount	WATER	SOIL	AIR	OLUDGE	HCI	HNO,	H.SO.	NaOH	ICE	NONE		DATE	TIME	MTBE 8021	BTEX 8021BY 602 / 8260B	TPH 418.1 / TX1005 / TX1005 Ext(C35)	PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals	TCLP Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol.	PCB's 8082 /	Pesticides 8081A / 608	BOD, TSS, pH	Maisture Content						
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## Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E Taylor Hobbs, NM, 88240

Report Date: February 25, 2009

Work Order: 9022322

Project Location:Lea Co. NMProject Name:EK Queen 4 in. PollyProject Number:Plains041SPL

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

			Date	${f Time}$	$\mathbf{Date}$
Sample	Description	Matrix	$\mathbf{Taken}$	Taken	Received
188222	SP 1	soil	2009-02-20	13:00	2009-02-23
188223	SP 2	soil	2009-02-20	13:10	2009-02-23
188224	SP 3	soil	2009-02-20	13:15	2009-02-23
188225	SP 4	soil	2009-02-20	13:22	2009-02-23

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

Michael april

Dr. Blair Leftwich, Director

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### **Standard Flags**

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

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Page 2 of 10

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### **Case Narrative**

Samples for project EK Queen 4 in. Polly were received by TraceAnalysis, Inc. on 2009-02-23 and assigned to work order 9022322. Samples for work order 9022322 were received intact at a temperature of 4.8 deg. C.

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

		Prep	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	$\mathbf{Batch}$	Date
BTEX	S 8021B	48771	2009-02-23 at 17:00	57089	2009-02-23 at 17:00
TPH 418.1	E 418.1	48787	2009-02-24 at 12:00	57110	2009-02-24 at 14:39

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 9022322 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.

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# **Analytical Report**

### Sample: 188222 - SP 1

Laboratory:	Midland						
Analysis:	BTEX		Analytical Method:	S 8021B		Prep Method	: S 5035
QC Batch:	57089		Date Analyzed:	2009-02-23		Analyzed By:	ME
Prep Batch:	48771		Sample Preparation:	2009-02-23		Prepared By:	$\mathbf{ME}$
			$\mathbf{RL}$				
Parameter	Fla	ıg	Result	Units	Di	ilution	$\mathbf{RL}$
Benzene			< 0.0100	mg/Kg		1	0.0100
Toluene			< 0.0100	mg/Kg		1	0.0100
Ethylbenzene	9		< 0.0100	mg/Kg		1	0.0100
Xylene			0.0788	mg/Kg		1	0.0100
					Spike	Percent I	Recovery

Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.960	mg/Kg	1	1.00	96	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	1.00	110	45.2 - 144.3

Sample: 18	8222 - SP 1				
Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH 418.1 57110 48787	Analytical Method: Date Analyzed: Sample Preparation:	E 418.1 2009-02-24 2009-02-24	Prep Method: Analyzed By: Prepared By:	
Parameter	Flag	${f RL}$ Result	Units	Dilution	$\operatorname{RL}$
TRPHC		4970	mg/Kg	5	10.0

#### Sample: 188223 - SP 2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 57089 48771		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2009-02-23 2009-02-23	Prep Method: Analyzed By: Prepared By:	S 5035 ME ME
			$\mathbf{RL}$			
Parameter		$\mathbf{Flag}$	$\mathbf{Result}$	Units	Dilution	$\mathbf{RL}$
Benzene			< 0.0100	mg/Kg	1	0.0100
Toluene			< 0.0100	mg/Kg	1	0.0100
Ethylbenzene	Э		< 0.0100	mg/Kg	1	0.0100
Xylene		-	< 0.0100	mg/Kg	1	0.0100

Report Date: February Plains041SPL	Report Date: February 25, 2009 Plains041SPL			Work Order EK Queen 4		Page Number: 5 of Lea Co. N		
Surrogate		Flag	$\mathbf{Result}$	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			0.964	mg/Kg	1	1.00	<u>96</u>	49 - 129.7
4-Bromofluorobenzene			0.863	mg/Kg	1	1.00	86	45.2 - 144.3
Sample: 188223 - SI Laboratory: Lubbock Analysis: TPH 418 QC Batch: 57110 Prep Batch: 48787			Date An	cal Method: nalyzed: Preparation:	E 418.1 2009-02-24 2009-02-24		Analy	Method: N/A zed By: CM red By: CM
Parameter	Flag		$\operatorname{RL}$ Result		Units		Dilution	$\mathbf{RL}$
TRPHC			1350	- 40 av	mg/Kg		1	10.0

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 57089 48771			Analytical Date Analy Sample Pre	yzed:	S 8021B 2009-02-23 2009-02-23		Prep Me Analyzec Preparec	d By:	S 5035 ME ME
				RI	_					
Parameter		Flag		$\mathbf{Resul}$	t	Units	I	Dilution		$\operatorname{RL}$
Benzene				< 0.010	0	mg/Kg		1		0.0100
Toluene				0.041	2	mg/Kg		1		0.0100
Ethylbenzene	e			0.033	2	mg/Kg		1		0.0100
Xylene				0.13	7	mg/Kg		1		0.0100
							Spike	Percent	Re	ecovery
Surrogate			Flag	$\mathbf{Result}$	Units	Dilution	Amount	Recovery	I	imits
Trifluorotolue	ene (TFT)			0.964	mg/Kg	1	1.00	96	49	- 129.7
4-Bromofluor	obenzene (4-B)	FB)		0.937	mg/Kg	1	1.00	94	45.2	2 - 144.3

#### Sample: 188224 - SP 3

Laboratory:	Lubbock				
Analysis:	TPH 418.1	Analytical Method:	E 418.1	Prep Method:	N/A
QC Batch:	57110	Date Analyzed:	2009-02-24	Analyzed By:	CM
Prep Batch:	48787	Sample Preparation:	2009-02-24	Prepared By:	СМ

Report Date Plains041SP	: February 25, 2009 L			Order: 9022322 ueen 4 in. Polly		Page Numbe Lea	r: 6 of 10 a Co. NM
			$\mathbf{RL}$				
Parameter	Flag		Result	Units	]	Dilution	RL
TRPHC	,		1350	mg/Kg		1	10.0
Sample: 18	8225 - SP 4						
Laboratory:	Midland						
Analysis:	BTEX		Analytical Method	l: S 8021B		Prep Method:	S 5035
QC Batch:	57089		Date Analyzed:	2009-02-23		Analyzed By:	ME
Prep Batch:	48771	~	Sample Preparatio			Prepared By:	ME
			$\mathbf{RL}$		_		
Parameter	Flag		Result	Units	L	Dilution	RL
Benzene			< 0.0100	mg/Kg		1	0.0100
Toluene			< 0.0100	mg/Kg		1	0.0100
Ethylbenzene	9		< 0.0100	mg/Kg		1	0.0100
Xylene			< 0.0100	mg/Kg		1	0.0100
					Spike	Percent R	ecovery
Surrogate		Flag	Result Unit	ts Dilution	$\mathbf{A}$ mount	Recovery	$\operatorname{Limits}$
Trifluorotolue	ene (TFT)		0.978 mg/l	Kg 1	1.00	98 49	) - 129.7
4-Bromofluor	robenzene (4-BFB)		0.899 mg/l	Kg 1	1.00	90 45.	2 - 144.3
Sample: 18 Laboratory: Analysis: QC Batch:	8225 - SP 4 Lubbock TPH 418.1		Analytical Meth	nod: E 418.1		Prep Metho	1 57/4
Prep Batch:	57110 48787		Date Analyzed: Sample Prepara	2009-02-24 tion: 2009-02-24		Analyzed B Prepared B	y: CM
Prep Batch:	48787		Date Analyzed: Sample Prepara RL	tion: 2009-02-24		Prepared B	y: CM y: CM
Prep Batch: Parameter			Date Analyzed: Sample Prepara RL Result	tion: 2009-02-24 Units		Prepared B	y: CM y: CM RL
Prep Batch:	48787		Date Analyzed: Sample Prepara RL	tion: 2009-02-24		Prepared B	y: CM y: CM
Prep Batch: Parameter	48787 Flag	tch: 5708	Date Analyzed: Sample Prepara RL Result 1550	tion: 2009-02-24 Units		Prepared B	y: CM y: CM RL
Prep Batch: Parameter TRPHC Method Bla	48787 Flag ank (1) QC Ba	tch: 5708	Date Analyzed: Sample Prepara RL Result 1550	tion: 2009-02-24 Units mg/Kg		Prepared B	y: CM y: CM <u>RL</u> 10.0
Prep Batch: Parameter TRPHC	48787 Flag	tch: 5708	Date Analyzed: Sample Prepara RL Result 1550	tion: 2009-02-24 Units mg/Kg 2009-02-23		Prepared B	y: CM y: CM <u>RL</u> 10.0
Prep Batch: Parameter TRPHC Method Bla QC Batch:	48787 Flag ank (1) QC Ba 57089	tch: 5708	Date Analyzed: Sample Prepara RL Result 1550 Date Analyzed:	tion: 2009-02-24 Units mg/Kg 2009-02-23		Prepared B Dilution 1 Analyzed B	y: CM y: CM <u>RL</u> 10.0
Prep Batch: Parameter TRPHC Method Bla QC Batch:	48787 Flag ank (1) QC Ba 57089	tch: 57089	Date Analyzed: Sample Prepara RL Result 1550 Date Analyzed: QC Preparation	tion: 2009-02-24 Units mg/Kg 2009-02-23 : 2009-02-23	  Un	Prepared B Dilution 1 Analyzed E Prepared B	y: CM y: CM <u>RL</u> 10.0
Prep Batch: Parameter TRPHC Method Bla QC Batch: Prep Batch:	48787 Flag ank (1) QC Ba 57089		Date Analyzed: Sample Prepara RL Result 1550 Date Analyzed: QC Preparation	tion: 2009-02-24 Units mg/Kg 2009-02-23 2009-02-23 MDL		Prepared B Dilution 1 Analyzed E Prepared B	y: CM y: CM RL 10.0 By: ME y: ME

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Report Date: February 25, 2009	Work Order: 9022322	Page Number: 7 of 10
Plains041SPL	EK Queen 4 in. Polly	Lea Co. NM
method blank continued		

#### MDL Flag Result Units $\mathbf{RL}$ Parameter 0.01 < 0.00110 mg/Kg Ethylbenzene Xylene < 0.00360 mg/Kg 0.01Spike Percent Recovery Flag Recovery Units Dilution Amount Limits Surrogate Result Trifluorotoluene (TFT) 0.963 mg/Kg 1 1.00 96 65.6 - 130.6 4-Bromofluorobenzene (4-BFB) 0.802mg/Kg 1 1.00 80 51.9 - 128.1

#### Method Blank (1) QC Batch: 57110

QC Batch: Prep Batch:		Date Analyzed: QC Preparation:	2009-02-24 2009-02-24		Analyzed By: Prepared By:	
		M	DL			
Parameter	Flag	Res	sult	Units		$\mathbf{RL}$
TRPHC	 	<5	.28	mg/Kg		10

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

QC Batch: Prep Batch:	57089 48771		Date Analyzed: QC Preparation:				Analyzed By: ME Prepared By: ME		
Param		$\begin{array}{c} { m LCS} \\ { m Result} \end{array}$	Units	Dil.	${f Spike}\ {f Amount}$	${f Matrix} {f Result}$	Rec.	Rec. Limit	
Benzene	·····	0.888	mg/Kg	1	1.00	< 0.00100	89	72.7 - 129.8	
Toluene		0.894	mg/Kg	1	1.00	< 0.00100	89	71.6 - 129.6	
Ethylbenzene	9	0.900	mg/Kg	1	1.00	< 0.00110	<b>9</b> 0	70.8 - 129.7	
Xylene		2.63	mg/Kg	1	3.00	< 0.00360	88	70.9 - 129.4	

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	$\mathbf{Limit}$	RPD	$\mathbf{Limit}$
Benzene	0.879	mg/Kg	1	1.00	< 0.00100	88	72.7 - 129.8	1	20
Toluene	0.884	mg/Kg	1	1.00	< 0.00100	88	71.6 - 129.6	1	20
Ethylbenzene	0.901	mg/Kg	1	1.00	< 0.00110	90	70.8 - 129.7	0	<b>20</b>
Xylene	2.64	mg/Kg	1	3.00	< 0.00360	88	70.9 - 129.4	0	<b>20</b>
Percent recovery is based	d on the spike result		based o	on the spike	and spike d	uplicate	e result.		

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Report Date: February 25, 2009 Plains041SPL				order: 90 een 4 in.					Page	Number: Lea	8 of 10 Co. NM
control spikes continued	LCS	LCSI	h			<b>C</b> mile	•		T CET	. 1	
Surrogate	Result	Resul		Inits	Dil.	Spik Amou		LCS Rec.	LCSI Rec.		Rec. imit
	LCS	LCSI	С			Spik	e	LCS	LCSI	)	Rec.
Surrogate	$\mathbf{Result}$	$\mathbf{Resul}$	lt U	Inits	Dil.	Amou		Rec.	Rec.	I	imit
Trifluorotoluene (TFT)	0.960	0.969	9 m	g/Kg	1	1.00	)	96	97	65.	9 - 132
4-Bromofluorobenzene (4-BFB)	0.824	0.834		g/Kg	1	1.00	)	82	83	55.2	- 128.9
Laboratory Control Spike (L	CS-1)										
QC Batch: 57110	Г	Date Ana	lvzed:	2009-0	2-24				Ana	lyzed By	: CM
Prep Batch: 48787		QC Prepa								pared By	
	LCS				S	Spike		atrix			Rec.
Param	Result	t U	Inits	Dil.		mount		sult	Rec		Limit
TRPHC	260	mg	g/Kg	1		250	<	5.28	104	75	.5 - 136
Percent recovery is based on the s	spike result. R	lPD is ba	ased on	the spik	e and s	spike du	plicate	resu	lt.		
Percent recovery is based on the s Param TRPHC	$f LCSD \ Result$	Units	ased on Dil.	the spike Spike Amour 250	M nt R	spike du Iatrix tesult <5.28	Rec.	j	lt. Rec. Limit .5 - 136	RPD 2	RPD Limit 20
Param TRPHC Percent recovery is based on the s	LCSD Result 265 spike result. R	Units mg/Kg tPD is ba	Dil.	Spike Amour 250	N nt R <	fatrix lesult <5.28	Rec.	75	Rec. Limit .5 - 136		Limit
Param TRPHC Percent recovery is based on the s	LCSD Result 265 spike result. R d Sample: 188	Units mg/Kg tPD is ba	Dil. 1 ased on	Spike Amour 250 the spike 2009-0	M nt R < e and s 2-23	fatrix lesult <5.28	Rec.	75	Rec. Limit 5 - 136 It. Ana		Limit 20 : ME
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089	LCSD Result 265 spike result. R d Sample: 188	Units mg/Kg RPD is ba 234 Date Ana	Dil. 1 ased on	Spike Amour 250 the spike 2009-0	M nt R < e and s 2-23	fatrix tesult <5.28 spike du	Rec.	75 e resu	Rec. Limit 5 - 136 It. Ana	2 llyzed By pared By	Limit 20 : ME
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089 Prep Batch: 48771	LCSD Result 265 spike result. R d Sample: 188 I C	Units mg/Kg RPD is ba 234 Date Ana	Dil. 1 ased on alyzed: aration:	Spike Amour 250 the spike 2009-0	M nt R < e and s 2-23 2-23	fatrix tesult <5.28 spike du	Rec. 106 plicate	75 resu	Rec. Limit 5 - 136 It. Ana	2 llyzed By pared By	Limit 20 : ME : ME
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089 Prep Batch: 48771	LCSD Result 265 spike result. R d Sample: 188 I C MS	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un	Dil. 1 ased on alyzed: aration: its	Spike Amour 250 the spike 2009-0 2009-0	M nt R < e and s 2-23 2-23 Spin	fatrix tesult <5.28 spike du ke unt	Rec. 106 plicate Mat. Rest <0.00	75 e resu rix 1lt	Rec. Limit 5 - 136 lt. Ana Pre	2 Iyzed By pared By I 58.6	Limit 20 : ME : ME Rec. .imit - 165.2
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089 Prep Batch: 48771 Param	LCSD Result 265 spike result. R d Sample: 188 I G MS Result 0.758 0.731	Units mg/Kg IPD is ba 234 Date Ana QC Prepa Un mg/ mg/	Dil. 1 ased on lyzed: aration: its 'Kg 'Kg	Spike Amour 250 the spike 2009-0 2009-0 2009-0 Dil.	M nt R 2-23 2-23 2-23 Spï <u>Amo</u> 1.0 1.0	fatrix tesult <5.28 spike du spike du unt 00	Rec. 106 plicate Mat Ress <0.00 <0.00	75 e resu rix 11t 0100	Rec. Limit 5 - 136 lt. Ana Pre <u>Rec.</u> 76 73	2 alyzed By pared By I 58.6 64.2	Limit 20 : ME : ME : ME Rec. .imit - 165.2 : 153.8
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089 Prep Batch: 48771 Param Benzene Toluene	LCSD Result 265 m spike result. R d Sample: 188 I G MS Result 0.758 0.731 0.719	Units mg/Kg IPD is ba 234 Date Ana QC Prepa Un mg/	Dil. 1 ased on lyzed: aration: its 'Kg 'Kg	Spike Amour 250 the spike 2009-0 2009-0 2009-0 Dil. 1	Mat R <pre></pre>	fatrix tesult <5.28 spike du ke unt 00 00	Rec. 106 plicate Mat: Rest <0.00 <0.00 <0.00	75 e resu rix alt 1000 1000 1010	Rec. Limit 5 - 136 lt. Ana Pre <u>Rec.</u> 76	2 alyzed By pared By 1 58.6 64.2 61.6	Limit 20 : ME : ME : ME Rec.
Param         TRPHC         Percent recovery is based on the state         Matrix Spike (MS-1)       Spike         QC Batch:       57089         Prep Batch:       48771         Param       Benzene         Toluene       Ethylbenzene         Xylene       Xylene	LCSD Result 265 spike result. R d Sample: 188 d Sample: 188 U MS Result 0.758 0.731 0.719 2.14	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un mg/ mg/ mg/ mg/	Dil. 1 ased on llyzed: aration: its /Kg /Kg /Kg /Kg	Spike Amour 250 the spike 2009-0 2009-0 2009-0 Dil. 1 1 1 1 1	M nt R < e and s 2-23 2-23 2-23 Spi Amo 1.0 1.0 1.0 3.0	fatrix tesult <5.28 spike du ke unt 00 00 00	Rec. 106 plicate Mat: Rest <0.00 <0.00 <0.00 <0.00	75 e resu rix alt 1100 0100 0110 0360	Rec. Limit 5 - 136 lt. Ana Pre Rec. 76 73 72 71	2 alyzed By pared By 1 58.6 64.2 61.6	Limit 20 : ME : ME : ME Rec. .imit - 165.2 : 153.8
Param TRPHC Percent recovery is based on the s <b>Matrix Spike (MS-1)</b> Spike QC Batch: 57089 Prep Batch: 48771 Param Benzene Toluene Ethylbenzene	LCSD Result 265 spike result. R d Sample: 188 d Sample: 188 U MS Result 0.758 0.731 0.719 2.14 spike result. F	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un mg/ mg/ mg/ mg/	Dil. 1 ased on llyzed: aration: its /Kg /Kg /Kg /Kg	Spike Amour 250 the spike 2009-0 2009-0 2009-0 Dil. 1 1 1 1 1	M nt R < e and s 2-23 2-23 2-23 Spi Amo 1.0 1.0 1.0 3.0	fatrix tesult <5.28 spike du ke unt 00 00 00	Rec. 106 plicate Mat: Rest <0.00 <0.00 <0.00 <0.00	75 e resu rix alt 1100 0100 0110 0360	Rec. Limit 5 - 136 lt. Ana Pre Rec. 76 73 72 71	2 alyzed By pared By 1 58.6 64.2 61.6	Limit 20 : ME : ME : ME Rec. .imit - 165.2 - 153.8 - 159.4 - 155.3
Param         TRPHC         Percent recovery is based on the s         Matrix Spike (MS-1)         Spike         QC Batch:       57089         Prep Batch:       48771         Param         Benzene         Toluene         Ethylbenzene         Xylene         Percent recovery is based on the s	LCSD Result 265 spike result. R d Sample: 188 d Sample: 188 I 0.718 0.731 0.719 2.14 spike result. R MSD	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un mg/ mg/ mg/ RPD is ba	Dil. 1 ased on ased on ased on its /Kg /Kg /Kg /Kg /Kg /Kg ased on	Spike Amour 250 the spike 2009-0 2009-0 2009-0 2009-0 Dil. 1 1 1 1 1 1 1 1 5 the spike	$ \begin{array}{c c} & M \\ \hline \\ nt & R \\ \hline \\ e \text{ and } s \\ \hline \\ 2-23 \\ 2-23 \\ 2-23 \\ \hline \\ 2$	fatrix tesult <5.28 spike du spike du unt 00 00 00 spike du atrix	Rec.           106           plicate           Mat.           Rest           <0.00	75 e resu rix alt 1100 0100 0110 0360 e resu	Rec. Limit 5 - 136 lt. Ana Pre Rec. 76 73 72 71 lt. Rec.	2 llyzed By pared By 1 58.6 64.2 61.6 64.4	Limit 20 : ME : ME : ME Rec. .imit - 165.2 - 153.8 - 159.4 - 155.3 RPD
Param         TRPHC         Percent recovery is based on the s         Matrix Spike (MS-1)       Spike         QC Batch:       57089         Prep Batch:       48771         Param       Benzene         Toluene       Ethylbenzene         Xylene       Percent recovery is based on the s         Param       Param	LCSD Result 265 spike result. R d Sample: 188 d Sample: 188 I 0.758 0.731 0.719 2.14 spike result. R MSD Result	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un mg/ mg/ mg/ MgPD is ba	Dil. 1 ased on ased on aration: its /Kg /Kg /Kg /Kg /Kg /Kg /Kg /Kg	Spike Amour 250 the spike 2009-0 2009-0 2009-0 Dil. 1 1 1 1 1 1 1 1 5 pike Amount	$\begin{array}{c c} & M \\ & \text{at} & R \\ \hline \\ e \text{ and } s \\ \hline \\ 2-23 \\ 2-23 \\ 2-23 \\ \hline 2-23 \\ \hline \\ 2-$	fatrix tesult <5.28 spike du spike du unt 00 00 00 spike du atrix esult	Rec.           106           plicate           Mat.           Rest           <0.00	75 9 resu rix 11t 1100 1100 1100 1100 1100 1100 1100	Rec. Limit 5 - 136 It. Ana Pre Rec. 76 73 72 71 It. Rec. Limit	2 llyzed By pared By 1 58.6 64.2 61.6 64.4 RPD	Limit 20 : ME : ME : ME Rec.
Param TRPHC Percent recovery is based on the s Matrix Spike (MS-1) Spike QC Batch: 57089 Prep Batch: 48771 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the s	LCSD Result 265 spike result. R d Sample: 188 d Sample: 188 I 0.758 0.731 0.719 2.14 spike result. R MSD Result 1 0.961 m	Units mg/Kg PD is ba 234 Date Ana QC Prepa Un mg/ mg/ mg/ RPD is ba	Dil. 1 ased on ased on ased on its /Kg /Kg /Kg /Kg /Kg /Kg ased on	Spike Amour 250 the spike 2009-0 2009-0 2009-0 2009-0 Dil. 1 1 1 1 1 1 1 1 5 the spike	$\begin{array}{c c} & M \\ \hline \\ nt & R \\ \hline \\ e \text{ and } s \\ \hline \\ 2-23 \\ 2-23 \\ 2-23 \\ \hline 2-23 \\ \hline \\ 2-2$	fatrix tesult <5.28 spike du spike du unt 00 00 00 spike du atrix	Rec.           106           plicate           Mat.           Rest           <0.00	75 resu rix 1lt 1000 100 100 100 2360 58.	Rec. Limit 5 - 136 lt. Ana Pre Rec. 76 73 72 71 lt. Rec.	2 llyzed By pared By 1 58.6 64.2 61.6 64.4	Limit 20 : ME : ME : ME Rec. .imit - 165.2 - 153.8 - 159.4 - 155.3 RPD

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continued ...

<sup>1</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control. <sup>2</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: February 25, 2009 Plains041SPL	)			Order: 9022 ueen 4 in. F			Page Number: 9 of 10 Lea Co. NM			
matrix spikes continued								r,		
-	MSD			Spike	Matrix		Rec	:.		RPD
Param	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Lim		RPD	Limit
Ethylbenzene	<sup>3</sup> 0.958	mg/Kg	1	1.00	< 0.00110	96	61.6 - 1		<b>28</b>	20
Xylene	4 2.86	mg/Kg	1	3.00	< 0.00360	95	64.4 - 1	155.3	29	20
Percent recovery is based on the	spike result	. RPD is	based o	n the spike a	and spike du	plicate	e result.			
	М	S N	1SD		Sp	ike	MS	MSD		Rec.
Surrogate	Res		esult	$\mathbf{Units}$	-	ount	Rec.	Rec.		$\mathbf{Limit}$
Irifluorotoluene (TFT)	0.9		.961	mg/Kg		1	96	96	76	- 127.9
4-Bromofluorobenzene (4-BFB)	1.0	00 1	.01	mg/Kg	1	1	100	101	72	- 127.8
Matrix Spike (MS-1) Spik QC Batch: 57110 Prep Batch: 48787	ed Sample: 1	Date A	nalyzed: eparation					Analy: Prepa	-	
		ıs	<b>T</b> T •.	<b>D</b> 1	Spike		<b>A</b> atrix	P		Rec.
Param		sult	Units	Dil.	Amount		Result	Rec.		Limit
TRPHC			mg/Kg	1	250		< 5.28	90		10 - 354
Percent recovery is based on the	spike result	. RPD is	based o	n the spike a	and spike du	plicate	e result.			
				Cm:1-a	Matrix		$\operatorname{Re}$	c.		RPD
	MSD			Spike	MAUTA					
Param	$egin{array}{c} { m MSD} \ { m Result} \end{array}$	Units	Dil.	Spike Amount		Rec		nit	RPD	Limit
		Units mg/K		-		Rec 94			RPD 5	Limit 20
TRPHC Percent recovery is based on the Standard (ICV-1)	Result 235	mg/K	g 1	Amount 250 n the spike a	Result <5.28 and spike du	94	. Lin 10 - J	354		20
TRPHC Percent recovery is based on the Standard (ICV-1)	Result 235	mg/Ki . RPD is Date A	g <u>1</u> based o nalyzed:	Amount 250 n the spike a 2009-02-2	Result <5.28 and spike du 3	94	. Lim 10 e result.	354 Analy	5	20
TRPHC Percent recovery is based on the Standard (ICV-1)	Result 235	mg/Ki . RPD is Date A ICV	g 1 based o nalyzed: s	Amount 250 n the spike a 2009-02-2 ICVs	Result <5.28 and spike du 3 ICVs	94 plicate	E result.	354 Analy nt	5 zed By	20 7: ME
TRPHC         Percent recovery is based on the         Standard (ICV-1)         QC Batch: 57089	Result 235 spike result		g 1 based o nalyzed: s e	Amount 250 n the spike a 2009-02-2 ICVs Found	Result <5.28 and spike du 3 ICVs Percent	94 plicate	Lim 10 e result. Perce: Recove	354 Analy nt ery	5 zed By	20 7: ME Date
TRPHC         Percent recovery is based on the         Standard (ICV-1)         QC Batch: 57089         Param       Flag	Result 235 • spike result Units	mg/Ki . RPD is Date A ICV True Cond	g 1 based o nalyzed: s e c.	Amount 250 n the spike a 2009-02-2 ICVs Found Conc.	Result <5.28 and spike du 3 ICVs Percent Recovery	94 plicate	E result.	354 Analy nt ery 55	5 zed By At	20 7: ME Date nalyzed
TRPHC         Percent recovery is based on the         Standard (ICV-1)         QC Batch: 57089         Param       Flag         Benzene	Result 235 spike result Units mg/Kg	mg/Ki . RPD is Date A ICV True Cone 0.10	g 1 based o nalyzed: s e c. 0	Amount 250 n the spike a 2009-02-2 ICVs Found Conc. 0.0988	Result <5.28 and spike du 3 ICVs Percent Recover 99	94 plicate	Lim 10 - 4 e result. Perce: Recove Limit 85 - 1	354 Analy nt ery 55 15	5 zed By At 200	20 7: ME Date nalyzed 09-02-23
TRPHC Percent recovery is based on the Standard (ICV-1) QC Batch: 57089	Result 235 • spike result Units	mg/Ki . RPD is Date A ICV True Cond	g 1 based o nalyzed: s e c. 0 0	Amount 250 n the spike a 2009-02-2 ICVs Found Conc.	Result <5.28 and spike du 3 ICVs Percent Recovery	94 plicate	E result.	Analy Analy nt ery is 15 15	5 zed By A1 200 200	20 7: ME Date nalyzed

QC Batch: 57089

Date Analyzed: 2009-02-23

Analyzed By: ME

<sup>3</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control. <sup>4</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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Report Dat Plains041SI	e: February 25, PL	2009		ork Order: 902 K Queen 4 in. 1	Page N	umber: 10 of 10 Lea Co. NM	
			$\operatorname{CCVs}$	$\mathbf{CCVs}$	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\operatorname{Flag}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0931	93	85 - 115	2009-02-23
Toluene		mg/Kg	0.100	0.0918	92	85 - 115	2009-02-23
Ethylbenzer	ne	mg/Kg	0.100	0.0899	90	85 - 115	2009-02-23
Xylene		mg/Kg	0.300	0.266	89	85 - 115	2009-02-23
Standard ( QC Batch:	. ,		Date Analy	zed: 2009-02-	24	Anal	yzed By: CM
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC		mg/Kg	100	98.0	98	80 - 120	2009-02-24
Standard ( QC Batch:			Date Analy	zed: 2009-02-	24	Anal	yzed By: CM
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC	-	mg/Kg	100	91.5	92	80 - 120	2009-02-24

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TraceAnal email: lab@tracea	•		6	701 Aberde Lubboc Tel (8 Fax (8 1 (80	en Avenue, <b>k, Texas 79</b> 06) 794-129 06) 794-129 0) 378-1296	. Suite 9 500 14 <b>24 f</b> 198 5	Midland. 1	Street, Suit <b>Texas 797</b> ) 689-6301 2) 689-6313	03	00 East S El Paso Tel (9 Fax (9 Fax (9 1 (88	unset R , <b>Texas</b> 15) 585 15) 585 8) 588-3	7 <b>9922</b> -3443 -4944	еE	8808 C	Ft. Wor	vie Blvd. <sup>1</sup> th, Texas 317) 201- 817) 560-	: 76116	uite 180
Company Name: TALON (DF Address: (Street, City, Zip)			Phone #: / ?	138-	6388	<b>*</b>			(Ci	A rcle c				QUES Meth		No.)		
3/8 E TAMON He Contact Person: ER TAMION Invoice to:	BBS	NN 8	E-mail:					<u>(2)</u>	0B/200.7	p								ndard
(If different from above) MAiv2S	ATTN	. JA	San Project N	1 <u>45 ~5</u> ame:	Ey_		)B / 624	EK 80210/ 602 / 8260B / 624 H 418 DY TX1005 / TX1005 Ext(C35) H 8015 CEO / DRO / TVHC	Cd Cr Pb Se Hg 6010B/2007			625						it from sta
Project Location (including state): LEA COUNTY NM	ATTN E	<u>κ</u> φι Εί	Sampler S	Gignature	10 17		02 / 8260	2 / 8260B 05 / TX10 DRO / TV	a Cd Cr Pb	S S			000	200				if differen
	AINERS	MATRE		METH		SAMPLIN	021B/6	210/60 DY TX10	C / 625 C / 625 Ba Ag As Ba	Volatiles Semi Volatiles	sticides	ol. 8260E emi. Vol.	32 / 608	s 8U81A / 5U8 S, pH				nd Time
LAB# FIELD CODE (LAB USE) ONLY	# CONTAINERS Volume / Amoun	WATER SOIL AIR	HCI SLUUGE	HNU3 H2SO4 NaOH	ICE NONE	DATE	TIME MTBE 8	BTEK 80218/602 / 8260B / 6 TPH 418 D/ TX1005 / TX1005 TPH 8015 CBO / DRO / TVHC	PAH 8270C / 625 Total Metals Ag As Ba Cd Cr Pt Total Metals Ag As Ba Cd	TCLP Volatiles	TCLP Pesticides RCI	GC/MS Vol. 8260B / 624 GC/MS Semi. Vol. 82700	PCB's 8082 / 608	BOD, TSS, pH				Tum Around Time if different from standard Hold
1992 SP I	1	×			X		00	XX										
C A2 SA		X X			X X	2/20 1.	10	XX	┼┼┼							<u> </u>		
228 SP 3	1	X			X	3/20 1. 3/20 1.	'a2	XX										
																	-	
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Submittal of samples constitutes agreement to T	erms and Con	ditions listed	on reverse	side of C.	O. C.			arrier #	C	***7	- 11	^						

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WBENC: 237019 HUB: 1752439743100-86536 NCTRCA WFWB38444Y0909

Certifications

**DBE:** VN 20657

### **NELAP** Certifications

T104704219-08-TX Lubbock: LELAP-02003 Kansas E-10317

El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

# **Analytical and Quality Control Report**

Eb Taylor Talon LPE-Hobbs 318 E. Taylor Hobbs, NM, 88240

Report Date: March 13, 2009

Work Order: 9030936 

Project Location: Lea County, NM **Project Name:** EK Queen Poly 4 inch Project Number: PLAINS076SPL SRS#: 2008-169

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

			Date	$\mathbf{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
189583	SP-1	soil	2009-03-06	16:30	2009-03-09
189584	SP-2	soil	2009-03-06	16:40	2009-03-09
189585	SP-3	soil	2009-03-06	16:48	2009-03-09
189586	SP-4	soil	2009-03-06	17:06	2009-03-09

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 10 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director

#### Standard Flags

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

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## **Case Narrative**

Samples for project EK Queen Poly 4 inch were received by TraceAnalysis, Inc. on 2009-03-09 and assigned to work order 9030936. Samples for work order 9030936 were received intact at a temperature of 10.7 deg. C.

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

		$\mathbf{Prep}$	Prep	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	$\operatorname{Batch}$	Date
TPH DRO	Mod. 8015B	49181	2009-03-12 at 12:00	57583	2009-03-12 at 13:50
TPH GRO	S 8015B	49115	2009-03-10 at 14:45	57488	2009-03-10 at 14:45

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 9030936 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.

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# **Analytical Report**

#### Sample: 189583 - SP-1

Laboratory:	Midland								
Analysis:	TPH DRO		Analytical M	fethod: N	Aod. 8015B	Prep	Method: N/A		
QC Batch:	57583		Date Analyz	ed: 2	009-03-12	Analy	yzed By: LD		
Prep Batch:	Prep Batch: 49181		49181		Sample Preparation: 2009-		009-03-12	Prepa	ared By: LD
			$\mathbf{RL}$						
Parameter	Parameter Flag		$\mathbf{Result}$		Units	Dilution	$\mathbf{RL}$		
DRO			144		mg/Kg	1	50.0		
					Spike	Percent	Recovery		
Surrogate	Flag	$\mathbf{Result}$	$\mathbf{Units}$	Dilutio	n Amount	Recovery	Limits		
n-Triacontan	e	73.2	mg/Kg	1	100	73	13.2 - 219.3		

#### Sample: 189583 - SP-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 57488 49115		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-03-10 2009-03-10		Prep Me Analyzed Prepared	d By: ME
			$\mathbf{RL}$				·	
Parameter	Flag		$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$
GRO			154		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	ene (TFT)	_ 100	1.03	mg/Kg	1	1.00	103	68.5 - 119.4
	obenzene (4-BFB)	1	2.23	mg/Kg	1	1.00	223	52 - 117

#### Sample: 189584 - SP-2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 57583 49181	Analytical Method: Date Analyzed: Sample Preparation:	Mod. 8015B 2009-03-12 2009-03-12	Prep Method: Analyzed By: Prepared By:	LD
Desta	ות	RL	<b>TT 1</b>		D.
Parameter	Flag	Result	Units	Dilution	RL
DRO	-	<50.0	mg/Kg	1	50.0

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

Report Date PLAINS076S	: March 13, 20 SPL	09						
Surrogate	$\mathbf{Flag}$	Result	Units	Dilut	tion A	-	Percent Recovery	Recovery Limits
n-Triacontan	e	48.7	mg/Kg	DilutionAmountRecoveryLimits11004913.2 - 219Method:S 8015BPrep Method:S 50zed:2009-03-10Analyzed By:MEeparation:2009-03-10Prepared By:MEUnitsDilutionImag/Kg11.SpikePercentRecoveryUnitsDilutionRecoveryUnitsDilutionRecoveryLimitsDilutionAmountRecoveryLimitsmg/Kg11.0014068.5 - 119				
Sample: 18	9584 - SP-2							
Laboratory:	Midland							
Analysis:	TPH GRO		Analytical				Prep Me	
QC Batch:	57488		Date Analy	-				v
Prep Batch:	49115		Sample Pro	eparation:	2009-03-10		Prepare	d By: ME
Parameter	т	lag	${f RL} {f Result}$		Ilnita		Dilution	ים
GRO	1	lag	<u>14.2</u>				Recovery         49       13         Prep Method:       Analyzed By:         Prepared By:       Prepared By:         Dilution       1         1       1         e       Percent       Recovery         140       68       106       5	1.0
					<u> </u>		<b>1</b>	1.0
						-		Recovery
		Flag	Result				•	
	(							60 E 110
Trifluorotolue	ene (TFT) obenzene (4-B	2	$\frac{1.40}{1.06}$					52 - 117
Surrogate Trifluorotolue 4-Bromofluor		2						
Trifluorotolue 4-Bromofluor	obenzene (4-B	2						
Trifluorotolue 4-Bromofluor Sample: 189	obenzene (4-B	2						
Trifluorotolue 4-Bromofluor Sample: 18 Laboratory:	9585 - SP-3	2		mg/Kg		1.00	106	52 - 117
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis:	9585 - SP-3 Midland	2	1.06	mg/Kg Method:		1.00 B	106 Prep 1	52 - 117 Method: N/A
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch:	9585 - SP-3 Midland TPH DRO	2	1.06	mg/Kg Method: yzed:	1 Mod. 8015	1.00 B	Lea CounPercentRecRecoveryLin4913.213.213.2Prep Method:Analyzed By:Prepared By:Prepared By:Dilution111PercentRecRecoveryLin14068.510652Prep Method:Analyzed By:Prep Method:Analyzed By:Prepared By:Prepared By:Dilution111PercentRecRecoveryLinPercentRecRecoveryLin	52 - 117 Method: N/A zed By: LD
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch:	9585 - SP-3 Midland TPH DRO 57583 49181	2 FB)	1.06 Analytical Date Analy Sample Pro RL	mg/Kg Method: yzed:	1 Mod. 8015 2009-03-12 2009-03-12	1.00 B	106 Prep J Analy Prepa	52 - 117 Method: N/A zed By: LD
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	9585 - SP-3 Midland TPH DRO 57583 49181	2	1.06 Analytical Date Analy Sample Pro RL Result	mg/Kg Method: yzed:	1 Mod. 8015 2009-03-12 2009-03-12 Units	1.00 B	106 Prep J Analy Prepa Dilution	52 - 117 Method: N/A zed By: LD red By: LD R
Trifluorotolue	9585 - SP-3 Midland TPH DRO 57583 49181	2 FB)	1.06 Analytical Date Analy Sample Pro RL	mg/Kg Method: yzed:	1 Mod. 8015 2009-03-12 2009-03-12	1.00 B	106 Prep J Analy Prepa Dilution	52 - 117 Method: N/J zed By: LD red By: LD
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch: Prep Batch: Parameter DRO	9585 - SP-3 Midland TPH DRO 57583 49181	2 FB) <sup>°</sup> lag	1.06 Analytical Date Analy Sample Pro RL Result 1710	mg/Kg Method: yzed: eparation:	1 Mod. 8015 2009-03-12 2009-03-12 Units mg/Kg	1.00 B Spike	106 Prep J Analy Prepa Dilution 1 Percent	52 - 117 Method: N/A zed By: LD red By: LD Recovery
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch: Prep Batch: Parameter DRO Surrogate	9585 - SP-3 Midland TPH DRO 57583 49181 Flag	2 FB) Tlag Result	1.06 Analytical Date Analy Sample Pro RL Result 1710 Units	mg/Kg Method: yzed: eparation: Dilut	1 Mod. 8015 2009-03-12 2009-03-12 Units mg/Kg	1.00 B Spike amount	106 Prep J Analy Prepa Dilution 1 Percent Recovery	52 - 117 Method: N/A zed By: LD red By: LD R: 50. Recovery Limits
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch: Prep Batch: Parameter DRO	9585 - SP-3 Midland TPH DRO 57583 49181 Flag	2 FB) <sup>°</sup> lag	1.06 Analytical Date Analy Sample Pro RL Result 1710	mg/Kg Method: yzed: eparation:	1 Mod. 8015 2009-03-12 2009-03-12 Units mg/Kg	1.00 B Spike	106 Prep J Analy Prepa Dilution 1 Percent Recovery	52 - 117 Method: N/A zed By: LD red By: LD Recovery
Trifluorotolue 4-Bromofluor Sample: 189 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter DRO Surrogate n-Triacontane	9585 - SP-3 Midland TPH DRO 57583 49181 Flag	2 FB) Tlag Result	1.06 Analytical Date Analy Sample Pro RL Result 1710 Units	mg/Kg Method: yzed: eparation: Dilut 1 Method: yzed:	1 Mod. 8015 2009-03-12 2009-03-12 Units mg/Kg	1.00 B Spike amount	106 Prep J Analy Prepa Dilution 1 Percent Recovery	52 - 117 Method: N/A zed By: LD red By: LD R: 50. Recovery Limits 13.2 - 219. ethod: S 503 d By: ME

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

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#### sample 189585 continued ...

			$\mathbf{RL}$					
Parameter	Flag		Result		Units		Dilution	RL
			$\mathbf{RL}$					
Parameter	Flag		Result		Units		Dilution	$\mathbf{RL}$
GRO			132		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	$\mathbf{Units}$	Dilution	Amount	Recovery	Limits
Trifluorotoluene (T	FT)		0.856	mg/Kg	1	1.00	86	68.5 - 119.4
4-Bromofluorobenze	ene (4-BFB)	3	1.98	Mg/Kg	1	1.00	198	52 - 117

#### Sample: 189586 - SP-4

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 57583 49181		Analytical M Date Analyz Sample Prep	ed: 2	Mod. 8015B 2009-03-12 2009-03-12	Ar	ep Method: nalyzed By: repared By:	,		
Parameter	ter Flag		Flag		${f RL}$ Result		Units	Dilution		$\mathbf{RL}$
DRO			1310		mg/Kg	1		50.0		
Surrogate	Flag	Result	Units	Dilutio	Spik n Amou		Recov Limi	·		
Surrogate n-Triacontane	e	198	mg/Kg	1	100	198	13.2 - 2	219.3		

#### Sample: 189586 - SP-4

Laboratory: Analysis: QC Batch:	Midland TPH GRO 57488		Date Ana	v	S 8015B 2009-03-10		Prep Me Analyze Propaga		
Prep Batch:	49115		Sample P	reparation:	2009-03-10		Prepare	d By: ME	
			$\mathbf{RL}$						
Parameter F			$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$	
GRO			81.3		mg/Kg		1	1.00	
						Spike	Percent	Recovery	
Surrogate		$\mathbf{Flag}$	$\mathbf{Result}$	$\mathbf{Units}$	Dilution	$\operatorname{Amount}$	Recovery	Limits	
Trifluorotolue	ene (TFT)		1.06	mg/Kg	1	1.00	106	68.5 - 119.4	
								continued	

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

PLAINS076SPL				er: 9030936 Poly 4 inch	·····-	mount     Recovery     Limit       1.00     131     52 - 1       Analyzed By:       Prepared By:       Units       Mg/Kg       Spike     Percent     Recovery       Limit       1.00     88     75.8 - 9		
sample continued			<b>T</b> T <b>1</b>		Spike		Recovery	
Surrogate	Flag 4	$\frac{\text{Result}}{1.31}$	Units mg/Kg	Dilution				
4-Bromofluorobenzene (4-BFB)		1.31	mg/Kg	1	1.00	191	52 - 117	
Method Blank (1) QC E	Batch: 57488							
QC Batch: 57488 Prep Batch: 49115		Date Ana QC Prep	-	2009-03-10 2009-03-10				
			MD					
Parameter	Flag	<u></u>	Resu				RL	
GRO			<0.48	82	m	g/Kg	1	
Surrogata	Flag	$\mathbf{Result}$	Units	Dilution	Spike A mount		Recovery	
Surrogate Trifluorotoluene (TFT)	<u>r</u> lag	0.877	mg/Kg	1		····		
4-Bromofluorobenzene (4-BFB)		0.896	mg/Kg	1			56.5 - 109.5	
Method Blank (1) QC H	Batch: 57583							
Method Blank (1) QC E QC Batch: 57583 Prep Batch: 49181	Batch: 57583	Date Ana QC Prep	•	2009-03-12 2009-03-12			yzed By: LD ared By: LD	
QC Batch: 57583	3atch: 57583	Date Ana	•	2009-03-12				
QC Batch: 57583 Prep Batch: 49181	Batch: 57583 Flag	Date Ana	aration:	2009-03-12 L	U			
QC Batch: 57583 Prep Batch: 49181 Parameter		Date Ana	earation: MD	2009-03-12 L lt		Prep	ared By: LD	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO	Flag	Date Ana QC Prep	MD Resu <13	2009-03-12 L lt .4	mg Spike	Prep nits g/Kg Percent	ared By: LD RL 50 Recovery	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO Surrogate Flag	Flag	Date Ana QC Prep	MD Resu <13.	2009-03-12 L lt .4	mg Spike Amount	Prep nits g/Kg Percent Recovery	ared By: LD RL 50 Recovery Limits	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO	Flag	Date Ana QC Prep	MD Resu <13.	2009-03-12 L lt .4	mg Spike	Prep nits g/Kg Percent	ared By: LD RL 50 Recovery	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO Surrogate Flag n-Triacontane Laboratory Control Spike (	Flag Result 77.9	Date And QC Prep Units mg/Kg	MD Resu <13.	2009-03-12 L lt .4 ilution 1	mg Spike Amount	Prep nits g/Kg Percent Recovery 78	ared By: LD RL 50 Recovery Limits 13 - 178.5	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO Surrogate Flag n-Triacontane	Flag Result 77.9	Date Ana QC Prep	MD Resu <13. D	2009-03-12 L lt .4	mg Spike Amount	Prep nits g/Kg Percent Recovery 78 Analy	ared By: LD RL 50 Recovery Limits	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO Surrogate Flag n-Triacontane Laboratory Control Spike ( QC Batch: 57488 Prep Batch: 49115	Flag Result 77.9 LCS-1)	Date Ana QC Prep Units mg/Kg Date Ana QC Prep	Aration: MD Resu <13. D	2009-03-12 L lt .4 ilution 1 2009-03-10 2009-03-10 Sp	mg Spike Amount 100	Prep nits g/Kg Percent Recovery 78 Analy Prepa trix	Ared By: LD RL 50 Recovery Limits 13 - 178.5 vzed By: ME Ared By: ME Ared By: ME Rec.	
QC Batch: 57583 Prep Batch: 49181 Parameter DRO Surrogate Flag n-Triacontane Laboratory Control Spike ( QC Batch: 57488	Flag Result 77.9 LCS-1)	Date Ana QC Prep Units mg/Kg Date Ana QC Prep CS sult U	Aration: MD Resu <13. D	2009-03-12 L lt .4 ilution 1 2009-03-10 2009-03-10 Sp Dil. Am	mg Spike Amount 100 Dike Ma ount Res	Prep nits g/Kg Percent Recovery 78 Analy Prepa	Ared By: LD RL 50 Recovery Limits 13 - 178.5 vzed By: ME ared By: ME	

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

PLAINS076SPL	2009				Order: 9030 leen Poly 4					Number: Jea Cour	
۰		LCSD			Spike	Matrix		]	Rec.		RPD
Param		$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	I	Jimit	RPD	$\operatorname{Limit}$
GRO		7.29	mg/Kg	1	10.0	< 0.482	73	60.5	- 100.1	1	20
Percent recovery is based	l on the <b>s</b> p	oike result.	RPD is 1	based (	on the spike	and spike	duplicat	e resu	lt.		
		LCS	LC:	SD		Sp	oike	LCS	LCSD	I	Rec.
Surrogate		Resu				Dil. Am	ount	Rec.	Rec.		imit
Trifluorotoluene (TFT)		0.91			mg/Kg	1 1	00	91	92		- 104.7
4-Bromofluorobenzene (4	-BFB)	0.92	1 0.9	20	mg/Kg	1 1	00	92	92	66.1	- 107.3
Laboratory Control S QC Batch: 57583 Prep Batch: 49181	pike (LC	2 <b>S-1)</b>	Date Ar QC Pre	•						yzed By ared By	
		$\mathbf{LC}$				Spike	Ma	atrix			Rec.
Param		Resu		Units <sub>.</sub> ,	Dil.	Amount		sult	Rec.		imit
DRO		236	<u>6 m</u>	1g/Kg	1	250	<	13.4	94	57.4	- 133.4
Percent recovery is based	l on the sp	oike result.	RPD is	based of	on the spike	and spike	duplicat	e resul	lt.		
		LCSD			Spike	Matrix		1	Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.		.imit	RPD	Limit
					Amount		ILCC.		111110	ILL D	1111110
DRO		232	mg/Kg	1	250	<13.4	<u>93</u>		- 133.4	$\frac{10}{2}$	20
	l on the s		mg/Kg RPD is l	1	250	<13.4	93	57.4	- 133.4		
DRO	_	oike result.		1	250	<13.4 and spike	93 duplicat	57.4 e resul	- 133.4 lt.	2	20
DRO Percent recovery is based	l on the sp LCS Result	oike result. LCSD	RPD is 1	1	250 on the spike	<13.4	93 duplicat LC	57.4 te resul	- 133.4 lt. LCSD	2 1	
DRO	LCS	oike result.	RPD is	1 based o	250	<13.4 and spike Spike	93 duplicat	57.4 ce resul S c.	- 133.4 lt.	2 I L	20 Rec. imit
DRO Percent recovery is based Surrogate	LCS Result 62.5	oike result. LCSD Result	RPD is U	1 based o nits /Kg nalyzed	250 on the spike Dil. 1 : 2009-03	<13.4 and spike Spike Amount 100 -10	93 duplicat LC Re	57.4 ce resul S c.	- 133.4 lt. LCSD Rec. 64 Anal;	2 I L	20 Rec. imit - 146.7 : ME
DRO Percent recovery is based Surrogate n-Triacontane <b>Matrix Spike (MS-1)</b> QC Batch: 57488 Prep Batch: 49115	LCS Result 62.5	pike result. LCSD Result 64.2 Sample: 13	RPD is 1 Un mg 89586 Date An QC Prep	1 based o nits /Kg nalyzed paratic	250 on the spike Dil. 1 : 2009-03 n: 2009-03	<13.4 and spike Amount 100 -10 Spike	93 duplicat LC Re 62	57.4 ce resul cs c. 2	- 133.4 lt. LCSD Rec. 64 Analy Prepa	2 H L 48.5 yzed By ared By:	20 Rec. imit - 146.7 : ME ME Rec.
DRO Percent recovery is based Surrogate n-Triacontane <b>Matrix Spike (MS-1)</b> QC Batch: 57488 Prep Batch: 49115 Param	LCS Result 62.5 Spiked	pike result. LCSD Result 64.2 Sample: 13 Sample: 13 MS Resu	RPD is 1 Un mg 89586 Date An QC Prej	1 based o nits //Kg nalyzed paratic	250 on the spike Dil. 1 : 2009-03 n: 2009-03 Dil.	<13.4 and spike Spike Amount 100 -10 -10 Spike Amount	93 duplicat LC Re 62 Ma Re	57.4 ce resul S c. 2	- 133.4 lt. LCSD Rec. 64 Analy Prepa	2 H L 48.5 yzed By ared By:	20 Rec. imit - 146.7 : ME ME Rec. imit
DRO Percent recovery is based Surrogate n-Triacontane <b>Matrix Spike (MS-1)</b> QC Batch: 57488 Prep Batch: 49115 Param GRO	LCS Result 62.5 Spiked	Dike result. LCSD Result 64.2 Sample: 14 Sample: 14 MS Result 116	RPD is 1 Ui mg 89586 Date An QC Prej It U	1 based o nits /Kg nalyzed paratic Jnits g/Kg	250 on the spike Dil. 1 : 2009-03 n: 2009-03 Dil. 1	<13.4 and spike Amount 100 -10 -10 Spike Amount 10.0	93 duplicat LC Re 62 62 81.	57.4 ce results c. 2 sult 3147	- 133.4 lt. LCSD Rec. 64 Analy Preps Rec. 347	2 H L 48.5 yzed By ared By:	20 Rec. imit - 146.7 : ME ME Rec. imit
DRO Percent recovery is based Surrogate n-Triacontane <b>Matrix Spike (MS-1)</b> QC Batch: 57488 Prep Batch: 49115	LCS Result 62.5 Spiked	Dike result. LCSD Result 64.2 Sample: 14 Sample: 14 MS Result Dike result.	RPD is 1 Ui mg 89586 Date An QC Prej It U	1 based o nits /Kg nalyzed paratic Jnits g/Kg	250 on the spike Dil. 1 : 2009-03 n: 2009-03 Dil. 1 on the spike	<13.4 and spike Amount 100 -10 -10 Spike Amount 10.0 and spike	93 duplicat LC Re 62 62 81.	57.4 ce result S c. 2 2 3147 ce result	- 133.4 lt. LCSD Rec. 64 Analy Prep: Rec. 347 lt.	2 H L 48.5 yzed By ared By:	20 Rec. imit - 146.7 : ME : ME : ME Rec. imit - 175.2
DRO Percent recovery is based Surrogate n-Triacontane <b>Matrix Spike (MS-1)</b> QC Batch: 57488 Prep Batch: 49115 Param GRO	LCS Result 62.5 Spiked	Dike result. LCSD Result 64.2 Sample: 14 Sample: 14 MS Result 116	RPD is 1 Ui mg 89586 Date An QC Prej It U	1 based o nits /Kg nalyzed paratic Jnits g/Kg	250 on the spike Dil. 1 : 2009-03 n: 2009-03 Dil. 1	<13.4 and spike Amount 100 -10 -10 Spike Amount 10.0	93 duplicat LC Re 62 62 81.	57.4 ce resul cs c. 2 2 4 trix sult 3147 ce resul	- 133.4 lt. LCSD Rec. 64 Analy Preps Rec. 347	2 H L 48.5 yzed By ared By:	20 Rec. imit - 146.7 : ME ME Rec. imit

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

Report Date: March 13, 2009 PLAINS076SPL		Work EK Qu		Page Number: 9 of 10 Lea County, NM				
Percent recovery is based on the sp	oike result. R	PD is based o	on the spik	e and spike d	luplicate r	esult.		
	MS	MSD		St	oike I	MS MSD	I	Rec.
Surrogate	Result	$\mathbf{Result}$	Units	-		tec. Rec.	L	imit
Trifluorotoluene (TFT)	1.32	1.32	mg/Kg	1	1 1	.32 132	60.8	- 132.1
4-Bromofluorobenzene (4-BFB)	<sup>7</sup> 1.61	1.66	mg/Kg	1	1 1	.61 166	31.3	- 161.7
Prep Batch: 49181		QC Preparatio	on: 2009-0		<b>.</b>	-	pared By	
_	MS		5.1	Spike	Matri			Rec.
Param	Result		Dil.	Amount	Resul			imit
	1070	mg/Kg	1	250	1570		35.2	- 167.1
Percent recovery is based on the sp	oike result. R	PD is based of	on the spik	e and spike o	luplicate r	esult.		
	MSD		Spike	Matrix		Rec.		RPD
Param	Result	Units Dil.	Amount	t Result	Rec.	Limit	RPD	Limit
DRO 9	1520 n	ng/Kg 1	250	1570	0 3	35.2 - 167.1	3	20
Percent recovery is based on the sp	oike result. R	PD is based of	on the spik	e and spike d	luplicate r	esult.		
MS	MSD	)		Spike	MS	MSD	]	Rec.
	lt Resul	t Units	Dil.	Amount			L	imit
Surrogate Resu		mg/Kg	: 1	100	189	182		- 178.4

QC Batch:	57488		Date Ana	alyzed: 2009-0	3-10	Anal	yzed By: ME
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.06	106	85 - 115	2009-03-10

#### Standard (CCV-1)

QC Batch: 57488

Date Analyzed: 2009-03-10

ς.

Analyzed By: ME

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

<sup>&</sup>lt;sup>7</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control. <sup>9</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>11</sup>High surrogate recovery due to peak interference.

Report Da PLAINS07	te: March 13, 76SPL	2009		Vork Order: 903 K Queen Poly 4			umber: 10 of 10 Jea County, NM
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.916	92	85 - 115	2009-03-10
Standard	•						
QC Batch:	57583		Date Ana	alyzed: 2009-0	3-12	Ana	yzed By: LD
_		<b>.</b> .	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param DRO	Flag	Units mg/Kg	<u>Conc.</u> 250	<u>Conc.</u> 217	Recovery 87	Limits 85 - 115	Analyzed 2009-03-12
Standard QC Batch:	<b>、</b>		Date Ana	alyzed: 2009-0	3-12	Ana	yzed By: LD
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param DRO	Flag	Units mg/Kg	<u>Conc.</u> 250	Conc. 213	Recovery 85	Limits 85 - 115	Analyzed 2009-03-12
			200		00	03 - 113	2009-03-12
Standard	(CCV-3)						
QC Batch:	57583		Date Ana	alyzed: 2009-0	3-12	Ana	yzed By: LD
<b>Q</b> = attain				aau	CCVs	Percent	
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed

			LAB Order	ID#_90	3093(	0	Page of
TraceAnalysis email: lab@traceanalysis	-	1.0	berdeen Avenue, S bbock, Texas 7942 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296	24 Midler	sin Street, Suite A1 nd, Texas 79703 (432) 689-6301 (432) 689-6313	200 East Sunset Rd., Suite El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443	E 8808 Camp Bowie Blvd. West, Suite 180 Ft. Worth, Texas 76116 Tel (817) 201-5260 Fax (817) 560-4336
Company Name:		Phone #:	238-63	200			
Address: (Street, City, Zip)		<u>432</u> Fax #:	238-02	00		(Circle or Specif	y Method No.)
318 E TRAID- HOBBS W	20	E-mail:				2.000	P P
ES TAYLOR Involce to:	·	<u> </u>			335	56010B/ Se Hg	tande
(If different from above) $PLA$ ; $NS$ ATT	N: JAS	ON MER	VERY		624 Ext(	Se Hg 6010B/200.7 Cr Pb Se Hg 625	μ υ υ
Project #: <u>PLANSOTISPL</u> Project Location (including state):	N: JAS EK (Ja	Project Name:	4" POI	14	CHO 71005 B	0 Se /	eut 1
Project Location (including state): LEACOUNTY NM	1 Da	Sampler Signa	ature:	· ·	11X 826(82)	cd Cr Pb Ba Cd C 1624 8270C / 6	f diffen
		/   PRE	SERVATIVE RETHOD	SAMPLING	IB / 602 / 8260B / / 602 / 8260B / X1005 / TX1005 X01 DRØ / TVH0 625	As Ba C Ag As B Ag As E (olatiles tes 1260B / Vol. 82	81A/6 81A/6 Time if c
LAB # FIELD CODE IN ICONEY	Volume / Amount WATER WATER SOIL AIR	SLUDGE HNO3 H SO	NaOH ICE NONE	DATE TIME	MTBE 8021B / 602 / 8260B / 624 BTEX 8021B / 602 / 8260B / 624 TPH 418.1 / TX1005 / TX1005 Ext(C35) TPH 8015 GROU DRO / TVHC PAH 8270C / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg TCLP Metals Ag As Ba Cd Cr Pb TCLP Volatiles TCLP Volatiles TCLP Pesticides RCI GC/MS Vol. 8260B / 624 GC/MS Semi. Vol. 8270C / 625	PCB's 8082 / 608 Pesticides 8081A / 608 BOD, TSS, pH Moisture Content Moisture Content Turn Around Time if different from standard
19583 SP-1	X			311, 4:30	X		
SX 58-2	x		X	3/4 4:40	X	┼╌┼╌╀╍┼	
5% CA-2	X		k	3/2 4:48	Y X		
580 50-0	Y		Y Y	3/6 5:01.			
				-/ 4 .04		╋╴╎╴ <b>╎╶┥</b> ╼ <b>┦╼╀╶</b> ┦╴┤	
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Relinquished by: Company: Date: Tir	me: Received				mp°c:	Dry We	ight Basis Required
Relinquished by: Company: Date: Tir	me: Received	by: Compa	ny: Date:	Time: Ter	mp°c:	Check	Report Required If Special Reporting Are Needed
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El Paso, Texas 79922 888 588 3443 Midiand Texas 79703 Ft Worth, Texas 76132 E-Mail lab@traceanalysis.com 806 • 794 • 1296 FAX 80 915 • 585 • 3443 FAX 91 432 • 689 • 6301 FAX 43 817 • 201 • 5260

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

**WBENC:** 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

Certifications

800 • 378 • 1296

**DBE:** VN 20657

### **NELAP** Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 El Paso: T104704221-08-TX LELAP-02002 Midland: T104704392-08-TX

# Analytical and Quality Control Report

Eb Taylor Talon LPE-Hobbs 318 E. Taylor Hobbs, NM, 88240

Report Date: April 15, 2009

Work Order: 9041411

Project Location: Lea County, NM Project Name: EK Queen 4 in. Poly Project Number: PLAINS071SPL

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

			Date	$\mathbf{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
192974	SP-3	soil	2009-04-09	16:30	2009-04-14
192975	SP-4	soil	2009-04-09	16:45	2009-04-14

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

Michael april

Dr. Blair Leftwich, Director

#### Standard Flags

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

## **Case Narrative**

Samples for project EK Queen 4 in. Poly were received by TraceAnalysis, Inc. on 2009-04-14 and assigned to work order 9041411. Samples for work order 9041411 were received intact at a temperature of 4.3 deg. C.

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

		Prep	$\mathbf{Prep}$	$\mathbf{QC}$	Analysis
Test	Method	$\operatorname{Batch}$	Date	$\operatorname{Batch}$	Date
TPH DRO	Mod. 8015B	49967	2009-04-14 at 09:30	58556	2009-04-14 at 12:25
TPH GRO	S 8015B	49984	2009-04-14 at $14:45$	58543	2009-04-14 at 14:45

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 9041411 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: 192974 - SP-3

Surrogate n-Triacontane		<u>121</u>	mg/Kg	1	100	121	13.2 - 219.3
Sumorato	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO			73.9	]	mg/Kg	1	50.0
Parameter	Fla	g	${ m RL} { m Result}$		Units	Dilution	RL
Prep Batch:	49967	,	Sample Prep	paration: 20	09-04-14	Prepa	ared By: LD
QC Batch:	58556		Date Analyz	ed: 20	09-04-14	Anal	yzed By: LD
Laboratory: Analysis:	Midland TPH DRO		Analytical M	fethod: M	od. 8015B	Prep	Method: N/A

#### Sample: 192974 - SP-3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 58543 49984		Analytica Date Ana Sample Pi		S 8015B 2009-04-14 2009-04-14		Prep Me Analyzed Prepared	d By: ME
			$\mathbf{RL}$					
Parameter	$\mathbf{Flag}$		$\mathbf{Result}$		Units		Dilution	$\mathbf{RL}$
GRO			4.08		mg/Kg		1	1.00
Current and a		Flor	D14	Unite	Dilution	Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		1.98	m mg/Kg	1	2.00	99	68.5 - 119.4
4-Bromofluor	obenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	52 - 117

#### Sample: 192975 - SP-4

Laboratory: Analysis: QC Batch: Prep Batch:	TPH DRO 58556		Analytical Method: Date Analyzed: Sample Preparation:	Mod. 8015B 2009-04-14 2009-04-14	Prep Method: Analyzed By: Prepared By:	ĹĎ
			$\mathbf{RL}$			
Parameter	F1	lag	Result	Units	Dilution	$\mathbf{RL}$
DRO			<50.0	mg/Kg	1	50.0

Report Date: April 1 PLAINS071SPL	5, 2009			Work Order EK Queen 4			U U	Number: 5 of 8 ea County, NM
Surrogate	Flag	Result	Units	Dilu	ition	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	1	100	110	13.2 - 219.3
Sample: 192975 - S Laboratory: Midland Analysis: TPH G QC Batch: 58543	d		Analytica Date Ana	l Method:	S 8015B 2009-04-1	4	Prep Me Analyze	
Prep Batch: 49984				reparation:			Prepareo	v
Parameter	Flag		${ m RL} { m Result}$		Units	T	Dilution	RL
GRO			9.88		mg/Kg		1	1.00
_		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate		0						
Trifluorotoluene (TFT	,		1.92	mg/Kg	1	2.00	96	68.5 - 119.4
	,		1.92 1.89	mg/Kg mg/Kg	1	2.00 2.00	96 94	68.5 - 119.4 52 - 117
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter	e (4-BFB)	atch: 58543 Flag		mg/Kg alyzed: 2	1 009-04-14 009-04-14	2.00 U1	94 Analy Prepa nits	
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543	e (4-BFB)	atch: 58543	1.89 Date Ana	mg/Kg alyzed: 2 aration: 2 MDI	1 009-04-14 009-04-14 t	2.00 U1	94 Analy Prepa	52 - 117 rzed By: ME ared By: ME
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter GRO Surrogate	e (4-BFB) QC B	atch: 58543	1.89 Date Ana QC Prep Result	mg/Kg alyzed: 2 aration: 2 MDI Result <0.482 Units	1 009-04-14 009-04-14 <u>t</u> 2 Dilution	2.00 Un mg Spike Amount	94 Analy Prepa nits ;/Kg Percent Recovery	52 - 117 rzed By: ME wred By: ME RL 1 Recovery Limits
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter GRO Surrogate Trifluorotoluene (TFT	е́ (4-ВFВ) QC В	atch: 58543 Flag	1.89 Date Ana QC Prep Result 1.95	mg/Kg alyzed: 2 aration: 2 MDL Result <0.482 Units mg/Kg	1 009-04-14 009-04-14 <u>t</u> 2 Dilution 1	2.00 Un mg Spike Amount 2.00	94 Analy Prepa its ;/Kg Percent Recovery 98	52 - 117 rzed By: ME ared By: ME <u>RL</u> 1 Recovery Limits 71.9 - 115
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter GRO Surrogate	е́ (4-ВFВ) QC В С) е (4-ВFВ)	atch: 58543 Flag	1.89 Date Ana QC Prep Result	mg/Kg alyzed: 2 aration: 2 MDL Result <0.482 Units mg/Kg mg/Kg mg/Kg	1 009-04-14 009-04-14 <u>t</u> 2 Dilution	2.00 Un mg Spike Amount	94 Analy Prepa its ;/Kg Percent Recovery 98 84 84	52 - 117 rzed By: ME wred By: ME RL 1 Recovery Limits
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter GRO Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58556	е́ (4-ВFВ) QC В С) е (4-ВFВ)	atch: 58543 Flag Flag	1.89 Date Ana QC Prep Result 1.95 1.69 Date Ana	mg/Kg alyzed: 2 aration: 2 MDL Result <0.482 Units mg/Kg mg/Kg mg/Kg	1 0009-04-14 0009-04-14 <u>t</u> 2 Dilution 1 1 2 2009-04-14 2009-04-14	2.00 Un mg Spike Amount 2.00	94 Analy Prepa its ;/Kg Percent Recovery 98 84 84	52 - 117 rzed By: ME wred By: ME <u>RL</u> <u>1</u> <u>Recovery Limits</u> 71.9 - 115 45.7 - 118.9
Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58543 Prep Batch: 49984 Parameter GRO Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzene Method Blank (1) QC Batch: 58556	е́ (4-ВFВ) QC В С) е (4-ВFВ)	atch: 58543 Flag Flag	1.89 Date Ana QC Prep Result 1.95 1.69 Date Ana	mg/Kg alyzed: 2 aration: 2 MDL Result <0.482 Units mg/Kg mg/Kg mg/Kg alyzed: 2 baration: 2	1 009-04-14 009-04-14 <u>t</u> 2 Dilution 1 1 2 2 009-04-14 2009-04-14	2.00 Un mg Spike Amount 2.00 2.00	94 Analy Prepa its ;/Kg Percent Recovery 98 84 84	52 - 117 rzed By: ME wred By: ME <u>RL</u> <u>1</u> <u>Recovery Limits</u> 71.9 - 115 45.7 - 118.9

Report Date: April PLAINS071SPL					rder: 904 een 4 in. 1				I	Number Lea Cour	ity, NM
C		Devult	Unit	_	Dilution		pike iount		Percent lecovery		covery imits
Surrogate n-Triacontane	Flag	Result 101	mg/K	-	1			Λ	$\frac{100}{101}$		-178.5
	<u></u>	101	<u>, 11</u>	5	<b>+</b>	<b>ر</b>		1411	101	10	110.0
Laboratory Cont	rol Spike (I	LCS-1)									
QC Batch: 58543 Prep Batch: 49984				nalyzed: paration	2009-04 : 2009-04					yzed By: ared By:	
Param		LC Res		Units	Dil.	Spike Amount		trix sult	Rec.		tec. imit
GRO		17	.5 n	ng/Kg	1	20.0	<0	.482	88	60.5	- 100.1
Percent recovery is	based on the	e spike result	. RPD is	based on	the spike	e and spike	duplicat	e resu	ılt.		
		-			-						חחח
Dorom		$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.		Rec. Limit	RPD	RPD Limit
Param				<u>1</u>	20.0	<0.482			5 - 100.1	9	$\frac{111110}{20}$
		19.2	mg/Kg	1	20.0	<0.40 <i>2</i>	30		0 - 100'T	0	20
GRO	based on the		mg/Kg RPD is							0	20
GRO Percent recovery is	based on the	e spike result	. RPD is	based on		e and spike	duplicat	e resu	ılt.		
GRO Percent recovery is	based on the	e spike result LC	. RPD is S LC	based on SD	the spike	e and spike S	duplicat pike	e resu LCS	ılt. LCSD	I	Rec.
GRO Percent recovery is Surrogate		e spike result LC Resu	. RPD is S LC ilt Res	based on SD sult	n the spike Units	e and spike S Dil. Ar	duplicat pike nount	e resu LCS Rec.	ılt. LCSD Rec.	I L	Rec. imit
GRO Percent recovery is Surrogate Trifluorotoluene (T	FT)	e spike result LC Resu 2.0	. RPD is S LC ilt Res 1 2.	based on SD sult 1 04 m	n the spike Units ng/Kg	e and spike S Dil. Ar 1 :	duplicat pike nount 2.00	LCS Rec.	llt. LCSD Rec. 102	1 L 78.8	Rec. imit - 104.7
GRO	FT)	e spike result LC Resu	. RPD is S LC ilt Res 1 2.	based on SD sult 1 04 m	n the spike Units	e and spike S Dil. Ar 1 :	duplicat pike nount	e resu LCS Rec.	ılt. LCSD Rec.	1 L 78.8	Rec. imit
GRO Percent recovery is Surrogate Trifluorotoluene (T 4-Bromofluorobenze	FT) ene (4-BFB)	e spike result LC Resu 2.0 1.7	. RPD is S LC ilt Res 1 2.	based on SD sult 1 04 m	n the spike Units ng/Kg	e and spike S Dil. Ar 1 :	duplicat pike nount 2.00	LCS Rec.	llt. LCSD Rec. 102	1 L 78.8	Rec. imit - 104.7
GRO Percent recovery is Surrogate Trifluorotoluene (T 4-Bromofluorobenze Laboratory Cont	FT) ene (4-BFB) rol Spike (2	e spike result LC Resu 2.0 1.7	. RPD is S LC alt Rei 1 2. 7 1.	based on SD Sult 1 04 m 81 m	n the spike Units ng/Kg ng/Kg	e and spike S Dil. Ar 1 2 1 2	duplicat pike nount 2.00	LCS Rec.	ult. LCSD Rec. 102 90	1 L 78.8 66.1	Rec. imit - 104.7 - 107.3
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont	FT) ene (4-BFB) rol Spike (2	e spike result LC Resu 2.0 1.7	RPD is SLC ilt Rei 1 2. 7 1. Date A	based on SD sult 1 04 m	n the spike Units ng/Kg ng/Kg 2009-0	e and spike S Dil. Ar 1 2 1 2 4-14	duplicat pike nount 2.00	LCS Rec.	Ilt. LCSD Rec. 102 90	1 L 78.8	Rec. imit - 104.7 - 107.3 : LD
GRO Percent recovery is Surrogate Trifluorotoluene (T 4-Bromofluorobenze Laboratory Cont QC Batch: 58556	FT) ene (4-BFB) rol Spike (2	e spike result LC Resu 2.0 1.7	. RPD is S LC ilt Rei 1 2. 7 1. Date A QC Pre	based on SD Sult 1 04 m 81 m nalyzed:	n the spike Units ng/Kg ng/Kg 2009-0	e and spike S Dil. Ar 1 2 1 2 4-14	e duplicat pike nount 2.00 2.00	LCS Rec.	Ilt. LCSD Rec. 102 90	H 278.8 66.1 lyzed By pared By	Rec. imit - 104.7 - 107.3 : LD
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967	FT) ene (4-BFB) rol Spike (2	e spike result LC Resu 2.0 1.7 LCS-1)	. RPD is S LC ilt Rev 1 2. 7 1. Date A QC Pre	based on SD Sult 1 04 m 81 n nalyzed: eparation Units	n the spike Units ng/Kg ng/Kg 2009-0	e and spike S Dil. Ar 1 2 1 2 4-14 4-14 Spike Amount	duplicat pike nount 2.00 2.00 2.00 Ma	LCS Rec. 100 88	Ilt. LCSD Rec. 102 90 Ana Prep Rec.	H 278.8 66.1 lyzed By pared By L	lec. imit - 104.7 - 107.3 : LD : LD Rec. imit
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenzz Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param	FT) ene (4-BFB) rol Spike (2	e spike result LC Resu 2.0 1.7 LCS-1)	. RPD is S LC ilt Rev 1 2. 7 1. Date A QC Pre	based on SD Sult 1 04 m 81 m nalyzed: eparation	n the spike Units ng/Kg ng/Kg 2009-0 n: 2009-0	e and spike S Dil. Ar 1 2 1 2 4-14 4-14 Spike	duplicat pike nount 2.00 2.00 2.00 Ma	LCS Rec. 100 88	ult. LCSD Rec. 102 90 Ana Prej	H 278.8 66.1 lyzed By pared By L	lec. imit - 104.7 - 107.3 : LD : LD Rec. imit
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param DRO	FT) ene (4-BFB) rol Spike (1 5 7	e spike result LC Ress 2.0 1.7 LCS-1) LCS-1)	. RPD is S LC alt Rev 1 2. 7 1. Date A QC Pre CS ult 3 r	based on SD Sult 1 04 m 81 m nalyzed: eparation Units ng/Kg	n the spike Units ng/Kg ng/Kg 2009-0 n: 2009-0 Dil. 1	e and spike S Dil. Ar 1 2 4-14 4-14 Spike Amount 250	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 6	LCS Rec. 100 88 atrix esult .18	Ilt. LCSD Rec. 102 90 Ana Prep Rec. 83	H 278.8 66.1 lyzed By pared By L	Rec. imit - 104.7 - 107.3 : LD : LD Rec.
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param DRO	FT) ene (4-BFB) rol Spike (1 5 7	e spike result LC Ress 2.0 1.7 LCS-1) LCS-1) LCS-21 E spike result	. RPD is S LC alt Rev 1 2. 7 1. Date A QC Pre CS ult 3 r	based on SD Sult 1 04 m 81 m nalyzed: eparation Units ng/Kg	units ng/Kg ng/Kg 2009-0 1: 2009-0 Dil. 1 n the spike	e and spike S Dil. Ar 1 2 4-14 4-14 Spike Amount 250 e and spike	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	LCS Rec. 100 88 atrix esult .18 ce resu	Ilt. LCSD Rec. 102 90 Ana Prep Rec. 83 Ilt.	H 278.8 66.1 lyzed By pared By L	Rec. imit - 104.7 - 107.3 : LD : LD Rec. imit - 133.4
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param DRO Percent recovery is	FT) ene (4-BFB) rol Spike (1 5 7	e spike result LC Resu 2.0 1.7 LCS-1) LCS-1) LCSD	. RPD is S LC alt Rev 1 2. 7 1. Date A QC Pre CS ult 3 r	based on SD Sult 1 04 m 81 m nalyzed: eparation Units ng/Kg	the spike Units ng/Kg ng/Kg 2009-0 1: 2009-0 1: 2009-0 Dil. 1 1 1 the spike	e and spike S Dil. Ar 1 2 1 2 4-14 4-14 4-14 Spike Amount 250 e and spike Matrix	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	LCS Rec. 100 88 atrix sult .18 ce resu	Ilt. LCSD Rec. 102 90 Ana Prep Rec. 83	H 278.8 66.1 lyzed By pared By H L 57.4	Rec. imit - 104.7 - 107.3 : LD : LD Rec. imit - 133.4 RPD
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param DRO Percent recovery is Param	FT) ene (4-BFB) rol Spike (1 5 7	e spike result LC Ress 2.0 1.7 LCS-1) LCS-1) LCS-21 E spike result	. RPD is S LC alt Rev 1 2. 7 1. Date A QC Pre CS alt 3 r. . RPD is	based on SD Sult 1 04 m 81 m nalyzed: eparation Units ng/Kg based on Dil.	units ng/Kg ng/Kg 2009-0 1: 2009-0 Dil. 1 n the spike	e and spike S Dil. Ar 1 2 1 2 4-14 4-14 4-14 Spike Amount 250 e and spike Matrix	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	LCS Rec. 100 88 atrix sult .18 ce resu	Ilt. LCSD Rec. 102 90 Ana Prep Rec. 83 Ilt. Rec.	H 278.8 66.1 lyzed By pared By L	Rec. imit - 104.7 - 107.3 : LD : LD Rec. imit - 133.4
GRO Percent recovery is Surrogate Trifluorotoluene (T. 4-Bromofluorobenze Laboratory Cont QC Batch: 58556 Prep Batch: 49967 Param DRO Percent recovery is Param DRO	FT) ene (4-BFB) rol Spike (2 7 based on the	e spike result LC Resu 2.0 1.7 LCS-1) LCS-1) LCS-1) E spike result LCSD Result 203	. RPD is S LC ilt Rev 1 2. 7 1. Date A QC Pre CS ult 3 r . RPD is Units mg/Kg	based on SD sult 1 04 m 81 m nalyzed: eparation Units ng/Kg based on Dil. 1	units ng/Kg ng/Kg 2009-0 1: 2009-0 1: 2009-0 Dil. 1 1 1 the spike Amount 250	e and spike S Dil. Ar 1 2 4-14 4-14 4-14 Spike Amount 250 e and spike Matrix Result 6.18	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	LCS Rec. 100 88 atrix esult .18 ce resu	llt. LCSD Rec. 102 90 Ana Prep Rec. 83 llt. Rec. Limit 4 - 133.4	H 278.8 66.1 lyzed By pared By H L 57.4 RPD	Rec. imit - 104.7 - 107.3 : LD : LD Rec. imit - 133.4 RPD Limit
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GRO Percent recovery is Surrogate Trifluorotoluene (T 4-Bromofluorobenze Laboratory Cont QC Batch: 58556	FT) ene (4-BFB) rol Spike (2 7 based on the	e spike result LC Resu 2.0 1.7 LCS-1) LCS-1) LCS-1) e spike result LCSD Result 203 e spike result LCSI	. RPD is S LC ilt Rev 1 2. 7 1. Date A QC Pre CS ult 3 r . RPD is <u>Units</u> <u>mg/Kg</u> . RPD is D	based on SD sult 1 04 m 81 m nalyzed: eparation Units ng/Kg based on Dil. 1	units ng/Kg ng/Kg 2009-0 1: 2009-0 1: 2009-0 Dil. 1 1 1 the spike Amount 250	e and spike S Dil. Ar 1 2 4-14 4-14 4-14 Spike Amount 250 e and spike Matrix Result 6.18	duplicat pike nount 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	LCS Rec. 100 88 atrix esult .18 ce resu 57.4 ce resu	llt. LCSD Rec. 102 90 Ana Prep Rec. 83 llt. Rec. Limit 4 - 133.4	H 278.8 66.1 lyzed By bared By H L 57.4 RPD 5 H	Rec. imit - 104.7 - 107.3 : LD : LD Rec. imit - 133.4 RPD Limit

Report Date: April 15, 2009 PLAINS071SPL		,		Order: 9041 leen 4 in. F					Number Lea Cour	
Matrix Spike (MS-1) Spike	ed Sample: 1	92928								
QC Batch: 58543 Prep Batch: 49984		Date Ar QC Prej	•						yzed By ared By:	
_	MS		<b>.</b>	DU	Spike		trix	-		Rec.
Param	Resu		Units	Dil.	Amount		sult	Rec.		imit
GRO	34.		ıg/Kg	1	20.0		.482	174	12.8	- 175.2
Percent recovery is based on the	spike result.	RPD is	based o	n the spike	and spike	duplicat	e result	t.		
	MSD			Spike	Matrix		R	lec.		RPD
Param	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.		mit	RPD	$\mathbf{Limit}$
GRO	29.2	mg/Kg	1	20.0	< 0.482	146	12.8	- 175.2	17	20
Percent recovery is based on the	spike result.	RPD is	based o	n the spike	and spike	duplicat	e result	· ·		
	•			-	-	-			_	
	MS			<b>TT</b> • .		Spike	MS	MSD		Rec.
Surrogate (TDTT)	Resu			Units		nount	Rec.	Rec.		imit
Trifluorotoluene (TFT)	2.1			mg/Kg	1	$\frac{2}{2}$	$\frac{108}{78}$	108		- 132.1
4-Bromofluorobenzene (4-BFB)	1.55	5 1.	90	mg/Kg	1	2	10	79	31.3	- 161.7
Matrix Spike (MS-1) Spike QC Batch: 58556 Prep Batch: 49967	ed Sample: 1	92923 Date Ar QC Pre	•						lyzed By bared By	
	MS		T. • • •	D:1	Spike		trix	D		Rec.
Param DRO	Resu 353		Units	Dil.	$\frac{\text{Amount}}{250}$		sult 9.62	Rec. 81		imit - 167.1
	• •		lg/Kg						30.2	- 107.1
Percent recovery is based on the	spike result.	RPD is	based o	n the spike	and spike	duplicat	e result	t.		
	MSD			Spike	Matrix		F	lec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.		mit	RPD	Limit
DRO	360	mg/Kg		250	149.62	84		- 167.1	2	20
Percent recovery is based on the	spike result.			n the spike	and spike	duplicat	e result	t.		
MS	MSD				Spiles	М	C	MGD	т	200
Surrogate Result			nits	Dil.	Spike Amount			MSD Rec.		Rec. imit
n-Triacontane 126	135		g/Kg	1	100	12		135		- 178.4
Standard (CCV-2)			<u>0</u>							

QC Batch: 58543

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Date Analyzed: 2009-04-14

Analyzed By: ME

Report Da PLAINS07	te: April 15, 5 1SPL	2009		Work Order: 90 EK Queen 4 in.			Number: 8 of 8 Lea County, NM
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO	r lag	mg/Kg	1.00	1.20	120	80 - 120	2009-04-14
Standard	(CCV-3)						
QC Batch:	58543		Date Ana	alyzed: 2009-0	4-14	Anal	yzed By: ME
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.978	98	80 - 120	2009-04-14
Standard QC Batch:	` '		Date An	alyzed: 2009-0	4-14	Ana	lyzed By: LD
			$\mathbf{CCVs}$	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	225	90	80 - 120	2009-04-14
Standard	(CCV-2)						
QC Batch:	58556		Date Ana	alyzed: 2009-0	4-14	Ana	lyzed By: LD
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	235	94	80 - 120	2009-04-14

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TraceAna	•	-		IC.						701	Aber	deen	Avenue, Texas 794 794-1296 794-1298 378-1296	Suite 9 24	500 M	2 Bas lidiar	ıd, Te	treet, exas 689- 689	797	03		200	Easi El Pa Tel Fax	<b>iso</b> , 7919	nset Texa 5) 58 5) 58 ) 588	as 7	992 443	2	:	601 F	t. Wo	orth, T	kwy., S Fexas 201-5	76132	110 2
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	RS	ant		MATI	RIX			PRE	SER			:	SAM	PLING	8021B / 602 / 8260B / 624	BTEX 80218 / 602 / 82608 / 624	TPH 8015 GROODROX(VHC	625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metais Ag As Ba Cd	S Sister Sister	TCLP Pesticides		GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C / 625	608	Pesticides 8081A / 608		ent					ime	
LAB FIELD CODE	CONTAINERS	Volume / Amount	`												8021	218	5 GF	PAH 8270C / 625	Is Ag	etais	TCLP Volatiles			/ol. 8	Semi.	PCB's 8082 / 608	s 80	R, pH	Content					Tum Around Time	
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## **APPENDIX E**

## **PHOTOGRAPHIC DOCUMENTATION**

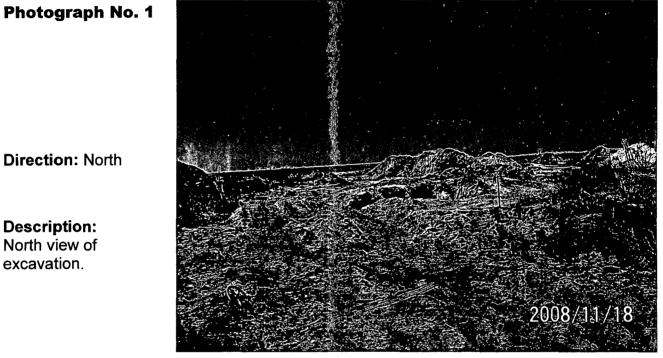
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## **TALON/LPE**

Client: Plains Pipeline, L.P. Location: E.K. Queen 4" Poly Lea Count y, New Mexico

## **Photographic Documentation**

Prepared by: Shanna Smith Photographer: Scott Armour Project Number: PLAINS076SPL



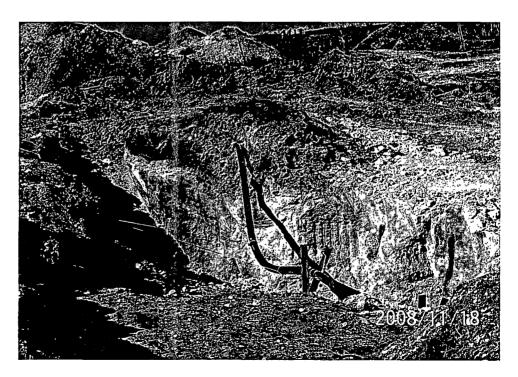
Direction: North

**Description:** North view of excavation.

## **Photograph No. 2**

**Direction:** Northeast

**Description:** Northeast view of excavation.

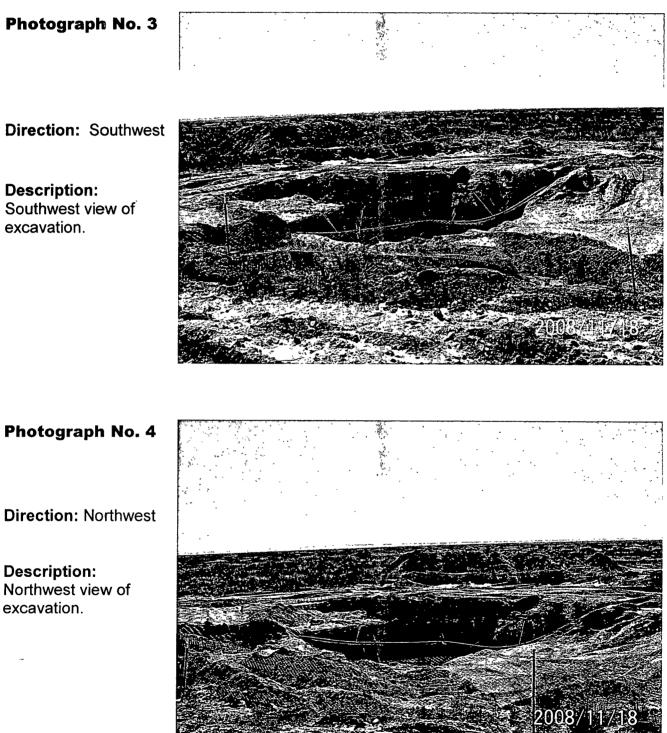


## TALON/LPE

**Client: Plains Pipeline, L.P.** Location: E.K. Queen 4" Poly Lea Count y, New Mexico

## **Photographic Documentation**

Prepared by: Shanna Smith Photographer: Scott Armour Project Number: PLAINS076SPL



**Description:** Southwest view of excavation.

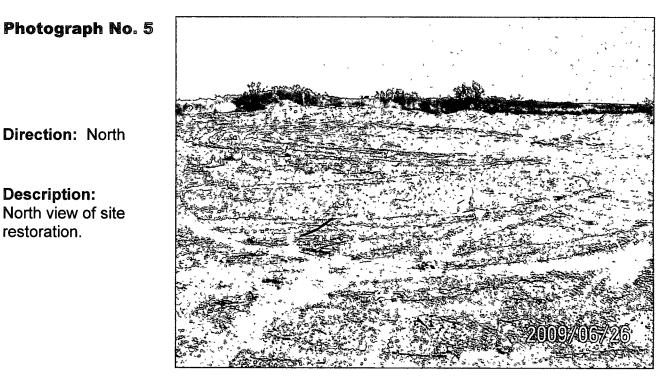
Page 2 of 3

#### TALON/LPE

#### Client: Plains Pipeline, L.P. Location: E.K. Queen 4" Poly Lea Count y, New Mexico

### **Photographic Documentation**

Prepared by: Shanna Smith Photographer: Scott Armour Project Number: PLAINS076SPL



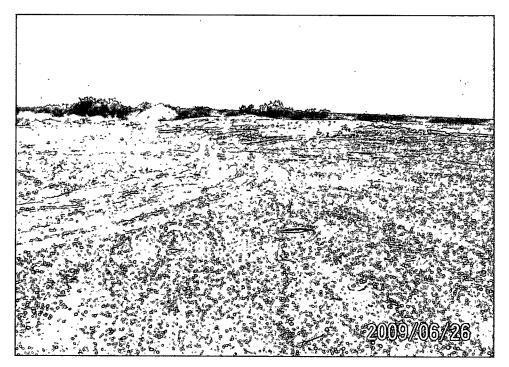
Direction: North

**Description:** North view of site restoration.

### Photograph No. 6

**Direction:** South

**Description:** South view of site restoration.



## **APPENDIX F**

# **BLM Undesirable Event Form**

-

Form NM 3162-1 (August 2004)

#### UNITED STATES DEPARTMENT OF THE INTERIOR Burcan of Land Management New Mexico State Office **REPORT OF UNDESIRABLE EVENT** 24/2008 TIME OF OCCURRENCE: 10:40 DATE OF OCCURRENCE/DISCOVERY: 9:00 ۵Ù TIME REPORTED: DATE REPORTED TO BLM: (0) Lim Amos) BLM OFFICE REPORTED TO: (FIELD/DISTRICT/OTHER) CAT IS D LOCATION: 14 4112.52 SECTION 22 T. 185 R. 332 MERIDIAN TT ) STATE: \$ A n COUNTY: WELL NAME OPERATOR: COMPANY NAME PHONE NO SURFACE OWNER: R. MINERAL OWNER: .T (FEDERAL/MDIAN/FEE/STATE) RIGHT-OF-WAY NO .: LEASE NO .: UNIT NAME / COMMUNITIZATION AGREEMENT NO .: TYPE OF EVENT, CIRCLE APPROPRIATE ITEM (S): BLOWOUT, FIRE, FATALITY, INJURY, PROPERTY DAMAGE, OIL SPILL SALTWATER SPILL OIL AND SALTWATER SPILL, TOXIC FLUID SPILL, HAZARDOUS MATERIAL SPILL, UNCONTROLLED FLOW OF WELLBORE FLUIDS, OTHER (SPECIFY): CAUSE OF EVEN ana 201 $\mathcal{M}$ HazMat Notified: (for spills) Law Enforcement Notified: (for thefts) CAUSE AND EXTENT OF PERSONAL INJURIES/CAUSE OF DEATH(S): Safety Officer Notified: EFFECTS OF EVENT: 3 0000 ACTION TAKEN TO CONTROL EVENT LENGTH OF TIME TO CONTROL BLOWOUT OR FIRE: VOLUMES DISCHARGED: OIL OTHER AGENCIES NOTIFIED:

	<ul> <li>►</li> </ul>	
		Page 2
ACTION TA	TAKEN OR TO BE TAKEN TO PREVENT RECURRENCE: Kpi replaced	······································
ENIAT INTUR	VESTIGATION:	
	BAM NAME(S)	
		<u> </u>
	ELD INSPECTION DATE	
SUN	IMMARY OF RESULTS OF INSPECTION	
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	E LOSS WAS (CIRCLE ITEM): AVOIDABLE UNAVOIDABLE	
DATE OF M	MEMO NOTIFYING MINEALS MANAGEMENT SSERVICE THAT LOSS WAS AVOIDABL	<b>B:</b>
DATE/TIME	E/PERSON NOTEFIED:	<u>.</u>
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	OF RESULTS OF RECLAMATION/CORRECTIVE ACTION:	
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REMARKS: _		
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SIGNATURE (	OF AUTHORIZED OFFICER	

## **APPENDIX G**

## **NMOCD Documentation**

Initial C-141 Final C-141

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District I 1625 N. French District II 1301 W. Grand District III 1000 Rio Brazo District IV 1220 S. St. Fran Name of Co Address 31 Facility Nau	Avenue, Arte is Road, Aztec icis Dr., Santa Dompany Pla 12 W. US 1	sia, NM 88210 ;, NM 87410 i Fe, NM 8750 ins Pipeline Hwy 82, Lou	Rele	Energy Mir Oil C 1220 Sa ease Notific	onser South nta Fe ation	vation Div n St. Franc e, NM 875 n and Co OPERA Contact Can Telephone N	Resources vision is Dr. 05 orrective A TOR		x Initi	Submit 2 C District (	vised Oc Copies to Office i th Rule	Form C-141 tober 10, 2003 o appropriate n accordance 116 on back side of form Final Report
Surface Ow	mer BLM			Mineral O	wner				Lease N	10.30-02	25-3	8750
				LOCA	TIO	N OF REI	LEASE					
Unit Letter	Section 22	Township 18S	Range 33E	Feet from the	North	/South Line	Feet from the	East/W	est Line	County Lea		
		Latitud	e <u>32° 43</u>	<u>' 47.7"</u>		_ Longitude	<u>103° 38' 42.8'</u>	•		- (.	1-11	<u>ہ</u>
				NAT	URE	<b>OF RELI</b>	EASE			e e	15	3
Type of Rele							Release 8 barrels			Recovered 0		
Source of Re Was Immedia		iven?				06/24/2008 If YES, To	Whom?	e	Date and 0622990	Hour of Disc Hour of Disc Hour of Disc	VE	
			Yes 📋	No 🗌 Not Rec	luired	Larry John						
By Whom? C Was a Water	Camille Brya	nt					our 06/24/2008 ( lume Impacting the			ILIN 3 C Z	2008-	
If a Watercou			Yes 🛛				ume impacting u		HO	BBS	0	CD
Describe Cau line is a 4-inc of the sweet o	ise of Proble th poly gathe crude oil is 4	m and Remec ring line that 0. The sweet	lial Action produces crude has	Taken Pipe failur approximately 64: an $H_2S$ content of	5 barrel f <10 p	ls of oil per da pm. The line	y. The pressure of is approximately	on the lir 3.5 feet	ne is appro	ximately 55	psi and	ide oil. The the gravity
Describe Area	a Affected a	nd Cleanup A	ction Tak	en.* The impacted	soil w	as excavated a	ind stockpiled on	plastic.				
regulations al public health should their o	l operators a or the enviro perations ha ment. In ad	re required to onment. The a ve failed to a dition, NMO	report and acceptance lequately CD accept	is true and completed d/or file certain relevant of a C-141 report investigate and remain ance of a C-141 remains ance of a C-141 remains and the main and the mai	lease no t by the nediate	otifications an NMOCD ma contaminatio	d perform correct rked as "Final Re on that pose a thre	ive action port" do at to groesponsib	ons for rele es not reli ound water ility for co	cases which the open eve the open surface wat ompliance w	may end ator of ter, hun ith any	langer liability an health
Printed Name	: Camille Br	vant		<u> </u>		Approved by I	District Superviso	JNMEI	(IT	VGINFFR		
Title: Remedia				· · · · · · · · · · · · · · · · · · ·		Approval Date	- 6.30 0		piration I		n.0	
E-mail Addres						Conditions of			Spitmaton 1		_	0
Date: 06/27/20	008		1	Phone:505-441-09			••			Attached $1RP$		7

\* Attach Additional Sheets If Necessary

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TALONLPE

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Your-wing Stickuth - Not Stated	Naw Maxies	28,75%	99.00 <b>%</b>	00.00%	\$0.00%(12)	07/07	15.00 ,	
Other Crop (0.47) West Seed: 00.499 Dert Matter 18.549	This But	ros Born Statens Dag Dor	FOT THU B 19764 Bolk : 1 Acre	in PousdP	Total Bu	ik Pour	alic († 1961 – 1	
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BLM 2-3 mix

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