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State of New Mexico Energy Minerals and Natural Resources

JAN 22 2009 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 **OCD-ARTINE Copies to appropriate** District Office in accordance with Rule 116 on back side of form

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Tuesday, March 24, 2009

Well Selection Criteria Quick Print

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Page 1

API Well #	Well Name and No.		Operator Name	Тур	Stat	Cor	unty	Surf	UL	Sec	Тwp	Rng	Ft N/S	Ft E/W	UICPrmt	Lst Insp Dt
30-015-21552-00-00	EMPIRE ABO UNIT	191	BP AMERICA PRODUCTION COM	0	Α	Eddy	x	F	G	1	18 S	27 E	2500 N	2500 E	NSL-706	3/23/2009

Bratcher, Mike, EMNRD

From: Sent: To: Cc: Subject: Attachments: Bratcher, Mike, EMNRD Tuesday, March 24, 2009 11:18 AM 'steve.pacheco@bp.com' 'etaylor@talonlpe.com'; 'james_amos@nm.blm.gov' BP Empire Abo Unit 191 BP America_EmpireAboUt_191.doc

Please see attachment

New Mexico Energy, Minerals and Natural Resources Department

Bill Richardson Governor

Joanna Prukop Cabinet Secretary Reese Fullerton Deputy Cabinet Secretary Mark Fesmire Division Director Oil Conservation Division



March 24, 2009

BP America Production Co. PO Box 3092 Houston, TX 77253

Local: BP America Production Co. PO Box 129 Artesia, NM 88210 ATTN: Steve Pacheco

RE: Empire Abo Unit 191 (L-191) 30-015-21552 G-1-18s-27e Eddy County New Mexico

Mr. Pacheco,

The New Mexico Oil Conservation Division District 2 Office (OCD) is in receipt of a work plan proposal (plan) for finalizing the remediation project at the above referenced well site. The plan was submitted by your agent, Talon/LPE. The plan is approved as submitted with the following conditions:

- Notify the OCD 48 hours prior to installing liner
- Submit a Final Report C-141 upon satisfactory completion of project.
- Like approval by Bureau of Land Management.

Please be advised that this approval does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, this approval does not relieve the operator of responsibility for compliance with any other state, federal, local laws and/or regulations.

Sincerely,

Mike Bratcher NMOCD District 2 1301 W. Grand Ave. Artesia, NM 88210 575-748-1283 Ext.108 <u>mike.bratcher@state.nm.us</u>





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ENV PRIMENTAL CONSULTING PREMERING DRILLING CONSTRUCTION EMERGENCY RESPONSE SOILS REMEDATION WORK PLAN EMPIRE ABO UNIT L-191 EDDY COUNTY, NEW MEXICO SEC 1-T18S-R27E

FEB 26 2009

Prepared for:

BP AMERICA PRODUCTION CO.

PO Box 3092 Houston, Texas 77253

Prepared by:

Talon/LPE

Eb Taylor 318 East Taylor Hobbs, New Mexico 88240

February 25, 2009

Foll Free: 866.742.0742 www.talonlpe.com



AMARILLO 921 North Bivins Amarillo, Texas 79107 Phone 806.467.0607 Fax 806 467.0622

AUSTIN 3003 Tom Gary Cove Building C-100 Round Rock, Texas 78664 Phone 512 989 3428 Fax 512 989 3487

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> SAN ANTONIO 17170 Jordan Road Suite 102 Selma, Texas 78154 Phone 210 579.0235 Fax 210 568 2191

TULSA 9906 East 43rd Street Suite G Tulsa, Oklahoma 74146 Phone 918 742 0871 Fax 918 742 0876

HOBBS 318 East Taylor Street Hobbs, New Mexico 88241 Phone 505 393 4261 Fax 505 393.4658

> TYLER 719 West Front Street Suite 255 Tyler, Texas 75702 Phone 903.531.9971 Fax 903.531 9979

HOUSTON 3233 West 11th Street Suite 400 Houston, Texas 77008 Phone 713.861 0081 Fax 713 868 3208

ENVIRONMENTAL CONSULTING ENGINEERING DRILLING CONSTRUCTION EMERGENCY RESPONSE January 14, 2009

RE: Soil Remediation Work Plan Empire Abo Unit L-191 Sec 1-T18S-R27E Empire Abo Oil Field in Eddy County, New Mexico

This letter transmits the Soil Remediation Work Plan (work plan) for chloride impacted soil identified at the above referenced site. The site is located in a rural area of the Empire Abo Oil Field in Eddy County, New Mexico (Sec 1-T18S-R27E). In October 2008, Talon/LPE (Talon) was contracted by BP America (BP) to conduct site reclamation activities at the Empire Abo Unit L-191. While inspecting the site, it appeared that there was possible chloride impact in the former tank battery area. On November 14, 2008, Talon conducted a site investigation and collected four soil samples. Additional details of the site investigation activities are provided within this work plan.

Regulatory Framework

The New Mexico Oil Conservation Division (NMOCD) has developed guidance for all federal, state, and fee lands in New Mexico for remediating contaminates resulting from leaks, spills, and releases of oil field wastes or products. This guidance assigns ranking scores to sites based on depth to groundwater, distance to water supply sources, and distance to surface water bodies. The guidance also provides remediation/clean-up levels for benzene, BTEX (benzene, toluene, ethyl benzene, and xylenes), and TPH (total petroleum hydrocarbons).

Based on site visits, the Empire Abo Unit L-191 is located in a rural area with no permanent residences within a 1,000 foot radius of the spill area. According to information obtained from the New Mexico Office of the State Engineer, there are no domestic water wells located in Sec 1-T18S-R27E. According to information obtained from the NMOCD, the depth to water is approximately 100 feet below ground surface (bgs).

According to NMOCD guidance, and based on depth to groundwater, distance from water supply sources, and distance to surface water bodies, the site ranking is zero (0). Based on the calculated rating, the applicable remediation guidelines for this site are as follows:

Constituent	Remediation/Clean-up Levels (mg/Kg)
Benzene	10
BTEX	50
ТРН	. 100
Chlorides	250

Site Investigation and Excavation Activities

In an effort to determine if there was chloride impacted soil within the tank battery area, Talon personnel collected four samples from approximately four feet bgs on November 14, 2008. Personnel wearing new disposable gloves collected soil samples from a hand auger and placed the samples in laboratory-supplied containers, sealed with Teflon lined caps, labeled, and subsequently placed on ice in a covered, insulated cooler and chilled to 40°F. The soil samples were shipped to Trace Analyses for laboratory analysis. The collected soil samples were analyzed for BTEX by EPA Method SW-846-8021B, TPH GRO/DRO by EPA Method 8015 Modified and chlorides by EPA Method SW-846-300.0.

Analytical results from the collected soil samples indicate chloride concentrations below remediation/clean-up levels with the exception of BH-4. TPH concentrations were determined to be below remediation/clean-up levels in all of the soil samples with the exception of BH-2. Certified copies of the laboratory analytical results and proper chain of custody documentation are attached.

Based on the results of the sampling activities, Talon excavated the chloride and TPH impacted soil and transported it to the Lea Land Disposal facility located near Eunice, New Mexico. The area that was excavated is approximately 30 feet by 90 feet by 11 feet in depth. Approximately 1,200 yards of material was transported and disposed of at the Lea Land Disposal facility. Field screening for chlorides was conducted following excavation activities and it appeared chloride levels still exceeded remediation/clean-up levels. On December 15, 2008, Talon personnel collected two samples from the bottom of the excavation for laboratory analysis. Personnel wearing new disposable gloves collected soil samples and placed the samples in laboratory-supplied containers, sealed with Teflon lined caps, labeled, and subsequently placed on ice in a covered, insulated cooler and chilled to 40°F. The soil samples were shipped to Trace Analyses for laboratory analysis. The collected soil samples were analyzed for chlorides by EPA Method SW-846-300.0. Analytical results indicate chloride levels were still above remediation/clean-up levels. Certified copies of the laboratory analytical results and proper chain of custody documentation are attached.

On February 10, 2009 Talon excavated in the BH-1 area to a depth of 18 feet bgs and 16 feet bgs in the BH-2 area. Using field chloride screening Talon determined the chloride levels at these depths were non-detect. Personnel wearing new disposable gloves collected soil samples from the two excavations and placed the samples in laboratory supplied containers, sealed with Teflon lined caps, labeled, and subsequently placed on ice in a covered, insulated cooler chilled to 40°F. The samples were shipped to Trace Analyses for laboratory analysis. The collected samples were analyzed for chlorides by EPA Method SW-846-300.0, BTEX by Method SW-846-8021B, and TPH 418.1. Analytical results indicated chloride and BTEX levels were below NMOCD closure levels.

Site Remediation Plan

The site investigation and excavation analytical results indicate the presence of chloride impacted soils above the applicable NMOCD guidelines at approximately 15 to 16 feet bgs. Therefore, Talon and BP propose to line the excavation with a 20-millimeter geosynthetic liner to prevent the further migration of chlorides in the subsoil. Once approved for closure by the NMOCD and the Bureau of Land Management (BLM), the lined excavation will be backfilled

with caliche purchased from an approved BLM caliche pit with the top one foot of the excavation being backfilled with top soil. The excavation area will then be contoured to promote proper drainage and sustain vegetation. The area will be seeded with the proper BLM seed mixture.

If you have any questions or concerns regarding this work plan, please feel free to contact me at 432-238-6388.

Respectfully Submitted,

Eb Jaros

Eb Taylor Talon/LPE New Mexico Division Manager

Attachments:

- Attachment 1: Soil Sample Analytical Data Reports and Chain of Custody Documentation
- Attachment 2: Maps

ATTACHMENT 1 ANALYTICAL

Report Date. November 26, 2008 BPETR0030REL

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Summary Report

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

Report Date: November 26, 2008

Work Order: 8111724

Project Location:Eddy County, NMProject Name:EAV L-191Project Number:BPETR0030REL

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
179685	BH-1	soil	2008-11-14	08:00	2008-11-17
179686	BH-2	soil	2008-11-14	08:05	2008 - 11 - 17
179687	BH-3	soil	2008-11-14	08:10	2008 - 11 - 17
179688	BH-4	soil	2008-11-14	08:15	2008-11-17

	TPH DRO	TPH GRO
	DRO	ĠRO
Sample - Field Code	(mg/Kg)	(mg/Kg)
179685 - BH-1	53.1	2.48
179686 - BH-2	1440	$<\!\!2.00$
179687 - BH-3	740	$<\!2.00$
179688 - BH-4	<50.0	<1.00

Sample: 179685 - BH-1

Param	\mathbf{Flag}	\mathbf{Result}	Units	\mathbf{RL}
Benzene	1	<0.0200	mg/Kg	0.0100
Toluene		< 0.0200	mg/Kg	0.0100
Ethylbenzene		< 0.0200	mg/Kg	0.0100
Xylene		< 0.0200	mg/Kg	0.0100
Total BTEX		< 0.120	mg/Kg	0.0600
Chloride		362	mg/Kg	3.25

Sample: 179686 - BH-2

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TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

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¹Sample ran at a dilution due to surfactants.

Report Date: November 26, 2008 BPETR0030REL		Work Order: 8111724 EAV L-191		Page Number: 2 of 2 Eddy County, NM	
Param	Flag	Result	Units	RL	
Benzene	2	< 0.0200	mg/Kg	0.0100	
Toluene		< 0.0200	mg/Kg	0.0100	
Ethylbenzene		< 0.0200	mg/Kg	0 0100	
Xylene		< 0.0200	mg/Kg	0.0100	
Total BTEX		< 0.120	mg/Kg	. 0.0600	
Chloride		59.8	$\mathrm{mg/Kg}$	3.25	

Sample: 179687 - BH-3

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Param	Flag	Result	Units	RL
Benzene	3	< 0.0200	mg/Kg	0.0100
Toluene		< 0.0200	mg/Kg	0.0100
Ethylbenzene		< 0.0200	mg/Kg	0.0100
Xylene		< 0.0200	mg/Kg	0.0100
Total BTEX		< 0.120	mg/Kg	0.0600
Chloride		77.2	mg/Kg	3.25

Sample: 179688 - BH-4

Param	Flag	Result	Units	RL
Benzene		<0.0100	mg/Kg	0.0100
Toluene		< 0.0100	mg/Kg ·	0.0100
Ethylbenzene		< 0.0100	mg/Kg	0.0100
Xylene		< 0.0100	mg/Kg	0.0100
Total BTEX		< 0.0600	mg/Kg	0.0600
Chloride		10600	m mg/Kg	3.25

²Sample ran at a dilution due to surfactants. ³Sample ran at a dilution due to surfactants.

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

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Certifications

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NELAP Certifications

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

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Analytical and Quality Control Report

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

Report Date: November 26, 2008

Work Order: 8111724

Project Location:Eddy County, NMProject Name:EAV L-191Project Number:BPETR0030REL

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
179685	BH-1	soil	2008-11-14	08:00	2008-11-17
179686	BH-2	soil	2008-11-14	08:05	2008 - 11 - 17
179687	BH-3	soil	2008-11-14	08:10	2008 - 11 - 17
179688	BH-4	soil	2008-11-14	08:15	2008-11-17

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

This report consists of a total of 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blain Lepturch

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Dr. Blair Leftwich, Director

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Standard Flags

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

Case Narrative

Samples for project EAV L-191 were received by TraceAnalysis, Inc. on 2008-11-17 and assigned to work order 8111724. Samples for work order 8111724 were received intact at a temperature of 3.7 deg. C.

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

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
Total 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 8111724 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: 179685 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX, Total BTEX 54332 46480		Anal Date Samj	ytical Meth Analyzed: ple Prepara	nod: s	5 80211 2008-11 2008-11	B 1-17 1-17	Prep Me Analyze Prepare	ethod: d By: d By:	S 5035 ER ER
			· RI							
Parameter	Flag		Resul	t	τ	Jnits		Dilution		RL
Benzene	1		< 0.0200)	mg	;/Kg		2		0.0100
Toluene			< 0.0200)	mg	/Kg		2		0.0100
Ethylbenzene			< 0.0200)	mg	/Kg		2		0.0100
Xylene			< 0.0200)	mg	/Kg		2		0.0100
Total BTEX			< 0.120)	mg	/Kg		2		0.0600
							Spike	Percent	Rec	covery
Surrogate		Flag	Result	Units	Dilı	ition	Amount	Recovery	Li	imits
Trifluorotolue	ne (TFT)		1.11	m mg/Kg		2	1.00	111	59 -	$\cdot 136.1$
4-Bromofluor	obenzene (4-BFB)		1.36	mg/Kg		2	1.00	136	54.4	- 176.2

Sample: 179685 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock Chloride (Titration) 54625 46705	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2008-11-25 2008-11-25	Prep Method: Analyzed By: Prepared By:	N/A RD RD
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		362	mg/Kg	10	3.25

Sample: 179685 - BH-1

DRO		53.1	mg/Kg	1	50.0
Parameter	Flag	$\operatorname{RL}_{\operatorname{Result}}$	Units	Dilution	\mathbf{RL}
Prep Batch:	46516	Sample Preparation	: 2008-11-18	Prepared By.	MN
QC Batch:	54377	Date Analyzed:	2008-11-18	Analyzed By:	MN
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Laboratory:	Lubbock				

¹Sample ran at a dilution due to surfactants.

Report Date BPETR0030	Report Date: November 26, 2008 BPETR0030REL			Work Order: 8111724 EAV L-191				Page Number: 5 of 16 Eddy County, NM		
Surrogate	Flag	Result	Units	Dil	ution	Spike Amount	Percent Recovery	Recovery Limits		
n-Triacontan	e	161	mg/Kg	5	1	100	161	49.5 - 185		
Sample: 17	9685 - BH-1									
Laboratory:	Lubbock						_			
Analysis:	TPH GRO		Analytica	l Method:	S 8015B		Prep Me	ethod: S 5035		
QC Batch:	54333		Date Ana	lyzed:	2008-11-17	7	Analyze	d By: ER		
Prep Batch:	46480		Sample P	reparation:	2008-11-17	7	Prepare	d By: ER		
			RL	1						
Parameter	Flag		\mathbf{Result}		Units		Dilution	RL		
GRO	2		2.48		mg/Kg		2	1.00		
						Spileo	Doreont	Dogovory		
Surrogato		Flag	Regult	Unite	Dilution	Amount	Recovery	Limits		
Trifluorotolu	ene (TFT)	I lag	1.08	mg/Kg	2	<u>1 00</u>		55.3 - 161.9		
4-Bromofluor	cobenzene (4-BFB)		1.59	mg/Kg	$\frac{2}{2}$	1.00	159	45.6 - 214.7		
Sample: 17	9686 - BH-2									
Laboratory:	Lubbock		~							
Analysis:	BTEX, Total BTE	Х	Anal	ytical Meth	od: S 802	21B	Prep Me	ethod: S 5035		
QC Batch:	54332		Date	Analyzed:	2008-	11-17	Analyze	d By: ER		
Prep Batch:	46480		Sam	ple Prepara	tion: 2008-	11-17	Prepare	d By: ER		
		Ŧ	RI	J						
Parameter	Flag		Resul	t	Units		Dilution	RL		
Benzene			< 0.0200)	mg/Kg		2	0.0100		

< 0.0200

< 0.0200

< 0.0200

< 0.120

 Result

1.22

1.54

Flag

/

Units

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Dilution

2

 $\mathbf{2}$

2 2 2

 $\mathbf{2}$

Percent

Recovery

122

154

Spike

Amount

1.00

1.00

0.0100

0.0100

0.0100

0.0600

Recovery

Limits

59 - 136.1

54.4 - 176.2

²Sample ran at a dilution due to surfactants.

³Sample ran at a dilution due to surfactants.

Toluene

Xylene

Ethylbenzene

Total BTEX

Surrogate

Trifluorotoluene (TFT)

4-Bromofluorobenzene (4-BFB)

Report Date: November 26, 2008	Work Order: 8111724	Page Number: 6 of 16
BPETR0030REL	EAV L-191	Eddy County, NM

Sample: 179686 - BH-2

Chloride		59.8	mg/Kg	10	3.25
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	46705	Sample Preparation:	2008-11-25	Prepared By:	RD
QC Batch:	54625	Date Analyzed:	2008-11-25	Analyzed By:	RD
Laboratory:	Lubbock Chlorida (Titration)	Analytical Method	SM 4500 CLB	Prop Method	N / A

Sample: 179686 - BH-2

n-Triacontan	e 4	1300	mg/Kg	1	100	1300	49.5 - 185
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO			1440	m	g/Kg	1	50.0
Parameter	Fl	ag	RL Result		Units	Dilution	RL
Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 54377 46516		Analytical M Date Analyze Sample Prepa	ethod: Mod ed: 2003 aration: 2003	l. 8015B 8-11-18 8-11-18	Prep M Analyz Prepar	Method: N/A zed By: MN ed By: MN

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Sample: 179686 - BH-2

Laboratory:	Lubbock								
Analysis: TPH GRO			Analytica	l Method:	S 8015B		Prep Method: S 5035		
QC Batch:	54333		Date Ana	lyzed:	2008 - 11 - 17		Analyze	d By: ER	
Prep Batch:	46480		Sample P	reparation:	2008-11-17		Prepareo	HBy: ER	
			RL						
Parameter	Flag		Result		Units		Dilution	RL	
GRO	5		<2.00		mg/Kg		2	1.00	
	·					Spike	Percent	Recovery	
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotolue	ene (TFT)		1.26	mg/Kg	2	1.00	126	55.3 - 161.9	
4-Bromofluorobenzene (4-BFB)		1.76	mg/Kg	2	1.00	176	45.6 - 214.7		

⁴High surrogate recovery due to peak interference. ⁵Sample ran at a dilution due to surfactants.

Report Date: November 26, 2008	Work Order: 8111724	Page Number: 7 of 16
BPETR0030REL	EAV L-191	Eddy County, NM

Sample: 179687 - BH-3

Laboratory: Lu	bbock								
Analysis: BT	EX, Total BTEX		Analytical Method: Date Analyzed:		od: S 8021I	S 8021B 2008-11-17		thod:	S 5035
QC Batch: 543	332				2008-11			d By:	\mathbf{ER}
Prep Batch: 464	480		Samı	ole Preparat	tion: 2008-11	l-17	Prepared	l By:	\mathbf{ER}
			RI						
Parameter	Flag		Result	t	Units		Dilution		\mathbf{RL}
Benzene	6		< 0.0200)	mg/Kg		2		0.0100
Toluene			< 0.0200)	mg/Kg		2		0.0100
Ethylbenzene			< 0.0200)	mg/Kg		2		0.0100
Xylene			< 0.0200)	mg/Kg		. 2		0.0100
Total BTEX			< 0.120)	mg/Kg		2		0.0600
						Spike	Percent	Rec	overy
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Li	mits
Trifluorotoluene	(TFT)		1.05	mg/Kg	2	1.00	105	59 -	136.1
4-Bromofluorober	nzene (4-BFB)		1.47	$\mathrm{mg/Kg}$	2	1.00	147	54.4	- 176.2

Sample: 179687 - BH-3

Chloride		77.2	mg/Kg	10	3.25
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	46705	Sample Preparation:	2008-11-25	Prepared By:	RD
QC Batch:	54625	Date Analyzed:	2008-11-25	Analyzed By:	RD
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Laboratory:	Lubbock				

.

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Sample: 179687 - BH-3

DRO		740	mg/Kg	1	50.0
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	46516	Sample Preparation:	2008-11-18	Prepared By:	MN
QC Batch:	54377	Date Analyzed:	2008-11-18	Analyzed By:	MN
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Laboratory:	Lubbock				

⁶Sample ran at a dilution due to surfactants.

SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsn-Triacontane i 800mg/Kg110080049.5 - 185Sample: 179687 - BH-3Laboratory:LubbockAnalysis:TPH GROAnalytical Method:S 8015BPrep Method:S 5035QC Batch:54333Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERParameterFlagResultUnitsDilutionRLGRO s <2.00mg/Kg21.00SurrogateFlagResultUnitsDilutionAmountRecoverySurrogateFlagResultUnitsDilutionAnalyzed By:ERAboratory:Lubbock1.52mg/Kg21.0010255.3 - 161.9Aboratory:Lubbock1.52mg/Kg21.0015245.6 - 214.7Sample: 179688 - BH-4Laboratory:LubbockAnalysis:BTEX, Total BTEXAnalytical Method:S 8021BPrep Method:S 5035QC Batch:54332Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46450Sample Preparation:208-11-17Prepared By:ERPrep Batch:60.00mg/Kg10.0100Chatch:54332Date Analyzed:2008-11-17Prepared By:ER <th>Report Date BPETR0030</th> <th>:: November 26, 200 REL</th> <th></th> <th><u> </u></th> <th>Work Ord EAV</th> <th>er: 8111724 L-191</th> <th colspan="3">8111724 Page Number: 8 c 191 Eddy County,</th>	Report Date BPETR0030	:: November 26, 200 REL		<u> </u>	Work Ord EAV	er: 8111724 L-191	8111724 Page Number: 8 c 191 Eddy County,		
n-Triacontane 800 mg/Kg 1 100 800 49.5 - 185 Sample: 179687 - BH-3 Laboratory: Lubbock Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035 QC Batch: 54333 Date Analyzed: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Prepared By: ER RL Parameter Flag Result Units Dilution RL GRO $\frac{8}{<2.00}$ mg/Kg 2 1.00 Surrogate Flag Result Units Dilution Recovery Limits Trifluorotoluene (TFT) 1.02 mg/Kg 2 1.00 102 55.3 - 161.9 4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg 2 1.00 152 45.6 - 214.7 Sample: 179688 - BH-4 Laboratory: Lubbock Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 54332 Date Analyzed: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Prepared By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Prepared By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Analyzed By: ER Surrogate Flag Result Units Dilution RL Envene <0.0100 mg/Kg 1 0.0100 Toluene <0.0100 mg/Kg 1 0.	Surrogate	Flag	Result	Units	Dil	ution	Spike Amount	Percent Recovery	Recovery Limits
Sample: 179687 - BH-3Laboratory:LubbockAnalysis:TPH GROAnalytical Method:S 8015BQC Batch:54333Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prep Batch:46480Sample Preparation:2008-11-17ParameterFlagResultUnitsDilutionRLRLSurrogateFlagResultUnitsDilutionSurrogateFlagResultUnitsDilutionTriffuorotoluene (TFT)1.02mg/Kg21.00152mg/Kg21.0015245.6 - 214.7Sample: 179688 - BH-4Laboratory:LubbockAnalysis:BTEX, Total BTEXAnalytical Method:S 8021BPrep Method:S 5035QC Batch:54332Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Preparation:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Prepared:1.000.0100CButch:60.0100 </th <th>n-Triacontan</th> <th>e '</th> <th>800</th> <th>mg/Kg</th> <th></th> <th>1</th> <th>100</th> <th>800</th> <th>49.5 - 185</th>	n-Triacontan	e '	800	mg/Kg		1	100	800	49.5 - 185
Sample: 179687 - BH-3Laboratory:Lubbock Analysis:TPH GRO Analyzed:Analytical Method:S 8015B 2008-11-17Prep Method:S 5035 Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERParameterFlag ResultUnitsDilutionRLGRO 8 <2.00		•							
Laboratory:Lubbock Analysis:TPH GRO TPI GROAnalytical Method:S 8015B 2008-11-17Prep Method:S 5035 2008-11-17Prep Batch:46480Sample Preparation:2008-11-17Prepared By:ERParameterFlagResultUnitsDilutionRLGRO*<2.00	Sample: 17	9687 - BH-3							
Analysis:TPH GROAnalytical Method:S 8015BPrep Method:S 5035QC Batch:54333Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERParameterFlagResultUnitsDilutionRLGRO $\$$ <2.00	Laboratory:	Lubbock							
QC Batch: 54333 Sample Preparation:Date Analyzed: $2008-11-17$ 2008-11-17Analyzed By:ER Prepared By:ER Prepared By:ERParameterFlagResultUnitsDilutionRL 2Interpared By:ER Prepared By:ERSurrogateFlagResultUnitsDilutionRL RPercentRecovery LimitsSurrogateFlagResultUnitsDilutionAmountRecovery RecoveryLimitsSurrogateFlagResultUnitsDilutionAmountRecovery RecoveryLimitsSample:179688 - BH-41.52mg/Kg21.0015245.6 - 214.7Sample:179688 - BH-4ResultUnitsDilutionRLPrep Method:S 5035 S 5035QC Batch:54332Date Analyzed:2008-11-17Analyzed By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrep Batch:46480Sample Preparation:2008-11-17Prepared By:ERPrepareterFlagResultUnitsDilutionRLBenzene< 0.0100mg/Kg10.0100Toluene< 0.0100mg/Kg10.0100Chal BTEX< 0.0600mg/Kg10.0100NerogateFlagResultUnitsDilutionRLBenzene <td>Analysis:</td> <td colspan="2">alysis: TPH GRO</td> <td>Analytical</td> <td>Method:</td> <td>S 8015B</td> <td></td> <td>Prep Me</td> <td>ethod: S 5035</td>	Analysis:	alysis: TPH GRO		Analytical	Method:	S 8015B		Prep Me	ethod: S 5035
Prep Batch:46480Sample Preparation:2008-11-17Prepared By:ERRL GROResultUnitsDilutionRL RecoveryGRO*<2.00	QC Batch:	Batch: 54333 Date Analyzed: 200		2008-11-17	7	Analyze	d By: ER		
RL GRODilutionRL CROGRO 8 <2.00 mg/Kg2 1.00 SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT) 1.02 mg/Kg2 1.00 102 $55.3 - 161.9$ 4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg2 1.00 102 $55.3 - 161.9$ Sample: 179688 - BH-4Laboratory: Lubbock Analysis:REX Prep Batch:Analytical Method: Sample Preparation: $2008-11-17$ 2008-11-17Analyzed By: Prep Method: Prep Batch: 46480 Sample Preparation: $2008-11-17$ $2008-11-17$ Prepared By:ERRL ParameterRL ParameterFlagResultUnitsDilutionRL 0.0100 mg/KgClassSilve on mg/KgOlionoRL 0.0100 ErPrepared By:ERPreparetFlagResultUnitsDilutionRL 0.0100 Colspan="4">Colspan="4"Colspan="4">Colspan="4"Colspan="4"Colspan="4"	Prep Batch:	46480		Sample Pr	eparation:	2008-11-17	7	Prepare	d By: ER
ParameterFlagResultUnitsDilutionRLGRO8<2.00				RL					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Parameter	Flag		\mathbf{Result}		Units		Dilution	RL
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT) 1.02 mg/Kg 2 1.00 102 $55.3 - 161.9$ 4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg 2 1.00 152 $45.6 - 214.7$ Sample: 179688 - BH-4Laboratory:LubbockAnalysis:BTEX, Total BTEXAnalytical Method:S 8021BPrep Method:S 5035QC Batch:54332Date Analyzed: $2008-11-17$ Analyzed By:ERPrep Batch:46480Sample Preparation: $2008-11-17$ Prepared By:ERParameterFlagResultUnitsDilutionRLBenzene<0.0100	GRO	8		< 2.00		mg/Kg		2	1.00
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT) 1.02 mg/Kg 2 1.00 102 $55.3 - 161.9$ 4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg 2 1.00 152 $45.6 - 214.7$ Sample: 179688 - BH-4Laboratory:LubbockAnalysis:BTEX, Total BTEXAnalytical Method:S 8021BPrep Method:S 5035QC Batch: 54332 Date Analyzed: $2008-11-17$ Analyzed By:ERPrep Batch: 46480 Sample Preparation: $2008-11-17$ Prepared By:ERParameterFlagResultUnitsDilutionRLBenzene<0.0100							Spike	Percent	Recovery
Trifluorotoluene (TFT) 1.02 mg/Kg 2 1.00 102 $55.3 - 161.9$ 4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg 2 1.00 152 $45.6 - 214.7$ Sample: 179688 - BH-4 Laboratory: Lubbock Analysis: BTEX, Total BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 54332 Date Analyzed: 2008-11-17 Analyzed By: ER Prep Batch: 46480 Sample Preparation: 2008-11-17 Prepared By: ER Parameter Flag Result Units Dilution RL Benzene <0.0100	Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB) 1.52 mg/Kg 2 1.00 152 $45.6 - 214.7$ Sample: 179688 - BH-4 Laboratory: Lubbock Analysis: BTEX, Total BTEX Analytical Method: $S 8021B$ Prep Method: $S 5035$ QC Batch: 54332 Date Analyzed: $2008-11-17$ Analyzed By: ER Prep Batch: 46480 Sample Preparation: $2008-11-17$ Prepared By: ER RL Parameter Flag Result Units Dilution RL Benzene <0.0100 mg/Kg 1 0.0100 Collon mg/Kg 1 0.0100 Etylbenzene <0.0100 mg/Kg 1 0.0100 Maylene <0.0100 mg/Kg 1 0.0100 Surrogate Flag Result Units Dilution Amount Recovery Limits Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (Trifluorotolue	ene (TFT)		1.02	mg/Kg	2	1.00	102	55.3 - 161.9
Sample: 179688 - BH-4Laboratory:LubbockAnalysis:BTEX, Total BTEXQC Batch:54332Date Analyzed:2008-11-17Prep Batch:46480Sample Preparation:2008-11-17Prep Batch:46480Sample Preparation:2008-11-17Prep Batch:46480Sample Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:2008-11-17Preparation:Colspan="2">Date Analyzed:DilutionMatch:Match:Onloomg/KgSpikePrecentRecoverySpike <t< td=""><td>4-Bromofluor</td><td>cobenzene (4-BFB)</td><td></td><td>1.52</td><td>mg/Kg</td><td>2</td><td>1.00</td><td>152</td><td>45.6 - 214.7</td></t<>	4-Bromofluor	cobenzene (4-BFB)		1.52	mg/Kg	2	1.00	152	45.6 - 214.7
Analysis:BTEX, Total BTEXAnalytical Method:S 8021BPrep Method:S 5035QC Batch: 54332 Date Analyzed: $2008-11-17$ Analyzed By:ERPrep Batch: 46480 Sample Preparation: $2008-11-17$ Prepared By:ERRLParameterFlagResultUnitsDilutionRLBenzene <0.0100 mg/Kg1 0.0100 Toluene <0.0100 mg/Kg1 0.0100 Ethylbenzene <0.0100 mg/Kg1 0.0100 Xylene <0.0100 mg/Kg1 0.0100 Total BTEX <0.0600 mg/Kg1 0.0100 SurrogateFlagResultUnitsDilutionRecoverySurrogateFlagResultUnitsDilutionAmountRecoveryTrifluorotoluene (TFT)1.29mg/Kg1 1.00 12959 - 136.14-Bromofluorobenzene (4-BFB)1.33mg/Kg1 1.00 133 54.4 - 176.2	Sample: 17 Laboratory:	9688 - BH-4 Lubbock							
QC Batch: 54332 Date Analyzed: $2008-11-17$ Analyzed By:ERPrep Batch: 46480 Sample Preparation: $2008-11-17$ Prepared By:ERRLRLPrepared By:ERParameterFlagResultUnitsDilutionRLBenzene <0.0100 mg/Kg1 0.0100 Toluene <0.0100 mg/Kg1 0.0100 Ethylbenzene <0.0100 mg/Kg1 0.0100 Xylene <0.0100 mg/Kg1 0.0100 Total BTEX <0.0600 mg/Kg1 0.0600 SpikePercentRecoverySurrogateFlagResultUnitsDilutionAmountRecoveryTrifluorotoluene (TFT)1.29mg/Kg1 1.00 12959 - 136.14-Bromofluorobenzene (4-BFB)1.33mg/Kg1 1.00 133 54.4 - 176.2	Analysis:	BTEX, Total BTH	$\mathbf{E}\mathbf{X}$	Analy	tical Meth	od: S 802	1 B	Prep Me	thod: S 5035
Prep Batch:46480Sample Preparation:2008-11-17Prepared By:ERRLRLRLRLRLRLRLRLParameterFlagResultUnitsDilutionRLBenzene<0.0100	QC Batch:	54332		Date	Analyzed:	2008-	11-17	Analyze	d By: ER
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Prep Batch:	46480		Samp	le Prepara	tion: 2008-	11-17	Prepare	d By: ER
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				RL					
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Parameter	Flag	5	Result		Units		Dilution	RL
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Benzene			< 0.0100		mg/Kg		1	0.0100
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Toluene			< 0.0100		m mg/Kg		1	0.0100
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Ethylbenzene	9		< 0.0100		mg/Kg		1	0.0100
Total BTEX<0.0600mg/Kg10.0600SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT)1.29mg/Kg11.0012959 - 136.14-Bromofluorobenzene (4-BFB)1.33mg/Kg11.0013354.4 - 176.2	Xylene			< 0.0100	mg/Kg			1	0.0100
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT)1.29mg/Kg11.0012959 - 136.14-Bromofluorobenzene (4-BFB)1.33mg/Kg11.0013354.4 - 176.2	Total BTEX			< 0.0600		mg/Kg		1	0.0600
SurrogateFlagResultUnitsDilutionAmountRecoveryLimitsTrifluorotoluene (TFT)1.29mg/Kg11.0012959 - 136.14-Bromofluorobenzene (4-BFB)1.33mg/Kg11.0013354.4 - 176.2							Spike	Percent	Recovery
Trifluorotoluene (TFT) 1.29 mg/Kg1 1.00 129 $59 - 136.1$ 4-Bromofluorobenzene (4-BFB) 1.33 mg/Kg1 1.00 133 $54.4 - 176.2$	Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB) 1.33 mg/Kg 1 1.00 133 54.4 - 176.2	Trifluorotolue	ene $(\overline{\mathrm{TFT}})$		1.29	mg/Kg	1	1.00	129	59 - 136.1
	4-Bromofluor	robenzene (4-BFB)		1.33	mg/Kg	1	1.00	133	54.4 - 176.2

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⁷High surrogate recovery due to peak interference. ⁸Sample ran at a dilution due to surfactants

Report Date: November 26, 2008 BPETR0030REL		Work Order: 8 EAV L-1	Page Number: 9 of 1 Eddy County, NM						
Sample: 17	9688 - BH-4								
Laboratory:	Lubbock								
Analysis:	Chloride (Titration)	Analytical Method:	ical Method: SM 4500-Cl B Prep Metho						
QC Batch:	54625	Date Analyzed:	2008-11-25	Analyzed By:	RD				
Prep Batch:	46705	Sample Preparation:	2008-11-25	Prepared By:	RD				
		RL							
Parameter	Flag	Result	Units	Dilution	RL				
Chloride		10600	mg/Kg	100	3.25				

Sample: 179688 - BH-4

Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
					Spike	Percent	Recovery
DRO				mg/l	Kg	1	50.0
Parameter	Fla	g	RL Result	Un	its	Dilution	RL
Prep Batch: 46516		Sample Prepa	aration: 2008-1	1-18	Prepar	ed By: MN	
Analysis: QC Batch:	nalysis: TPH DRO C Batch: 54377 on Batch: 46516		Analytical Mo Date Analyze	ethod: Mod. 4 d: 2008-1	8015B 1-18	Prep M Analyz	Aethod: N/A and By: MN
Laboratory:	Lubbock						

Sample: 179688 - BH-4

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Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 54333 46480		Analytical Method: Date Analyzed: Sample Preparation:		S 8015B 2008-11-17 2008-11-17		Prep Method. S Analyzed By: E. Prepared By: E.		
D .			RL		TT •.			DI	
Parameter	Flag		Result	5- + b- P	Units		Dilution	RL	
GRO			<1.00		mg/Kg			1.00	
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotolue	ene (TFT)		1.33	mg/Kg	1	1.00	133	55.3 - 161.9	
4-Bromofluor	obenzene (4-BFB)		1.37	mg/Kg	1	1.00	137	45.6 - 214.7	

Report Date: Novemb BPETR0030REL			Work Orde EAV	er: 8111724 L-191	Page Number: 10 of 16 Eddy County, NM			
Method Blank (1)	QC Bat	tch: 54332						
QC Batch: 54332 Prep Batch: 46480			Date An QC Prep	alyzed: 2 paration: 2	2008-11-17 2008-11-17		${ m Anal}$	yzed By: ER ared By: ER
				м	זח			
Parameter		Flag		Res	ult	Ur	nits	RL
Benzene		0		< 0.003	347	mg	/Kg	0.01
Toluene				< 0.005	525	mg	/Kg	0.01
Ethylbenzene				< 0.000	607	mg	/Kg	0.01
Xylene	1			< 0.007	724	mg	/Kg	0.01
			.	.		Spike	Percent	Recovery
Surrogate	·	Flag	Result	Units	Dilution	Amount	Recovery	Limits
1 rifluorotoluene (1F1) (4 DED)		0.990	mg/Kg	1	1.00	99	09.3 - 110.2
Method Blank (1)	QC Bat	ch: 54333						
OC Batch: 54333			Data An	alvzed· 9	008-11-17		Anal	vzed By: EB
Pren Batch: 46480			OC Pren	a_{1y2eu} . 2	008-11-17		Pren	ared By: ER
Ttep Daten. 10400			QUI TOP	araoion. 2	.000 11 11		110p	area Dy. Dit
				MDI	L			
Parameter	I	Flag		Result	t	Un	its	RL
GRO				< 0.144	1	mg/	′Kg	1
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT	')		1.00	mg/Kg	1	1.00	100	83.3 - 108.5
4-Bromofluorobenzene	(4-BFB)		0.830	mg/Kg	1	1.00	83	34.5 - 105.8
Method Blank (1)	QC Bat	ch: 54377						
QC Batch: 54377 Prep Batch: 46516			Date Ana QC Prep	alyzed: 2 aration: 2	008-11-18 008-11-18		Analy Prepa	vzed By: MN ured By: MN
				MDI	4			
Parameter		Flag		Result		Un	its	RL
DRO				< 6.77	7	mg/	'Kg	50
						0.11	D	
Cumo moto	Flore	Descrift	TT!/	וית	ution	Spike	Percent	Kecovery
Surrogate	r iag	Kesult	Units	Dil	1 ution	Amount	recovery	Limits
n-iriacontane		111	mg/Kg	5	1	100	111	49.5 - 185

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Report Date: Novembe BPETR0030REL	er 26, 2008	Work Order: 8111724 EAV L-191	Page	Number: 11 of 16 Eddy County, NM
Method Blank (1)	QC Batch: 54625			
QC Batch: 54625		Date Analyzed: 2008-11-25	Aı	alyzed By: RD
Prep Batch: 46705		QC Preparation: 2008-11-25	Pr	epared By: RD
Parameter	Flog	MDL Begult	Unite	рт

<1.80

mg/Kg

3.25

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Laboratory Control Spike (LCS-1)

Chloride

QC Batch: Prep Batch:	$\begin{array}{c} 54332\\ 46480 \end{array}$	Date QC I	Analyzed: Preparation:	2008-11-17 2008-11-17		Analyzed By: Prepared By:	ER ER
		LCS		Spike	Matrix	Re	c.

Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.989	mg/Kg	1	1.00	< 0.00347	99	80.5 - 115.5
Toluene	0.975	$\mathrm{mg/Kg}$	1	1:00	< 0.00525	98	80 - 114.7
Ethylbenzene	1.00	mg/Kg	1	1.00	< 0.00607	100	77.1 - 114.2
Xylene .	2.96	mg/Kg	1	3.00	< 0.00724	99	77.6 - 114.5

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.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.951	mg/Kg	1	1.00	< 0.00347	95	80.5 - 115.5	4	20
Toluene	0.961	mg/Kg	1	1.00	< 0.00525	96	80 - 114.7	1	20
Ethylbenzene	0.972	mg/Kg	1	1.00	< 0.00607	97	77.1 - 114.2	3	20
Xylene	2.94	mg/Kg	1	3.00	< 0.00724	98	77.6 - 114.5	1	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	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.987	0.920	mg/Kg	1	1.00	99	92	74.2 - 114.7
4-Bromofluorobenzene (4-BFB)	0.953	0.924	$\mathrm{mg/Kg}$	1	1.00	95	92	69.7 - 118.7

Laboratory Control Spike (LCS-1)

QC Batch: 54333 Date Analyzed: 2				2008-1	1-17		Analyzed By: EF		
Prep Batch:	46480	QC	Preparation:	2008-1	1-17		Prepa	ared By: ER	
		LCS			Spike	Matrix		Rec.	
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	
GRO		8.72	mg/Kg	1	10.0	< 0.144	87	73.1 - 114.7	

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

Report Date: M BPETR0030RH	November 26, 2008 EL			Work	Order: 81 EAV L-19	1172 1	4			Page Nu Ed	umber: dy Cou	12 of 16 nty, NM
D	X	LCSD	T T •.	TO 1	Spike	N	fatrix	D	l	Rec.	מחמ	RPD
CRO		Result 8.80	Units mg/Kg	$\frac{D_{\text{III}}}{1}$	Amount 10.0		$\frac{144}{1014}$	Rec.	73.1	- 114 7	<u></u> 2	<u>20</u>
Dep de la companya de		·1 · · ·	ng/ng	L	10.0				10.1	- 114.7	<u>∠</u>	
Percent recover	y is based on the sp	ike result.	RPD is	based o	n the spik	e and	і зріке а	upicate	e resu	τ.		
Surrogate		LCS Resul	LC t Res	$_{ m sult}$	Units	Dil.	Spil Amo	ke unt	LCS Rec.	LCSD Rec.	I L	Rec. imit
Trifluorotoluene	e (TFT)	0.915	0.9	34 1	mg/Kg	1	1.0	0	92	93	77.4	- 111.4
4-Bromofluorob	enzene (4-BFB)	0.928	3 0.9	000	mg/Kg	1	1.0	0	93	90	70.3	- 116.1
Laboratory C QC Batch: 5 Prep Batch: 4	ontrol Spike (LC: 4377 6516	S-1)	Date Ar QC Pre	nalyzed: paration	: 2008-1 n: 2008-1	1-18 1-18				Analy Prepa	vzed By ared By:	MN MN
D			5	T T 1	וית	,	Spike	Ma	atrix	D		Rec.
Param DBO		Kesu 200		Units		4	Amount 250	Re	$\frac{\text{esult}}{6.77}$		72	$\frac{1}{0}$ 128
<u>DI(()</u>		<u>ې</u> کر		$\frac{ng}{Rg}$	1		230		0.77	120	10	9 - 130
Percent recover	y is based on the sp	ike result.	RPD 15	based o	n the spik	e and	spike di	uplicate	e resul	t.		
		LCSD			Spike		Matrix			Rec.		RPD
Param		Result	Units	Dil.	Amour	nt	Result	Rec.	I	Jimit	RPD	Limit
DRO		323	mg/Kg	1	250		< 6.77	129		9 - 138	1	20
Percent recover	y is based on the sp	ike result.	RPD is	based o	n the spik	e and	l spike d	uplicate	e resul	t.		
	LCS	LCSD					Spike	LC	S	LCSD		Bec
Surrogate	Result	Result	τ	Jnits	Dil.	A	mount	Re	ec.	Rec.	-	Limit
n-Triacontane	119	110	m	g/Kg	1	•	100	11	9	110	49	5 - 185
Laboratory C QC Batch: 5 Prep Batch: 4	ontrol Spike (LC) 4625 6705	S-1)	Date Ar QC Pre	nalyzed paratio	: 2008-1 n: 2008-1	.1-25 .1-25				Anal Prep	yzed By ared By	: RD : RD
D		LCS	5		D.1		Spike	Mat	trix	P	I	Rec.
Param Chlorida		Resu	It	Units	<u> </u>	A	$\frac{\text{mount}}{100}$	Res	ult	Rec.	L	$\frac{101}{1044}$
		99.5	n n	ng/Kg	1		100	<1	.80	100	90.5	- 104.4
Percent recover	y is based on the sp	ike result.	RPD is	based o	n the spik	e and	l spike d	uplicate	e resul	t.		
		LCSD			Spike	Ν	I atrix		ł	Rec.		RPD
Param	,	Result	Units	Dil.	Amount	t F	Result	Rec.	L	imit	RPD	Limit
Chloride		98.9	mg/Kg	1	100	~	<1.80	99	96.5	- 104.4	1	20
Percent recover	y is based on the sp	ike result.	RPD is	based o	n the spik	e and	l spike d	uplicate	e resul	t.		

Matrix Spike (MS-1) Spiked Sample: 179648

QC Batch:	54332	Date Analyzed:	2008-11-17	Analyzed By:	\mathbf{ER}
Prep Batch:	46480	QC Preparation:	2008-11-17	Prepared By:	\mathbf{ER}

	${ m MS}$			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit
Benzene	0.994	mg/Kg	1	1.00	< 0.00347	99	42.9 - 130.7
Toluene	1.05	$\mathrm{mg/Kg}$	1	1.00	< 0.00525	105	46.9 - 135.4
Ethylbenzene	1.16	mg/Kg	1	$1.00^{'}$	< 0.00607	116	48.3 - 149.3
Xylene	3.45	mg/Kg	1	3.00	< 0.00724	115	48.8 - 150.9

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

	MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{Result}	Units	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	Limit
Benzene	1.10	mg/Kg	1	1.00	< 0.00347	110	42.9 - 130.7	10	20
Toluene	1.20	mg/Kg	1	-1.00	< 0.00525	120	46.9 - 135.4	13	20
Ethylbenzene	1.33	m̀g/Kg	1	1.00	< 0.00607	133	48.3 - 149.3	14	20
Xylene	3.96	mg/Kg	1	3.00	< 0.00724	132	48.8 - 150.9	14	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.06	1.18	mg/Kg	1	1	106	118	63.2 - 128.3
4-Bromofluorobenzene (4-BFB)	1.12	1.25	mg/Kg	1	1	112	125	61.5 - 161.2

Matrix Spike (MS-1) Spiked Sample: 179684

QC Batch:	54333	Date Analyzed:	2008-11-17	Analyzed By:	\mathbf{ER}
Prep Batch:	46480	QC Preparation:	2008-11-17	Prepared By:	\mathbf{ER}

	MS			Spike	Matrix		Rec.
Param	\mathbf{Result}	Units	Dil.	Amount	\mathbf{Result}	Rec.	Limit
GRO	13.8	mg/Kg	1	10.0	< 0.144	138	48.9 - 155.8

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	13.9	mg/Kg	1	10.0	< 0.144	139	48.9 - 155.8	1	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.37	1.26	mg/Kg	1	1	137	126	41.8 - 145.4
4-Bromofluorobenzene (4-BFB)	1.64	1.56	mg/Kg	1	1	164	156	50.3 - 197.8

Report Date: Nover BPETR0030REL		E/		Page Number: 14 of 16 Eddy County, NM						
Matrix Spike (MS	5-1) Spiked S	Sample: 17	79685							
QC Batch: 54377 Prep Batch: 46516			Date Ar QC Prej	nalyzed: paration:	2008-11- 2008-11-	18 18		Anal Prep	yzed By ared By	: MN : MN
		MS	5			Spike	Matr	ix		Rec.
Param		Resu	ılt	Units	Dil.	Amount	Resu	lt Rec.		Limit
DRO		293	3 n	ng/Kg	1	250	53.1	L 96	50	.7 - 134
Percent recovery is h	pased on the spi	ke result.	RPD is	based on	the spike	and spike du	uplicate re	esult.		an takan di
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		275	mg/Kg	1	250	53.1	89	50.7 - 134	6	20
Percent recovery is b	pased on the spi	ke result.	RPD is	based on	the spike	and spike du	iplicate re	esult.		
	MS	MSD				Spike	MS	MSD		Rec
Surrogate	Result	Result	t T	Inits	Dil.	Amount	Rec.	Rec.		Limit
n-Triacontane	174	166	m	ng/Kg	1	100	174	166	49	.5 - 185
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705	5-1) Spiked S	Sample: 18	80397 Date Ar QC Pre	nalyzed: paration:	2008-11- 2008-11-	-25 -25		Ana Prep	lyzed By bared By	r: RD r: RD
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705	5-1) Spiked S	Sample: 18 MS	00397 Date Ar QC Pre	nalyzed: paration:	2008-11- 2008-11-	25 25 Spike	Matrix	Ana Prep K.	lyzed By pared By	r: RD :: RD Rec.
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705	5-1) Spiked S	Sample: 18 MS Resul	80397 Date Ar QC Pre	nalyzed: paration: Units	2008-11- 2008-11- Dil.	25 25 Spike Amount	Matrix Result	Ana Prep c. c. c. Rec.	lyzed By bared By	r: RD :: RD Rec.
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride	S-1) Spiked S	Sample: 18 MS Resul 860	80397 Date Ar QC Pre	nalyzed: paration: Units ng/Kg	2008-11- 2008-11- Dil. 10	25 25 Spike Amount 500	Matrix Result 420	Ana Prep K. <u>F. Rec.</u> 88	lyzed By pared By I 1 74.7	7: RD 7: RD Rec. .imit - 123.2
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b	5-1) Spiked S pased on the spi	Sample: 18 MS Resul 860 ke result.	B0397 Date Ar QC Pres It U RPD is	nalyzed: paration: Units ng/Kg based on	2008-11- 2008-11- Dil. 10 the spike	25 25 Spike Amount 500 and spike du	Matris Result 420 iplicate re	Ana Prep c. <u>s Rec.</u> 88 esult.	lyzed By bared By I 74.7	r: RD : RD Rec. .imit - 123.2
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b	5-1) Spiked S pased on the spi	Sample: 18 MS Resul 860 ke result. MSD	B0397 Date Ar QC Pre It U m RPD is	nalyzed: paration: Units ng/Kg based on	2008-11- 2008-11- Dil. 10 the spike Spike	25 25 Spike <u>Amount</u> 500 and spike du Matrix	Matrip Result 420 iplicate re	Ana Prep c. <u>Rec.</u> 88 esult. Rec.	lyzed By pared By] <u>I</u> 74.7	r: RD r: RD Rec. .imit - 123.2 RPD
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param	5-1) Spiked S pased on the spi	Sample: 18 MS Resul 860 ke result. MSD Result	0397 Date Ar QC Pre It U RPD is Units	nalyzed: paration: Units ng/Kg based on Dil.	2008-11- 2008-11- Dil. 10 the spike Amount	25 25 Spike Amount 500 and spike du Matrix Result	Matrix Result 420 Iplicate re Rec.	Ana Prep c. <u>Rec.</u> 88 esult. Rec. Limit	lyzed By pared By I 74.7 RPD	r: RD r: RD Rec. .imit - 123.2 RPD Limit
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride	5-1) Spiked S pased on the spi	MS Resul 860 ke result. MSD Result 876	B0397 Date Ar QC Pres It U RPD is Units mg/Kg	nalyzed: paration: Units ng/Kg based on Dil. 10	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500	25 25 Spike Amount 500 and spike du Matrix Result 420	Matris Result 420 iplicate re Rec. 91 7	Ana Prep c. <u>88</u> esult. Rec. Limit 4.7 - 123.2	lyzed By bared By I 74.7 RPD 2	r: RD r: RD Rec. .imit - 123.2 RPD Limit 20
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b	5-1) Spiked S pased on the spi	MS Resul 860 ke result. MSD Result 876 ke result.	0397 Date Ar QC Pre lt U RPD is Units mg/Kg RPD is	halyzed: paration: units ng/Kg based on Dil. 10 based on	2008-11- 2008-11- Dil. 10 the spike Amount 500 the spike	25 25 Spike Amount 500 and spike du Matrix Result 420 and spike du	Matrix Result 420 Iplicate re Rec. 91 7 Iplicate re	Ana Prep c. <u>Rec.</u> <u>88</u> esult. <u>Rec.</u> <u>Limit</u> <u>4.7 - 123.2</u> esult.	lyzed By pared By I I 74.7 RPD 2	r: RD : RD Rec. .imit - 123.2 RPD Limit 20
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1	5-1) Spiked S pased on the spi pased on the spi	MS Resul 860 ke result. MSD Result 876 ke result.	B0397 Date Ar QC Pre It Units Mg/Kg RPD is	halyzed: paration: Units hg/Kg based on Dil. 10 based on	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500 the spike	25 25 Spike Amount 500 and spike du Matrix Result 420 and spike du	Matrix Result 420 aplicate re Rec. 91 7 aplicate re	Ana Prep c. <u>Rec.</u> <u>88</u> esult. <u>Rec.</u> <u>Limit</u> <u>4.7 - 123.2</u> esult.	lyzed By bared By I 74.7 RPD 2	r: RD r: RD Rec. .imit - 123.2 RPD Limit 20
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332	5-1) Spiked S pased on the spi pased on the spi)	MS Resul 860 ke result. MSD Result 876 ke result.	B0397 Date Ar QC Pre It Units Mg/Kg RPD is RPD is Date Ar	halyzed: paration: Units bg/Kg based on Dil. 10 based on halyzed:	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500 the spike	25 25 Spike Amount 500 and spike du Matrix Result 420 and spike du	Matriz Result 420 iplicate re <u>Rec.</u> 91 7 iplicate re	Ana Prep c. <u>88</u> esult. Rec. Limit 4.7 - 123.2 esult. Ana	lyzed By bared By I 74.7 RPD 2 lyzed By	r: RD r: RD Rec. .imit - 123.2 RPD Limit 20 7: ER
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332	5-1) Spiked S pased on the spi pased on the spi)	MS Resul 860 ke result. MSD Result 876 ke result.	30397 Date Ar QC Pre It U RPD is Units mg/Kg RPD is Date Ar CCV	halyzed: paration: units ng/Kg based on Dil. 10 based on halyzed: s	2008-11- 2008-11- Dil. 10 the spike Amount 500 the spike 2008-11-1 CCVs	225 225 Spike Amount 500 and spike du Matrix Result 420 and spike du 7	Matrix Result 420 Iplicate re Rec. 91 7 Iplicate re	Ana Prep c. <u>c.</u> <u>c.</u> <u>c.</u> <u>c.</u> <u>c.</u> <u>c.</u> <u>c.</u> <u></u>	lyzed By pared By I T 74.7 RPD 2 lyzed By	r: RD r: RD Rec. .imit - 123.2 RPD Limit 20 r: ER
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332	5-1) Spiked S pased on the spi pased on the spi)	MS Resul 860 ke result. MSD Result 876 ke result.	0397 Date Ar QC Pre lt U RPD is Units mg/Kg RPD is Date Ar CCV: True	halyzed: paration: units ng/Kg based on Dil. 10 based on halyzed: s	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500 the spike 2008-11-1 CCVs Found	225 225 Spike Amount 500 and spike du Matrix Result 420 and spike du and spike du 77 CCVs Percent	Matrix Result 420 aplicate re Rec. 91 7 aplicate re	Ana Prep c. <u>Rec.</u> Limit 4.7 - 123.2 esult. Ana Percent Recovery	lyzed By pared By I I 74.7 RPD 2 lyzed By	r: RD r: RD Rec. <u>imit</u> - 123.2 RPD Limit 20 r: ER Date
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332	5-1) Spiked S pased on the spi pased on the spi) Flag U	Sample: 18 MS Resul 860 ke result. MSD Result 876 ke result.	B0397 Date Ar QC Pre It Units MRPD is Units Mg/Kg RPD is Date Ar CCV: True Conc	halyzed: paration: Units hg/Kg based on Dil. 10 based on halyzed: s	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500 the spike 2008-11-1 CCVs Found Conc.	25 25 Spike Amount 500 and spike du Matrix Result 420 and spike du 7 7 CCVs Percent Recover	Matrix Result 420 iplicate re Rec. 91 7 iplicate re	Ana Prep s. <u>88</u> esult. Rec. Limit 4.7 - 123.2 esult. Ana Percent Recovery Limits	lyzed By bared By I TA.7 RPD 2 lyzed By Ar	r: RD : RD Rec. .imit - 123.2 RPD Limit 20 r: ER Date nalyzed
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332 Param Benzene	5-1) Spiked S pased on the spi pased on the spi) Flag U mi	MS Resul 860 ke result. MSD Result 876 ke result.	30397 Date Ar QC Pre It U RPD is Units mg/Kg RPD is Date Ar CCV True Conc 0.100	halyzed: paration: Units ng/Kg based on Dil. 10 based on halyzed: s	2008-11- 2008-11- Dil. 10 the spike Spike Amount 500 the spike 2008-11-1 CCVs Found Conc. 0.0998	225 225 Spike Amount 500 and spike du Matrix Result 420 and spike du 7 7 CCVs Percent Recover 100	Matrix Result 420 iplicate re 91 7 iplicate re	Ana Prep c. <u>88</u> esult. <u>Rec.</u> Limit <u>4.7 - 123.2</u> esult. Ana Percent Recovery Limits <u>80 - 120</u>	lyzed By bared By I I 74.7 RPD 2 lyzed By lyzed By Ar 200	r: RD r: RD Rec. <u>iimit</u> <u>123.2</u> RPD Limit <u>20</u> r: ER Date nalyzed 8-11-17
Matrix Spike (MS QC Batch: 54625 Prep Batch: 46705 Param Chloride Percent recovery is b Param Chloride Percent recovery is b Standard (CCV-1 QC Batch: 54332 Param Benzene Foluene	5-1) Spiked S pased on the spi pased on the spi) Flag U m _i	MS Resul 860 ke result. MSD Result 876 ke result.	B0397 Date Ar QC Pre lt U RPD is Units mg/Kg RPD is Date Ar CCV: True Conc 0.100 0.100	halyzed: paration: units ng/Kg based on Dil. 10 based on halyzed: s) (2008-11- 2008-11- Dil. 10 the spike Amount 500 the spike 2008-11-1 CCVs Found Conc. 0.0998 0.0992	25 25 Spike Amount 500 and spike du Matrix Result 420 and spike du 420 and spike du 7 7 7 7 7 7 7 7 7 7 7 9 8 8 8 8 9 8 8 8 9 9 9	Matrip Result 420 iplicate re <u>Rec.</u> 91 7 iplicate re	Ana Prep S. E Rec. 88 esult. Rec. Limit 4.7 - 123.2 esult. Ana Percent Recovery Limits 80 - 120 80 - 120	lyzed By pared By I 74.7 RPD 2 lyzed By Ar 200 200	r: RD r: RD Rec. <u>iimit</u> - 123.2 RPD Limit 20 r: ER Date nalyzed 18-11-17 18-11-17
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Report Date: BPETR0030F	Report Date: November 26, 2008 BPETR0030REL			ork Order: 811 EAV L-191	1724	Page Nu Ed	umber: 15 of 16 dy County, NM
standard conti	enued		CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Xylene mg/Kg		0.300	0.298	99	80 - 120	2008-11-17	

Standard (CCV-2)

QC Batch: 54332			Date Analyz	ed: 2008-11-1	Analyzed By: ER		
			CCVs	CCVs	$\rm CCVs$	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0986	99	80 - 120	2008-11-17
Toluene		$\mathrm{mg/Kg}$	0.100	0.108	108	80 - 120	2008 - 11 - 17
Ethylbenzer	ne	$\mathrm{mg/Kg}$	0.100	0.100	100	80 - 120	2008 - 11 - 17
Xylene		mg/Kg	0.300	0.297	99 ′	80 - 120	2008 - 11 - 17

Standard (CCV-3)

QC Batch:	54332		Date Analyz	Analyzed By: ER			
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.101	101	80 - 120	2008-11-17
Toluene		m mg/Kg	0.100	0.114	114	80 - 120	2008 - 11 - 17
Ethylbenzen	e .	$\mathrm{mg/Kg}$	0.100	0.107	107	80 - 120	2008 - 11 - 17
Xylene		mg/Kg	0.300	0.330	110	80 - 120	2008-11-17

Standard (CCV-1)

GRO		m mg/Kg	1.00	0.900	90	80 - 120	2008-11-17
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
		True	Found	Percent	Recovery	Date	
			CCVs	CCVs	CCVs	Percent	
QC Batch:	54333 Date Analyzed: 2008-11-17				Analyzed By: ER		

Standard (CCV-3)

QC Batch: 54333

Date Analyzed: 2008-11-17

Analyzed By: ER

Report Dat BPETR003	e: November BOREL	26, 2008	Work Order: 8111724 EAV L-191			Page N Ed	umber: 16 of 16 dy County, NM
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery . Limits	Date Analyzed
GRO		mg/Kg	1.00	1.14	114	80 - 120	2008-11-17
Standard	(CCV-1)						
QC Batch:	54377		Date Ana	ulyzed: 2008-11	1-18	Anal	yzed By: MN
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	274	110	85 - 115	2008-11-18
Standard	(CCV-2)						
QC Batch:	54377		Date Ana	lyzed: 2008-11	-18	Anal	yzed By: MN
Param	Flag	Units	CCVs True Conc	CCVs Found Conc	CCVs Percent Becovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	238	95	85 - 115	2008-11-18
Standard	(ICV-1)			- 0.wear			
QC Batch:	54625		Date Ana	alyzed: 2008-11	1-25	Anal	yzed By: RD
Daram	Flag	Lupita	ICVs True Conc	ICVs Found Conc	ICVs Percent Bocovery	Percent Recovery	Date
Chloride	I tag	mg/Kg	100	98.6	<u>99</u>	<u> </u>	2008-11-25
Standard	(CCV-1)		Date Ana	alvzed 2008-1	1-25	Anal	vzed By: BD
ų σ Σαυση.	01020		CCVc	CCVc	CCVa	Porcont	<i>,</i> ,. <i></i>
			True	Found	Percent	Recovery	Date
Param Chloride	Flag	Units mg/Kg	Conc	Conc. 101	Recovery 101	Limits 85 - 115	Analyzed 2008-11-25
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Report Date: December 17, 2008

Summary Report

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

Report Date: December 17, 2008

Work Order: 8121621

Project Location: Lea Co., NM Project Name: Empire ABO Unit L-191

			Date	Time	Date
Sample	Description	Matrix	Taken	\mathbf{Taken}	Received
182591	SP	soil	2008-12-15	08:30	2008-12-16
182592	BH-1	soil	2008-12-15	08:40	2008-12-16
182593	BH-2	soil	2008-12-15	08:48	2008-12-16

Sample: 182591 - SP

Param	Flag	Result	Units	RL
Chloride		558	mg/Kg	2.00

Sample: 182592 - BH-1

Param	Flag	\mathbf{Result}	\mathbf{Units}	RL
Chloride		1080	mg/Kg	2.00

Sample: 182593 - BH-2

Param	Flag	Result	Units	RL
Chloride		800	mg/Kg	2.00

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

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Analytical and Quality Control Report

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

Report Date: December 17, 2008

Work Order: 8121621

Project Location:Lea Co., NMProject Name:Empire ABO Unit L-191Project Number:Empire ABO Unit L-191

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
182591	SP	soil	2008-12-15	08:30	2008-12-16
182592	BH-1	soil	2008-12-15	08:40	2008-12-16
182593	BH-2	soil	2008-12-15	08:48	2008-12-16

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

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

Michael abel

Dr. Blair Leftwich, Director

Standard Flags

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

Case Narrative

Samples for project Empire ABO Unit L-191 were received by TraceAnalysis, Inc. on 2008-12-16 and assigned to work order 8121621. Samples for work order 8121621 were received intact at a temperature of 3.1 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 8121621 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: 182591 - SP

Chloride		558 1	ng/Kg	50	2.00
Parameter	Flag	Result	Units	Dilution	RL
		RL			
Prep Batch:	47135	Sample Preparation:	2008-12-16	Prepared By:	\mathbf{AR}
QC Batch:	55218	Date Analyzed:	2008-12-16	Analyzed By:	\mathbf{AR}
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500 -Cl B	Prep Method:	N/A
Laboratory:	Midland				

Sample: 182592 - BH-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500 -Cl B	Prep Method:	N/A
QC Batch:	55218	Date Analyzed:	2008-12-16	Analyzed By:	\mathbf{AR}
Prep Batch:	47135	Sample Preparation:	2008-12-16	Prepared By:	\mathbf{AR}
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		1080 1	mg/Kg	50	2.00

Sample: 182593 - BH-2

Laboratory: · Analysis: QC Batch: Prep Batch:	Midland Chloride (' 55218 47135	Titration)	Analytical Me Date Analyzed Sample Prepar	thod: SM 4500-Cl B l: 2008-12-16 ation: 2008-12-16	Prep Method Analyzed By Prepared By	l: N/A :: AR : AR
			RL			
Parameter		Flag	Result	Units	Dilution	RL
Chloride			800	mg/Kg	50	2.00
Method Bla	nk (1)	QC Batch: 55218				
QC Batch:	55218		Date Analyzed:	2008-12-16	Analyzed B	v: AR
Prep Batch:	47135		QC Preparation:	2008-12-15	Prepared By	y: AR
			M	DL		
Parameter		Flag	Res	ult	Units	RL
Chloride			<0.5	500	mg/Kg	2

Report Date Empire ABC	e: December 17, D Unit L-191	2008		Work C Empire	Pag	Page Number: 5 of 6 Lea Co., NM				
Laboratory	Control Spik	e (LCS-1)								
QC Batch: Prep Batch:	$55218 \\ 47135$		Date A QC Pre	nalyzed: eparation:	2008-12-1 2008-12-1	65		Ana Pro	alyzed B epared B	y: AR y: AR
		ΤC	10			Cutter	Ма	:		Dee
Daram		Res	در ult	Units	Dil	Amount	Re	urix sult R	ec	Limit
<u>Chloride</u>		10	0	mg/Kg	1	100	<0.	$\frac{500}{500}$ 1	00	85 - 115
Percent reco	very is based on	the spike result.	RPD is	based on	the spike ar	nd spike du	olicate r	esult.		
	,	LCSD			Snike	Matrix		Rec		RPD
Param		Besult	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		94.6	mg/Kg	g 1	100	<0.500	95	85 - 115	6	20
Percent reco	very is based on	the spike result.	RPD is	based on	the spike ar	nd spike du	olicate r	esult.		
	- <i>v</i>	•			-					
Matrix Spi	ke (MS-1)	Spiked Sample: 18	82296							
OC Batch	55918		Date A	nalvzed·	2008-12-1	6		An	alvzed B	v AR
Prep Batch	47135		OC Pre	eparation:	2008-12-1	5		Pre	epared B	v: AR
riep Batom			v	1					1	0
		Μ	S			Spike	Ma	trix		Rec.
Param		Res	ult	Units	Dil.	Amount	Re	sult R	ec.	Limit
Chloride		51:	30	mg/Kg	50	5000	1′	73 9	99	85 - 115
Percent reco	very is based on	the spike result.	RPD is	based on	the spike ar	nd spike du	plicate r	esult.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		5270	mg/Kg	g 50	5000	173	102	85 - 115	3	20
Percent reco	very is based on	the spike result.	RPD is	based on	the spike ar	nd spike du	olicate r	esult.		
Standard (ICV-1)									
QC Batch:	55218		Date A	nalyzed:	2008-12-16			An	alyzed B	y: AR
			ICVs	IC	CVs	ICVs		Percent		
			True	Fo	und	Percent]	Recovery		Date
Param	Flag	Units	Conc.	Co	onc.	Recovery		Limits	A	nalyzed
Chloride		mg/Kg	100	9	9.2	99		85 - 115	20	008-12-16
	CCV 1)									
Standard (UUV-I)									
QC Batch:	55218		Date A	nalyzed:	2008-12-16			An	alyzed B	y: AR
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Report Date: December 17, 2008 Empire ABO Unit L-191			E	Work Order: 8 Empire ABO U	Page Number: 6 of 6 Lea Co., NM		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	······	mg/Kg	100	101	101	85 - 115	2008-12-16

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182591 SP	1	-	-	x x					-	-		is hs	8:30	E												ш		У Х			2	下 入	<u> </u>
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WBENC: 237019	HUB: 175243974 NCTRCA WFWB384	3100-86536 DBE: 444Y0909	VN 20657
ז	NELAP Cortifi	cations	,

JLAF Certifications

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

T104704221-08-TX El Paso: LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 25, 2009

Work Order: 9021718

Project Location: Eddy County, NM Project Name: Empire ABO Unit L-191 Project Number: BPETR0030REC

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
187705	BH-1	soil	2009-02-10	09:45	2009-02-17
187706	BH-2	soil	2009-02-10	10:20	2009-02-17

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

This report consists of a total of 10 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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Michael april

Dr. Blair Leftwich, Director

Standard Flags

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

Case Narrative

Samples for project Empire ABO Unit L-191 were received by TraceAnalysis, Inc. on 2009-02-17 and assigned to work order 9021718. Samples for work order 9021718 were received intact at a temperature of 4.0 deg. C.

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

		Prep	Prep	$\rm QC$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	48686	2009-02-18 at 09:58	56986	2009-02-18 at 09:58
Chloride (Titration)	SM 4500-Cl B	48644	2009-02-17 at $16:00$	56958	2009-02-18 at $11:33$
Total BTEX	S 8021B	48686	2009-02-18 at $09:58$	56986	2009-02-18 at $09:58$
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 9021718 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: 187705 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX, Total BTEX 56986 48686		Anal Date Samp	ytical Metho Analyzed: ble Preparat	od: S 80211 2009-02 ion: 2009-02	3 18 18	Prep Me Analyze Preparec	thod: S 5035 d By: ME d By: ME
			RL					
Parameter	Flag		Result	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
Total BTEX			< 0.0600)	mg/Kg		1	0.0600
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ne (TFT)		0.983	mg/Kg	1	1.00	98	49 - 129.7
4-Bromofluor	obenzene (4-BFB)		0.841	mg/Kg	1	1.00	84	45.2 - 144.3

Sample: 187705 - BH-1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 56958 48644	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-02-18 2009-02-17	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 187705 - BH-1

Lubbock				ς
TPH 418.1	Analytical Method:	E 418.1	Prep Method:	N/A
57110	Date Analyzed:	2009-02-24	Analyzed By:	$\mathbf{C}\mathbf{M}$
48787	Sample Preparation:	2009-02-24	Prepared By:	CM
	\mathbf{RL}			
Flag	Result	Units	Dilution	\mathbf{RL}
	<10.0	mg/Kg	1	10.0
	Lubbock TPH 418.1 57110 48787 Flag	Lubbock TPH 418.1 Analytical Method: 57110 Date Analyzed: 48787 Sample Preparation: RL Flag Result <10.0	LubbockAnalytical Method:E 418.1TPH 418.1Analytical Method:E 418.157110Date Analyzed:2009-02-2448787Sample Preparation:2009-02-24RLFlagResultUnits<10.0	LubbockAnalytical Method:E 418.1Prep Method:TPH 418.1Analytical Method:E 418.1Prep Method:57110Date Analyzed:2009-02-24Analyzed By:48787Sample Preparation:2009-02-24Prepared By:RLFlagResultUnitsDilution<10.0

Report Date: February 25, 2009	Work Order: 9021718	Page Number: 5 of 10
BPETR0030REC	Empire ABO Unit L-191	Eddy County, NM

Sample: 187706 - BH-2

Laboratory:	Midland								
Analysis:	BTEX, Total BTE	Х	Anal	ytical Methe	od: S 8021I	3	Prep Me	thod:	S 5035
QC Batch:	56986		Date	Analyzed:	2009-02	-18	Analyzed	d By:	ME
Prep Batch:	48686		Samj	ole Preparat	tion: 2009-02	-18	Prepared By:		
•		,	RI	4 (
Parameter	Flag		Result	t	Units		Dilution		RL
Benzene			. <0.0100)	mg/Kg		1		0.0100
Toluene			< 0.0100)	mg/Kg		1		0.0100
Ethylbenzene			< 0.0100)	mg/Kg		1		0.0100
Xylene			< 0.0100)	mg/Kg		1		0.0100
Total BTEX			< 0.0600)	mg/Kg		1		0.0600
						Spike	Percent	Re	covery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	L	imits
Trifluorotolue	me (TFT)		0.980	mg/Kg	1	1.00	98	49	- 129.7
4-Bromofluor	obenzene (4-BFB)		0.806	mg/Kg	1	1.00	81	45.2	- 144.3

Sample: 187706 - BH-2

Analysis	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method	N/A
QC Batch:	56958	Date Analyzed:	2009-02-18	Analyzed By:	AR
Prep Batch:	48644	Sample Preparation:	2009-02-17	Prepared By:	\mathbf{AR}
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		<200	ng/Kg	50	4.00

Sample: 187706 - BH-2

Laboratory:	Lubbock	ć			
Analysis:	TPH 418.1	Analytical Method:	$\to 418.1$	Prep Method:	N/A
QC Batch:	57110	Date Analyzed:	2009-02-24	Analyzed By:	ĊM
Prep Batch:	48787	Sample Preparation:	2009-02-24	Prepared By:	CM
		RL			
Parameter	Flag	Result	Units	Dilution	RL
TRPHC		<10.0	mg/Kg	1	10.0

Report Date: February BPETR0030REC	25, 2009	E	Work Ore mpire AE	der: 9021718 30 Unit L-191	Page Number: 6 of 10 Eddy County, NM			
Method Blank (1)	QC Batch: 56958							
QC Batch: 56958 Prep Batch: 48644		Date Ana QC Prepa	lyzed: aration:	2009-02-18 2009-02-17		Analy Prepa	vzed By: AR ured By: AR	
Parameter	Flag		MD Resu	L lt	Uni	ts	RL	
Chloride			<2.0)]	mg/	Kg	4	
Method Blank (1) QC Batch: 56986 Prep Batch: 48686	QC Batch: 56986	Date Ana QC Prepa	lyzed: aration:	2009-02-18 2009-02-18		Analy Prepa	zed By: ME red By: ME	
Parameter	Flag		N Be	1DL	Lin	its	BI.	
Benzene Toluene Ethylbenzene Xylene	1165		<0.00 <0.00 <0.00 <0.00)100)100)110)360	mg/ mg/ mg/ mg/	/Kg /Kg /Kg /Kg	0.01 0.01 0.01 0.01	
Surrogate	Flag	Regult	Units	Dilution	Spike A mount	Percent	Recovery	
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4	4-BFB)	0.993 0.827	mg/Kg mg/Kg	1 1	1.00 1.00	99 83	65.6 - 130.6 51.9 - 128.1	
Method Blank (1)	QC Batch: 57110							
QC Batch: 57110 Prep Batch: 48787		Date Ana QC Prepa	lyzed: tration:	2009-02-24 2009-02-24		Analy Prepa	zed By: CM red By: CM	
Parameter TRPHC	Flag		$\frac{\text{MD}}{\text{Resu}}$	L lt 28	Uni mg/	ts Kg	RL 10	

Laboratory Control Spike (LCS-1)

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QC Batch:	56958	Date Analyzed:	2009-02-18	Analyzed By:	\mathbf{AR}
Prep Batch:	48644	QC Preparation:	2009-02-17	Prepared By:	\mathbf{AR}

Report Date: February 25, 2009 BPETR0030REC		Work O Empire A		Page Number: 7 of 10 Eddy County, NM			
Param	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.7	mg/Kg	1	100	< 2.01	98	85 - 115
Percent recovery is based on the spil	ke result. RPD	is based on t	the spike a	and spike dupl	icate result.		

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	99.4	mg/Kg	1	100	<2.01	99	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	$56986 \\ 48686$	Da QC	te Analyzed: C Preparation	2009- n: 2009-	02-18 02-18	Analy Prepa	zed By: ME .red By: ME	
Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		0.832	mg/Kg	1	1.00	< 0.00100	83	72.7 - 129.8
Toluene		0.825	mg/Kg	1	1.00	< 0.00100	82	71.6 - 129.6
Ethylbenzene	e	0.810	mg/Kg	1	1.00	< 0.00110	81	70.8 - 129.7
Xylene		2.38	mg/Kg	1	3.00	< 0.00360	79	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.957	mg/Kg	1	1.00	< 0.00100	96	72.7 - 129.8	14	20
Toluene	0.962	mg/Kg	1	1.00	< 0.00100	96	71.6 - 129.6	15	20
Ethylbenzene	0.962	$\mathrm{mg/Kg}$	1	1.00	< 0.00110	96	70.8 - 129.7	17	20
Xylene	2.83	mg/Kg	1	3.00	< 0.00360	94	70.9 - 129.4	17	20

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

	\mathbf{LCS}	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	0.981	0.980	mg/Kg	1	1.00	98	98	65.9 - 132
4-Bromofluorobenzene (4-BFB)	0.861	0.867	m mg/Kg	1	1.00	86	87	55.2 - 128.9

Laboratory Control Spike (LCS-1)

QC Batch:	57110 Date Analyzed: 2009-02-24				Analyze	ed By: CM		
Prep Batch:	48787	QC I	Preparation:	2009-02-24		Prepare	ed By: CM	
		LCS			Spike	Matrix		Rec.
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit
TRPHC		260	mg/Kg	1	250	<5.28	104	75.5 - 136

Report Date: February 25, 2009	Work Order: 9021718	Page Number: 8 of 10
BPETR0030REC	Empire ABO Unit L-191	Eddy County, NM

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

									- Autor
TRPHC	265	mg/Kg	1	250	$<\!5.28$	106	75.5 - 136	2	20
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
	LCSD			Spike	Matrix		Rec.		RPD

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

Matrix Spike (MS-1) Spiked Sample: 187706

QC Batch:	56958	Date Analyzed:	2009-02-18	Analyzed By:	\mathbf{AR}
Prep Batch.	48644	QC Preparation:	2009-02-17	Prepared By:	\mathbf{AR}

	· MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	5150	mg/Kg	50	5000	130	100	85 - 115

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	5110	mg/Kg	50	5000	130	100	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 187705

QC Batch:	56986	Date Analyzed:	2009-02-18	Analyzed By:	ME
Prep Batch:	48686	QC Preparation:	2009-02-18	Prepared By:	ME

	MS			Spike	Matrix		$\operatorname{Rec.}$
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	0.925	mg/Kg	1	1.00	< 0.00100	92	58.6 - 165 2
Toluene	0.921	m mg/Kg	1	1.00	< 0.00100	92	64.2 - 153.8
Ethylbenzene	0.934	m mg/Kg	1	1.00	< 0.00110	93	61.6 - 159.4
Xylene	2.71	m mg/Kg	1	3.00	< 0.00360	90	64.4 - 155.3

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	0.975	mg/Kg	1	1.00	< 0.00100	98	58.6 - 165.2		20
Toluene	0.975	$\mathrm{mg/Kg}$	1	1.00	< 0.00100	98	64.2 - 153.8	6	20
Ethylbenzene	0.995	$\mathrm{mg/Kg}$	1	1.00	< 0.00110	100	61.6 - 159.4	6	20
Xylene	2.91	$\mathrm{mg/Kg}$	1	3.00	< 0.00360	97	64.4 - 155.3	7	20

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

Report Da BPETR00	te: February 2 30REC	5, 2009		Work Empire	Order: 902 ABO Unit	1718 L-191			Page N Edd	umber: ly Coun	9 of 10 ity, NM
Surrogate		M Re:	IS sult	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	I	Rec. Jimit
Trifluoroto	luene (TFT)	1.	00	0.999	mg/Kg	1	1	100	100	76	- 127.9
4-Bromoflu	orobenzene (4	-BFB) 0.7	793	0.829	mg/Kg	1	1	79	83	72	- 127.8
Matrix S _I	pike (MS-1)	Spiked Sample:	187705								
QC Batch: Prep Batch	57110 n: 48787		Date QC P	Analyzed: 'reparation	2009-02- : 2009-02-	-24 -24			Analy: Prepa	zed By: red By:	${ m CM} { m CM}$
D		Ν	AS	¥7. •.	נים	Sp	oike	Matrix	D		Rec.
Param TDDUC		Ro	sult	Units	1	Am	ount	Result	Rec.	1	Limit
		2	24 	mg/Kg		2	<u> </u>	< 3.28	<u></u>	1	0 - 394
Percent rec	overy is based	on the spike result	. RPD	is based or	the spike	and spi	ke duplica	ite result.		-	
		MSD			Spike	Ma	atrix	\mathbf{R}	.ec.		RPD
Param		Result	Uni	ts Dil.	Amount	a Re	sult Re	ec. Li	mit	RPD	Limit
TRPHC		235	mg/	Kg 1	250	<:	5.28 9	4 10 -	- 354	5	20
Percent rec	overy is based	on the spike result	. RPD	is based or	the spike	and spi	ke duplica	te result.			
Standard	(ICV-1)										
QC Batch:	56958		Date	Analyzed:	2009-02-1	.8			Analy	zed By:	AR
			ICVs	I	$\rm CVs$	IC	Vs	Perce	ent		
			True	F	ound	Per	cent	Recov	ery	E	Date
Param	Flag	Units	Conc		Conc.	Reco	overy	Limi	ts	Ana	alyzed
Chloride		mg/Kg	100		101	10)1	85 - 1	15	2009	9-02-18
Standard	(CCV-1)										
Standard QC Batch:	(CCV-1) 56958		Date	Analyzed:	2009-02-1	-8			Analy	zed By:	AR
Standard QC Batch:	(CCV-1) 56958		Date CCVs	Analyzed:	2009-02-1 CCVs	.8 _CC	ZVs	Perce	Analy	zed By:	AR
Standard QC Batch:	(CCV-1) 56958		Date CCVs True	Analyzed: 5 C F	2009-02-1 CCVs ound	.8 CC Per	CVs cent	Perce Recov	Analy ent ery	zed By: I	AR Date
Standard QC Batch: Param	(CCV-1) 56958 Flag	Units	Date CCVs True Conc.	Analyzed: s C F . C	2009-02-1 CCVs ound Conc.	.8 CC Per- Recc	CVs cent overy	Perce Recov Limi	Analy ent ery ts	zed By: I Ana	AR Date alyzed

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Standard (ICV-1)

QC Batch: 56986

Date Analyzed: 2009-02-18

Analyzed By: ME

Report Date: February 25, 2009 BPETR0030REC)09	Work Order: 9021718 Empire ABO Unit L-191			Page Number: 10 of 10 Eddy County, NM		
Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Benzene		mg/Kg	0.100	0.0980	98	85 - 115	2009-02-18	
Toluene		mg/Kg	0.100	0.0982	98	85 - 115	2009-02-18	
Ethylbenzene		mg/Kg	0.100	0.0992	99	85 - 115	2009-02-18	
Xylene		$\mathrm{mg/Kg}$	0.300	0.290	97	85 - 115	2009-02-18	

Standard (CCV-1)

QC Batch:	56986		Date Analyzed: 2009-02-18			Analyzed By: ME		
			CCVs	CCVs	CCVs	Percent		
			True	Found	Percent	Recovery	Date	
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Benzene		mg/Kg	0.100	0.0992	99	85 - 115	2009-02-18	
Toluene		m mg/Kg	0.100	0.0990	99	85 - 115	2009-02-18	
Ethylbenzer	ne	$\mathrm{mg/Kg}$. 0.100	0.100	100	85 - 115	2009-02-18	
Xylene		mg/Kg	0.300	0.295	98	85 - 115	2009-02-18	

Standard (ICV-1)

TRPHC		mg/Kg	100	98.0	98	80 - 120	2009-02-24
Param	Flag	Units	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
QC Batch:	57110		Date Anal	lyzed: 2009-02	2-24	Analy	yzed By: CM

Standard (CCV-1)

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QC Batch:	57110		Date Anal	yzed: 2009-02	2-24	Anal	yzed By: CM
			CCVs True	CCVs Found	CCVs Percent	Percent	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
TRPHC		mg/Kg	100	91.5	92	80 - 120	2009-02-24

	LAB Order ID # 90.	21718	Page of	1
TraceAnalysis, Inc.	6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 Tei (806) 794-1296 Env (962) 704 4209	5002 Basin Street, Suite A1 200 Midland, Texas 79703 E Tel (432) 689-6301 Eav (432) 889-6312	East Sunset Rd , Suite E 6015 Harris P/ El Paso, Texas 79922 Ft. Worth, T Tel (915) 585-3443 Tel (817) Cox (016) 585 4044	(wy., Suite 110 Texas 76132 201-5260
email: lab@traceanalysis.com	1 (800) 378-1296	Fax (432) 008-0313	1 (888) 588-3443	
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Submittal of samples constitutes agreement to Terms and Conditions listed or	n reverse side of C. O. C	Carrier # Com in		
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ATTACHMENT 2 MAPS

ATTACHMENT 2





