State of New Mexico Energy Minerals and Natural Resources

HOBBS OCD Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 FEB 26 20 Submit 2 Copies to appropriate 20 IDistrict Office in accordance with Rule 116 on back side of form

# Release Notification and Corrective Action

			OPERATOR	Initial Report	🛛 Final Report
Name of Company	Southern Union Gas Services		Contact Curt Stanley		
Address	801 S. Loop 464, Monahans, TX	79756	Telephone No. 575-390-7595		
Facility Name	Line 2A-3		Facility Type Natural Gas Pipelin	e	
Surface Owner	Gerald Doom			Lease No. 30-025	-38822

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	21	24S	37E					Lea

Latitude 32 degrees 12.235' North Longitude 103 degrees 08.699' West

#### NATURE OF RELEASE

Type of Release Natural Gas, Crude Oil and Produced Water	Volume of Release 7 bbl	Volume Recovered None
Source of Release 6 inch Natural Gas Pipeline	Date and Hour of Occurrence	Date and Hour of Discovery
	Unknown	June 25, 2012 – 0945 hours
Was Immediate Notice Given?	If YES, To Whom?	
🗌 Yes 🔲 No 🖾 Not Required		
By Whom?	Date and Hour	
Was a Watercourse Reached?	If YES, Volume Impacting the Wate	ercourse.
🗌 Yes 🖾 No		
If a Watercourse was Impacted, Describe Fully.*		<u> </u>
n a Watereourse was impleted, Deserver 1 any.		
Describe Cause of Problem and Remedial Action Taken.*		
A six (6)-inch low pressure natural gas pipeline developed a leak, resultir	ng in a release of natural gas, crude oil a	and produced water. During initial response
activities the pipeline was shut-in to mitigate the release. Following initia	I response activities, the affected pipeli	ine segment will be replaced with 6 inch
poly line and returned to service.		
Describe Area Affected and Cleanup Action Taken.*	20 · · · · · · · · · · · · ·	
An area of pasture land measuring approximately 13,000 square feet was	affected by airborne liquids. An area o	f pasture land measuring approximately
1,000 square feet was affected by liquids flowing from the release point. Approximately 612 cubic yards of impacted soil was transported to Doon	The release was remediated according	to NMOCD regulatory guidelines.
"Remediation Summary and Site Closure Request" prepared by Nova Sat	in Land Farm, LLC (NMOCD Permit #(	or 2013 for disposal. Please reference
Remediation Summary and She Closure Request prepared by Nova San	lety and Environmental and dated Janua	ary 2013.
I hereby certify that the information given above is true and complete to t	he best of my knowledge and understa	nd that nursuant to NMOCD rules and
regulations all operators are required to report and/or file certain release r	otifications and perform corrective act	ions for releases which may endanger
public health or the environment. The acceptance of a C-141 report by th	e NMOCD marked as "Final Report" d	loes not relieve the operator of liability
should their operations have failed to adequately investigate and remediat	te contamination that pose a threat to gr	ound water, surface water, human health
or the environment. In addition, NMOCD acceptance of a C-141 report of	loes not relieve the operator of responsi	ibility for compliance with any other
federal, state, or local laws and/or regulations.	• · · · · ·	
	OIL CONSERV	ATION DIVISION
	CAR I JANO	ADAL YODLAA
Signature: A - Hanly	Second Contraction	Jacob and MAN
	Approved by Environmental Specialis	anna al Spacialist
Printed Name: Curt Stanley		Commentian expected as
Title: Environmental Specialist	Approval Date: 2/26/13	
The Environmental Specialist	Approvar Date: 2120113	Expiration Date:
E-mail Address: curt.stanley@sug.com	Conditions of Approval:	Attached
Date: February 26, 2013 Phone: 575-390-7595		1RP-7-12-2836

\* Attach Additional Sheets If Necessary



HOBBS OCD

FEB 26 2013

RECEIVED

# **REMEDIATION SUMMARY**

# **AND SITE**

# **CLOSURE REQUEST**

Southern Union Gas Services Line 2A-3 Release Lea County, New Mexico UNIT LTR "H" (SE ¼/NE ¼), Section 22, Township 24 South, Range 37 East Latitude 32° 12.235' North, Longitude 103° 08.699' West NMOCD Reference # 1RP-2836



Prepared For:

Southern Union Gas Services 801 South Loop 464 Monahans, Texas 79756

approved Environmental Specialist NMOCO-DIST 1 2126/13

Prepared By:

NOVA Safety & Environmental 2057 Commerce Midland, Texas 79703

January 2013

Green

Nikki Green Project Manager

Brittan K. Byerly, P.G President

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- Appendix A Analytical Reports
- Appendix B Photographs
- Appendix C Soil Disposal Manifest
- Appendix D Release Notification and Corrective Action (Form-C-141)

#### **1.0 INTRODUCTION**

Nova Safety & Environmental (NOVA), on behalf of Southern Union Gas Services (SUGS), has prepared this Remediation Summary and Site Closure Request for the release site known as Line 2A-3. The legal description of the release site is Unit Letter "H" (SE ¼, NE ¼), Section 22, Township 24 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by the Gerald Doom Estate. The release site GPS coordinates are 32° 12.235' North and 103° 08.699' West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site Details Schematic and Confirmation Soil Sample Locations Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix D.

On June 25, 2012, SUGS discovered a release of crude oil, natural gas and produced water had occurred from a low pressure steel pipeline. The cause of the release was attributed to failure of a segment of the steel pipeline. The released fluids flowed from the release point to the south, as well as being sprayed north on to pasture land. During initial response activities, SUGS installed a temporary pipeline clamp on the pipeline to mitigate the release. SUGS submitted the Release Notification and Corrective Action (Form C-141) to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on June 27, 2012. The initial C-141 indicated approximately seven (7) barrels of fluids were released from the pipeline, with no recovery. General photographs of the site are provided as Appendix B.

#### 2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database identified no average depth to groundwater below ground surface (bgs) for Section 22, Township 24 South, Range 37 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately 70 feet bgs. The depth to groundwater at the Line 2A-3 Release Site results in a ranking of ten (10) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

The water well database, maintained by the NMOSE, indicated there are no water wells less than 1,000 feet from the release, resulting in zero (0) points being assigned to this site as a result of this criteria.

There are no surface water bodies located within 1,000 feet of the site. Based on the NMOCD ranking system zero (0) points will be assigned to the site as a result of the criteria.

The NMOCD guidelines indicate the Line 2A-3 Release Site has ranking score of ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene 10 mg/Kg (ppm)
- BTEX 50 mg/Kg (ppm)
- TPH 1,000 mg/Kg (ppm)

The NMOCD chloride cleanup level concentrations are site specific and will be determined by the NMOCD Hobbs District Office.

#### **3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES**

On July 17, 2012, Nova, at the request of SUGS, commenced remediation activities at the Line 2A-3 Site. Approximately 485 cubic yards (cy) of impacted soil was excavated and stockpiled on-site, pending final disposition. The excavated soil was placed on a plastic liner to mitigate the potential leaching of contaminants into the vadose zone. The resulting excavation measured approximately one hundred sixty (160) feet in length, and ranged from approximately twenty (20) feet to sixty-nine (69) feet in width and ranged in depth from approximately a six (6) inches to eleven (11) feet bgs. Please reference Figure 2 for site details.

On July 20, 2012, fifteen (15) soil samples (North Floor @ 0.5', RP Floor @ 6', RP North S/W (a) 3', RP South S/W (a) 3', RP East S/W (a) 3', RP West S/W (a) 3', South S/W (a) 1.5', Floor-2 @ 0.5', Floor-3 @ 10', North S/W-1 @ 5', South S/W-1@5', East S/W-1 @ 5', West S/W-1 @ 5', Overspray Area-1, and Overspray-2) were collected from the sidewalls and floor of the excavation. The soil samples were submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene and xylene (BTEX), total petroleum hydrocarbon (TPH), and chlorides using EPA SW-846 8021b, SW-846 8015M, and E 300, respectively. Laboratory analytical results indicated benzene and BTEX concentrations were less than the appropriate laboratory MDL for all the submitted soil samples, with the exception of soil samples RP South S/W @ 3', RP East S/W @ 3', and Overspray-2, which exhibited BTEX concentrations ranging from 0.0200 to 0.0209 mg/Kg. Laboratory analytical results indicated TPH concentrations were less than the appropriate laboratory MDL for all the submitted soil samples, with the exception of soil sample Overspray Area-1, which exhibited a TPH concentration of 411 mg/Kg. Chloride concentrations ranged from less than the appropriate laboratory MDL for soil sample South S/W @ 1.5' to 1,210 mg/Kg for soil sample RP Floor @ 6'. A review of the laboratory analytical results indicated benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory guidelines for all submitted soil samples with the exception of soil samples RP Floor (a) 6' and RP West S/W 3', which exceeded regulatory guidelines for chloride concentrations. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A. Based on laboratory analytical results, additional excavation was conducted in the areas represented by soil samples RP Floor @ 6' and RP West S/W @ 3'.

In addition, a composite sample, SP-1, was collected from the remediated stockpile of the excavation. The soil sample was submitted to the laboratory for benzene, BTEX, TPH, and chloride analysis. Laboratory analytical results indicated the benzene concentration was less than the laboratory MDL of 0.0200 mg/K. Laboratory analytical results indicated the BTEX concentration for the sample was 0.1606 mg/Kg. Laboratory analytical results indicated TPH concentration for the sample was 1,406 mg/Kg. Laboratory analytical results indicated the chloride concentration was 71.4 mg/Kg. Based on the lab analytical results, it was determined the stockpiled soil, represented by soil sample SP-1, would be transported to Doom Land Farm, LLC for disposal.

On August 21, 2012, following the excavation of additional impacted soil represented by soil sample RP Floor @ 6 and RP West S/W @ 3', two (2) soil samples (RP Floor @ 10' and RP West S/WA @ 3') were collected from the west sidewall and floor of the excavation. The soil samples were submitted to the laboratory for chloride analysis. Laboratory analytical results indicated chloride concentrations ranged from 93.6 mg/Kg for soil sample RP Floor @ 10' to

97.5 mg/Kg for soil sample RP West S/WA @ 3'. A review of the laboratory analytical results indicated chloride concentrations were less than NMOCD regulatory guidelines for all submitted soil. Please reference Figure 2 for site details and sample locations.

On September 20, 2012, SUGS and NOVA representatives met with an NMOCD Hobbs District Office representative to present the results of the soil sampling event, and request permission to backfill the excavation. The NMOCD representative approved the backfilling of the excavation with non-impacted soil purchased from the landowner.

A total of approximately 612 cubic yards of soil was transported to Doom Land Farm, L.L.C. (NMOCD Permit # 01-0033) for disposal. The excavation was backfilled with non-impacted soil and water compacted. On completion of backfilling activities, the impacted area was contoured to fit the surrounding topography. Manifests documenting soil disposal are provided as Appendix C.

#### 4.0 QA/QC PROCEDURES

#### 4.1 Soil Sampling

Soil samples were delivered to TraceAnalysis, Inc., of Midland, Texas for BTEX and/or TPH and/or chloride analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH and/or chloride concentrations within fourteen (14) days following the sampling event.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO
- Chloride concentration in accordance with Method E 300.

#### 4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

#### 4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-ofcustody (COC) form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

#### 5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples, NOVA recommends SUGS provide the NMOCD a copy of this Remediation Summary and Site Closure Request and request the NMOCD grant closure to the Line 2A-3 Release Site.

#### 6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

NOVA Safety and Environmental has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA Safety and Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. NOVA Safety and Environmental has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA Safety and Environmental also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

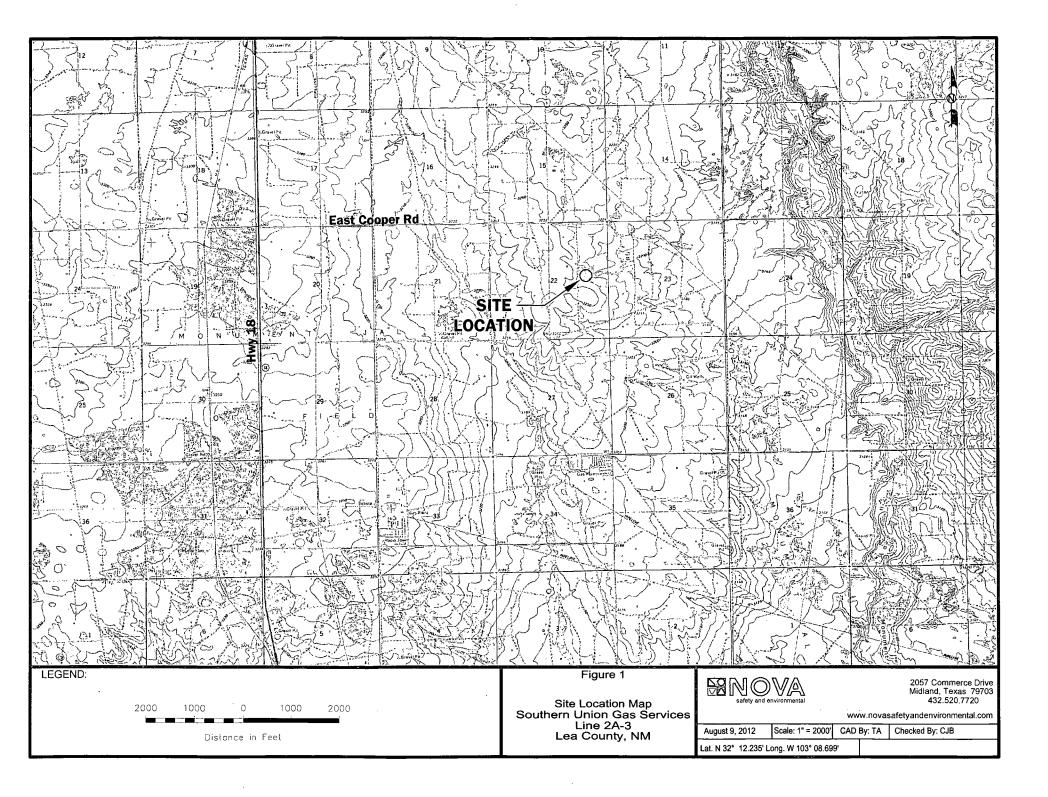
This report has been prepared for the benefit of Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA Safety and Environmental and/or Southern Union Gas Services.

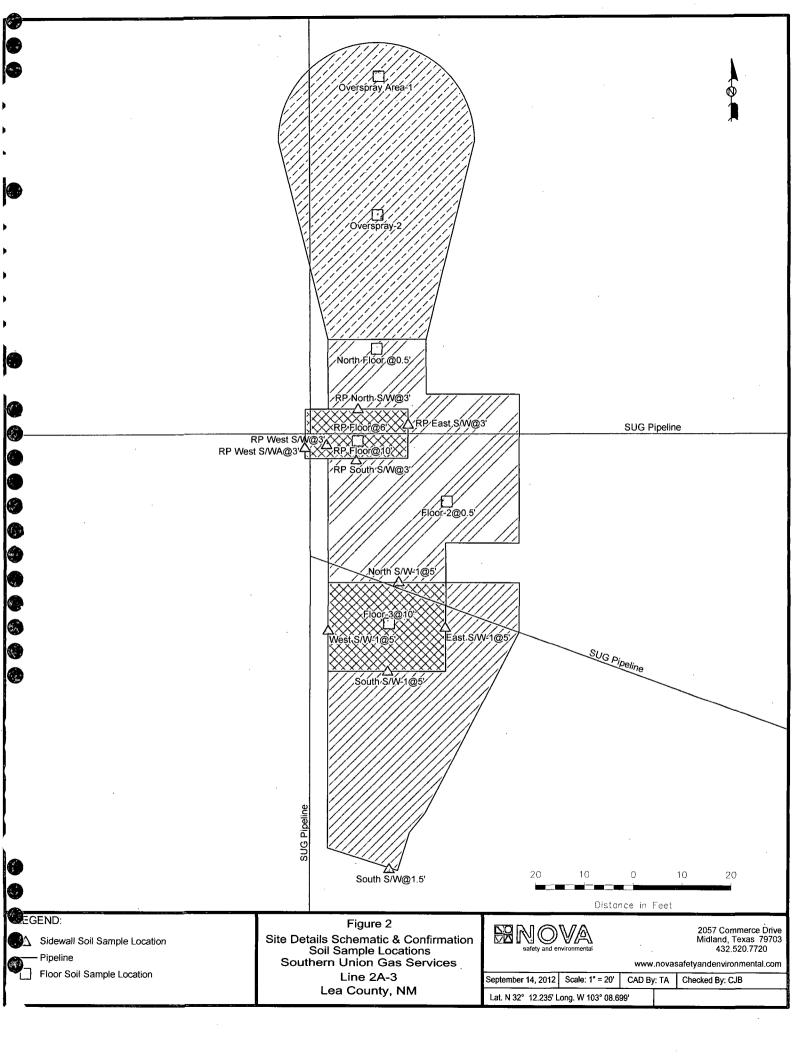
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### 7.0 **DISTRIBUTION:**

- Copy 1: Geoffrey Leking New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (District 1) 1625 French Drive Hobbs, New Mexico 88240
- Copy 2: Curt Stanley and Rose Slade Southern Union Gas Services 801 South Loop 464 Monahans, Texas 79756
- Copy 3: Nova Safety & Environmental 2057 Commerce Street Midland, Texas 79703

# FIGURES





# TABLES

#### TABLE 1

#### CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

#### SOUTHERN UNION GAS SERVICES LINE 2A-3 LEA COUNTY, NEW MEXICO

			MET	HODS: SW 846	-8021b		ME	THOD: SW 80	15M	E 300.1
SAMPLE LOCATION	SAMPLE DATE	BENZENE	TOLUENE	ETHYL- BENZENE	XYLENES	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>35</sub>	TOTAL TPH C6-C35	CHLORID
NMOCD Regulatory L	imit	10	-	-	-	50	-	-	1,000	
North Floor @ 0.5'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	11.3
RP Floor @ 6'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	1,210
RP North S/W @ 3'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	13.3
RP South S/W @ 3'	07/20/12	< 0.0200	0.0200	< 0.0200	< 0.0200	0.0200	<2.00	<50.0	<50.0	77.4
RP East S/W @ 3'	07/20/12	< 0.0200	0.0209	< 0.0200	< 0.0200	0.0209	<2.00	<50.0	<50.0	41.8
RP West S/W @ 3'	07/20/12	< 0.0200	< 0.0200	<0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	833
South S/W @ 1.5'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	<10.0
Floor-2 @ 0.5'	07/20/12	< 0.02 00	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	16.8
Floor-3 @ 10'	07/20/12	<1.00	<1.00	<1.00	<1.00	<1.00	<100	<250	<250	63.2
North S/W-1 @ 5'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	24.3
South S/W-1 @ 5'	07/20/12	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	<20.0	<50.0	<50.0	13.0
East S/W-1 @ 5'	07/20/12	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	<10.0	<50.0	<50.0	16.7
West S/W-1 @ 5'	07/20/12	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	411	411	24.8
Overspray Area-1	07/20/12	<0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<2.00	<50.0	<50.0	<10.0
Overspray-2	07/20/12	<0.0200	0.0205	< 0.0200	< 0.0200	0.0205	<2.00	<50.0	<50.0	24.9
SP-1	07/20/12	<0.0200	0.0276	< 0.0200	0.133	0.1606	56	1,350.0	1,406	71.4
RP Floor @ 10'	08/21/12		-	-	-	-	-		-	93.6
RP West S/WA @ 3'	08/21/12	-	-	-	-	-	-	-	-	97.5

All concentrations are reported in mg/Kg

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APPENDICES

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# APPENDIX A: Analytical Reports

# Summary Report

Rose Slade Southern Union Gas Services, Ltd.-Monahans 801 S. Loop 464 Monahans, TX 79756

Report Date: August 2, 2012

# Work Order: 12072321

Project Location:Lea Co., NMProject Name:Line 2A-3

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
304425	North Floor @ 0.5'	soil	2012-07-20	13:40	2012-07-23
304426	RP Floor @ 6'	soil	2012-07-20	14:00	2012-07-23
304427	RP North S/W @ 3'	soil	2012-07-20	14:10	2012-07-23
304428	RP South S/W @ 3'	soil	2012-07-20	14:15	2012-07-23
304429	RP East S/W @ 3'	soil	2012-07-20	14:20	2012-07-23
304430	RP West S/W @ 3'	soil	2012-07-20	14:25	2012-07-23
304431	South S/W @ 1.5'	soil	2012-07-20	14:30	2012-07-23
304432	Floor-2 @ 0.5'	soil	2012-07-20	14:40	2012-07-23
304433	Floor-3 @ 10'	soil	2012-07-20	14:50	2012-07-23
304434	North S/W-1 @ 5'	soil	2012-07-20	14:55	2012-07-23
304435	South S/W-1 @ 5'	soil	2012-07-20	15:00	2012-07-23
304436	East S/W-1 @ 5'	soil	2012-07-20	15:05	2012-07-23
304437	West S/W-1 @ 5'	soil	2012-07-20	15:10	2012-07-23
304438	Overspray Area-1	soil	2012-07-20	15:20	2012-07-23
304439	Overspray-2	soil	2012-07-20	15:25	2012-07-23
304440	SP-1	soil	2012-07-20	15:30	2012-07-23

	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)
304425 - North Floor @ 0.5'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 Qr,Qs	<2.00
304426 - RP Floor @ 6'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304427 - RP North S/W @ 3'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304428 - RP South S/W @ 3'	< 0.0200	0.0200	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304429 - RP East S/W @ 3'	< 0.0200	0.0209	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304430 - RP West S/W @ 3'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304431 - South S/W @ 1.5'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 qr,qs	<2.00
304432 - Floor-2 @ 0.5'	< 0.0200	< 0.0200	< 0.0200	<0.0200	<50.0 Qr,Qs	<2.00

continued ...

 $\dots continued$ 

	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)
304433 - Floor-3 @ 10'	<1.00 1	<1.00	<1.00	<1.00	<250 qr,qs	<100 2
304434 - North S/W-1 @ 5'	< 0.0200	< 0.0200	< 0.0200	<0.0200	<50.0 qr,q8	<2.00
304435 - South S/W-1 @ 5'	$< 0.200^{-3}$	< 0.200	< 0.200	< 0.200	<50.0 Qr,Qs	$<\!\!20.0^{-4}$
304436 - East S/W-1 @ 5'	< 0.100 5	< 0.100	< 0.100	< 0.100	<50.0 qr, q8	<10.0 6
304437 - West S/W-1 @ 5'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<b>411</b> Qr,Qs	<2.00
304438 - Overspray Area-1	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 qr, qs	<2.00
304439 - Overspray-2	< 0.0200	0.0205	< 0.0200	< 0.0200	<50.0 qr, qs	$<\!\!2.00$
304440 - SP-1	<0.0200	0.0276	< 0.0200	0.133	1350 Qa	56.0

#### Sample: 304425 - North Floor @ 0.5'

Param	$\operatorname{Flag}$	Result	Units	RL
Chloride	Qs	11.3	mg/Kg	10

#### Sample: 304426 - RP Floor @ 6'

Param	Flag	Result	Units	RL
Chloride	Qs	1210	mg/Kg	10

#### Sample: 304427 - RP North S/W @ 3'

Param	$\operatorname{Flag}$	Result	Units	RL
Chloride	Qs	13.3	mg/Kg	10

#### Sample: 304428 - RP South S/W @ 3'

Param	$\operatorname{Flag}$	Result	Units	$\operatorname{RL}$
Chloride	Qs	77.4	mg/Kg	10

#### Sample: 304429 - RP East S/W @ 3'

Param	Flag	$\mathbf{Result}$	Units	RL
Chloride	Qs	41.8	m mg/Kg	10

<sup>1</sup>Dilution due to surfactants.

<sup>2</sup>Dilution due to surfactants.

<sup>3</sup>Dilution due to surfactants.

<sup>4</sup>Dilution due to surfactants.

 $^{5}$ Dilution due to surfactants.

<sup>6</sup>Dilution due to surfactants.

Report Date: August 2, 2012		Work Order: 12072321	Page N	Page Number: 3 of 4	
Sample: 304430	- RP West S/W @ 3'				
Param	Flag	Result	Units	$\operatorname{RL}$	
Chloride	Q8	833	mg/Kg	10	
	- South S/W @ 1.5'	Popult	Unite	RL	
Param Chloride	Flag Qs	Result <10.0	Units mg/Kg	10	
·	<u></u>		Hg/14g		
Sample: 304432	- Floor-2 @ 0.5'				
Param	Flag	Result	Units	$\operatorname{RL}$	
Chloride	Qs	16.8	mg/Kg	10	
Sample: 304433	- Floor-3 @ 10'				
Param	Flag	Result	Units	$\operatorname{RL}$	
Chloride	Qs	63.2	mg/Kg	10	
Sample: 304434 Param Chloride	- North S/W-1 @ 5' Flag	Result 24.3	Units mg/Kg	RL 10	
Param	- South S/W-1 @ 5' Flag	Result	Units	RL	
Chloride	Qs	13.0	mg/Kg	10	
Sample: 304436	- East S/W-1 @ 5'				
Sample: 304436 Param	- East S/W-1 @ 5' Flag	Result	Units	10	
Sample: 304436	- East S/W-1 @ 5'			RL	
<b>Sample: 304436</b> Param Chloride	- East S/W-1 @ 5' Flag	Result	Units	RL	
Param Chloride	- East S/W-1 @ 5' Flag Q8	Result	Units		

Report Date: August 2, 2012		Work Order: 12072321	Page I	Page Number: 4 of 4	
Sample: 304438	- Overspray Area-1				
Param	Flag	Result	Units	$\operatorname{RL}$	
Chloride	Qs	<10.0	mg/Kg	10	
Sample: 304439	- Overspray-2				
Param	Flag	Result	Units	$\operatorname{RL}$	
Chloride	Qs	24.9	mg/Kg	10	
Sample: 304440	- SP-1				
Param	Flag	Result	Units	$\mathbf{RL}$	
Chloride	Qs	71.4	mg/Kg	10	



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Rose Slade Southern Union Gas Services, Ltd.-Monahans 801 S. Loop 464 Monahans, TX, 79756

Report Date: August 2, 2012

Work Order: 12072321 

Project Location: Lea Co., NM Project Name: Line 2A-3 Project Number: Line 2A-3

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
304425	North Floor @ 0.5'	soil	2012-07-20	13:40	2012-07-23
304426	RP Floor @ 6'	soil	. 2012-07-20	14:00	2012-07-23
304427	RP North S/W @ 3'	soil	2012-07-20	14:10	2012-07-23
304428	RP South S/W @ 3'	soil	2012-07-20	14:15	2012-07-23
304429	RP East S/W @ 3'	soil	2012-07-20	14:20	2012-07-23
304430	RP West S/W @ 3'	soil	2012-07-20	14:25	2012-07-23
304431	South S/W @ 1.5'	soil	2012-07-20	14:30	2012-07-23
304432	Floor-2 @ 0.5'	soil	2012-07-20	14:40	2012-07-23
304433	Floor-3 @ 10'	soil	2012-07-20	14:50	2012-07-23
304434	North S/W-1 @ 5'	soil	2012-07-20	14:55	2012-07-23
304435	South S/W-1 @ 5'	soil	2012-07-20	15:00	2012-07-23
304436	East S/W-1 @ 5'	soil	2012-07-20	15:05	2012-07-23
304437	West S/W-1 @ 5'	soil	2012-07-20	15:10	2012-07-23
304438	Overspray Area-1	soil	2012-07-20	15:20	2012-07-23
304439	Overspray-2	soil	2012-07-20	15:25	2012-07-23
304440	SP-1	soil	2012-07-20	15:30	2012-07-23

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch

basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 44 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael alm

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

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# Case Narrative

Samples for project Line 2A-3 were received by TraceAnalysis, Inc. on 2012-07-23 and assigned to work order 12072321. Samples for work order 12072321 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	$\operatorname{Batch}$	Date
BTEX	S 8021B	79244	2012-07-30 at 09:15	93457	2012-07-30 at 09:15
Chloride (IC)	E 300.0	79181	2012-07-25 at 14:33	93562	2012-07-31 at 13:25
Chloride (IC)	E 300.0	79181	2012-07-25 at 14:33	93563	2012-07-31 at 13:26
TPH DRO - NEW	S 8015 D	79195	2012-07-26 at 14:00	93395	2012-07-27 at 07:10
TPH DRO - NEW	S 8015 D	79254	2012-07-30 at 11:00	93470	2012-07-31 at 07:51
TPH GRO	S 8015 D	79244	2012-07-30 at 09:15	93458	2012-07-30 at 09:15

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 12072321 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: August 2, 2012 Line 2A-3 Work Order: 12072321 Line 2A-3 Page Number: 6 of 44 Lea Co., NM

# Analytical Report

#### Sample: 304425 - North Floor @ 0.5'

Laboratory: Lubbock		A 1.4	1 M 41 41	S 8021E	<b>)</b>		Deen Mathad	: S 5035
Analysis: BTEX		0	l Method:				Prep Method	
QC Batch: 93457		Date Ana	.lyzed:	2012-07	-30		Analyzed By	: MT
Prep Batch: 79244		Sample P	reparation:	2012-07	-30		Prepared By	: MT
				$\operatorname{RL}$				
Parameter	Flag	$\operatorname{Cert}$	1	Result	Unit	8	Dilution	$\mathbf{RL}$
Benzene	U	1	<(	0.0200	mg/Kg	g	1	0.0200
Toluene		1	<(	0.0200	mg/Kg	5	1	0.0200
Ethylbenzene	U	1	<(	).0200	mg/Kg	5	1	0.0200
Xylene	U	1	<(	).0200	mg/Kg	5	1	0.0200
						Spike	Percent	Recovery
Surrogate	Fla	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		7	2.15	mg/Kg	1	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			1.93	mg/Kg	1	2.00	96	- 70 - 130

#### Sample: 304425 - North Floor @ 0.5'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 93562 79181		Analytical Date Anal Sample Pr		E 300.0 2012-07-31 2012-07-25		Prep Method: Analyzed By: Prepared By:	•
	$\operatorname{RL}$							
Parameter		Flag	Cert	Result	t	Units	Dilution	$\mathbf{RL}$
Chloride		Qs		11.3	8 <u>,</u> r	ng/Kg	1	10.0

#### Sample: 304425 - North Floor @ 0.5'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO - NEW 93395 79195	Analytical Method: Date Analyzed: Sample Preparation:		S 8015 D 2012-07-27 2012-07-26	Prep Method: Analyzed By: Prepared By:	/
		0	RL	<b>TT</b> 1.1		
Parameter	Fla	g Ce	rt Result		Dilution	RL
DRO	Jb,Qr	Q5 1	<50.0	mg/Kg	1	50.0

Report Date: August 2, 2012 Line 2A-3				Work Order: Line 2	Page Number: 7 of 44 Lea Co., NM			
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¥		117	mg/Kg	1	100	117	75.4 - 130

#### Sample: 304425 - North Floor @ 0.5'

Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244			Date An	al Method alyzed: Preparatio	2012-0	7-30		Prep Metho Analyzed By Prepared By	y: MT
					$\mathbf{RL}$				
Parameter	Flag		Cert	]	Result	Unit	s	Dilution	$\mathbf{RL}$
GRO	U		1		<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				2.20	mg/Kg	1	2.00	110	70 - 130
4-Bromofluorobenzene (4-BFB)	)			2.07	mg/Kg	1	2.00	104	70 - 130

# Sample: 304426 - RP Floor @ 6'

Laboratory: Lubb	ock							
Analysis: BTE	X	Analytica	I Method:	S 8021E	3		Prep Method	: <b>S</b> 5035
QC Batch: 93457	,	Date Ana	ılyzed:	2012-07	-30		Analyzed By:	MT
Prep Batch: 79244	L	Sample P	reparation:	2012-07	-30		Prepared By:	MT
				$\operatorname{RL}$				
Parameter	Flag	Cert	1	Result	Units	,	Dilution	$\mathbf{RL}$
							1	
Benzene	U	1		0.0200	mg/Kg		T	0.0200
Toluene		1	<	0.0200	mg/Kg		1	0.0200
Ethylbenzene	υ	1	~	0.0200	mg/Kg		1	0.0200
Xylene	ЈЪ	1	<	0.0200	mg/Kg		1	0.0200
						Spike	Percent	Recovery
Surrogate	· F	lag Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (T	FT)		1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenze			1.66	mg/Kg	1	2.00	83	70 - 130

Report Date: Line 2A-3	August 2, 2012		V	Vork Order: Line 24			~	mber: 8 of 4 Lea Co., NN
Sample: 304	4426 - RP Floo	or @ 6'						
Laboratory:	Midland		••					
Analysis:	Chloride (IC)			ical Method:			Prep Me	
QC Batch:	93562			nalyzed:	2012-07-3		Analyze	
Prep Batch:	79181		Sample	Preparation	: 2012-07-2	5	Prepare	d By: AR
					RL			
Parameter		Flag	Cert	Res		Units	Dilution	RI
Chloride		Qs		12	10	mg/Kg	10	10.0
Analysis: QC Batch: Prep Batch:	TPH DRO - NE 93395 79195	EW	Date	lytical Methe e Analyzed: ple Preparat	2012-0'	7-27	Prep Ma Analyze Prepare	ed By: CM
Parameter		Flag	Cert	Ba	RL sult	Units	Dilution	R
DRO		Jb,Qr,Qs	1	-	50.0	mg/Kg	1	50
	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover Limits
n-Tricosane	I ag		89.5	mg/Kg	1	100	90	75.4 - 13
	4426 - RP Floc	or @ 6'						
Laboratory: Analysis: QC Batch:	Lubbock TPH GRO 93458		Date Ana		S 8015 D 2012-07-30		Prep Met Analyzed	By: MT
Laboratory: Analysis:	Lubbock TPH GRO		Date Ana	alyzed: Preparation:	2012-07-30 2012-07-30			By: MT
Laboratory: Analysis: QC Batch:	Lubbock TPH GRO 93458	Flag	Date Ana	alyzed: Preparation:	2012-07-30 2012-07-30 RL	Units	Analyzed	By: MT

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Report Date: August 2, 2012 Line 2A-3		Work Order: 12072321 Line 2A-3				Page Number: 9 of 44 Lea Co., NM		
Sample: 304427 - RP North	S/W @	3'						
Laboratory: Lubbock								
Analysis: BTEX		Analytica	l Method:	S 8021E	3		Prep Method	: S 5035
QC Batch: 93457		Date Ana	lyzed:	2012-07	-30		Analyzed By	: MT
Prep Batch: 79244		Sample P	reparation	: 2012-07	-30		Prepared By	$\mathbf{MT}$
				$\mathbf{RL}$				
Parameter	Flag	Cert		Result	Units		Dilution	$\mathbf{RL}$
Benzene	U	1	<	0.0200	mg/Kg		1	0.0200
Toluene	U	1	<	0.0200	mg/Kg		1	0.0200
Ethylbenzene	U	1	<	0.0200	mg/Kg		1	0.0200
Xylene	U	1	<	0.0200	mg/Kg		1	0.0200
						Spike	Percent	Recovery
Surrogate	Fla	ag Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.15	mg/Kg	1	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70 - 130

# Sample: 304427 - RP North S/W @ 3'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 93562 79181		Analytical Date Anal Sample Pr		E 300.0 2012-07-31 2012-07-25		Prep Method: Analyzed By: Prepared By:	'
				RL	1			
Parameter		Flag	Cert	Result	; t	Jnits	Dilution	RL
Chloride		Qs		13.3	i mg	g/Kg	1	10.0

# Sample: 304427 - RP North S/W @ 3'

Laboratory: Analysis:	Lubbock TPH DF		W		lytical Meth		_	Prep Me	,
QC Batch: Prep Batch:	93395 79195				e Analyzed: ple Preparat	2012-0 ion: 2012-0		Analyze Prepare	5
					- •	RL		Ĩ	
Parameter			Flag	Cert	Re	sult	Units	Dilution	$\operatorname{RL}$
DRO			Jb,Qr,Qs	1	<	50.0	mg/Kg	<u>i</u>	50.0
<b>a</b> , , , , , , , , , , , , , , , , , , ,		1.1		<b>D</b>	TT II		Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qar		136	mg/Kg	1	100	136	75.4 - 130

Report Date: August 2, 2012 Line 2A-3			Work Order: 12072321 Line 2A-3						Page Number: 10 of 44 Lea Co., NM	
Sample: 304427 - RP North	1 S/W	° @ 3'								
Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244			Date An	al Methoc alyzed: Preparatic	2012-0	7-30		Prep Metho Analyzed B Prepared B	y: MT	
					$\mathbf{RL}$					
Parameter	Flag		Cert		Result	Unit	ts	Dilution	$\mathbf{RL}$	
GRO	U		1		<2.00	mg/K	g	1	2.00	
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)		1 Iag	Çert	2.20	mg/Kg	1	2.00	110	70 - 130	
4-Bromofluorobenzene (4-BFB)				2.06	mg/Kg	1	2.00	103	70 - 130	

#### Sample: 304428 - RP South S/W @ 3'

Laboratory: Lubbock Analysis: BTEX QC Batch: 93457 Prep Batch: 79244		Date Ana	l Method: lyzed: reparation	S 8021E 2012-07 2012-07	-30		Prep Method Analyzed By: Prepared By:	MT
		•		$\mathbf{RL}$				
Parameter	Flag	Cert		Result	Units	3	Dilution	$\operatorname{RL}$
Benzene	U	1	<	0.0200	mg/Kg		1	0.0200
Toluene		1	C	0.0200	mg/Kg	5	1	0.0200
Ethylbenzene	U	1	<	0.0200	mg/Kg	5	1	0.0200
Xylene	υ	1	<	0.0200	mg/Kg	5	1	0.0200
Surrogate	Fla	g Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		<u> </u>	1.78	mg/Kg	1	2.00	89	70 - 130
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	. 1	2.00	93	70 - 130

#### Sample: 304428 - RP South S/W @ 3'

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	93562	Date Analyzed:	2012-07-31	Analyzed By:	AR
Prep Batch:	79181	Sample Preparation:	2012-07-25	Prepared By:	AR

Report Date: August Line 2A-3	2, 2012	Wor	k Order: 1207232. Line 2A-3	Page Number: 11 of 44 Lea Co., NM		
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		77.4	mg/Kg	1	10.0

#### Sample: 304428 - RP South S/W @ 3'

- -	<b>*</b> 11 1	·						
Laboratory: Analysis:	Lubbock TPH DRO - N	EW	Ana	lytical Meth	od: S 801	5 D	Prep Me	ethod: N/A
QC Batch:	93395	L.,		e Analyzed:			Analyze	,
Prep Batch:	79195		Sam	ple Prepara	tion: 2012-0	07-26	Prepare	d By: CM
					RL			
Parameter		Flag	Cert	R	esult	Units	Dilution	$\operatorname{RL}$
DRO		Jb,Qr,Qs	1	<	(50.0	mg/Kg	1	50.0
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			125	mg/Kg	1	100	125	75.4 - 130

### Sample: 304428 - RP South S/W @ 3'

Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244			Date An	al Method alyzed: Preparatio	2012-0	07-30		Prep Metho Analyzed B Prepared B	y: MT
					$\mathbf{RL}$				
Parameter	Flag		Cert		Result	Uni	ts	Dilution	$\operatorname{RL}$
GRO	U		1		<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				1.81	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)	)			2.00	mg/Kg	1	2.00	100	70 - 130

# Sample: 304429 - RP East S/W @ 3'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	93457	Date Analyzed:	2012-07-30	Analyzed By:	MT
Prep Batch:	79244	Sample Preparation:	2012-07-30	Prepared By:	MT

Report Date: A Line 2A-3	August 2, 2012		V		er: 120723 e 2A-3	21		Page Number: 12 of 44 Lea Co., NM	
					$\operatorname{RL}$				
Parameter		Flag	Cert		Result	Uni	ts	Dilution	I
Benzene		u8	1	<	<0.0200	mg/K		1	0.02
Toluene		-	- 1		0.0209	mg/K		1	0.02
Ethylbenzene		U	1		<0.0200	mg/K		1	0.02
Xylene		U	1	<	<0.0200	mg/K	•	1	0.02
							Spike	Percent	Recove
Surrogate		Fla	g Cert	Result	Units	Dilution	Amount	Recovery	Limit
Trifluorotoluene	e (TFT)			2.16	mg/Kg	1	2.00	108	70 - 13
4-Bromofluorob		)		2.02	mg/Kg	1	2.00	101	70 - 13
<i>.</i>	lidland	S/W @ 3'							
Analysis: C	Chloride (IC)		Analy	tical Metł	nod: E 3	300.0		Prep Met	hod: N
QC Batch: 9	3562		Date A	Analyzed:	202	12-07-31		Analyzed	By: A
Prep Batch: 7	9181		$\operatorname{Sampl}$	e P <b>re</b> para	tion: 20	12-07-25		Prepared	By: A
Parameter		Flag	Cert		RL Result	Uni	ta	Dilution	J
Chloride		Q8			41.8	mg/F		1	1
Sample: 3044	29 - RP East	S/W @ 3'							
v	lubbock								
	TPH DRO - NE	W	Ana	alytical M	ethod:	S 8015 D		Prep Met	
v								A 1 3	
QC Batch: 9	3395		Dat	e Analyze	ed:	2012-07-27		Analyzed	v
QC Batch: 9	3395 9195		Dat	e Analyze nple Prepa	ed:	2012-07-27 2012-07-26		Analyzed Prepared	v
QC Batch: 9 Prep Batch: 7			Dat San		ed: aration: RL	2012-07-26		Prepared	By: C
QC Batch: 9 Prep Batch: 7 Parameter		Flag	Dat San Cert		ed: aration: RL Result	2012-07-26 Un		Prepared Dilution	By: C
QC Batch: 9 Prep Batch: 7 Parameter		Flag Qr,Qs,U	Dat San		ed: aration: RL	2012-07-26		Prepared	By: C
QC Batch: 9		<u>_</u>	Dat San Cert		ed: aration: RL Result <50.0	2012-07-26 Un mg/J S		Prepared Dilution	By: C

# Sample: 304429 - RP East S/W @ 3'

Laboratory:	Lubbock		·		
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	93458	Date Analyzed:	2012-07-30	Analyzed By:	$\mathbf{MT}$
Prep Batch:	79244	Sample Preparation:	2012-07-30	Prepared By:	$\mathbf{MT}$

.

Report Date: August 2, 2012 Line 2A-3	1		er: 1207232 e 2A-3	_	Page Number: 13 of 44 Lea Co., NM			
Parameter	Flag	Cert		RL Result	Uni	ts	Dilution	RL
GRO	U	1		<2.00	mg/K	g	1	2.00
Surrogate	Fla	g Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)		~	$\begin{array}{c} 2.26 \\ 2.15 \end{array}$	mg/Kg mg/Kg	1 1	2.00 2.00	113 108	70 - 130 70 - 130

#### Sample: 304430 - RP West S/W @ 3'

Laboratory: Lubbock Analysis: BTEX QC Batch: 93457 Prep Batch: 79244		Date Ana	l Method: lyzed: reparation:	S 8021F 2012-07 2012-07	-30		Prep Method Analyzed By Prepared By:	$\mathbf{MT}$
				RL				
Parameter	Flag	Cert	Η	Result	Units		Dilution	$\mathbf{RL}$
Benzene	U	1	<(	).0200	mg/Kg		1	0.0200
Toluene	U	1	<0	0.0200	m mg/Kg		1	0.0200
Ethylbenzene	υ	1	<0	0.0200	mg/Kg		1	0.0200
Xylene	U	1	<(	0.0200	mg/Kg		1	0.0200
						Spike	Percent	Recovery
Surrogate	Flag	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene ( $\overline{\text{TFT}}$ )			2.10	mg/Kg	1	2.00	105	70 - 130
4-Bromofluorobenzene (4-BFB)			1.94	mg/Kg	1	2.00	97	70 - 130

### Sample: 304430 - RP West S/W @ 3'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 93562 79181		Date A	cal Method: nalyzed: Preparation:	E 300.0 2012-07-31 2012-07-25		Analy	Method: zed By: red By:	
				RI	Ĺ				
Parameter		Flag	$\mathbf{Cert}$	Resul	t	Units	Dilution		$\operatorname{RL}$
Chloride		Qs		83	3 I	ng/Kg	10		10.0

Report Date Line 2A-3	Report Date: August 2, 2012 Line 2A-3			Order: 1207: Line 2A-3	2321	Page Number: 14 of 44 Lea Co., NM		
Sample: 30	4430 - RP V	West S/W @ 3'						
Laboratory: Lubbock Analysis: TPH DRO - NEW QC Batch: 93395		Analytic Date Ar	cal Method: alvzed:	S 8015 D 2012-07-27	Prep Method: Analyzed By:	N/A CM		
Prep Batch:	79195			Preparation:	2012-07-26	Prepared By:	CM	
				$\operatorname{RL}$				
Parameter	arameter Flag		$\operatorname{Cert}$	Result	Units	Dilution	$\operatorname{RL}$	
DRO		Qr,Qs,U	1 <50.0		mg/Kg	1	50.0	

						Spike	Percent	Recovery
Surrogate	Flag	Cert	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			95.4	mg/Kg	1	100	95	75.4 - 130

# Sample: 304430 - RP West S/W @ 3'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 93458 79244			Date An	al Method alyzed: Preparatio	2012-0	07-30		Prep Metho Analyzed B Prepared B	y: MT
						$\mathbf{RL}$				
Parameter		Flag		$\operatorname{Cert}$		Result	Unit	s	Dilution	$\operatorname{RL}$
GRO		U		1		<2.00	mg/K	g	1	2.00
Surrogate			Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolu	ene (TFT)		0		2.18	mg/Kg	1	2.00	109	70 - 130
	obenzene (4-BFB)				2.09	mg/Kg	1	2.00	104	70 - 130

# Sample: 304431 - South S/W @ 1.5'

J	ibbock PEV		Analytical M	ethod: S 8021B		Drop Mathad	g fost
v	ΓEX		Analytical M			Prep Method:	
QC Batch: 93	457		Date Analyze	ed: 2012-07-3	30	Analyzed By:	${ m MT}$
Prep Batch: 79	244	30	Prepared By:	$\mathbf{MT}$			
				$\operatorname{RL}$			
Parameter		Flag	Cert	$\operatorname{Result}$	Units	Dilution	$\operatorname{RL}$
Benzene		υ	1	< 0.0200	mg/Kg	1	0.0200
Toluene		υ	1	< 0.0200	m mg/Kg	1	0.0200
Ethylbenzene		U	1	< 0.0200	mg/Kg	1	0.0200

continued ...

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sample 304431 con	ntinued									
					$\mathbf{RL}$					
Parameter		Flag	Cert		Result	Unit	s	Dilution		RL
Xylene		U	1	<	<0.0200	mg/Kg	3	1	0	0.0200
							Spike	Percent	Rec	overy
Surrogate		Flag	Cert	Result	Units	Dilution	Amount			mits
Trifluorotoluene (	FFT)			2.02	mg/Kg	1	2.00	101	70	- 130
4-Bromofluoroben				1.78	mg/Kg	1	2.00	89	70	- 130
			Date A	tical Meth Analyzed: e Prepara	2012	00.0 2-07-31 2-07-25		Prep Met Analyzed Prepared	l By:	N/A AR AR
Parameter		Flag	Cert	-	Result	Unit	s	Dilution		$\mathbf{RL}$
Chloride		Q.			<10.0	mg/K	g	1		10.0
Laboratory: Lub Analysis: TP1 QC Batch: 933	bock H DRO - NE 95		Dat	alytical M e Analyze nple Prepa	ed: 20	8015 D 012-07-27 012-07-26		Prep Met Analyzed Prepared	l By:	N/A CM CM
Laboratory: Lub Analysis: TP1 QC Batch: 933	bock H DRO - NE 95	W	Dat	e Analyze	ed: 24 aration: 24 RL	012-07-27 012-07-26		Analyzed Prepared	l By:	ĊM CM
Laboratory: Lub Analysis: TPI QC Batch: 933 Prep Batch: 791 Parameter	bock H DRO - NE 95		Dat San Cert	e Analyze	ed: 24 aration: 24 RL Result	012-07-27 012-07-26 Uni		Analyzed Prepared Dilution	l By:	CM CM RL
Laboratory: Lub Analysis: TPI QC Batch: 933 Prep Batch: 791 Parameter	bock H DRO - NE 95	W	Dat San	e Analyze	ed: 24 aration: 24 RL	012-07-27 012-07-26		Analyzed Prepared	l By:	CM CM RL
Laboratory: Lub Analysis: TPI QC Batch: 933 Prep Batch: 791 Parameter	bock H DRO - NE 95	W Flag	Dat San Cert	e Analyze	ed: 24 aration: 24 RL Result	012-07-27 012-07-26 	g	Analyzed Prepared Dilution	l By: l By:	CM CM RL
Analysis: TP QC Batch: 933	bock H DRO - NE 95	W Flag	Dat San Cert	e Analyze	ed: 24 aration: 24 RL Result	012-07-27 012-07-26 		Analyzed Prepared Dilution 1	l By: l By: Rec	CM CM RL 50.0

# Sample: 304431 - South S/W @ 1.5'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S $5035$
QC Batch:	93458	Date Analyzed:	2012-07-30	Analyzed By:	MT
Prep Batch:	79244	Sample Preparation:	2012-07-30	Prepared By:	MT

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Parameter	Flag	(	Cert		RL Result	Uni	ts	Dilution	RL
GRO	υ		1	<2.00		mg/Kg		1	2.00
Surrogate	Fl	ag C	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)	, * **		,	2.08 1.90	mg/Kg mg/Kg	1 1	2.00 2.00	104 95	70 - 130 70 - 130

.

# Sample: 304432 - Floor-2 @ 0.5'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 93457 79244		Analytical M Date Analyz Sample Prep	ed: 2012-07-			Prep Metho Analyzed B Prepared B	y: MT
				$\operatorname{RL}$				
Parameter		Flag	Cert	Result	Units		Dilution	$\mathbf{RL}$
Benzene		U	1	< 0.0200	mg/Kg		1	0.0200
Toluene			1	< 0.0200	mg/Kg		1	0.0200
Ethylbenzene	9	U	1	< 0.0200	mg/Kg		1	0.0200
Xylene		U	1	< 0.0200	mg/Kg		1	0.0200
						Spike	Percent	Recovery

Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.18	mg/Kg	1	2.00	109	70 - 130
<u>4-Bromofluorobenzene (4-BFB)</u>			1.98	mg/Kg	1	2.00	99	70 - 130

### Sample: 304432 - Floor-2 @ 0.5'

Laboratory:	Midland						
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0	Prep Method:	N/A
QC Batch:	93562		Date Anal	yzed:	2012-07-31	Analyzed By:	AR
Prep Batch:	79181		Sample Pr	eparation:	2012-07-25	Prepared By:	AR
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	$\mathbf{RL}$
Chloride		Qs		16.8	mg/Kg	1	10.0

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Sample: 30	4432 - Floor-2 (	<b>0</b> 0.5'						
Laboratory: Lubbock Analysis: TPH DRO - NEW QC Batch: 93395 Prep Batch: 79195			Date	lytical Meth e Analyzed: pple Prepara	2012-0	07-27	Prep Me Analyze Preparec	d By: CM
					$\operatorname{RL}$			
Parameter		Flag	Cert	Re	sult	Units	Dilution	$\operatorname{RL}$
DRO		Qr,Qs,U	1	<	50.0	mg/Kg	1	50.0
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			123	mg/Kg	1	100	123	75.4 - 130

#### Sample: 304432 - Floor-2 @ 0.5'

Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244			Date An	al Method alyzed: Preparatio	2012-0	7-30		Prep Metho Analyzed By Prepared By	y: MT
					$\mathbf{RL}$				
Parameter	Flag		$\operatorname{Cert}$		Result	Uni	ts	Dilution	$\mathbf{RL}$
GRO	U		1	· · · · ·	<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recoverv	Recovery Limits
Trifluorotoluene (TFT)		1 145	0.010	2.27	mg/Kg	1	2.00	114	70 - 130
4-Bromofluorobenzene (4-BFB)	)			2.08	mg/Kg	1	2.00	104	70 - 130

#### Sample: 304433 - Floor-3 @ 10'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 93457 79244		Analytical Me Date Analyzed Sample Prepar	l: 2012-07-	30	Prep Method: Analyzed By: Prepared By:	S 5035 MT MT
				$\operatorname{RL}$		,	
Parameter		Flag	$\operatorname{Cert}$	Result	Units	Dilution	$\operatorname{RL}$
Benzene	1	υ	1	<1.00	mg/Kg	50	0.0200
Toluene		U	1	<1.00	m mg/Kg	50	0.0200
Ethylbenzene	e	U	1	<1.00	m mg/Kg	50	0.0200
Xylene		υ	1	<1.00	mg/Kg	50	0.0200

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Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qar	Qar		3.33	mg/Kg	50	2.00	166	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qar		2.85	mg/Kg	50	2.00	142	70 - 130

#### Sample: 304433 - Floor-3 @ 10'

Laboratory:	Midland						
Analysis:	Chloride (IC)		Analytical	Method:	E 300.0	Prep M	Aethod: N/A
QC Batch:	93563		Date Anal	yzed:	2012-07-31	Analyz	ed By: AR
Prep Batch:	79181		Sample Pr	reparation:	2012-07-25	Prepar	ed By: AR
-							
				$\operatorname{RL}$	,		
Parameter		Flag	Cert	Result	Unit	s Dilution	$\mathbf{RL}$
Chloride		Qs		63.2	mg/Kg	g 1	10.0

#### Sample: 304433 - Floor-3 @ 10'

Laboratory:	Lubbock								
Analysis:	TPH DF	RO - NEV	V	Ana	lytical Metho	od: S 801	5 D	Prep Me	ethod: N/A
QC Batch:	93395			Date	e Analyzed:	2012-0	07-27	Analyze	d By: CM
Prep Batch:	79195			Sam	ple Preparat	ion: 2012-0	07-26	Prepare	By: CM
					]	RL			
Parameter			Flag	Cert	Res	ult	Units	Dilution	$\operatorname{RL}$
DRO			Qr,Qs	1	<2	250	mg/Kg	5	50.0
							<b>G</b> 11	<b>D</b>	
							$\mathbf{Spike}$	Percent	Recovery
Surrogate		Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qar		254	mg/Kg	5	100	254	75.4 - 130

#### Sample: 304433 - Floor-3 @ 10'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 93458 79244		Analytical Me Date Analyze Sample Prepa	ed: 2012-07-	-30	Prep Method: Analyzed By: Prepared By:	
				$\operatorname{RL}$			
Parameter		Flag	$\operatorname{Cert}$	Result	Units	Dilution	$\operatorname{RL}$
GRO	2	U	1	<100	mg/Kg	50	2.00

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Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr	-	3.14	mg/Kg	50	2.00	157	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qar		3.01	mg/Kg	50	2.00	150	70 - 130

#### Sample: 304434 - North S/W-1 @ 5'

Laboratory: Lubbock Analysis: BTEX QC Batch: 93457 Prep Batch: 79244		Date Ana	l Method: lyzed: reparation:	S 8021E 2012-07 2012-07	-30		Prep Method Analyzed By Prepared By	: MT
				$\mathbf{RL}$				
Parameter	Flag	Cert	]	Result	Units	3	Dilution	$\mathbf{RL}$
Benzene	U	1	<	0.0200	mg/Kg	5	1	0.0200
Toluene	U	1	<	0.0200	mg/Kg	5	1	0.0200
Ethylbenzene	υ	1	<	0.0200	mg/Kg	5	1	0.0200
Xylene	υ	1	<	0.0200	mg/Kg	5	1	0.0200
Surrogate	Fla	g Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		<u> </u>	1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

#### Sample: 304434 - North S/W-1 @ 5'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (IC) 93563 79181		Date A	tical Method: Analyzed: e Preparation:	E 300.0 2012-07-31 2012-07-25	Prep Method: Analyzed By: Prepared By:	$\overline{AR}$
				RI	1		
Parameter		Flag	Cert	Result	t Units	5 Dilution	$\mathbf{RL}$
Chloride		Qs		24.3	mg/Kg	; 1	10.0

## Sample: 304434 - North S/W-1 @ 5'

Laboratory:	Lubbock				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method: N	N/A
QC Batch:	93395	Date Analyzed:	2012-07-27	Analyzed By: C	CM
Prep Batch:	79195	Sample Preparation:	2012-07-26	Prepared By: 0	CM

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						RL				
Parameter			Flag	$\operatorname{Cert}$	Re	sult	Units	Dilution	$\operatorname{RL}$	
DRO			Qr,Qs,U	1	<;	50.0	mg/Kg	1	50.0	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
n-Tricosane	Qar	Qar		131	mg/Kg	1	100	131	75.4 - 130	

## Sample: 304434 - North S/W-1 @ 5'

Laboratory:LubbockAnalysis:TPH GROQC Batch:93458Prep Batch:79244			Date An	al Methoo alyzed: Preparatio	2012-0	07-30		Prep Metho Analyzed By Prepared By	y: MT
					RL				
Parameter	Flag		$\operatorname{Cert}$		Result	Uni	ts	Dilution	$\operatorname{RL}$
GRO	U		1		<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				1.77	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)				2.00	mg/Kg	1	2.00	100	70 - 130

## Sample: 304435 - South S/W-1 @ 5'

Analysis: QC Batch:	Lubbock BTEX 93457 79244		Analytical Date Anal Sample Pi	lyzed:	2012-07	-30		Prep Method Analyzed By Prepared By:	MT
					RL				
Parameter		Flag	Cert		Result	Unit	s	Dilution	$\operatorname{RL}$
Benzene	3	U	1		< 0.200	mg/Kg	g	10	0.0200
Toluene		U	1		< 0.200	mg/Kg	g	10	0.0200
Ethylbenzene		U	1		< 0.200	mg/Kg		10	0.0200
Xylene		ЈЪ	1		< 0.200	mg/Kg	g	10	0.0200
_							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluen	ne (TFT)			1.98	mg/Kg	10	2.00	99	70 - 130
4-Bromofluoro	benzene (4-BFB)			2.18	mg/Kg	10	2.00	109	70 - 130

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Laboratory: Analysis: QC Batch: Prep Batch:	s: TPH DRO - NEW ch: 93395		Date	lytical Meth e Analyzed: ple Prepara	2012-0	07-27	Prep Me Analyze Prepare	d By: CM
					$\operatorname{RL}$			
Parameter		Flag	Cert	Re	esult	Units	Dilution	RL
DRO		Qr,Qs,U	1	<	50.0	mg/Kg	1	50.0
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			109	mg/Kg	1	100	109	75.4 - 130

#### Sample: 304435 - South S/W-1 @ 5'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 93458 79244			Date An	al Methoc alyzed: Preparatic	2012-0	7-30		Prep Metho Analyzed B Prepared B	y: MT
						$\mathbf{RL}$				
Parameter		Flag		$\operatorname{Cert}$		Result	Uni	ts	Dilution	$\operatorname{RL}$
GRO	4	U		1		<20.0	mg/K	g	10	2.00
								Spike	Percent	Recovery
Surrogate			Flag	Cert	$\operatorname{Result}$	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)				1.40	mg/Kg	10	2.00	70	70 - 130
4-Bromofluor	obenzene (4-BFB)				2.30	mg/Kg	10	2.00	115	70 - 130

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## Sample: 304436 - East S/W-1 @ 5'

Laboratory: Lubbock Analysis: BTEX QC Batch: 93457 Prep Batch: 79244		Analytica Date Ana Sample Pr	lyzed:	2012-07	-30		Prep Metho Analyzed By Prepared By	y: MT
				$\operatorname{RL}$				
Parameter	Flag	Cert		Result	Units	5	Dilution	$\mathbf{RL}$
Benzene <sup>5</sup>	U	1		< 0.100	mg/Kg	5	5	0.0200
Toluene	U	1		< 0.100	mg/Kg	ç.	5	0.0200
Ethylbenzene	υ	1		< 0.100	mg/Kg	S	. 5	0.0200
Xylene	U	1		< 0.100	mg/Kg	5	5	0.0200
			<b>D</b>			Spike	Percent	Recovery
Surrogate	Flag	g Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.66	m mg/Kg	5	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	5	2.00	94	70 - 130

### Sample: 304436 - East S/W-1 @ 5'

Laboratory:	Midland						
Analysis:	Chloride (IC)		Analytica	l Method:	E 300.0	Prep Met	hod: N/A
QC Batch:	93563		Date Ana	ılyzed:	2012-07-31	Analyzed	By: AR
Prep Batch:	79181		Sample P	reparation:	2012-07-25	Prepared	By: AR
-							
				RL	1		
Parameter		Flag	Cert	Result	Units	s Dilution	$\mathbf{RL}$
Chloride		Qs		16.7	′ mg/Kg	ç 1	10.0

## Sample: 304436 - East S/W-1 @ 5'

Laboratory:	Lubbock							
Analysis:	TPH DRO - NE	W	Ana	lytical Metl	nod: S 80	15 D	Prep Me	ethod: N/A
QC Batch:	93395		Date	Analyzed:	2012	-07-27	Analyze	d By: CM
Prep Batch:	79195		Sam	ple Prepara	tion: 2012	-07-26	Prepare	d By: CM
					$\operatorname{RL}$			
Parameter		Flag	Cert	R	esult	Units	Dilution	$\operatorname{RL}$
DRO		Jb,Qr,Qs	1	<	<50.0	m mg/Kg	1	50.0
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		-	122	mg/Kg	1	100	122	75.4 - 130

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Sample: 304436 - East S/W	-1 @ 5'							
Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244		Analytic Date An Sample I	alyzed:	2012-0			Prep Metho Analyzed B Prepared B	y: MT
				$\operatorname{RL}$				
Parameter	Flag	Cert		Result	Unit	s	Dilution	$\operatorname{RL}$
GRO <sup>6</sup>	U	1		<10.0	mg/K	g	5	2.00
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1 145	0010	1.47	mg/Kg	5	2.00	74	70 - 130
4-Bromofluorobenzene (4-BFB)			2.04	mg/Kg	5	2.00	102	70 - 130

## Sample: 304437 - West S/W-1 @ 5'

QC Batch:93457Date Analyzed:2012-07-30Analyzed By:MTPrep Batch:79244Sample Preparation:2012-07-30Prepared By:MT	Laboratory: Lubbock	(							
Prep Batch:79244Sample Preparation:2012-07-30Prepared By:MT	Analysis: BTEX		Analytica	l Method:	S 8021E	3		Prep Method	: S 5035
	QC Batch: 93457		Date Ana	lyzed:	2012-07-	-30		Analyzed By:	$\mathbf{MT}$
זת	Prep Batch: 79244		Sample Pr	reparation:	2012-07	-30		Prepared By:	$\mathrm{MT}$
RL					$\operatorname{RL}$				
Parameter Flag Cert Result Units Dilution RI	Parameter	Flag	Cert	]	Result	Units		Dilution	$\operatorname{RL}$
Benzene U 1 <0.0200 mg/Kg 1 0.0200	Benzene	U	1	<(	0.0200	mg/Kg		1	0.0200
Toluene v 1 <0.0200 mg/Kg 1 0.0200	Toluene	U	1	<(	0.0200	mg/Kg		1	0.0200
Ethylbenzene v 1 <0.0200 mg/Kg 1 0.0200	Ethylbenzene	υ	1	<(	0.0200	mg/Kg		1	0.0200
Xylene u _ 1 <0.0200 mg/Kg 1 0.0200	Xylene	U	1	<(	0.0200	mg/Kg		1	0.0200
Spike Percent Recovery							Spike	Percent	Recovery
Surrogate Flag Cert Result Units Dilution Amount Recovery Limits	Surrogate	Flag	Cert	Result	Units	Dilution			•
Triffuorotoluene (TFT)         2.02 mg/Kg         1         2.00         101         70 - 130	Trifluorotoluene (TFT)	)		2.02	mg/Kg	1	2.00	101	70 - 130
4-Bromofluorobenzene (4-BFB) 1.85 mg/Kg 1 2.00 92 70 - 130	$\underline{\text{4-Bromofluorobenzene}}$	(4-BFB)		1.85	mg/Kg	1	2.00	92	70 - 130

## Sample: 304437 - West S/W-1 @ 5'

Laboratory:	Midland				
Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	93563	Date Analyzed:	2012-07-31	Analyzed By:	AR
Prep Batch:	79181	Sample Preparation:	2012-07-25	Prepared By:	$\mathbf{AR}$

Report Date: August 2 Line 2A-3	, 2012	Work	c Order: 12072321 Line 2A-3	Page Number: 24 of 44 Lea Co., NM		
Parameter	Flag	Cert	RL Result	Units	Dilution	$\operatorname{RL}$
Chloride	Qs		24.8	mg/Kg	1	10.0

#### Sample: 304437 - West S/W-1 @ 5'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DF 93395 79195		N	Date	lytical Metho e Analyzed: ple Preparat	2012-0	07-27	Prep Me Analyze Preparec	d By: CM
					J	RL			
Parameter			Flag	Cert	Res	ult	Units	Dilution	$\operatorname{RL}$
DRO			Qr,Qs	1	4	11	mg/Kg	1	50.0
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qar	Qsr		160	mg/Kg	1	100	160	75.4 - 130

#### Sample: 304437 - West S/W-1 @ 5'

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH GRO 93458 79244			Date An	al Method alyzed: Preparatio	2012-0	7-30		Prep Metho Analyzed B Prepared B	y: MT
						$\operatorname{RL}$				
Parameter		Flag		Cert		Result	Unit	ts	Dilution	RL
GRO		U		1		<2.00	mg/K	g	1	2.00
Surrogate			Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	me (TFT)				2.12	mg/Kg	1	2.00	106	70 - 130
4-Bromofluor	obenzene (4-BFB)				2.00	mg/Kg	1	2.00	100	70 - 130

# Sample: 304438 - Overspray Area-1

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	93457	Date Analyzed:	2012-07-30	Analyzed By:	$\mathbf{MT}$
Prep Batch:	79244	Sample Preparation:	2012-07-30	Prepared By:	$\mathbf{MT}$

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Report Date: Line 2A-3	August 2, 2	2012	V		er: 1207232 e 2A-3	21			er: 25 of 44 Jea Co., NM
					$\operatorname{RL}$				
Parameter		Flag	Cert		Result	Units	5	Dilution	$\operatorname{RL}$
Benzene		U	1	<	< 0.0200	mg/Kg	S	1	0.0200
Toluene			1	<	<0.0200	mg/Kg	5	1	0.0200
Ethylbenzene	•	U	1	<	<0.0200	mg/Kg	5	1	0.0200
Xylene		υ	1		<0.0200	mg/Kg	<u> </u>	1	0.0200
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)			2.08	mg/Kg	1	2.00	104	70 - 130
4-Bromofluor	obenzene (4-	BFB)		1.92	mg/Kg	1	2.00	96	70 - 130
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (I6 93563 79181	C)	Date	tical Meth Analyzed: le Prepara	2013	00.0 2-07-31 2-07-25		Prep Met Analyzed Prepared	By: AR
					DI				
Parameter		Flag	Cert		RL Result	Unit	s	Dilution	$\mathbf{RL}$
Parameter Chloride		Flag	Cert			Unit mg/K		Dilution 1	RL 10.0
Chloride	<b>4438 - Ove</b> Lubbock TPH DRO 93395 79195	۵. rspray Area-1	Ana Dat	alytical M te Analyze nple Prepa	Result <10.0 ethod: S ed: 2				10.0 hod: N/A By: CM
Chloride Sample: 304 Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 93395	ی rspray Area-1 - NEW	Ana Dat San	alytical M te Analyze	Result <10.0 ethod: S ed: 2 aration: 2 RL	mg/K 8 8015 D 012-07-27 012-07-26	g	1 Prep Met Analyzed Prepared	10.0 hod: N/A By: CM By: CM
Chloride Sample: 304 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock TPH DRO 93395	ی r <b>spray Area-1</b> - NEW Flag	Ana Dat San Cert	alytical M te Analyze	Result <10.0 ethod: S ed: 2 aration: 2 RL Result	mg/K 8 8015 D 012-07-27 012-07-26 Unit	g	1 Prep Met Analyzed Prepared Dilution	10.0 hod: N/A By: CM By: CM RL
Chloride Sample: 304 Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DRO 93395	ی rspray Area-1 - NEW	Ana Dat San	alytical M te Analyze	Result <10.0 ethod: S ed: 2 aration: 2 RL Result <50.0	mg/K 8 8015 D 012-07-27 012-07-26 Unit mg/K	g	1 Prep Met Analyzed Prepared	hod: N/A By: CM By: CM RL 50.0 Recovery
Chloride Sample: 304 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Lubbock TPH DRO 93395 79195	ی r <b>spray Area-1</b> - NEW Flag	Ana Dat San Cert	alytical M te Analyze	Result <10.0 ethod: S ed: 2 aration: 2 RL Result <50.0	mg/K 8 8015 D 012-07-27 012-07-26 Unit mg/K	g is g	1 Prep Met Analyzed Prepared Dilution 1	10.0 hod: N/A By: CM By: CM RL 50.0

#### Sample: 304438 - Overspray Area-1

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	93458	Date Analyzed:	2012-07-30	Analyzed By:	MT
Prep Batch:	79244	Sample Preparation:	2012-07-30	Prepared By:	$\mathbf{MT}$

Report Date: August 2, 2012 Line 2A-3	_		V	Vork Orde Line	Page Number: 26 of 44 Lea Co., NM				
Parameter	Flag		Cert		RL Result	Uni	ts	Dilution	$\operatorname{RL}$
GRO	U U		1		<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB)				$\begin{array}{c} 2.20 \\ 2.07 \end{array}$	mg/Kg mg/Kg	1 1	2.00 2.00	110 104	70 - 130 70 - 130

,

#### Sample: 304439 - Overspray-2

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 93457 79244		Analytical M Date Analyze Sample Prepa	ed:	S 8021B 2012-07-30 2012-07-30			Prep Method Analyzed By Prepared By:	MT
					$\mathbf{RL}$				
Parameter		Flag	Cert	R	esult	Units		Dilution	RL
Benzene		U	1	<0.	0200	mg/Kg		1	0.0200
Toluene			1	0.0	0205	mg/Kg		1	0.0200
Ethylbenzen	9	U	1	<0.	0200	mg/Kg		1	0.0200
Xylene		U	1	<0.	0200	mg/Kg		1	0.0200
<b>G</b> (		ות					Spike	Percent	Recovery

Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.00	mg/Kg	1	2.00	100	70 - 130
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	· 96	70 - 130

## Sample: 304439 - Overspray-2

Chloride		Qa .		24.8	mg/Kg	g	1	10.0
Parameter		Flag	Cert	Result	t Unit:	s Di	lution	$\mathbf{RL}$
				RI	J			
Prep Batch:	79181		Sample	Preparation:	2012-07-25		Prepared By:	AR
QC Batch:	93563		Date A	nalyzed:	2012-07-31		Analyzed By:	$\mathbf{AR}$
Analysis:	Chloride (IC)		Analyt	ical Method:	E 300.0		Prep Method:	N/A
Laboratory:	Midland							

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### Sample: 304439 - Overspray-2

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock TPH DF 93395 79195	RO - NEW	Ţ	Date	ytical Metho Analyzed: ple Preparat	2012-0	7-27	Prep Me Analyze Prepare	d By: CM
						RL			
Parameter			Flag	Cert	Res	sult	Units	Dilution	$\operatorname{RL}$
DRO			Qr,Qs,U	1	<5	0.0	mg/Kg	1	50.0
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qar	Qar		132	mg/Kg	1	100	132	75.4 - 130

#### Sample: 304439 - Overspray-2

Laboratory: Lubbock Analysis: TPH GRO QC Batch: 93458 Prep Batch: 79244			Date An	al Method alyzed: Preparatic	2012-0			Prep Metho Analyzed B Prepared B	y: MT
					$\operatorname{RL}$				
Parameter	Flag		Cert		Result	Uni	s	Dilution	$\mathbf{RL}$
GRO	U		1		<2.00	mg/K	g	1	2.00
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		Tag		2.10	mg/Kg	1	2.00	105	70 - 130
4-Bromofluorobenzene (4-BFB)	)			2.04	mg/Kg	1	2.00 2.00	102	70 - 130 70 - 130

### Sample: 304440 - SP-1

Laboratory: Analysis: QC Batch: Prep Batch:	Lubbock BTEX 93457 79244		Analytical M Date Analyze Sample Prepa	d: 2012-07-30		Prep Method: Analyzed By: Prepared By:	S 5035 MT MT
				$\operatorname{RL}$			
Parameter		Flag	Cert	Result	Units	Dilution	RL
Benzene		U	1	< 0.0200	mg/Kg	1	0.0200
Toluene			1	0.0276	mg/Kg	1	0.0200
Ethylbenzene	e	U	1	< 0.0200	mg/Kg	1	0.0200
Xylene		<u> </u>	1	0.133	mg/Kg	1	0.0200

Report Date Line 2A-3	: August 2		· · · · · · · · · · · · · · · · · · ·			Work Order: 12072321 Line 2A-3						
Surrogate			Fla	g Cert	Result	Units		Spik tion Amou		Recovery Limits		
Trifluorotolu					1.99	mg/K				70 - 130		
4-Bromofluor	obenzene (	<u>4-BFB)</u>			2.38	mg/K	g <u>1</u>	2.00	) 119	70 - 130		
Sample: 30	4440 - SP	-1										
Laboratory:	Midland											
Analysis:	Chloride	(IC)			tical Meth		300.0		Prep Me			
QC Batch:	93563	<ul> <li>V</li> </ul>							Analyzed			
Prep Batch:	79181			Samp	le Prepara	tion: 2	012-07-25		Preparec	By: AR		
						RL						
Parameter			Flag	$\operatorname{Cert}$		Result		Units	Dilution	RL		
Chloride			Qs			71.4	:	mg/Kg	1	10.0		
Sample: 30 Laboratory: Analysis:	Lubbock TPH DR		W		alytical M		S 8015 I		Prep Me			
QC Batch:	93470				te Analyze		2012-07-		Analyze			
Prep Batch:	79254			Sar	nple P <b>r</b> epa	aration:	2012-07-	-30	Prepared	By: CM		
						RL						
Parameter			Flag	Cert		Result		Units	Dilution	RL		
DRO			Qs	1		1350		mg/Kg	1	50.0		
		Flag	Cert	Result	Units	D	ilution	Spike Amount	Percent Recovery	Recovery Limits		
Surrogate n-Tricosane				247	mg/Kg	~	1	100	247	75.4 - 130		

#### Laboratory: Lubbock Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 93458 Date Analyzed: 2012-07-30 Analyzed By: MTPrep Batch: 79244 Sample Preparation: 2012-07-30 Prepared By: MTRLFlag Parameter $\mathbf{Cert}$ Result Units Dilution RLGRO 56.0 mg/Kg 2.00 1 1

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	70 - 130	
4-Bromofluorobenzene (4-BFB)			2.47	mg/Kg	1	2.00	124	70 - 130	

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Method Blank (1)

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# Method Blanks

QC Batch: 93395

QC Batch: Prep Batch:	93395 79195				nalyzed: eparation:	2012-07-27 2012-07-26		Analyz Prepare	
Parameter			Fla	ıg	Cert	. 1	MDL Result	Units	$\operatorname{RL}$
DRO					1		6.62	mg/Kg	50
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane				95.5	mg/Kg	1	100	96	75.4 - 130

#### Method Blank (1) QC Batch: 93457

QC Batch: 93457 Prep Batch: 79244			nalyzed: paration:	2012-07-3 2012-07-3	-		Analyzed Prepared	v
					MDL			
Parameter	Flag		Cert		Result		Units	$\mathbf{RL}$
Benzene			1		< 0.00365		mg/Kg	0.02
Toluene			1		< 0.00816	1	mg/Kg	0.02
Ethylbenzene			1		< 0.00560	1	mg/Kg	0.02
Xylene			1		0.0133	]	mg/Kg	0.02
						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.80	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.79	mg/Kg	1	2.00	90	70 - 130

#### Method Blank (1) QC Batch: 93458

QC Batch:	93458	Date Analyzed:	2012-07-30	Analyzed By:	MT
Prep Batch:	79244	QC Preparation:	2012-07-30	Prepared By:	$\mathbf{MT}$

Report Date: August 2, 201 Line 2A-3			Work Orde Line			er: 31 of 44 ea Co., NM			
Parameter	Flag		Cert		MDL Result		Units		$\operatorname{RL}$
GRO			1		0.442	<u></u>	mg/Kg		2
Surrogate Trifluorotoluene (TFT)	Flag	Cert	Result 1.89	mg/Kg	Dilution 1	Spike Amount 2.00	Percent Recovery 94	Lir 70 -	overy nits 130
4-Bromofluorobenzene (4-Bl	r'B)		1.92	mg/Kg	1	2.00	96	70 -	130
Method Blank (1) Q	C Batch: 93470								
QC Batch: 93470 Prep Batch: 79254			nalyzed: eparation:	2012-07-31 2012-07-30			Analyzed Prepared		CM CM
_					MDL				~-
Parameter DRO	Flag		Cert		Result <6.50		Units		$\frac{\text{RL}}{50}$
<u></u>			1		< 0.50		mg/Kg		50
Surrogate Flag	g Cert	Result	Units	Dilutio		pike nount	Percent Recovery	Recc Lin	
n-Tricosane		114	mg/Kg	1		100	114	75.4	- 130
Method Blank (1) Q QC Batch: 93562	C Batch: 93562	Date A	.nalyzed:	2012-07-31			Analyze	d Bv:	AR
Prep Batch: 79181			eparation:	2012-07-25			Prepare		AR
Parameter	Flag		Cert		MDL Result		Units		RL
Chloride					0.860		mg/Kg		10

## Method Blank (1) QC Batch: 93563

QC Batch:	93563	Date Analyzed:	2012-07-31	Analyzed By:	$\mathbf{AR}$
Prep Batch:	79181	QC Preparation:	2012-07-25	Prepared By:	$\mathbf{AR}$

Report Date: August 2, 2012 Line 2A-3		Work Order: 120 Line 2A-3		Page Numbe Le	er: 32 of 44 ea Co., NM
Parameter	Flag	Cert	MDL Result	Units	RL
Chloride	1 1005		0.826	mg/Kg	10

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# Laboratory Control Spikes

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

QC Batch: 93395 Prep Batch: 79195				e Analyze Preparati		12-07-27 12-07-26					zed By: red By:	
				LCS			Spike	Ma	trix			Rec.
Param		$\mathbf{F}$	C I	Result	Units	Dil.	Amount	Re	sult	Rec.		Limit
DRO	_		1	202	mg/Kg	g 1	250	6.	62	78	73.	2 - 118
Percent recovery is based on t	the spike	resu	ilt. RPE	) is based	l on the	spike and	spike dupli	cate res	sult.			
,	-					-						DDD
Param	F	$\mathbf{C}$	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Re	ec. mit	RPD	RPD Limit
DRO	<u>г</u>			mg/Kg		250	6.62	89		- 118	13	$\frac{11111}{20}$
		1								- 110	10	
Percent recovery is based on t	the spike	resi	ilt. RPL	) is based	i on the	spike and	spike dupli	cate res	sult.			
	LC	$\mathbf{S}$	LCS	D			Spike	LCS	5	LCSD		Rec.
Surrogate	Res	ult	Resu	lt U	Jnits	Dil.	Amount	$\operatorname{Rec}$		Rec.	I	Limit
n-Tricosane	90.	.0	91.	7 m	g/Kg	1	100	90		92	75.	4 - 130
	(											
Laboratory Control Spike QC Batch: 93457 Prep Batch: 79244	(LCS-1	l)		e Analyze Preparat		12-07-30 12-07-30				•	zed By: red By:	
QC Batch: 93457			QC	Preparat LCS	ion: 20	12-07-30	Spike	Ma		Prepa	red By:	MT Rec.
QC Batch: 93457 Prep Batch: 79244 Param		ι) F	QC C F	Preparat LCS Result	ion: 20 Units	12-07-30 Dil.	Amount	Res	sult	Prepa: Rec.	red By:	MT Rec. Limit
QC Batch: 93457 Prep Batch: 79244 Param Benzene			QC C F	Preparat LCS Result 1.88	ion: 20 Units mg/Kg	12-07-30 Dil. 1	Amount 2.00	Res <0.0	sult 0365	Prepa Rec. 94	red By: 1 75.	MT Rec. Limit 4 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene			QC C F	Preparat LCS Result 1.88 1.85	ion: 20 Units mg/Kg mg/Kg	12-07-30 Dil. 1 1	Amount 2.00 2.00	Res <0.0 <0.0	sult 0365 0816	Prepas Rec. 94 92	red By: 1 75. 74.	MT Rec. Limit 4 - 120 9 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene			QC <u>C</u> F 1 1	Preparat LCS Result 1.88 1.85 1.86	ion: 20 Units mg/Kg mg/Kg mg/Kg	12-07-30 Dil. 1 1 1	Amount 2.00 2.00 2.00	Res <0.0 <0.0 <0.0	sult 0365 0816 0560	Prepa Rec. 94 92 93	red By: 1 75. 74. 78.	MT Rec. Limit 4 - 120 9 - 120 1 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene		F	QC <u>C</u> F	Preparat LCS Result 1.88 1.85 1.86 5.58	ion: 20 Units mg/Kg mg/Kg mg/Kg	12-07-30 Dil. 1 1 1 1 1	Amount 2.00 2.00 2.00 6.00	Res <0.0 <0.0 <0.0 0.0	sult 0365 0816 0560 133	Prepas Rec. 94 92	red By: 1 75. 74. 78.	MT Rec. Limit 4 - 120 9 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene		F	QC <u>C</u> F	Preparat LCS Result 1.88 1.85 1.86 5.58	ion: 20 Units mg/Kg mg/Kg mg/Kg	12-07-30 Dil. 1 1 1 1 1	Amount 2.00 2.00 2.00 6.00	Res <0.0 <0.0 <0.0 0.0	sult 0365 0816 0560 133	Prepa Rec. 94 92 93	red By: 1 75. 74. 78.	MT Rec. Limit 4 - 120 9 - 120 1 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene		F	QC <u>C</u> F	Preparat LCS Result 1.88 1.85 1.86 5.58	ion: 20 Units mg/Kg mg/Kg mg/Kg	Dil. 1 1 1 1 1 1 5 pike and	Amount 2.00 2.00 2.00 6.00	Res <0.0 <0.0 <0.0 0.0	sult 0365 0816 0560 133 sult.	Prepa Rec. 94 92 93	red By: 1 75. 74. 78.	MT Rec. Limit 4 - 120 9 - 120 1 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene		F	QC C F	Preparat LCS Result 1.88 1.85 1.86 5.58	ion: 20 Units mg/Kg mg/Kg mg/Kg	12-07-30 Dil. 1 1 1 1 1	Amount 2.00 2.00 2.00 6.00 spike dupli	Res <0.0 <0.0 <0.0 0.0	sult 0365 0816 0560 133 sult. R	Prepa: <u>Rec</u> 94 92 93 93	red By: 1 75. 74. 78.	MT Rec. Limit 4 - 120 9 - 120 1 - 120 3 - 120
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on t	the spike	F • rest	QC C F 1 1 ult. RPI LCSD	Preparat LCS Result 1.88 1.85 1.86 5.58 0 is based Units mg/Kg	ion: 20 Units mg/Kg mg/Kg mg/Kg l on the Dil.	12-07-30 Dil. 1 1 1 1 spike and Spike	Amount           2.00           2.00           6.00           spike dupli           Matrix	$\frac{\text{Res}}{<0.0}$ $<0.0$ $<0.0$ $0.0$ $\text{cate res}$	sult 0365 0816 0560 133 sult. R Li	Prepa: <u>Rec</u> 94 92 93 93 93 ecc.	red By: 1 75. 74. 78. 77.	MT Rec. Limit 4 - 120 9 - 120 1 - 120 3 - 120 RPD
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param	the spike	F rest	QC C F 1 1 1 1 LCSD Result	Preparat LCS Result 1.88 1.85 1.86 5.58 ) is based Units	ion: 20 Units mg/Kg mg/Kg mg/Kg l on the Dil.	Dil. Dil. 1 1 1 1 spike and Spike Amount	Amount 2.00 2.00 6.00 spike dupli Matrix Result	Res <0.0 <0.0 <0.0 0.0 cate res Rec.	sult 0365 0816 0560 133 sult. R Li 75.4	Prepa Rec 94 92 93 93 93 cec. mit	red By: 1 75. 74. 78. 77. 8. 77.	MT Rec. Limit 4 - 120 9 - 120 1 - 120 3 - 120 RPD Limit
QC Batch: 93457 Prep Batch: 79244 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene	the spike	F rest C 1	QC C F 1 1 1 1 LCSD Result 1.92	Preparat LCS Result 1.88 1.85 1.86 5.58 0 is based Units mg/Kg	ion: 20 Units mg/Kg mg/Kg mg/Kg l on the Dil. 1 1 1	12-07-30 Dil. 1 1 1 1 spike and Spike Amount 2.00	Amount           2.00           2.00           6.00           spike dupli           Matrix           Result           <0.00365	$\frac{\text{Res}}{<0.0}$ $<0.0$ $<0.0$ $0.0$ $\text{cate res}$ $\frac{\text{Rec.}}{96}$	sult 0365 0816 0560 133 sult. R Li 75.4 74.9 78.1	Prepa: Rec. 94 92 93 93 Sec. mit - 120	red By: 1 75. 74. 78. 77. <u>RPD</u> 2	MT Rec. Limit 4 - 120 9 - 120 1 - 120 3 - 120 RPD Limit 20

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

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Surrogate			Re	CS sult	LCSD Result	Units	Dil.	Spike Amount		LCSI Rec		Rec. Limit
Trifluorotoluene (TFT)				83	1.85	mg/Kg	1	2.00	92	92		0 - 130
4-Bromofluorobenzene (4-BFB)			1.	87	1.84	mg/Kg	1	2.00	94	92	7	0 - 130
Laboratory Control Spike (I	LCS-	1)										
QC Batch: 93458			Date	e Analy	vzed:	2012-07-30				Analyze	ed By:	MT
Prep Batch: 79244					/	2012-07-30				Prepare	-	MT
r — ····				1						1	v	
				LCS			Si	oike I	Matrix		]	Rec.
Param		$\mathbf{F}$	C I	Result	Un	its Dil.	-		Result	Rec.		imit
GRO			1	17.6	mg/	'Kg 1	2	0.0	0.442	88	68.	9 - 120
Percent recovery is based on the	spike	e resu	lt. RPD	) is bas	sed on th	he spike an	d spike	duplicate	result.			
	- op inte											
_	_		LCSD			Spike			Re			RPD
Param	F	С	Result	Un							RPD	Limit
GRO		1	17.2	mg/			0.4		68.9	- 120	2	20
Percent recovery is based on the	e spike	e resu	ilt. RPE	) is bas	sed on tl	he spike an	d spike	duplicate	result.			
			L	$\mathbf{CS}$	LCSD			Spike	LCS	LCS	D	Rec.
Surrogate				sult	Result	Units	Dil.	Amount		Rec		Limit
Trifluorotoluene (TFT)				89	1.84	mg/Kg	1	2.00	94	92		0 - 130
4-Bromofluorobenzene (4-BFB)				04	2.00	mg/Kg	1	2.00	102	100		0 - 130
Laboratory Control Spike (I QC Batch: 93470 Prep Batch: 79254	LCS-	1)		e Anal Prepa	yzed: ration:	2012-07-31 2012-07-30				Analyze Prepare		CM CM
Param		F	C	LCS Result	Un	its Dil.			Matrix Result	Rec.		Rec. Jimit
DRO		T	1	1000000000000000000000000000000000000	mg/				<6.50	108		$\frac{1}{2} - 118$
											10.	_ 110
	SDIK	e resu	m. RPL	) is day	sea on ti	ne spike an	u spike	auplicate	result.			
Percent recovery is based on the	- <b>F</b>											
·	-		LCSD			Spike			Re			RPD
Percent recovery is based on the Param DRO	F	С	LCSD Result 258	Un mg/	its D		nt Res		. Liı		$\frac{\text{RPD}}{4}$	RPD Limit 20

Report Date: August 2, 2012 Line 2A-3	Work Order: 12072321 Page Number Line 2A-3 Lea								er: 35 of 44 a Co., NM		
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.		ec. mit		
n-Tricosane	112	110	mg/Kg	1	100	112	110	75.4	- 130		
Laboratory Control Spike (L	CS-1)			210.07.21			A ]	I Day	AD		
QC Batch: 93562 Prep Batch: 79181		Date Ar QC Prej	v	012-07-31 012-07-25				yzed By: ared By:	AR AR		
Param	F	LC C Res		s Dil.	Spike Amount	Ma Res			Rec. imit		
Chloride		25			250				- 110		
Percent recovery is based on the	spike res	ult. RPD is			spike duplica	ate resu	lt.				
Param	FC	LCSD Result	Units Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit		RPD Limit		
Chloride		257 n	ng/Kg 1	250	< 0.0460	103	90 - 110	1	20		
Percent recovery is based on the Laboratory Control Spike (L	-			-	spike duplica	ate resu					
QC Batch: 93563 Prep Batch: 79181			v	012-07-31 012-07-25			•	yzed By: ared By:	AR AR		

Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			260	mg/Kg	1	250	< 0.0460	104	90 - 110
Porcent recovery is based or	the enjly rea	1+ D	DD is has	d on the eni	le and	mile duplice	to mogult		

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			259	mg/Kg	1	250	< 0.0460	104	90 - 110	0	20

Matrix Spike (MS-1)	Spiked Sample: 304433
,	

QC Batch:	93395	Date Analyzed:	2012-07-27	Analyzed By:	$\mathbf{C}\mathbf{M}$
Prep Batch:	79195	QC Preparation:	2012-07-26	Prepared By:	$\mathbf{C}\mathbf{M}$

Report Date: August 2, Line 2A-3	Work Order: 12072321 Line 2A-3						Page Number: 36 of 44 Lea Co., NM						
Param		$\mathbf{F}$	C	M Z Res		nits	Dil.	Spike Amount	Ma Res		Rec.		Rec. Limit
DRO	Qs	Qs	1	16	8 mg	/Kg	5	250	17	79	-4	75.	.4 - 130
	d on the chi	ke resi	ult i	RPD is l	based on t	he spi	ike and sp	ike duplic	ate rest	ult.			
Percent recovery is base	d on the spi			MSD		-	Spike	Matrix Result		R	ec. mit	RPD	RPD Limit
Percent recovery is base Param DRO		F Qr,Qs			Units mg/Kg	Dil.	-		Rec.	R Li	ec. mit - 130	RPD 40	RPD Limit 20
Param	Qr,Qs	F <sub>Qr,Qs</sub> ke resu	C1	MSD Result 251 RPD is 1	Units mg/Kg	Dil.	Spike Amount 250	Result 179 ike duplic	Rec. 29 ate rest	R Li 75.4 ult.	mit - 130	40	Limit 20
Param DRO	Qr,Qs d on the spi	F Qr,Qs	C1	MSD Result 251	Units mg/Kg	Dil.	Spike Amount 250 ike and sp	Result 179	Rec.	R Li 75.4 ult.	mit	40	Limit

#### Matrix Spike (MS-1) Spiked Sample: 304426

QC Batch:	93457	Date Analyzed:	2012-07-30	Analyzed By:	MT
Prep Batch:	79244	QC Preparation:	2012-07-30	Prepared By:	MT

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	$\mathbf{Result}$	Rec.	Limit
Benzene		1	1.96	mg/Kg	1	2.00	< 0.00365	98	37.6 - 142
Toluene		1	2.05	mg/Kg	1	2.00	0.0159	102	38.6 - 153
Ethylbenzene		1	2.18	mg/Kg	1	2.00	< 0.00560	109	36.7 - 172
Xylene		1	6.52	mg/Kg	1	6.00	0.0134	108	36.7 - 173

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

			MSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.78	mg/Kg	1	2.00	< 0.00365	89	37.6 - 142	10	20
Toluene		1	1.93	mg/Kg	1	2.00	0.0159	96	38.6 - 153	6	20
Ethylbenzene		1	2.06	mg/Kg	1	2.00	< 0.00560	103	36.7 - 172	6	20
Xylene		1	6.15	mg/Kg	1	6.00	0.0134	102	36.7 - 173	6	20

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	$\operatorname{Amount}$	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.21	1.99	mg/Kg	1	2	110	100	70 - 130
4-Bromofluorobenzene (4-BFB)	1.85	1.85	mg/Kg	1	2	92	92	70 - 130

Report Date: August 2, 201 Line 2A-3	2		Work Ore Lin	der: 1 ne 2A-				Page	e Numł I	ber: 37 Lea Co	
Matrix Spike (MS-1)	Spiked Sample	: 304425									
QC Batch: 93458 Prep Batch: 79244			Analyzed: reparation		.2-07-30 .2-07-30				nalyzec reparec	•	MT MT
Param	F		MS esult	Units	Dil.	Spike Amount		atrix esult	Rec.		Rec. imit
GRO	<b>Ľ</b>			mg/Kg		20.0		).359	75		- 130
Percent recovery is based on	the epile recu										
recent recovery is based on	the spike resu		is Daseu OI	т ue s	-		ate les				
D		MSD	<b>TT 1</b>	1011	Spike	Matrix	D	Rec.			RPD
Param	F C	Result	Units	Dil.	Amount	Result	Rec.	Limi			Limit_
GRO	1	15.6	mg/Kg	1	20.0	< 0.359	78	70 - 1	30	4	20
Percent recovery is based on	the spike resu	ılt. RPD i	s based or	n the s	pike and s	pike duplic	ate res	ult.			
		MS	5 MS	D		$\mathbf{S}_{\mathbf{I}}$	oike	MS	MSD	) I	Rec.
Surrogate		Resi			Units	Dil. Am	ount	Rec.	Rec.	L	imit
		1.7			mg/Kg		2	90	90		- 130
	Ъ)	1.7 1.9			mg/Kg mg/Kg		2 2	90 100	90 99		- 130 - 130
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470	'B) Spiked Sample	1.9 : 304376 Date 2 QC Pr		8 201				100 A Pi		70 d By: d By:	
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param		1.9 : 304376 Date J QC P: C R	9 1.9 Analyzed: reparation MS Cesult	8 201	mg/Kg 12-07-31 12-07-30 Dil.	1 Spike Amount	2 Ma Res	100 A Pr trix sult	99 nalyzeo repareo Rec.	70 d By: d By: R	- 130 CM CM
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254	Spiked Sample	1.9 : 304376 Date J QC P: C R	9 1.9 Analyzed: reparation MS cesult	8 : 201 .: 201	mg/Kg 12-07-31 12-07-30 Dil.	1 Spike	2 Ma	100 A Pr trix sult	99 nalyzeo repareo	70 d By: d By: R Li	- 130 CM CM ec.
QC Batch: 93470 Prep Batch: 79254 Param	Spiked Sample F	1.9 : 304376 Date J QC P: <u>C R</u> 1 4	9 1.9 Analyzed: reparation MS Cesult 4400 r	8 201 1: 201 Units ng/Kg	mg/Kg 12-07-31 12-07-30 Dil. 5 10	1 Spike Amount 250	2 Ma Res 333	100 A Pr trix sult 500	99 nalyzeo repareo Rec.	70 d By: d By: R Li	CM CM ec. mit
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO	Spiked Sample F	1.9 : 304376 Date 2 QC P: <u>C R</u> <u>1 4</u> ilt. RPD i	9 1.9 Analyzed: reparation MS Cesult 4400 r	8 201 1: 201 Units ng/Kg	mg/Kg 12-07-31 12-07-30 Dil. 5 10 spike and s	1 Spike Amount 250 spike duplic	2 Ma Res 333	A Pr trix sult 500 ult.	99 nalyzeo repareo Rec. 4360	70 d By: d By: Li 75.4	- 130 CM CM ec. mit - 130
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO	Spiked Sample F	1.9 : 304376 Date J QC P: <u>C R</u> 1 4	9 1.9 Analyzed: reparation MS Cesult 4400 r	8 201 1: 201 Units ng/Kg	mg/Kg 12-07-31 12-07-30 Dil. 5 10	1 Spike Amount 250	2 Ma Res 333	100 A Pr trix sult 500	99 nalyzec reparec Rec. 4360	70 d By: d By: d By: R Li 75.4	CM CM ec. mit
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO Percent recovery is based on	Spiked Sample F Q# Q# the spike resu	1.9 : 304376 Date J QC P: <u>C R</u> <u>1 4</u> ilt. RPD i MSD	9 1.9 Analyzed: reparation MS cesult 4400 r is based or	201 :: 201 <u>Units</u> <u>ng/Kg</u> n the s	mg/Kg 12-07-31 12-07-30 Dil. 5 10 spike and s Spike	1 Spike Amount 250 spike duplic Matrix	2 Ma Rec 338 xate res	100 A Pr trix sult 500 ult. Rec.	99 nalyzec reparec Rec. 4360	70 d By: d By: Li 75.4	- 130 CM CM ec. mit - 130 RPD
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO Percent recovery is based on Param	Spiked Sample F Q# Q# the spike resu F C Q# Q# 1	1.9 : 304376 Date J QC Pr C R 1 4 ilt. RPD i MSD Result 45800	9 1.9 Analyzed: reparation MS tesult 4400 r is based or Units mg/Kg	8 201 :: 201 Units ng/Kg n the s Dil. 10	mg/Kg 2-07-31 2-07-30 Dil. 5 10 spike and s Spike Amount 250	1 Spike Amount 250 spike duplic Matrix Result 33500	2 Ma Rec 333 rate res Rec. 4920	100 A Pr trix sult 500 ult. Limi 75.4 - 1	99 nalyzec reparec Rec. 4360	70 d By: d By: <u>Li</u> 75.4	- 130 CM CM ec. mit - 130 RPD Limit
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO Percent recovery is based on Param DRO	Spiked Sample F $Q_{2}$ $Q_{3}$ the spike resu F C $Q_{2}$ $Q_{3}$ 1 the spike resu	1.9 2. 304376 Date J QC Pr C R 1 4 ilt. RPD i MSD Result 45800 ilt. RPD i	9 1.9 Analyzed: reparation MS cesult 4400 r is based or <u>Units</u> mg/Kg is based or	8 201 :: 201 Units ng/Kg n the s Dil. 10	mg/Kg 2-07-31 2-07-30 Dil. 5 10 spike and s Spike Amount 250	1 Spike Amount 250 spike duplic Matrix Result 33500 spike duplic	2 Ma Rec 333 ate res Rec. 4920 ate res	A Pr trix sult 500 ult. Rec. Limi 75.4 - 1 ult.	99 nalyzec reparec 4360 t F 130	70 d By: d By: Li 75.4 R Li 75.4 3	- 130 CM CM ec. mit - 130 RPD Limit 20
4-Bromofluorobenzene (4-BF Matrix Spike (MS-1) QC Batch: 93470 Prep Batch: 79254 Param DRO Percent recovery is based on Param DRO	Spiked Sample F Q# Q# the spike resu F C Q# Q# 1	1.9 2. 304376 Date J QC Pr 2. R 1. 4 1. RPD i MSD Result 45800 1. RPD i MSD MSD	9 1.9 Analyzed: reparation MS cesult 4400 r is based or Units mg/Kg is based or D	8 201 :: 201 Units ng/Kg n the s Dil. 10	mg/Kg 2-07-31 2-07-30 Dil. 5 10 spike and s Spike Amount 250	1 Spike Amount 250 spike duplic Matrix Result 33500	2 Ma Rec 333 rate res Rec. 4920	100 A Pr trix sult 500 ult. Limi 75.4 - 1 ult. S M	99 nalyzec reparec Rec. 4360	70 d By: d By: d By: R Li 75.4 R R R R	- 130 CM CM ec. mit - 130 RPD Limit

Report Date: August 2, 2012 Line 2A-3		<u></u>	Work Or Li	rder: 120 ine 2A-3	Page Number: 38 of 44 Lea Co., NM						
Matrix Spike (MS-1) Spik	ed Saı	nple:	304425								
QC Batch: 93562			Date	Analyzed	2012	-07-31			An	alyzed E	y: AR
Prep Batch: 79181			QC I	Preparation	n: 2012	-07-25			Pre	epared B	y: AR
				MS			Spike	Ma	trix		Rec.
Param		F	С	Result	Units	Dil.	Amount			Rec.	Limit
Chloride	Qs	Qs		325	mg/Kg	1	275	11	1.3	114	90 - 110
Percent recovery is based on the	spike	resul	t. RPD	is based o			ike duplica	te resu	lt.		
			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPE	) Limit
raram											
Chloride	२ः २ः spike	resul	330 t. RPD	mg/Kg is based o		275 ike and sp	11.3 ike duplica	116 te resu	<u>90 - 11</u> lt.	0 2	20
Chloride Chl	spike		t. RPD	is based o	n the sp	ike and sp			lt.	· · · · · · · · · · · · · · · · · · ·	
Chloride descent recovery is based on the	spike		t. RPD 304433 Date		n the sp : 2012				lt. An	0 2 alyzed E epared E	By: AR
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181	spike	nple:	t. RPD 304433 Date QC 1	is based o Analyzed Preparatio MS	n the sp : 2012 n: 2012	ike and sp 2-07-31 2-07-25	ike duplica Spike	te resu	lt. An Pre	alyzed E epared E	By: AR By: AR Rec.
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181 Param	e spike	mple: F	t. RPD 304433 Date	is based o Analyzed Preparatio MS Result	n the sp : 2012 n: 2012 Units	ike and sp 2-07-31 2-07-25 Dil.	ike duplica Spike Amount	te resu Ma Re	lt. An Pre	alyzed E epared E Rec.	By: AR By: AR Rec. Limit
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181 Param <u>Chloride</u>	e spike red Sa	mple: F	t. RPD 304433 Date QC 1 C	is based o Analyzed Preparatio MS Result 408	n the sp : 2012 n: 2012 Units mg/Kg	ike and sp 2-07-31 2-07-25 Dil. 1	ike duplica Spike Amount 275	te resu Ma Re 63	lt. An Pre sult 3.2	alyzed E epared E	By: AR By: AR Rec. Limit
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181	e spike red Sa	mple: F	t. RPD 304433 Date QC 1 C	is based o Analyzed Preparatio MS Result 408	n the sp : 2012 n: 2012 Units mg/Kg	ike and sp 2-07-31 2-07-25 Dil. 1	ike duplica Spike Amount 275	te resu Ma Re 63	lt. An Pre sult 3.2	alyzed E epared E Rec.	By: AR By: AR Rec. Limit
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181 Param <u>Chloride</u> Percent recovery is based on the	e spike red Sa	mple: F Q# resul	t. RPD 304433 Date QC 1 C t. RPD	Analyzed Preparatio MS Result 408 is based c	n the sp : 2012 n: 2012 <u>Units</u> <u>mg/Kg</u> m the sp	ike and sp 2-07-31 2-07-25 Dil. 1 ike and sp Spike	Spike Amount 275 ike duplica Matrix	te resu Ma Re 63 te resu	lt. An Pre sult 3.2 lt. Rec.	alyzed E epared E Rec. 125	By: AR by: AR Rec. Limit 90 - 110 RPD
Chloride Percent recovery is based on the <b>Matrix Spike (MS-1)</b> Spik QC Batch: 93563 Prep Batch: 79181 Param Chloride	e spike red Sa	mple: F	t. RPD 304433 Date QC 1 C t. RPD	Analyzed Preparatio MS Result 408 is based c	n the sp : 2012 n: 2012 <u>Units</u> <u>mg/Kg</u> on the sp Dil.	2-07-31 2-07-25 Dil. 1 ike and sp	Spike Amount 275 ike duplica	te resu Ma Re 63	lt. An Pre sult 3.2 lt.	alyzed E epared E Rec. 125 RPI	By: AR by: AR Rec. Limit 90 - 110 RPD

# **Calibration Standards**

Standard (CCV-1)

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QC Batch:	93395	Ε			Analyzed:	2012-07-27		Analyzed By: CM		
					CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date	
Param	F	ʻlag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
DRO			1	mg/Kg	250	226	90	80 - 120	2012-07-27	

#### Standard (CCV-2)

QC Batch:	93395			Date 1	Analyzed:	2012-07-27		Analy	zed By: CM
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param	$\mathbf{Fl}$	ag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO			1	mg/Kg	250	199	80	80 - 120	2012-07-27

#### Standard (CCV-3)

QC Batch: 9	n: 93395		Date A	Analyzed:	2012-07-27		Analy	zed By: CM
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	$\mathbf{Date}$
Param	$\operatorname{Flag}$	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	220	88	80 - 120	2012-07-27

### Standard (CCV-1)

QC Batch: 93457			Analyzed By: MT					
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene	· · · · · ·	1		0.100	0.0882	88	80 - 120	2012-07-30
Toluene		1	mg/kg	0.100	0.0922	92	80 - 120	2012-07-30
					con	ntinued		

Report Date: Line 2A-3	August 2, 2012		Work Order: 12072321 Line 2A-3				Page Number: 42 of 44 Lea Co., NM		
Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed	
Chloride			mg/Kg	25.0	25.3	101	90 - 110	2012-07-31	

## Standard (CCV-2)

QC Batch:	93562		Date Analyzed: 2012-07-31					Analyzed By: AR		
					CCVs	$\mathrm{CCVs}$	CCVs	Percent		
					True	Found	Percent	Recovery	Date	
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed	
Chloride				mg/Kg	25.0	25.4	102	90 - 110	2012-07-31	

## Standard (CCV-1)

QC Batch:	93563		Date Analyzed: 2012-07-31				Analyzed By: AR		
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	25.0	25.4	102	90 - 110	2012-07-31

## Standard (CCV-2)

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QC Batch:	93563		Date Analyzed: 2012-07-31			Analyzed By: AR			
					$\mathrm{CCVs}$	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	25.0	25.9	104	90 - 110	2012-07-31

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# Appendix

## **Report Definitions**

$\mathbf{Name}$	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

## Laboratory Certifications

	Certifying	Certification	Laboratory
$\mathbf{C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock

## Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- $\ \ Je \quad Estimated \ concentration \ exceeding \ calibration \ range. \label{eq:estimated}$
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

## **Result Comments**

- 1 Dilution due to surfactants.
- 2 Dilution due to surfactants.
- 3 Dilution due to surfactants.
- 4 Dilution due to surfactants.
- 5 Dilution due to surfactants.

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6 Dilution due to surfactants.

## Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

LAB Order ID # 12072321				Page of
TraceAnalysis email: lab@traceanalysis.		Tel (806) 794-1296 Te	Basin Street, Suite A1         200 East Sunset Rd., Suite A1           land, Texas 79703         EI Paso, Texas 79922           i (432) 689-6301         Tel (915) 585-3443           x (432) 689-6313         Fax (915) 585-3443	E BioAquatic Testing 2501 Mayes Rd., Ste 100 Carroliton, Texas 75006 Tel (972) 242-7750
Company Name: Solare & Env	42 Phone		ANALYSIS	REQUEST
Address: (Street, City, Zip)	+52-52 (0 Fax#		Circle or Speci	fy Method No.)
Contact Person:				
Contact Person les Xlant	COLVENTE	nova training cc	Hg 9/200	ndar kali
Invoice to:	GAD Curt	. Stanley esua co	A(C35) 4(C35) Se Hg	
(If different from above) OUTTRE LEUVE ( Project #:		$\frac{1}{c_1 \operatorname{Name:}} \qquad $	1 624 624 005 Ex 005 Ex	FIGN PO4
Project Location (including state):	- Leve 2	H	L L J L 8260 / 624 260 / 624 260 / 624 7 / TVHC Ø / TVHC 1 Cr Pb Se Hg 6010/2 1 Cr Pb Se Hg 1 Cr Pb Se Hg	
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Submittal of samples constitutes agreement to Terms and	Conditions listed on reve		Carrier # 71/93/15/	10

LAB Order ID #	_			Page $Z$ of $Z$
TraceAnalysis, email: lab@traceanalysis.co		Lubbock, Texas 79424 Midland, Tel (806) 794-1296 Tel (432	Street, Suite A1         200 East Sunset Rd., Suite E           Texas 79703         El Paso, Texas 79922           2) 689-6301         Tel (915) 585-3443           2) 689-6313         Fax (915) 585-4944           1 (868) 588-3443	BioAquatic Testing 2501 Mayes Rd., Ste 100 <b>Carroliton, Texas 75006</b> Tel (972) 242-7750
Company Name: OVU SAFETY & ENY.	Pho 43	e#: 7-520:7720	ANALYSIS RE	
Address (Areet, City, Zip)	V C Fax	2.520-7701	(Circle or Specify	
Contact Person: WMIII KIN, d-	Gi Bi-ma		000.7	lard lainth
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Submittal of samples constitutes agreement to Terms and Co			Carrier #	·

## Summary Report

Rose Slade Southern Union Gas Services, Ltd.-Monahans 801 S. Loop 464 Monahans, TX 79756

Report Date: September 7, 2012

# Work Order: 12082220

Project Location: Lea Co., NM Project Name: Line 2A-3

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307400	RP Floor @ 10'	soil	2012-08-21	09:00	2012-08-22
307401	RP West S/W-A @ 3	soil	2012-08-21	09:20	2012-08-22

#### Sample: 307400 - RP Floor @ 10'

Param	Flag	Result	Units	RL
Chloride		93.6	mg/Kg	2

#### Sample: 307401 - RP West S/W-A @ 3

Param	$\operatorname{Flag}$	Result	Units	$\operatorname{RL}$
Chloride		97.5	mg/Kg	2



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 (BloAquatic) 2501 Mayes Rd., Suite 100

Lubbock, Texas 79424 800-378-1296 El Paso, Texas 79922 Midland, Texas 79703 Carrolizon, Texas 75006

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

Rose Slade Southern Union Gas Services, Ltd.-Monahans 801 S. Loop 464 Monahans, TX, 79756

Report Date: September 7, 2012

Work Order: 12082220

915-585-3443 FAX 915-585-4944

432-689-6301 FAX 432-689-6313

972-242-7750

Project Location: Lea Co., NM Project Name: Line 2A-3 Project Number: Line 2A-3

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

			Date	1 Ime	Date
Sample	Description	Matrix	Taken	Taken	Received
307400	RP Floor @ 10'	soil	2012-08-21	09:00	2012-08-22
307401	RP West S/W-A @ 3	soil	2012-08-21	09:20	2012-08-22

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

This report consists of a total of 8 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Tehn I Al

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

# **Report Contents**

Case Narrative	3
Analytical Report         Sample 307400 (RP Floor @10')         Sample 307401 (RP West S/W-A @3)	<b>4</b> 4 4
Method Blanks QC Batch 94547 - Method Blank (1)	<b>5</b> 5
Laboratory Control Spikes QC Batch 94547 - LCS (1) QC Batch 94547 - MS (1)	<b>6</b> 6 6
Calibration Standards           QC Batch 94547 - CCV (1)           QC Batch 94547 - CCV (2)	<b>7</b> 7 7
Appendix         Report Definitions         Laboratory Certifications         Standard Flags	8
Attachments	8

## **Case Narrative**

Samples for project Line 2A-3 were received by TraceAnalysis, Inc. on 2012-08-22 and assigned to work order 12082220. Samples for work order 12082220 were received intact at a temperature of -4.1 C.

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

		Prep	Prep	$\rm QC$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (IC)	E 300.0	80112	2012-08-29 at 10:00	94547	2012-08-29 at 12:00

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 12082220 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.

#### Work Order: 12082220 Line 2A-3

Page Number: 4 of 8 Lea Co., NM

# Analytical Report

#### Sample: 307400 - RP Floor @ 10'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (IC) 94547		Analytical Date Anal Sample Pr		E 300.0 2012-08-29 2012-08-29		Prep Method: Analyzed By: Prepared By:	N/A RL RL
				RI				
Parameter		Flag	Cert	Resul	t	Units	Dilution	$\mathbf{RL}$
Chloride			1	93.	6	mg/Kg	5	2.00

#### Sample: 307401 - RP West S/W-A @ 3

Laboratory:	Lubbock						
Analysis:	Chloride (IC)		Analytic	cal Method:	E 300.0	Prep I	Method: N/A
QC Batch:	94547		Date Ar	nalyzed:	2012-08-29	Analyz	zed By: RL
Prep Batch:	80112		Sample	Preparation:	2012-08-29	Prepa	red By: RL
				RI	1		
Parameter		Flag	Cert	Result	t Unit	s Dilution	$\operatorname{RL}$
Chloride			1	97.5	i mg/K	g 1	2.00

Report Date: September 7, 2012	Work Order: 12082220	Page Number: 5 of 8
Line 2A-3	Line 2A-3	Lea Co., NM
	· ·	*

# Method Blanks

Method Blank (1)	QC Batch: $94547$				
QC Batch: 94547 Prep Batch: 80112	·	Date Analyzed: QC Preparation:	2012-08-29 2012-08-29	Analyzed By: Prepared By:	
Parameter	Flag	Cert	MDL Result	Units	$\mathbf{RL}$
Chloride	¥	1	<0.193	mg/Kg	2

Work Order: 12082220 Line 2A-3 Page Number: 6 of 8 Lea Co., NM

# Laboratory Control Spikes

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

QC Batch:	94547				Analyze		2-08-29				alyzed By	
Prep Batch:	80112		QC Preparation: 2012-08-29							Pre	pared By	r: RL
					LCS			Spike	Matr	ix		Rec.
Param		I	F	С	Result	Units	Dil.	Amount	Resu	lt I	Rec.	Limit
Chloride				1	255	mg/Kg	1	250	<0.1	93	102 9	90 - 110
Percent reco	very is based on th	ne spike r	resul	lt. RPD	is based	on the sp	oike and sp	ike duplic	ate result			
				LCSD			Spike	Matrix		Rec.		RPD
Param		F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit

Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	253	mg/Kg	1	250	<0.193	101	90 - 110	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: 307400

QC Batch:	94547	. Date Analyzed:	2012-08-29	Analyzed By:	$\mathbf{RL}$
Prep Batch:	80112	QC Preparation:	2012-08-29	Prepared By:	RL

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	$\mathbf{Result}$	Units	Dil.	Amount	Result	Rec.	$\mathbf{Limit}$
Chloride		1	1350	mg/Kg	5	1250	93.6	100	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	1390	mg/Kg	5	1250	93.6	104	80 - 120	3	20

Work Order: 12082220 Line 2A-3 Page Number: 7 of 8 Lea Co., NM

# **Calibration Standards**

Standard (CCV-1)

QC Batch:	94547			Date A	nalyzed:	2012-08-29		Analy	zed By: RL
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/Kg	25.0	25.0	100	90 - 110	2012-08-29

## Standard (CCV-2)

QC Batch:	94547			Date Analyzed: 2012-08-29			Analyzed By: RL		
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
$\mathbf{Param}$		Flag	Cert	$\mathbf{Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			1	mg/Kg	25.0	25.2	101	90 - 110	2012-08-29

Work Order: 12082220 Line 2A-3 Page Number: 8 of 8 Lea Co., NM

# Appendix

## **Report Definitions**

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

## Laboratory Certifications

	Certifying	Certification	Laboratory
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock

## Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

## Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

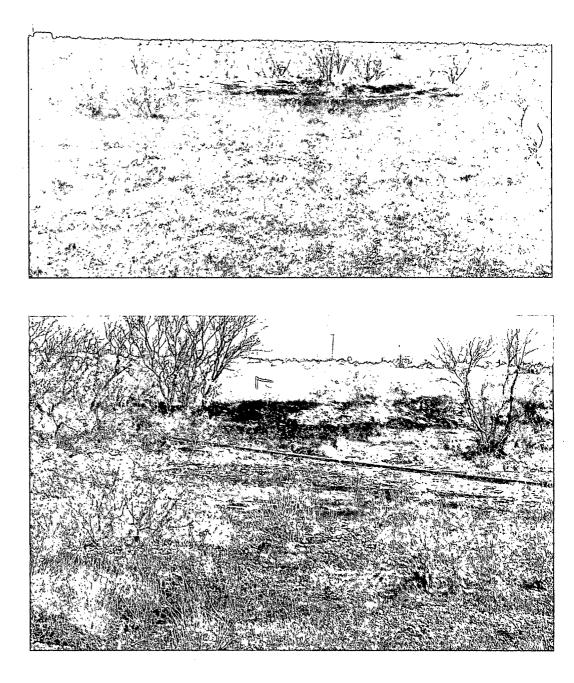
LAB Order ID # 2082220						Page of
TraceAnalys email: lab@traceanaly		6701 Aberdeen Avenue, S Lubbock, Texas 7942 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296	4 Midland, Tel (43)	n Street, Suite A1 , Texas 79703 (2) 689-6301 32) 689-6313	200 East Sunset Rd., Suite E El Paso, Texas 79922 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443	BioAquatic Testing 2501 Mayes Rd., Ste 100 Carroliton, Texas <b>75006</b> Tel (972) 242-7750
Company Name: SAfefy & ENV	432.Ph	ene#: 50-77-0		10	ANALYSIS REC Circle or Specify	
Address:(Street, City, Zip) Or eve	- 432-5	20-7701				
Contact Person: Carnelle Port		Moratrainir	4.CC	(35)	8 H H	-P, Alkalinity
Invoice to: (If different from above) SUH	curtistar	loce e Sug. CO	m	Hu Ext(C	å å	PO <sub>4</sub> -P.
Project #:		oject Nange:	182601624	71005 71005 71/HC	d Cr1	-N, Po
Project Location throluding state):	Ginie	mpler Signature;	/ 826	22 / 9260 / 624 22 / 8260 / 624 005 / TX1005 Ext(C35) / DRO / TVHC Ba CA Cr Ph Sa Ha 6010/2007	8270 S	
	MATRIX	PRESERVATIVE METHOD	SAMPLING	MI DE 002 1 002 1 020 1 020 BTEX 8021 / 602 / 8260 / 624 TPH 418.1 / TX1005 / TX1005 Ext(C35) TPH 8015 GRO / DRO / TVHC PAH 8270 / 625 Trial Metals An As Ba CA Cr Ph Sa Hn 60107	TCLP Metals Ag As Ba Cd Cr Pb TCLP Volatiles TCLP Semi Volatiles TCLP Pesticides RCI GC/MS Vol. 8260 / 624 GC/MS Semi. Vol. 8270 / 625 PCB's 8082 / 608	Pesticides 8081 / 608 BOD, TSS, pH Moisture Content CI, F, SO <sub>4</sub> , NO <sub>3</sub> -N, NO <sub>2</sub> -P, Alkalini Na, Ca, Mg, K, TDS, EC CQ E, B, OO CQ E, B, OO Turn Around Time if different from standard Hold
	America Americ		2012	8021 / 18.1 / 18.1 / 19.2 B021 / 19.2 B020	Aetals Aetals Bemi V Semi 3082 /	Mg. Ng. Ng.
LAB USE OO	Volume / Amount WATER WATER Soll Suudge Suudge	HCI HNO <sub>3</sub> H2SO <sub>4</sub> NaOH NONE	DATE	MIDE 0021/60 BTEX 8021/60 TPH 418.1/TX1 TPH 8015 GRO PAH 8270 / 625 Total Metals An As	TCLP Metals Ag TCLP Volatiles TCLP Semi Vola TCLP Pesticides RCI GC/MS Vol. 8260 GC/MS Semi. Vo	Pesticides 808 BOD, TSS, pH Moisture Conte Na, Ca, Mg, K, Na, Ca, Mg, K, Turn Around Ti Hold
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## APPENDIX B: Photographs



Client: Southern Union Gas Services Project Name: Line 2A-3 Prepared by: NOVA Location: Lea County, New Mexico

Photograph No. 1



**Description:** View of the initial release.

Photograph No. 2

**Description:** View of the initial release.

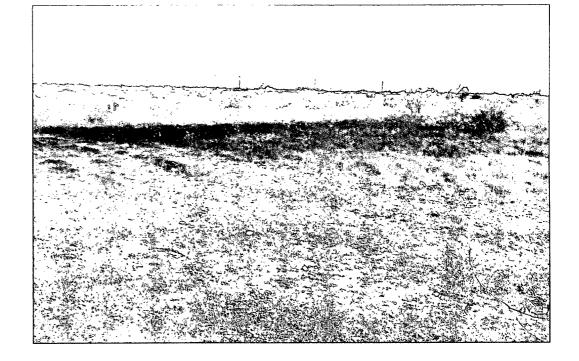


Photograph No. 3

### **Photographic Documentation**

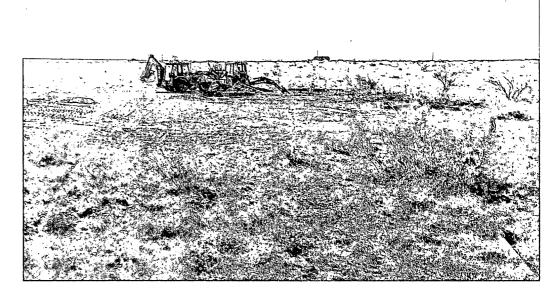
#### Client: Southern Union Gas Services Project Name: Line 2A-3

#### Prepared by: NOVA Location: Lea County, New Mexico



**Description:** View of the initial release.

Photograph No. 4

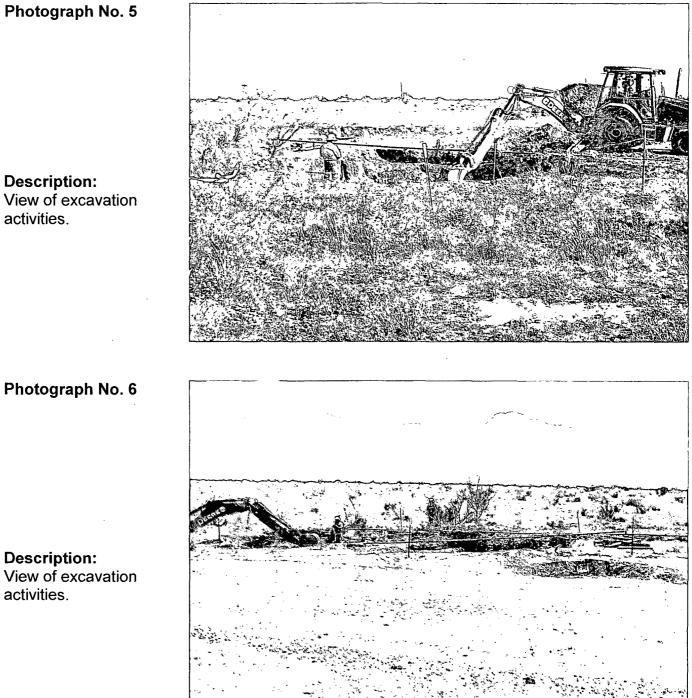


**Description:** View of the initial excavation activities at the release point.



#### **Client:** Southern Union Gas Services Project Name: Line 2A-3

## Prepared by: NOVA Location: Lea County, New Mexico



**Description:** View of excavation activities.

Photograph No. 6

**Description:** View of excavation activities.



#### Client: Southern Union Gas Services Project Name: Line 2A-3

#### Prepared by: NOVA Location: Lea County, New Mexico

Photograph No. 7



**Description:** View of backfilling activities.

# APPENDIX C: Soil Disposal Manifest

<b></b>	<i>6</i> ) 5 5 <i>4</i> %	
DOOM LAND FARN	Mg LoLoCo	EXEMPT WASTE MANIFEST
BOX 1271 JAL, N.M. 882	279 ·	FOR HYDROC RBON
575-395-3537 90		IMPACTED SOIL E.I.N.# 80 050-1530
903-715-04		PERMIT #NM:92:0033
	JOB INVOICE #:	
OIL/GAS OPERATOR:	Sacifher U	$n(s_n)$
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DRIVER		DATE
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DOOM LAND FARM,	116	EXEMPT WASTE MANIFEST	
BOX 1271	kao tao 1970 .	FOR HYDROCARBON	
JAL, N.M. 88252		IMPACTERSOL	
575-395-3537 903-1	715-8491	E.I.N.# 80 05002030	
903-715-047		PERMIT #NMg04;0033	
OL	B INVOICE #:		
OIL/GAS OPERATOR:			
	outher Union		
LOCATION/LEASE:	$\sim 1 \sim$		
	2A-3		
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Caliche III EXEMPT WASTEMANIFEST DOOM LAND FARM, L.L.C. FOR HYDROGERBON BOX 1271 JAL. N.M. 88252 IMPACTERSOL 575-395-3537 903-715-8491 E.I.N.# 80 G& 2030 903-715-0471 PERMIT #NN+64-0033 JOB INVOICE #: OIL/GAS OPERATOR: Sothern Union Gas LOCATION/LEASE: hine 2A-3 TRUCKING CO. M.R. Mc Cracken Trucking 207 DRIVER Miller R. McCiark DATE 09/26/2012 CYDS/LOAD 12 / TOTAL CYDS S# LOADS MIL TRUCKING CO. DATE DRIVER # LOADS CYDS/LOAD \_\_\_\_\_ TOTAL CYDS TRUCKING CO. DRIVER\_\_\_\_ DATE CYDS/LOAD # LOADS TOTAL CYDS All A NOVA

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### APPENDIX D: Release Notification and Corrective Action (Form-C-141)

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

#### State of New Mexico Energy Minerals and Natural Resources

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

Form C-14 Revised October 10, 200

Submit 2 Copies to appropriat District Office in accordanc with Rule 116 on bac side of for

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/		nan in in the second second	Rele	ease Notific	catio	on	and Co	orrective A	ction	]				
					(	OPERATOR			🛛 Initial Report 🔲 Final Repo					
Name of Company Southern Union Gas Services						Contact Rose Slade								
Address 801 S. Loop 464, Monahans, TX 79756						Telephone No. 432-940-5147								
Facility Name Line 2A-3						Fa	Facility Type Natural Gas Pipeline							
Surface Owner Gerald Doom						·····			Lease N	To. 30-025-	3882	22		
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Was Immedia	ate Notice (						If YES, To	Whom?						
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By Whom? Was a Watero	D	.1					Date and Hour							
was a water	course Read		Yes 🛛	No			If YES, Volume Impacting the Watercourse.							
If a Watercou	rse was Im	nacted. Descri	be Fully.*		<u> </u>									
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Printed Name	: Rose L. S	Slade		······································		Aŗ	oproved by	District Supervis	or: .	sheef !	Elkine	•		
Title: EHS Co	mpliance S	pecialist				Aŗ	oproval Dat	e: 7/2/12_		Expiration I	Date: 9	2/11	2	
E-mail Addres	ss: rose.slac	le@sug.com				Co	onditions of	Approval:506	MIT	FINAL	Attached			
ate: June 27	, 2012	Ph	one: 432-	940-5147		10	-ાપા છ	8 9/2/12				-1	2-2836	

\* Attach Additional Sheets If Necessary

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