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			Rele	ease Notific	atio			ction			_	
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Company (CEMC)			Ū.								
		Street, Houst gton Paddocl				Telephone N Facility Typ	No.: 713-372-77	05		_	_	
A CARLES OF A									Lange	1 22220		15-10
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Was Immedi	ate Notice (Yes [No 🗌 Not Re	equired	If YES, To Pat Caperto	Whom? on (left message o	on answe	ering machi	ine)		
By Whom? F	Ricky Hered					Date and H	lour: 5/30/07 11:3	30 am				
Was a Water	course Read		Yes 🛛	No		If YES, Vo	lume Impacting t	he Wate	crcourse.			
If a Watercou	ırse was Im	pacted, Descri	ibe Fully.*	\$								
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				ill be done and coninated soil. Conta					. Once soil	has been re	moved	samples will
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Company do	cumenting f	inal Cleanup	Action tak	en.					12.00	Ring	1.262	
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lederal, state,	or local lav	ws and/or regu	nations.				OIL CONS	SERV	ATION	DIVISIO	DN	
Signature:	-											
Printed Name	e: Kegan Bo	oyer				Approved by	District Supervise	or:		_		
Title: CEMC	Project Ma	nager				Approval Dat	e:	H	Expiration I	Date:		
E-mail Addre	ess: kegan.l	ooyer@chevro	on.com			Conditions of	Approval:			Attached		
Date:		Pho	ne: (713)	372-7705								

* Attach Additional Sheets If Necessary



Kegan W. Boyer, P.G. Project Manager

Upstream Business Unit Environmental Management

Company 1400 Smith Street Room 07076 Houston, Texas 77002 Tel 713-372-7705 kegan.boyer@chevron.com

February 11, 2014

Mr. Geoffrey Leking New Mexico Oil Conservation Division District 1 1625 N. French Drive Hobbs, New Mexico 88240

Re: Site Closure Documentation Lovington Paddock Unit #87 (RP #1400)

Dear Mr. Leking,

Please find enclosed for your files a copy of the following report documenting final closure activities at the Lovington Paddock Unit #87 (RP #1400):

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 Site Closure Report, Lovington Paddock Unit #87, Unit B, Section 36, Township 16S, Range 36E, Lea County, New Mexico RP #1400 (Final Form C-141 also included with report)

This report was prepared by Conestoga-Rovers & Associates (CRA) on behalf of Chevron Environmental Management Company (CEMC) to document remedial activities performed for CEMC at the above-referenced project site. Also enclosed is an electronic copy of the report on CD-ROM.

CEMC now considers remedial activities at this site to be complete and respectfully requests that the NMOCD grant a no further action status to the site. Should you have any questions regarding the content of the report, please do not hesitate to contact me by phone at 713-372-7705 or via e-mail at kegan.boyer@chevron.com.

Sincerely,

Kegan W. Boyer, P.G. Environmental Project Manager

cc: Bernie Bockish, CRA

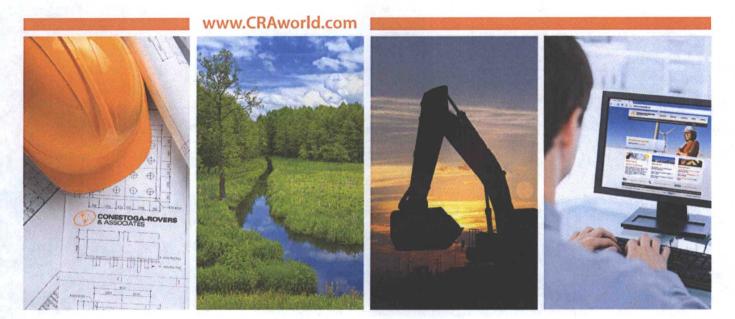
<u>District I</u> 625 N. French Dr., Hobbs, NM 88240	Sta	ate of	New Mex	ico	OBBS			Form C-14
<u>301 W. Grand Avenue</u> , Artesia, NM 88210	Energy Mi	nerals	and Natura	Resources FF	B14	2014	Rev	vised October 10, 20
District III Oil Conser 1000 Rio Brazos Road, Aztec, NM 87410 1220 South District IV 1220 South				ervation Division Submit 2 Copies District Office				opies to appropria Office in accordan th Rule 116 on bas side of for
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Name of Company: Chevron Environmental	Management		Contact: Ke				l Report	Final Rep
Company (CEMC)						×		
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Surface Owner: City of Lovington	Mineral C		1.3.1.1			Lease N	o.: 23220	
Surface Owner: City of Lovington			Set Survey			Lease N	0 23220	
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Type of Release: Crude oil and produced water	IIII	UKL	-	Release: 1bbl oil	and 5	Volume R	ecovered: 1	⁄2 bbl
Source of Release: Hole in 21/2" flow line			Date and H 5/30/07 10:	our of Occurrenc	e:	Date and Hour of Discovery: 5/30/07 10:00 am		
Was Immediate Notice Given?	No 🗌 Not Re	equired	If YES, To		on answe		- 4	
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Was a Watercourse Reached?	No		If YES, Vo	lume Impacting t	he Wate	rcourse.		
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Describe Cause of Problem and Remedial Action		. Well v	was shut in at	the time of leak.			Hauled con	
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CONESTOGA-ROVERS & ASSOCIATES

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Site Closure Report

Lovington Paddock Unit #87 Unit B, Section 36, Township 16S, Range 36E Lea County, New Mexico RP #1400

Prepared for: Mr. Kegan Boyer Chevron Environmental Management Company 1400 Smith Street, Room 07076 Houston, Texas 77002

Conestoga-Rovers & Associates

6121 Indian School Road, NE Suite 200 Albuquerque, New Mexico 87110

February 2014 • 073820 • Report No. 3



Page

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Section 2.0	Site History/Assessment	1
Section 3.0	Corrective Actions	
Section 4.0	Summary	3
Section 5.0	Site Closure Request	4

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Figure 2	Site Detail Map

List of Tables (Following Text)

Table 1

Soil Analytical Summary

List of Appendices

Appendix A Analytical Results

Appendix B Photo Log

073820 (3) February 2014



Section 1.0 Introduction

This Site Closure Report provides documentation associated with corrective actions at the Lovington Paddock Unit (LPU) #87, Lea County, New Mexico. The closure activities were documented and performed by Conestoga Rovers & Associates (CRA) under the direction of Chevron Environmental Management Company (CEMC). This report is an attachment to the Final C-141 Form submittal for RP #1400.

The Chevron LPU #87 (hereafter referred to as the "Site"), is located in Section 36 (Unit B), Township 16 South, Range 36 East, Lea County, New Mexico (Figure 1).

The scope of work for the subject corrective actions and corresponding activities was developed between CEMC, New Mexico Oil Conservation Division (NMOCD), and CRA personnel. CRA performed project management, general oversight of the reclamation activities, and documentation of the field work. The agreed upon scope of services included:

- Obtaining proper site specific training, permits and involving appropriate stakeholders needed to conclude scope of work.
- Lay poly liner in an excavated pit area and backfill the excavation pit using clean topsoil transported from an off-site source.
- Provide final backfilling, grading, ripping and seeding the Site.
- Prepare site closure documents for submittal with the Final C-141 Release Notification and Corrective Action Form to the NMOCD requesting site closure.

Section 2.0 Site History/Assessment

Chevron submitted a C-141 Form to the NMOCD dated May 30, 2007, describing a release of 1 barrel (bbl) of oil and 5 barrels of produced brine from a corroded 2 ½ inch steel flow line with a reported release date of May 30, 2007. The C-141 reported that the released brine had a concentration of 35,000 ppm and impacted an area of surface soils approximately 60 feet by 60 feet. A remediation permit (RP) number, RP #1400, was assigned to this release incident by the NMOCD Hobbs office.

Following the release, approximately ½ of a barrel of fluid was recovered. Visibly impacted soil was excavated. Impacted surface soils were transported to the Sundance (Parabo), Inc. facility near Eunice, New Mexico by the Chevron business unit.

Following the initial site remediation that occurred shortly after the release event, surface soil samples were initially collected by Tetra Tech using a hand auger at three locations on July 15, 2010 to a depth of 6 inches.

073820 (3) February 2014



Chevron Environmental Management Company

Samples were analyzed for TPH, BTEX, and chloride by Trace Analysis, Inc. of Lubbock, Texas. Results from these tests were below detection limits for all analyses.

On August 18, 2010, trench samples from these same three locations (see Figure 2) were obtained from depths of 1 to 1.5 feet and analyzed for chlorides. The results from these samples were non-detect for chlorides (see Table 1 and Appendix A). Based on a site visit conducted in April 2013 by CRA, excavation of the release site covering an area of approximately 60 feet by 60 feet had been completed.

On January 11, 2011, CRA, CEMC and Marcos Silvestri (Chevron contract PM) met at the NMOCD District I Hobbs office to discuss this project site. A topic of discussion included the scope of work and objectives to complete site activities as directed by the NMOCD Hobbs district office. On January 13, 2011, CRA submitted closure request reports and data information packets for the Site and Remediation Plans as discussed in the January 11, 2011 meeting. On April 13, 2011, the NMOCD Hobbs district office approved the proposed remedial activities (backfill) described in the closure request reports from January 2011. The approved remedial activities proposed in 2011 were again presented in the scope of work that was submitted by CRA on June 27, 2013.

Additionally, permission to complete restoration activities without additional soil sampling was granted by Mr. Geoffrey Leking of the NMOCD via email on November 5, 2013, based on the following:

- The vertical and horizontal extent of regulated impacts to soils by the oil and brine release incident has been adequately delineated by previous site investigations.
- Remedial excavation work was previously completed based on an April 2013 site visit.
- Based on information provided in the completed C-141 Form, all excavated materials from this location had been removed and subsequently transported to the Sundance (Parabo), Inc. facility for disposal.

Section 3.0 Corrective Actions

The field implementation of the approved site closure activities began on November 5, 2013 and completed by November 15, 2013. Ron's Welding, Inc. (RWI) of Hobbs, New Mexico provided labor, heavy equipment and pit lining material. CRA coordinated field operations, performed project management tasks and managed the safety of CRA employees working on Site.

3.1 Lining and Backfilling of Remedial Excavation

The steel flow line that runs through the impacted area was wrapped with wax protective wrap prior to backfilling. A 20 mil poly liner was then placed over the approximately 60 feet by 60 feet previously excavated area.

073820 (3) February 2014



Clean topsoil was obtained from the borrow pit located west of the intersection of State Roads 238 and 50 (Buckeye). Clean topsoil was excavated using a backhoe and placed into 10-wheel dump trucks for transportation to the site.

Approximately 180 cubic yards of clean topsoil material was transported from the borrow pit and used to backfill the excavation. The clean fill was then graded to match the ground surface and wheel-rolled using a backhoe (see Appendix B for photographs). To complete the restoration activities, the backfill area was seeded with BLM #4 seed mix.

Section 4.0 Summary

The agreed upon scope of work and closure plan activities for the reclamation of the Chevron LPU #87 Lea County, New Mexico, has been completed (RP #1400). The following is a summary of project milestones and work performed:

- Chevron submitted a C-141 Form to the NMOCD dated May 30, 2007, describing a release of 1 bbl of oil and 5 bbl of produced brine from a corroded 2 ½ inch steel flow line with a reported release date of May 30, 2007.
- Soil sampling results performed by Tetra Tech in July and August, 2010 did not indicate the
 presence of hydrocarbons or chlorides in the shallow subsurface.
- On January 11, 2011, CRA, CEMC and Marcos Silvestri (Chevron contract PM) met at the NMOCD District I Hobbs office to discuss this project site.
- On April 13, 2011, the NMOCD Hobbs district office approved the proposed remedial activities (backfill) described in the closure request reports. The NMOCD approved scope of work from January 2011 was again presented in the scope of work submitted by CRA on June 27, 2013.
- A site visit conducted in April 2013 by CRA confirmed that excavation of the release site covering an area of approximately 60 feet by 60 feet had been completed.
- In November 2013, the Site was lined, backfilled, and graded to minimize surface water runoff and erosion. The ground was then ripped using heavy equipment, and a New Mexico native seed mixture was dispersed as part of final Site closure activities.



Section 5.0 Site Closure Request

This Site Closure Report provides documentation of the LPU #87 remedial correctional actions performed in accordance to the RP #1400. Based on NMOCD communication and corrective actions performed to date, CRA, on behalf of CEMC, respectfully requests the NMOCD rule that no further action for this site is warranted. This Site Closure Report concludes the scope of work for this project. Please feel free to contact the CRA Albuquerque office if there are any questions or additional information is required.

All of which is Respectfully Submitted,

CONESTOGA ROVERS & ASSOCIATES

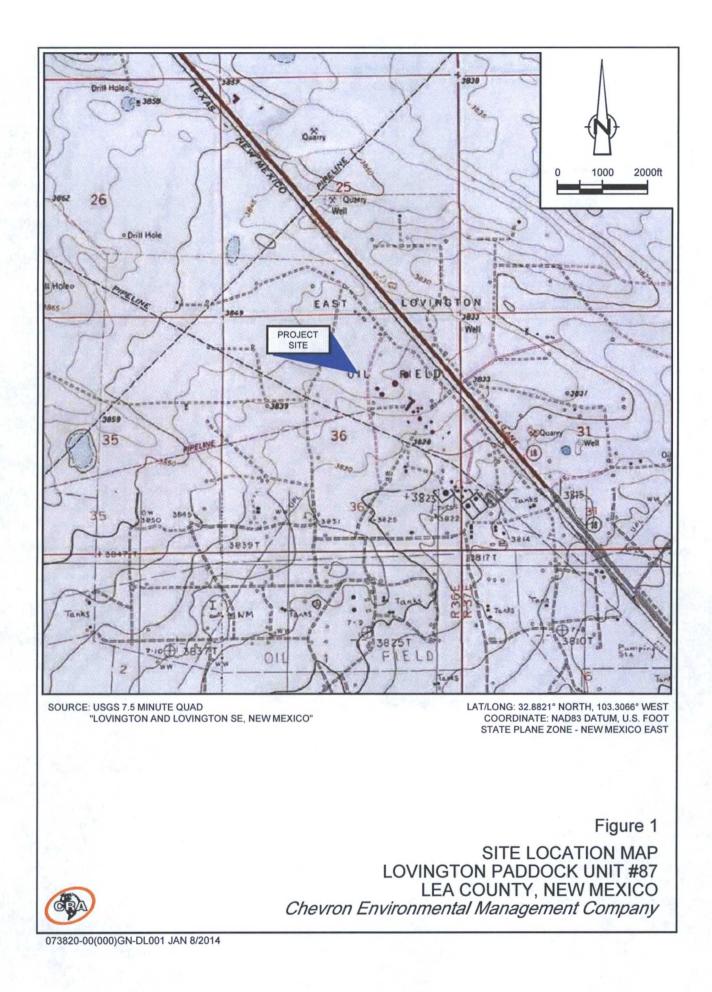
Cale Kanack Staff Scientist

Reviewed by:

:0 mar

Bernard Bockisch, PMP Sr. Project Manager





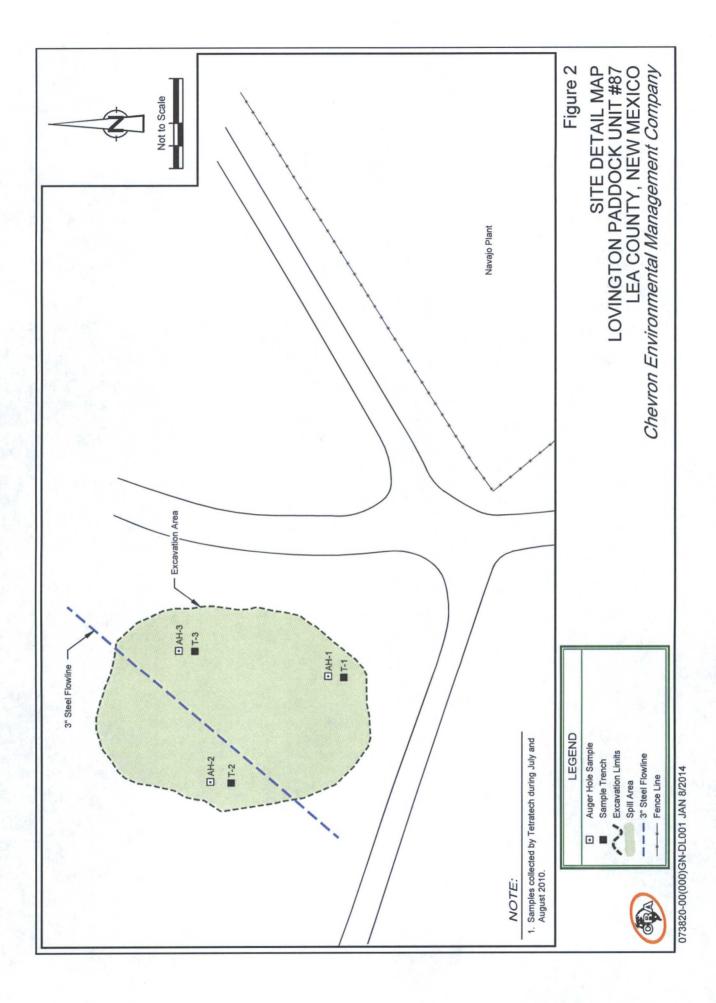


Table 1 Soil Analytical Summary Lovington Paddock Unit #87 Lea County, New Mexico Chevron Environmental Management Company

			_	_		
Chloride (mg/kg)	< 200	< 200	< 200	< 200	< 200	< 200
Xylenes (mg/kg)	< 0.02	< 0.02	< 0.02	1	1	1
Ethylbenzene (mg/kg)	< 0.02	< 0.02	< 0.02	1	I	1
Toluene (mg/kg)	< 0.02	< 0.02	< 0.02	1	-	1
Benzene (mg/kg)	< 0.02	< 0.02	< 0.02		1	1
TPH-GRO TPH-DRO TPH Total (mg/kg) (mg/kg) (mg/kg)	< 50.0	< 50.0	< 50.0	1	1	1
TPH-DRO (mg/kg)	< 50.0	< 50.0	< 50.0	1	1	1
TPH-GRO (mg/kg)	< 2.00	< 2.00	< 2.00	I	I	1
Sample Depth	0-6"	0-6"	0-6"	0.5-1'	1-1.5'	1-1.5'
Sample Date	7/15/2010	7/15/2010	7/15/2010	8/18/2010	8/18/2010	8/18/2010
Sample ID	AH-1	AH-2	AH-3	T-1	T-2	T-3

Notes:

1. All data collected by TetraTech

-- = Not analyzed

3. < = Value Less than Reporting Limit (RL)

4. GRO/DRO = Gasoline/Diesel Range Organics

Report Date: July 20, 2010

Work Order: 10071917

Page Number: 1 of 1

Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

Report Date: July 20, 2010

Work Order: 10071917

Project Location:Lea County, NMProject Name:LPU #87Project Number:114-6400599

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
238010	AH-1 0-6 in.	soil	2010-07-15	00:00	2010-07-19
238011	AH-2 0-6 in.	soil	2010-07-15	00:00	2010-07-19
238012	AH-3 0-6 in.	soil	2010-07-15	00:00	2010-07-19

]	BTEX	TPH DRO - NEW	TPH GRO	
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
238010 - AH-1 0-6 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<2.00
238011 - AH-2 0-6 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<2.00
238012 - AH-3 0-6 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<2.00

Sample: 238010 - AH-1 0-6 in.

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238011 - AH-2 0-6 in.

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 238012 - AH-3 0-6 in.

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

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. MILLAND TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 1 200 East Stinset Road, Suite E 1 5002 Basin Street, Suite A1 1 6015 Harris Parkway, Suite 110 Ft

Lubbock, Texas 79424 800•378•1296 El Pasu, Texas 79922 888•588•3443 Midland, Texas 79703 Ft. Worth, Texas 76132 F-Mail: lab@traceacalysis.com
 806 • 794 • 1296
 FAX

 915 • 585 • 3443
 FAX

 432 • 689 • 6301
 FAX

 817 • 201 • 5260
 FAX

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

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: July 20, 2010

Work Order: 10071917

Project Location:Lea County, NMProject Name:LPU #87Project Number:114-6400599

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
238010	AH-1 0-6 in.	soil	2010-07-15	00:00	2010-07-19
238011	AH-2 0-6 in.	soil	2010-07-15	00:00	2010-07-19
238012	AH-3 0-6 in.	soil	2010-07-15	00:00	2010-07-19

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

Michael abel

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Case Narrative

Samples for project LPU #87 were received by TraceAnalysis, Inc. on 2010-07-19 and assigned to work order 10071917. Samples for work order 10071917 were received intact at a temperature of 3.3 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	61608	2010-07-19 at 16:00	71883	2010-07-19 at 15:44
Chloride (Titration)	SM 4500-Cl B	61618	2010-07-20 at 08:51	71894	2010-07-20 at 11:55
TPH DRO - NEW	S 8015 D	61591	2010-07-19 at 14:30	71872	2010-07-19 at 14:30
TPH GRO	S 8015 D	61608	2010-07-19 at 16:00	71884	2010-07-19 at 16:29

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 10071917 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: 238010 - AH-1 0-6 in.

Laboratory:MidlandAnalysis:BTEXQC Batch:71883Prep Batch:61608			Analytical Date Analy Sample Pre	zed:	S 8021B 2010-07-19 2010-07-19		Prep Metho Analyzed B Prepared B	y: AG
			RL					
Parameter	Flag		Result		Units	Di	lution	RL
Benzene			< 0.0200		mg/Kg		1	0.0200
Toluene			< 0.0200		mg/Kg		1	0.0200
Ethylbenzene			< 0.0200		mg/Kg		1	0.0200
Xylene			< 0.0200		mg/Kg		1	0.0200
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	52.8 - 137
4-Bromofluorobenzene (4-BF	PB)		1.72	mg/Kg	1	2.00	86	38.4 - 157

Sample: 238010 - AH-1 0-6 in.

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 71894 61618	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-07-20 2010-07-20	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 238010 - AH-1 0-6 in.

DRO		<50.0	ng/Kg	1	50.0
Parameter	Flag	RL Result	Units	Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	TPH DRO - NEW 71872	Analytical Method: Date Analyzed: Sample Preparation	2010-07-19	Prep Method: Analyzed By: Prepared By:	kg

Report Date: July 20, 2010 114-6400599			Work Order: 10071917 LPU #87				Page Number: 5 of 15 Lea County, NM		
Surrogate	Flag	Result	Units	Dilu	tion	Spike Amount	Percent Recovery	Recovery Limits	
n-Tricosane		88.3	mg/Kg		1	100	88	70 - 130	
Sample: 23	8010 - AH-	1 0-6 in.							
Laboratory:	Midland				0.000				
Analysis:	TPH GRO		Analytical		S 8015 D		Prep Met		
QC Batch:	71884		Date Anal	•	2010-07-19		Analyzed		
Prep Batch:	61608		Sample P	reparation:	2010-07-19		Prepared	By: AG	
			RL						
Parameter		Flag	Result		Units		Dilution	RL	
GRO			<2.00		mg/Kg		1	2.00	
						Spike	Percent	Recovery	
Surrogate		Flag	Result	Units	Dilution		Recovery	Limits	
Trifluorotolu	ene (TFT)		1.92	mg/Kg	1	2.00	96	48.5 - 152	
4-Bromofluor		BFB)	1.87	mg/Kg	1	2.00	94	42 - 159	

Sample: 238011 - AH-2 0-6 in.

Analysis: QC Batch:	Midland BTEX 71883 61608			Analytical M Date Analyz Sample Prep	zed:	S 8021B 2010-07-19 2010-07-19		Prep Metho Analyzed E Prepared B	
				RL					
Parameter		Flag		Result		Units	D	ilution	RL
Benzene				< 0.0200		mg/Kg		1	0.0200
Toluene				< 0.0200		mg/Kg		1	0.0200
Ethylbenzene				< 0.0200		mg/Kg		1	0.0200
Xylene				< 0.0200		mg/Kg		1	0.0200
							Spike	Percent	Recovery
Surrogate			Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluer	ne (TFT)			1.21	mg/Kg	1	2.00	60	52.8 - 137
4-Bromofluoro	benzene (4-E	BFB)		1.24	mg/Kg	1	2.00	62	38.4 - 157

Report Date 114-6400599	: July 20, 2010	Work Order: 100' LPU #87	Page Number: 6 of 15 Lea County, NM		
Sample: 23	8011 - AH-2 0-6 in.				
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	71894	Date Analyzed:	2010-07-20	Analyzed By:	AR
Prep Batch:	61618	Sample Preparation:	2010-07-20	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride	5	<200 1	mg/Kg	50	4.00

Sample: 238011 - AH-2 0-6 in.

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO - N 71872 61591	1EW	Date A	nalyzed:	S 8015 D 2010-07-19 2010-07-19	Prep M Analyz Prepar	0
Parameter	F	lag	RL Result	U	nits	Dilution	R
DRO			<50.0	mg	/Kg	1	50
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover
n-Tricosane		96.1	mg/Kg	1	100	96	70 - 13

Sample: 238011 - AH-2 0-6 in.

Flag F)	Flag	Result <2.00 Result 1.40	Units	Units mg/Kg Dilution	D Spike Amount	rilution 1 Percent Recovery	RL 2.00 Recovery Limits 48.5 - 152
Flag		Result			D	ilution 1	
Flag				Units	D	ilution	RL
		RL					
RO		Date Anal	yzed:	S 8015 D 2010-07-19 2010-07-19		Prep Meth Analyzed Prepared 1	By: AG
	d FRO	all and a second s	GRO Analytical Date Anal		GRO Analytical Method: S 8015 D Date Analyzed: 2010-07-19	GRO Analytical Method: S 8015 D Date Analyzed: 2010-07-19	GRO Analytical Method: S 8015 D Prep Meth Date Analyzed: 2010-07-19 Analyzed

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Sample: 238012 - AH-3 0-6 in.

Laboratory: Analysis: QC Batch:	Midland BTEX 71883		Analytical Method: Date Analyzed:	S 8021B 2010-07-19		Prep Metho Analyzed B	y: AG
Prep Batch:	61608		Sample Preparation:	2010-07-19		Prepared B	y: AG
			RL				
Parameter		Flag	Result	Units	D	ilution	\mathbf{RL}
Benzene			< 0.0200	mg/Kg	· · · · · · · · · · · · · · · · · · ·	1	0.0200
Toluene			< 0.0200	mg/Kg		1	0.0200
Ethylbenzene			< 0.0200	mg/Kg		1	0.0200
Xylene			<0.0200	mg/Kg		1	0.0200
					Spike	Percent	Recovery

Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.33	mg/Kg	1	2.00	66	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.35	mg/Kg	1	2.00	68	38.4 - 157

Sample: 238012 - AH-3 0-6 in.

Chloride		<200	mg/Kg	50	4.00
Parameter	Flag	RL Result	Units	Dilution	\mathbf{RL}
QC Batch: Prep Batch:	71894	Date Analyzed: Sample Preparation:	2010-07-20 2010-07-20	Analyzed By: Prepared By:	AR
Laboratory: Analysis:	Midland Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A

Sample: 238012 - AH-3 0-6 in.

Laboratory:	Midland						
Analysis:	TPH DRO - N	NEW	Analyti	cal Method:	5 8015 D	Prep M	lethod: N/A
QC Batch:	71872		Date An	nalyzed: 2	2010-07-19	Analyz	ed By: kg
Prep Batch:	61591		Sample	Preparation: 2	2010-07-19	Prepare	ed By: kg
			RL				
Parameter	F	lag	Result	U	nits	Dilution	RL
DRO			<50.0	mg/	'Kg	1	50.0
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		97.0	mg/Kg	1	100	97	70 - 130

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Sample: 238012	- AH-3 0-6	3 in.						
	lland							
	H GRO		Analytical		S 8015 D		Prep Met	
QC Batch: 718			Date Anal		2010-07-19		Analyzed	
Prep Batch: 616	08		Sample Pi	reparation:	2010-07-19)	Prepared	By: AG
			RL					
Parameter	Flag	S	Result		Units]	Dilution	RL
GRO			<2.00		mg/Kg		1	2.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution		Recovery	Limits
Trifluorotoluene (TFT)	<u>v</u>	1.53	mg/Kg	1	2.00	76	48.5 - 152
4-Bromofluoroben)	1.48	mg/Kg	1	2.00	74	42 - 159
QC Batch: 718 Prep Batch: 615 Parameter		Flag	Date Ana QC Prep		010-07-19 010-07-19	Unit	Prepa	zed By: kg red By: kg RL
DRO				<14.5	· · · · · · · · · · · · · · · · · · ·	mg/I	ζg	50
						Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilu	tion	Amount	Recovery	Limits
n-Tricosane	1140	91.3	mg/Kg	1		100	91	70 - 130
Method Blank (QC Batch: 7188 Prep Batch: 6160	33	Batch: 71883	Date Ana QC Prepa)10-07-19)10-07-19		Analyz Prepare	-
				MD				
Parameter		Flag		Resu		Uni		RL
Benzene				< 0.01		mg/		0.02
Toluene				<0.009		mg/ mg/		0.02
The land and a second				< 0.009		mg/		0.02
-						01		
						Snike	Percent	Recovery
Ethylbenzene Xylene Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
	CFT)	Flag	Result 2.26	Units mg/Kg	Dilution 1			

Method Blank QC Batch: 718 Prep Batch: 616	384	tch: 71884								
			Date An	alvzed	2010-07	-10		Ana	lyzed By	r: A
	808			paration:					pared By	
Parameter		Flag		MI Res			Unit	-		
GRO		riag		<1			mg/I			
			and the second se	1						
Cumomete		Flam	Desult	TT.: te		1	Spike	Percent		ecove
Surrogate Trifluorotoluene (ጥዮጥ)	Flag	Result 2.61	Units mg/K		ilution 1	Amount 2.00	Recovery 130		.6 -
4-Bromofluoroben			2.46	mg/K		1	2.00	123		.4 -
QC Batch: 718	94		Date Ana	ung mou.	2010-07					
QC Batch: 718 Prep Batch: 616	18			aration: MI	2010-07	-20		Prep	pared By	
Prep Batch: 616 Parameter	18	Flag		aration: MI Res	2010-07 DL 1lt	-20	Unit	S	bared By	
Prep Batch: 616 Parameter Chloride Laboratory Con	ntrol Spike (L0		QC Prep	MI Res <2.	2010-07 DL 11t 18		Unit mg/H	s (g		1
Prep Batch: 616 Parameter Chloride	atrol Spike (L6		QC Prep Date An	MI Res <2.	2010-07 DL 1lt	/-19		s (g An	alyzed By	y: 1
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718	atrol Spike (L6	CS-1)	QC Prep Date An QC Prep	MI Res <2.	2010-07 DL ilt 18 2010-07	7-19 7-19	mg/H	s (g Ana Pre	alyzed By	y:] y:]
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615	atrol Spike (L6	CS-1) LC	QC Prep Date An QC Prep S	MI Res <2.	2010-07 DL alt 18 2010-07 2010-07	7-19 7-19 Spike	mg/H Matrix	s (g An Pre	alyzed By spared By F	y: y: Rec.
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718	atrol Spike (L6	CS-1)	QC Prep Date An QC Prep S lt U	MI Res <2. alyzed: paration:	2010-07 DL ilt 18 2010-07	7-19 7-19	mg/H	s (g An Pre	alyzed By spared By F	y: y: Rec.
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO	ntrol Spike (L0 72 91	CS-1) LCS Resu 215	QC Prep Date An QC Prep S lit U	aration: MI Res <2. alyzed: paration: nits g/Kg	2010-07 DL ilt 18 2010-07 2010-07 Dil. 1	7-19 7-19 Spike Amount 250	mg/F Matrin Result <14.5	s (g An Pre	alyzed B pared By F	y: y: Rec.
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param	ntrol Spike (L0 72 91	CS-1) LCS Resu 213 spike result.	QC Prep Date An QC Prep S lit U	aration: MI Res <2. alyzed: paration: nits g/Kg	2010-07 DL ilt 18 2010-07 2010-07 2010-07 Dil. 1 he spike	7-19 7-19 Amount 250 and spike d	mg/F Matrin Result <14.5	s (g And Pre c Rec. 86 esult.	alyzed B pared By F	y: 1 y: 1 Rec. - 13
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO Percent recovery is	ntrol Spike (L0 72 91	CS-1) Resu 215 pike result. LCSD	QC Prep Date An QC Prep 3 lit U 5 mg RPD is b	aration: MI Res <2. alyzed: paration: nits g/Kg ased on t	2010-07 DL ilt 18 2010-07 2010-07 2010-07 Dil. 1 he spike Spike	7-19 Spike Amount 250 and spike d Matrix	Matrix Result <14.5 Iuplicate re	s Kg An Pre c Rec. 86 esult. Rec.	alyzed By epared By F L 57.4	y: 1 y: 1 Rec. imit - 13
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO	ntrol Spike (L0 72 91	CS-1) LCS Resu 213 spike result.	QC Prep Date An QC Prep S llt U 5 mg RPD is b Units	aration: MI Res <2. alyzed: paration: nits g/Kg ased on t	2010-07 DL ilt 18 2010-07 2010-07 2010-07 Dil. 1 he spike	7-19 7-19 Amount 250 and spike d	Matrin Result <14.5 huplicate re Rec.	s (g An Pre c c c c c c c c c c c c c c c c c c c	alyzed B pared By F	y: 1 y: 1 Rec. - 13
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO Percent recovery in Param	ntrol Spike (L0 72 91 is based on the s	CS-1) LCS Resu 213 spike result. LCSD Result 226	QC Prep Date An QC Prep S lt U b mg RPD is b Units mg/Kg	Anits Solution: MI Rest <2. Anits Solution: Anits Solution: Anits Solution: Anits Anits Anits Solution: Anits An	2010-07 DL 11t 18 2010-07 2010-07 Dil. 1 he spike Spike Amount 250	7-19 7-19 Amount 250 and spike d Matrix Result <14.5	Matrin Result <14.5 luplicate re Rec. 90 5	s <u>Kg</u> An Pre <u>k</u> <u>k</u> <u>k</u> Rec. <u>Limit</u> 7.4 - 133.4	alyzed By spared By E Li 57.4 RPD	y: y: imit - 13 RI Lin
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO Percent recovery is Param DRO	atrol Spike (L6 72 91 is based on the s	CS-1) LCS Resu 215 spike result. LCSD Result 226 spike result.	QC Prep Date An QC Prep S lt U b mg RPD is b Units mg/Kg	Anits Solution: MI Rest <2. Anits Solution: Anits Solution: Anits Solution: Anits Anits Anits Solution: Anits An	2010-07 DL 11t 18 2010-07 2010-07 Dil. 1 he spike Spike Amount 250	7-19 7-19 X-19 Amount 250 and spike d Matrix Result <14.5 and spike d	Matrip Result <14.5 luplicate re Rec. 90 5 luplicate re	s <u>K</u> <u>K</u> <u>K</u> <u>K</u> <u>K</u> <u>K</u> <u>K</u> <u>K</u>	alyzed By spared By F Li 57.4 <u>RPD</u> 5	y: y: imit - 13 RI Lin 2
Prep Batch: 616 Parameter Chloride Laboratory Con QC Batch: 718 Prep Batch: 615 Param DRO Percent recovery is Param DRO	ntrol Spike (L0 72 91 is based on the s	CS-1) LCS Resu 213 spike result. LCSD Result 226	QC Prep Date An QC Prep S lt U b mg RPD is b Units mg/Kg	A paration: MI Res Constraints Constraints Co	2010-07 DL 11t 18 2010-07 2010-07 Dil. 1 he spike Spike Amount 250	7-19 7-19 Amount 250 and spike d Matrix Result <14.5	Matrin Result <14.5 luplicate re Rec. 90 5	s <u>Kg</u> An Pre <u>K</u> <u>Rec.</u> <u>Limit</u> 7.4 - 133.4 esult. LCSI	alyzed By spared By F Li 57.4 RPD 5	y: y: imit - 13 RI Lir

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	A detailed by the	

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:	71883 61608		Date Analyzed: QC Preparation:			2010-07-19 2010-07-19			
Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	
Benzene		2.06	mg/Kg	1	2.00	< 0.0150	103	81.9 - 108	
Toluene		2.09	mg/Kg	1	2.00	< 0.00950	104	81.9 - 107	
Ethylbenzene	9	2.06	mg/Kg	1	2.00	< 0.0106	103	78.4 - 107	
Xylene		6.23	mg/Kg	1	6.00	< 0.00930	104	79.1 - 107	

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	2.00	mg/Kg	1	2.00	< 0.0150	100	81.9 - 108	3	20
Toluene	2.02	mg/Kg	1	2.00	< 0.00950	101	81.9 - 107	3	20
Ethylbenzene	1.99	mg/Kg	1	2.00	< 0.0106	100	78.4 - 107	3	20
Xylene	6.02	mg/Kg	1	6.00	< 0.00930	100	79.1 - 107	3	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.27	2.06	mg/Kg	1	2.00	114	103	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.32	2.06	mg/Kg	1	2.00	116	103	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch:	71884	Date Analyzed:	2010-07-19	Analyzed By:	AG
Prep Batch:	61608	QC Preparation:	2010-07-19	Prepared By:	AG

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	15.8	mg/Kg	1	20.0	<1.65	79	69.9 - 95.4

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
GRO	16.2	mg/Kg	1	20.0	<1.65	81	69.9 - 95.4	2	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.52	2.59	mg/Kg	1	2.00	126	130	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.39	2.51	mg/Kg	1	2.00	120	126	68.2 - 132

114-6400599)10		V	Vork Orde LPU	r: 100719 #87	17		Page	Number: Lea Cou	11 of 15 inty, NM
Laboratory Control S	pike (LC	CS-1)								
QC Batch: 71894 Prep Batch: 61618				nalyzed: eparation:	2010-07 2010-07				alyzed B epared B	
Param		LC		Units	Dil.	Spike Amount	Mat		lec.	Rec. Limit
Chloride		97.		mg/Kg	1	100	<2.			85 - 115
Percent recovery is based	on the s	pike result.	RPD is	and the second s	the spike	and spike d	uplicate re	sult.		
				6 - C			1			
Param		LCSD Result	Units	Dil.	Spike Amoun	Matrix t Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		101	mg/Kg		100	<2.18	101	85 - 115	3	20
Percent recovery is based	an the		and the second state a second state	CALL & CALL & CALL & CALL					U	20
Prep Batch: 61591		MS		eparation:		Spike	Matrix			Rec.
Param		Resul		Units	Dil.	Amount	Result	Rec.		Limit
DRO		224		ng/Kg	1	250	<14.5	90	35.2	2 - 167.1
			RPD IS	based on	the spike	and spike di	iplicate re	sult.		
Percent recovery is based	on the sp	pike result.		Dabou on	-		ipilouoo io			
Percent recovery is based Param	on the sj	MSD Result	Units		Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
	on the sj	MSD Result			Spike		Rec.	Rec.	RPD 4	
Param DRO		MSD Result 232	Units mg/Kg	Dil. 1	Spike Amount 250	Result <14.5	Rec. 93 35	Rec. Limit 5.2 - 167.1		Limit
Param	on the sp	MSD Result 232 pike result.	Units mg/Kg	Dil. 1	Spike Amount 250	Result <14.5 and spike du	Rec. 93 35 plicate rea	Rec. Limit 5.2 - 167.1 sult.	4	Limit 20
Param DRO Percent recovery is based		MSD Result 232	Units mg/Kg RPD is	Dil. 1	Spike Amount 250	Result <14.5	Rec. 93 35	Rec. Limit 5.2 - 167.1 sult. MS	4 SD	Limit
Param DRO Percent recovery is based Surrogate	on the sp MS	MSD Result 232 pike result. MSD	Units mg/Kg RPD is U	Dil. 1 based on	Spike Amount 250 the spike	Result <14.5 and spike du Spike	Rec. 93 33 iplicate re MS	Rec. Limit 5.2 - 167.1 sult. MS	4 SD c.	Limit 20 Rec.
Param DRO	on the sp MS Result 98.9	MSD Result 232 pike result. MSD Result 97.9 Sample: 23	Units mg/Kg RPD is U m 8005 Date Ar	Dil. 1 based on Jnits g/Kg	Spike Amount 250 the spike Dil.	Result <14.5 and spike du Spike Amount 100	Rec. 93 33 Iplicate rea MS Rec.	Rec. Limit 5.2 - 167.1 sult. MS Re 98	4 SD c.	Limit 20 Rec. Limit 70 - 130
Param DRO Percent recovery is based Surrogate n-Tricosane Matrix Spike (MS-1) QC Batch: 71883 Prep Batch: 61608	on the sp MS Result 98.9	MSD Result 232 pike result. MSD Result 97.9 Sample: 23	Units mg/Kg RPD is U mj 8005 Date Ar QC Pre	Dil. 1 based on Jnits g/Kg nalyzed: paration:	Spike Amount 250 the spike a Dil. 1 2010-07- 2010-07-	Result <14.5 and spike du Spike Amount 100 19 19 Spike	Rec. 93 35 plicate re MS Rec. 99	Rec. Limit 5.2 - 167.1 sult. MS Re 98	4 SD c. 3 alyzed By	Limit 20 Rec. Limit 70 - 130 r: AG r: AG Rec.
Param DRO Percent recovery is based Surrogate n-Tricosane Matrix Spike (MS-1) QC Batch: 71883	on the sp MS Result 98.9	MSD Result 232 pike result. MSD Result 97.9 Sample: 23	Units mg/Kg RPD is U 8005 Date Ar QC Pre	Dil. 1 based on f Jnits g/Kg nalyzed:	Spike Amount 250 the spike Dil. 1 2010-07-	Result <14.5 and spike du Spike Amount 100	Rec. 93 35 plicate re MS Rec. 99	Rec. Limit 5.2 - 167.1 sult. MS Re 98 98 Ana Pre	4 C. 3 alyzed By spared By c.	Limit 20 Rec. Limit 70 - 130 7: AG 7: AG

continued ...

matrix spikes continued Param Ethylbenzene Xylene	Mi Resi 2.1	a						L	ea Cou	12 o unty,
Ethylbenzene		5			Spike	Mat	rix			Re
	21	ult I	Units	Dil.	Amount	Res	ult	Rec.		Lin
Xylene			ng/Kg	1	2.00	<0.0		108		3.9 -
	6.4	9 n	ng/Kg	1	6.00	< 0.0	0930	108	8	84 -
Percent recovery is based on the	spike result	. RPD is	based o	on the spike	and spike d	uplicate	result.			
	MSD			Quilta	Matrix		Re	0		F
Param	Result	Units	Dil.	Spike Amount	Result	Rec.	Lin		RPD	L
Benzene	2.21	mg/Kg		2.00	<0.0150	110	80.5 -		8	1
	1 2.27	mg/Kg		2.00	< 0.00950		82.4 -		8	
	2 2.35	mg/Kg		2.00	< 0.0106	118	83.9 -		8	
	3 7.08	mg/Kg		6.00	< 0.00930		84 -		9	
Percent recovery is based on the	spike result.	. RPD is	based o	on the spike	and spike d	uplicate	result.			
				at ano opino		-				
	M		ISD			pike	MS	MSD		Re
Surrogate	-	ault Dr	esult	Units		nount	Rec.	Rec.		Lin
	Res									
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	1.2 1.2	22 1 28 1	L.67 L.74	mg/Kg mg/Kg	1 1	2 2	61 64	84 87		
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	1.2	22 1 28 1	.67	mg/Kg						
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike	1.2 1.2	22 1 28 1 238016	67 74	mg/Kg mg/Kg	1			87	35	5.5 -
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884	1.2 1.2	22 1 28 1 238016 Date Ar	1.67 1.74 nalyzed:	mg/Kg mg/Kg : 2010-07	-19			87 Analy	35 vzed B	5.5 - y:
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike	1.2 1.2	22 1 28 1 238016	1.67 1.74 nalyzed:	mg/Kg mg/Kg : 2010-07	-19			87 Analy	35	5.5 - y:
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884	1.2 1.2 ed Sample: 2	22 1 28 1 238016 Date An QC Pre	1.67 1.74 nalyzed:	mg/Kg mg/Kg : 2010-07	-19			87 Analy	35 vzed B	5.5 - y:
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608	1.2 1.2 ed Sample: 2 M	22 1 28 1 238016 Date Ar QC Pre	1.67 1.74 nalyzed: eparation	mg/Kg mg/Kg : 2010-07 n: 2010-07	-19 -19 Spike	2 Ma	64	87 Analy Prepa	33 vzed By ured By	y: y: y: Re
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param	1.2 1.2 ed Sample: 2 M Res	22 1 28 1 238016 Date Ar QC Pre	1.67 1.74 nalyzed: eparation Units	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil.	1 -19 -19 Spike Amount	2 Ma Res	64 trix sult	87 Analy Prepa Rec.	35 vzed By ured By	y: y: y: Re Lin
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO	1.2 1.2 ed Sample: 2 M <u>Res</u> 15	22 1 28 1 238016 Date Ar QC Pre S ult .3 n	1.67 1.74 nalyzed: eparation Units mg/Kg	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1	1 -19 -19 Spike Amount 20.0	2 Ma Res <1	64 trix sult .65	87 Analy Prepa	35 vzed By ured By	y: y: Re Lim
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param	1.2 1.2 ed Sample: 2 M <u>Res</u> 15	22 1 28 1 238016 Date Ar QC Pre S ult .3 n	1.67 1.74 nalyzed: eparation Units mg/Kg	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1	1 -19 -19 Spike Amount 20.0	2 Ma Res <1	64 trix sult .65	87 Analy Prepa Rec.	35 vzed By ured By	y: y: Re Lim
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO	1.2 1.2 ed Sample: 2 M Res 15 spike result.	22 1 28 1 238016 Date Ar QC Pre S ult .3 n	1.67 1.74 nalyzed: eparation Units mg/Kg	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike	1 -19 -19 Amount 20.0 and spike d	2 Ma Res <1	64 trix sult .65 result.	87 Analy Prepa Rec. 76	35 vzed By ured By	y: y: y: Lim 1.8 -
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the	1.2 1.2 ed Sample: 2 M Res 15 spike result. MSD	22 1 28 1 238016 Date Ar QC Pre S ult .3 n . RPD is 1	1.67 nalyzed: paration Units mg/Kg based o	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike	1 -19 -19 Amount 20.0 and spike d Matrix	2 Ma Res <1 uplicate	64 trix sult .65 result. Rec	87 Analy Prepa Rec. 76	33 vzed By ured By 61	5.5 - y: y: Re <u>Lim</u> 1.8 - F
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param	1.2 1.2 ed Sample: 2 M Res 15 spike result. MSD Result	22 1 28 1 238016 Date An QC Pre 35 ult .3 n . RPD is 1 Units	1.67 nalyzed: eparation Units mg/Kg based of Dil.	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount	1 -19 -19 Amount 20.0 and spike d Matrix Result	2 Ma Res <1 uplicate Rec.	64 trix sult .65 result. Rec Lim	87 Analy Prepa Rec. 76	33 vzed By ured By 61 RPD	y: Lin 1.8 - F L
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param GRO	1.2 1.2 ed Sample: 2 M Res 15 spike result. MSD Result 16.1	22 1 28 1 238016 Date Ar QC Pre S ult .3 n . RPD is 1 Units mg/Kg	L.67 74 nalyzed: eparation Units mg/Kg based of Dil.	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount 20.0	1 -19 -19 Amount 20.0 and spike d Matrix Result <1.65	2 Ma Res <1 uplicate Rec. 80	64 trix sult .65 result. Rec Lim 61.8 -	87 Analy Prepa Rec. 76	33 vzed By ured By 61	5.5 - y: y: Lin 1.8 - F L
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param	1.2 1.2 ed Sample: 2 M Res 15 spike result. MSD Result 16.1	22 1 28 1 238016 Date Ar QC Pre S ult .3 n . RPD is 1 Units mg/Kg . RPD is 1	L.67 L.74 nalyzed: eparation Units mg/Kg based of Dil. 1 based of	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount 20.0	1 -19 -19 Amount 20.0 and spike d Matrix Result <1.65	2 Ma Res <1 uplicate Rec. 80	64 trix sult .65 result. Rec Lim 61.8 -	87 Analy Prepa Rec. 76	33 vzed By ured By 61 RPD	5.5 - y: y: Lim 1.8 - F
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the	1.2 1.2 1.2 ed Sample: 2 M M Res 15 spike result. MSD Result 16.1 spike result. M	22 1 28 1 238016 Date An QC Pre 3 S wilt .3 n . RPD is 1 . RPD is 1 . RPD is 1 . RPD is 1 . RPD is 1 	L.67 L.74 nalyzed: eparation Units mg/Kg based of Dil. 1 based of MSD	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount 20.0 on the spike	-19 -19 Spike Amount 20.0 and spike d Matrix Result <1.65 and spike d	2 Ma Res <1 uplicate Rec. 80 uplicate Spike	64 trix sult .65 result. <u>Rec</u> Lim 61.8 - result. MS	87 Analy Prepa Rec. 76 it 114 MS	33 vzed By ured By 61 RPD 5	5.5 - y: y: Re Lin 1.8 - F L Ra
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the Surrogate	1.2 1.2 1.2 ed Sample: 2 M M Res 15 spike result. MSD Result 16.1 spike result. M. Res	22 1 28 1 238016 Date An QC Pre S ult RPD is mg/Kg RPD is S Mult S Mult Re	1.67 1.74 nalyzed: eparation Units mg/Kg based of Dil. 1 based of MSD esult	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount 20.0 on the spike Units	1 -19 -19 Spike Amount 20.0 and spike d Matrix Result <1.65 and spike d Dil. A	2 Ma Res <1 uplicate Rec. 80 uplicate Spike mount	64 trix sult .65 result. Rec Lim 61.8 - result. MS Rec.	87 Analy Prepa Rec. 76 it 114 MS: Rec	33 vzed By ured By 61 <u>RPD</u> 5 D c.	5.5 - y: y: Re Lim 1.8 - F L
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Matrix Spike (MS-1) Spike QC Batch: 71884 Prep Batch: 61608 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the	1.2 1.2 1.2 ed Sample: 2 M M Res 15 spike result. MSD Result 16.1 spike result. M	22 1 28 1 238016 Date An QC Pre Sult .3 n . RPD is 1 . RPD is 1 	L.67 L.74 nalyzed: eparation Units mg/Kg based of Dil. 1 based of MSD	mg/Kg mg/Kg : 2010-07 n: 2010-07 Dil. 1 on the spike Spike Amount 20.0 on the spike	-19 -19 Spike Amount 20.0 and spike d Matrix Result <1.65 and spike d	2 Ma Res <1 uplicate Rec. 80 uplicate Spike	64 trix sult .65 result. <u>Rec</u> Lim 61.8 - result. MS	87 Analy Prepa Rec. 76 it 114 MS	35 vzed By ured By 61 RPD 5 D c.	5.5 · · · · · · · · · · · · · · · · · ·

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Report Da 114-640059	ate: July 20, 201 99	0	V		er: 1007191 #87	7		Page	Number: Lea Cou	
Matrix S _I	pike (MS-1)	Spiked Sample:	238013							
QC Batch: Prep Batch				nalyzed: eparation:	2010-07-2 2010-07-2				nalyzed B repared B	
			MS			Spike		atrix		Rec.
Param			esult	Units	Dil.	Amount			Rec.	Limit
Chloride		1	0000	mg/Kg	100	10000	<	218	100	85 - 115
Percent rec	covery is based o	on the spike resul	t. RPD is	based on	the spike a	and spike dup	plicate r	esult.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		10400			10000	<218	104	85 - 115	4	20
Standard QC Batch:			Date A	nalvzed:	2010-07-1	9		А	nalyzed E	Bv: kg
go Baten.	11012		Date						indiy200 L	s
			CCVs	CC		CCVs		Percent		
	-		True	For		Percent]	Recovery		Date
Param DRO	Flag	Units mg/Kg	Conc. 250	Co:		Recovery 99		Limits 80 - 120		nalyzed 10-07-19
Standard	(CCV-3)	116/116								
QC Batch:			Date A	nalyzed:	2010-07-1	9		A	nalyzed B	y: kg
			CCVs	CC	Vs	CCVs		Percent		
			True	Fou	nd	Percent]	Recovery		Date
Param	Flag	Units	Conc.	Co	nc.	Recovery		Limits	Ar	nalyzed
DRO		mg/Kg	250	25	3	101		80 - 120	201	0-07-19
Standard	(CCV-2)									
C Batch	71883		Date A	nalyzed:	2010-07-19)		An	alyzed By	: AG
go Daten.			CCV	s	CCVs	CCVs		Percent		
go Daten.			True	e 1	Found	Percent		Recovery		Date
						D		Timelte	4	
aram	Flag	Units	Cond		Conc.	Recovery		Limits		alyzed
^D aram Benzene	Flag	mg/Kg	Conc 0.100	0	0.102	102		80 - 120	201	0-07-19
Param Benzene Foluene		mg/Kg mg/Kg	Cond 0.100 0.100	0 0	0.102 0.103	102 103		80 - 120 80 - 120	201 201	0-07-19
Param Benzene Foluene Ethylbenzen Kylene		mg/Kg	Conc 0.100	0 D O	0.102	102		80 - 120	201 201 201	0-07-19

Report Da 114-640059	te: July 20, 201 99	0	Worl	COrder: 10071 LPU #87	917		Number: 14 of 15 Lea County, NM
Standard	(CCV-3)						
QC Batch:	71883		Date Analy	vzed: 2010-07-	-19	Ana	alyzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0997	100	80 - 120	2010-07-19
Toluene		mg/Kg	0.100	0.100	100	80 - 120	2010-07-19
Ethylbenze	ne	mg/Kg	0.100	0.0992	99	80 - 120	2010-07-19
Xylene		mg/Kg	0.300	0.300	100	80 - 120	2010-07-19
Standard	(CCV-2)						
QC Batch:	71884		Date Analy	vzed: 2010-07-	-19	Ana	alyzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO	riag	mg/Kg	1.00	0.993	99	80 - 120	2010-07-19
Standard	(CCV-3)						
QC Batch:			Date Analy	zed: 2010-07-	19	Ana	lyzed By: AG
							0
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.980	98	80 - 120	2010-07-19
Standard	(ICV-1)						
QC Batch:	71894		Date Analy	zed: 2010-07-	20	Ana	lyzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
			Conc.	Conc.	Recovery	Limits	Analyzed
Param	Flag	Units					

Standard (CCV-1)

QC Batch: 71894

Date Analyzed: 2010-07-20

Analyzed By: AR

Report Date: July 20, 2010 114-6400599		10	Work Order: 10071917 LPU #87			Page Number: 15 of 15 Lea County, NM		
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Chloride		mg/Kg	100	101	101	85 - 115	2010-07-20	

Date: 1/1/9/10 RECENTED By Administrum) Date: 71/5/10 Time: 72.05 RECENTED By Administrum) Time: 71/5/10
RECENTION Community
Time: 72:05 CMN Time: 1455 TE 11

Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

Report Date: August 30, 2010

Work Order: 10082310

Project Location:Lea County, NMProject Name:LPU #87Project Number:114-6400599

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
242110	T-1 0.5-1'	soil	2010-08-18	00:00	2010-08-20
242111	T-2 0.5-1'	soil	2010-08-18	00:00	2010-08-20
242112	T-3 1-1.5'	soil	2010-08-18	00:00	2010-08-20

Sample: 242110 - T-1 0.5-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242111 - 'T-2 0.5-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 242112 - T-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

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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 El Paso, Texas 7922

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 6015 Harris Parkway, Suite 110
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FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

DBE: VN 20657

NELAP Certifications

NCTRCA WFWB38444Y0909

Certifications

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

WBENC: 237019

El Paso: T104704221-08-TX LELAP-02002

1752439743100-86536

Midland: T104704392-08-TX

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: August 30, 2010

Work Order: 10082310

Project Location: Lea County, NM Project Name: LPU #87 Project Number: 114-6400599

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
242110	T-1 0.5-1'	soil	2010-08-18	00:00	2010-08-20
242111	T-2 0.5-1'	soil	2010-08-18	00:00	2010-08-20
242112	T-3 1-1.5'	soil	2010-08-18	00:00	2010-08-20

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

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

Michael abel

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

 $\begin{array}{l} \mbox{Standard Flags} \\ \mbox{B} \ - \ \mbox{The sample contains less than ten times the concentration found in the method blank.} \end{array}$

Page 2 of 6

Case Narrative

Samples for project LPU #87 were received by TraceAnalysis, Inc. on 2010-08-20 and assigned to work order 10082310. Samples for work order 10082310 were received intact at a temperature of 4.0 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	62587	2010-08-26 at 09:39	73010	2010-08-27 at 15:08

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 10082310 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 114-6400599	e: August 30, 2010 9	Work Order: 1 LPU #8		Page Number Lea Coun	
		Analytical Re	eport		
Sample: 24	42110 - T-1 0.5-1'				
Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 73010	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-08-27 2010-08-26	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: 24	2111 - T-2 0.5-1'				
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73010	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62587	Sample Preparation:		Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00
	2112 - T-3 1-1.5'				
Laboratory:	Midland			D 16.11	
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73010	Date Analyzed:	2010-08-27	Analyzed By:	AR
Prep Batch:	62587	Sample Preparation:	2010-08-26	Prepared By:	AR
		RL	** **	Diller	Dr
Parameter Chloride	Flag	Result	Units	Dilution	RL
monde		<200	mg/Kg	50	4.00
Method Bla	ank (1) QC Batch: 73010				
QC Batch:	73010	Date Analyzed: 2010-	08-27	Analyzed By:	AR
Prep Batch:	62587	QC Preparation: 2010-		Prepared By:	AR
P. S. M.C.					
		MDL			
Parameter	Flag	Result		Units	RL
Chloride		<2.18		mg/Kg	4

Report Date: August 30, 2 114-6400599	010	Work Order: 10082310 LPU #87								
Laboratory Control Spil	ce (LCS-1)									
QC Batch: 73010		Date Ana	alyzed:	2010-08-2	7		A	nalyzed E	y: AR	
Prep Batch: 62587		QC Prep	aration:	2010-08-2	6			repared B	-	
	L	CS			Spike	Ma	atrix		Rec.	
Param	Res	Contraction of the last	Units	Dil.	Amount	Re	sult]	Rec.	Limit	
Chloride	97	.6 n	ng/Kg	1	100	<2	2.18	98	85 - 11	
Percent recovery is based or	n the spike result.	RPD is b	ased on t	the spike an	nd spike du	plicate r	esult.			
	LCSD			Spike	Matrix		Rec.		RPL	
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limi	
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	5	20	
QC Batch: 73010	Spiked Sample: 2	42145 Date Ana QC Prepa		2010-08-2 2010-08-2				nalyzed B repared B		
QC Batch: 73010 Prep Batch: 62587	М	Date Ana QC Prepa	aration:	2010-08-2			Pr	repared B	y: AR Rec.	
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QC Batch: 73010 Prep Batch: 62587 Param Chloride	M Res 962	Date Ana QC Prepa S ult U 20 m	aration: Units ng/Kg	2010-08-2 Dil. 100	6 Spike Amount 10000	Re:	Pr sult I 218	repared B	y: AR Rec. Limit	
QC Batch: 73010 Prep Batch: 62587 Param Chloride	M Res 962	Date Ana QC Prepa S ult U 20 m	aration: Units ng/Kg	2010-08-2 Dil. 100	6 Spike Amount 10000	Re:	Pr sult I 218	repared B Rec.	y: AR Rec. Limit	
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Standard (CCV-1)

QC Batch: 73010

Date Analyzed: 2010-08-27

Analyzed By: AR

Report Date: August 30, 2010 114-6400599			V	Vork Order: 100 LPU #87	Page Number: 6 of 6 Lea County, NM			
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Chloride		mg/Kg	100	96.5	96	85 - 115	2010-08-27	

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DATE		RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	pecontrep dir (Signature)	11/15						~	C., N M. SAMPLE IDENTIFICATION		14×2=	FETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	9	in of Custody
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Photo Log



Photo 1. Impacted area prior to backfill.



Photo 2. Impacted area after placement of 20 mil poly liner.



Photo 3. Impacted area after completion of restoration activities.