# **RECEIVED**

By JKeyes at 11:17 am, Oct 27, 2015 state of New Mexico

APPROVED

By JKeyes at 11:17 am, Oct 27, 2015

NM 88210
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Energy Minerals and Natural Re

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

## **Release Notification and Corrective Action**

						<b>OPERA</b>	ГOR		Initia	al Report	$\boxtimes$	Final Report		
		outhern Unio		ervices		Contact: Ro				•		•		
		26 Jal, NM 8					No.: 210-403-65			47				
Facility Nar	ne: Lea Co	ounty Field I	Dept.		I	Facility Typ	e: Natural Gas	Gatheri	ng					
Surface Ow	ner: Ruber	t Madera Tr	ust	Mineral O	wner: F	Federal			IRP No. 1116					
				LOCA	TION	OF REI	LEASE							
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/V	Vest Line	County				
A	3	24S	34E							Lea				
				Latitude: N32	15.154	Longitude	: W103 27.139	1						
				NAT	URE	OF RELI	EASE							
							Release: 50 bbls			Recovered: 0				
Source of Re	lease: 6 incl	ı steel pıpelın	е			Date and H Unknown	lour of Occurrence	e:		Hour of Disc @11:30 AM				
Was Immedia	/as Immediate Notice Given? ☐ Yes ☒ No ☐ Not Requi						Whom?							
By Whom? T	By Whom? Tony Savoie, Southern Union Gas Services						lour: Verbally rep	orted to	Larry Johr	nson @ 7:56	a.m. 8	/22/06		
		ched?					lume Impacting t							
If a Watercou	rea was Im													
Ta Watercook	irse was mi	pacted, Descri	oc runy.											
Describe Cau	se of Proble	em and Remed	dial Action	n Taken.*										
saturated area	a was blend	ed onsite to pr												
Based upon t removed from April 2015, v excavations v	he informat in the site or which was a were backfil	ion reviewed, no longer exh pproved by the led under the	the extent nibits COC e NMOCI direction o	t of the affected so C concentrations in D pending docume of Regency Person	n exceed intation of inel, and	ance of the Nof final excavel the surface s	MOCD Remedia vation backfill act soils were contou	ation Activities.	tion Levels On July 6, the surrou	. Apex issue 2015, Trenc	ed a wo	ork Plan in		
I hereby certi regulations at public health should their of or the environ	fy that the i ll operators or the envir operations h nment. In a	nformation gi are required to ronment. The ave failed to a ddition, NMC	ven above o report ar acceptanc adequately OCD accep	e is true and complend/or file certain rece of a C-141 report investigate and re	ete to the elease no rt by the emediate	te best of my otifications are NMOCD made contaminati	knowledge and und perform correctarked as "Final Room that pose a thr	nderstar etive acti eport" d eat to gr	nd that purs ions for rele loes not reli ound water	eases which leve the oper , surface wa	may er ator of ter, hu	ndanger f liability man health		
		· · · · · ·	· <u> </u>	<del></del>			OIL CON	SERV	ATION	DIVISIO	N			
Signature: Ro	se L. Slade						1	m¥lhye						
-		lade			A	Approved by								
Title: Senior	of Release: Crude oil & Natural Gas e of Release: 6 inch steel pipeline  Immediate Notice Given?    Yes   No   Not				Approval Date: Expiration Date:									
E-mail Addre	ess: rose.sla	de@energytra	nsfer.com	1		Conditions of	Approval:			Attached	$\Box$			
Date:10/19/1	Date: 10/19/15 Phone: 210.403.6525													

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



#### SITE CLOSURE REPORT

Property:

Regency Field Services LLC A-14 6-Inch Pipeline Release Site Unit Letter "A", Section 3, Township 24 South, Range 34 East Lea County, New Mexico NMOCD Job No. 1RP-1116

> October 7, 2015 Apex Project No. 7250715006-001

> > Prepared for:

Regency Field Services LLC 800 E. Sonterra Blvd, Ste 400 San Antonio, Tx 78258 Attn: Ms. Rose Slade

Prepared by:

Laura B. Hamrick

Staff Scientist

Joseph W. Martinez Branch Manager

# TABLE OF CONTENTS\_\_\_\_\_

EXE	CUTIVE SUMMARY	i
1.0	INTRODUCTION	<b>1</b> 1
2.0	SITE RANKING	2
3.0	CORRECTIVE ACTION ACTIVITIES  3.1 Initial Response  3.2 Site Investigation.  3.3 Final Site Closure Activities	4
4.0	LABORATORY ANALYTICAL PROGRAM  4.1 Laboratory Analytical Methods	6
5.0	FINDINGS AND RECOMMENDATIONS	7

#### **APPENDICES**

Appendix A Figures

Appendix B Photographic Documentation

Appendix C Tables

Appendix D Laboratory Analysis and Chain-of-Custody

Appendix E Form C-141

Appendix F Well Records

Appendix G Bill of Lading and Backfill Check Receipt Form

#### **EXECUTIVE SUMMARY**

Apex TITAN, Inc. (Apex) has prepared this Site Closure Report for the Regency Field Services LLC (Regency) A-14 6-inch Pipeline Release Site, referred to hereinafter as the "Site" or "subject pipeline". This Site Closure Report is based upon the interpretation of the data collected by Southern Union Gas (SUG), NOVA Safety and Environmental (NOVA), and the corrective action activities performed by Apex.

On August 19, 2006, approximately 50 barrels (bbls) of crude oil was released from the subject pipeline. Approximately 348 cubic yards (cy) of affected soil was excavated and disposed of off-Site. SUG collected 11 soil samples from the affected or excavated portions of the Site. Nine (9) of the soil samples exhibited total petroleum hydrocarbon (TPH) concentrations in exceedance of the regulatory protection limit.

On May 31, 2013, NOVA initiated trenching and soil sampling activities at the Site. NOVA collected seven (7) soil samples at the pipeline excavation and 19 soil samples from the trench floors or stockpiled soils. Two (2) soil samples (Trench-2 Topsoil and Trench-3 Topsoil) exhibited TPH concentrations in exceedance of the regulatory protection limits.

On March 18, 2015, Apex collected two (2) composite soil samples from the Trench 2 and Trench 3 Topsoil stockpile. The soil samples did not exhibit TPH, benzene, toluene, ethylbenzene, xylenes (BTEX), or chloride concentrations in exceedance of the regulatory protection limits. On July 6, 2015, Trench 2 and 3 excavations were backfilled.

Based upon the response actions and laboratory analytical results, no further action appears to be necessary at this time. Apex recommends that the New Mexico Oil Conservation Division (NMOCD) review the Site for final closure.



#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

Apex TITAN, Inc. (Apex) has prepared this Site Closure Report for the Regency Field Services LLC (Regency) A-14 6-inch Pipeline located in Unit Letter A, Section 3, Township 24 South, Range 34 East, Lea County, New Mexico (32.252566N, 103.452315W), referred to hereinafter as the "Site" or "subject Site". A topographic map depicting the location of the Site is included as **Figure 1**, a site vicinity map is included as **Figure 2**, and a Site Plans are included as **Figures 3A**, **3B**, and **3C** of **Appendix A**.

This Site Closure Report is based upon the interpretation of the data collected by Southern Union Gas (SUG), NOVA Safety and Environmental (NOVA), and the corrective action activities performed by Apex. The objective of this report is to provide documentation of restoration and closure activities performed at the Site in accordance with the work plan approved by the New Mexico Oil Conservation Division (NMOCD).

On August 19, 2006, approximately 50 barrels (bbls) of crude oil was released from the subject pipeline. The release was reported to the NMOCD on September 22, 2006. The NMOCD issued Job No. 1RP-1116 for the Site. Constituents of concern (COCs) associated with crude oil included total petroleum hydrocarbon (TPH), benzene, toluene, ethylbenzene, and total xylenes (BTEX). A copy of the NMOCD C-141 form is available in **Appendix E.** 



#### 2.0 SITE RANKING

The Site is subject to regulatory oversight by the NMOCD. To address activities related to releases, the NMOCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the NMOCD rules, specifically NMAC 19.15.29 *Release Notification*. These documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

In accordance with the NMOCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex utilized general site characteristics to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the table below:

Rankin	g Criteria		Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	20
	>100 feet	0	
Wellhead Protection Area,	Yes	20	
<1,000 feet from a water source, or; <200 feet from private domestic water source.	No	0	0
Distance to Surface Water	<200 feet	20	
Body	200 to 1,000 feet	10	0
	>1,000 feet	0	
Total Rai	nking Score		20

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 20. This ranking is based on the following:



 The depth to the initial groundwater-bearing zone may be less than 50 feet below ground surface (bgs).

Apex performed a search of the New Mexico Office of the State Engineers (OSE) water well records for Township 24S, Rage 34E. Four (4) water wells were identified, which were located between 1.2 and 6 miles from the Site. One (1) of the water wells reported depth to groundwater at 40 feet bgs. A site specific assessment of depth to groundwater was not performed. Based on the information reviewed and the absence of site-specific assessment information, a ranking score of 20 was assigned to the depth to groundwater ranking criteria. It should be noted that the site ranking score was previously characterized as zero (0). A copy of the water well search results and the point of diversion summary records are available in **Appendix F**.

The NMOCD Response Action Levels for sites with a Total Ranking Score of 20 include the following: 10 milligrams per kilogram (mg/Kg) for benzene, 50 mg/Kg for total benzene, toluene, ethylbenzene and xylene (BTEX), 100 mg/Kg for total petroleum hydrocarbons (TPH). It should be noted that the NMOCD has not officially promulgated a protection limit for chlorides in soils. However, in accordance with the New Mexico Administrative Code (NMAC) 19.15.36, a chloride limit of 500 mg/Kg has been established for other operational facilities where groundwater has been identified at less than 100 feet bgs.



#### 3.0 CORRECTIVE ACTION ACTIVITIES

#### 3.1 Initial Response

Subsequent to the release being identified, the subject pipeline was shut in and excavation activities were initiated to expose and repair the source of the leak. The crude oil flow path affected approximately 15,670 square feet (sq. ft.) of surface soil. Approximately 348 cubic yards (cy) of affected soil was excavated and transported to the Pitch Fork Landfarm located in Lea County, New Mexico. In addition, approximately 492 cubic yards of backfill material was delivered from the Pitch Fork Landfarm to the Site.

SUG collected 11 soil samples, including five (5) composite and six (6) discrete soil samples, from the affected or excavated portions of the Site. The soils samples were submitted for TPH and/or BTEX analysis. Based on the laboratory analytical results, nine (9) of the soil samples exhibited TPH concentrations in exceedance of the NMOCD Remediation Action Levels. The remaining soils samples did not exhibit TPH and/or BTEX concentrations in exceedance of the NMOCD Remediation Action Levels. Based on a review of field notes, it was inferred that the pipeline excavation remained open pending further corrective action.

A Site Plan which depicts the estimated crude oil flow path and SUG soil sampling locations is available as **Figure 3A** in **Appendix A**. A summary of laboratory analytical results for the soil samples collected by SUG is available in **Appendix C**. Copies of the Bill of Ladings and backfill check receipt form is available in **Appendix G**.

#### 3.2 Site Investigation

On May 31, 2013, NOVA initiated trenching and soil sampling activities at the Site. NOVA collected seven (7) discrete excavation sidewall and floor samples at the pipeline release point. In addition, NOVA directed the advancement of 13 soil trenches within the footprint of the former crude oil flow path with depths ranging from two (2) to six (6) feet bgs. NOVA collected an additional 19 soil samples, including three (3) composite and 16 discrete soil samples, from the trench floors or stockpiled soils. Each of the soil samples were submitted for TPH, BTEX, and chloride analysis.



Based on the laboratory analytical results, two (2) of the soil samples (Trench-2 Topsoil and Trench-3 Topsoil) exhibited TPH concentrations in exceedance of the NMOCD Remediation Action Levels. The remaining soils samples did not exhibit TPH, BTEX, and/or chloride concentrations in exceedance of the NMOCD Remediation Action Levels. The excavation and stockpiled material for Trench 2 and Trench 3 remained open or in place. Based on a review of field notes, it was inferred that the remaining trenches and pipeline excavation was subsequently backfilled with the on-Site stockpile material.

A Site Plan which depicts the NOVA soil sampling locations is available as **Figure 3B** in **Appendix A**. A summary of laboratory analytical results for the soil samples collected by NOVA is available in **Appendix C**.

#### 3.3 Final Site Closure Activities

On March 18, 2015, Apex collected two (2) composite soil samples including one (1) from the Trench 2 Topsoil stockpile and one (1) from the Trench 3 Topsoil stockpile. The soil samples were submitted for TPH, BTEX and chloride analysis. Based on the laboratory analytical results, the soil samples did not exhibit TPH, BTEX, or chloride concentrations in exceedance of the NMOCD Remediation Action Levels. Apex also performed a visual inspection of the former crude oil flow path, which confirmed vegetative regrowth had been established. On July 6, 2015, Trench 2 and 3 excavations were backfilled under the direction of Regency personnel, and the surface soils were contoured with the surrounding grade.

A Site Plan which depicts the Apex soil sampling locations is available as **Figure 3C** in **Appendix A**. Photographic documentation of the Site is available in **Appendix B**. A summary of laboratory analytical results for the soil samples collected by Apex is available in **Appendix C**.



#### 4.0 LABORATORY ANALYTICAL PROGRAM

#### 4.1 Laboratory Analytical Methods

The soil samples collected by Apex were analyzed for TPH GRO/DRO utilizing EPA method SW-846 8015 modified, BTEX utilizing EPA method SW-846 8021B and chlorides utilizing EPA method SW-846 300.1. The sample coolers and completed chain-of-custody forms were relinquished to Trace Analysis, Inc. in Midland, Texas for normal turn-around time. The analytical results for the soil sampling activities completed at the Site are summarized in **Table 1** of **Appendix B**. Copies of the laboratory analysis are provided in **Appendix D**.

## 4.2 Quality Assurance/Quality Control (QA/QC)

Sampling equipment was cleaned using an Alconox® wash and potable water rinse prior to the beginning of the project and before the collection of each sample. Samples were collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler, which was secured with a custody seal. The sample coolers and completed chain-of-custody forms were relinquished to Trace Analysis (Trace) in Midland, Texas for standard turnaround.

Trace performed the analyses of samples under an adequate and documented quality assurance program to meet the project and data quality objectives. The laboratory's quality assurance program is generally consistent the quality standards outlined in the National Environmental Laboratory Accreditation Program, as amended. In addition, the data generated by Trace meets the intralaboratory performance standards for the selected analytical method and the performance standards are sufficient to meet the bias, precision, sensitivity, representativeness, comparability, and completeness, as specified in the project data quality objectives.



### 5.0 FINDINGS AND RECOMMENDATIONS

Based upon the information reviewed, the extent of the affected soil was delineated vertically and horizontally. In addition, the affected soil has been removed from the Site or no longer exhibits COC concentrations in exceedance of the NMOCD Remediation Action Levels. Apex issued a Work Plan in April 2015, which was approved by the NMOCD pending documentation of final excavation backfill activities. On July 6, 2015, Trench 2 and 3 excavations were backfilled under the direction of Regency personnel, and the surface soils were contoured with the surrounding grade.

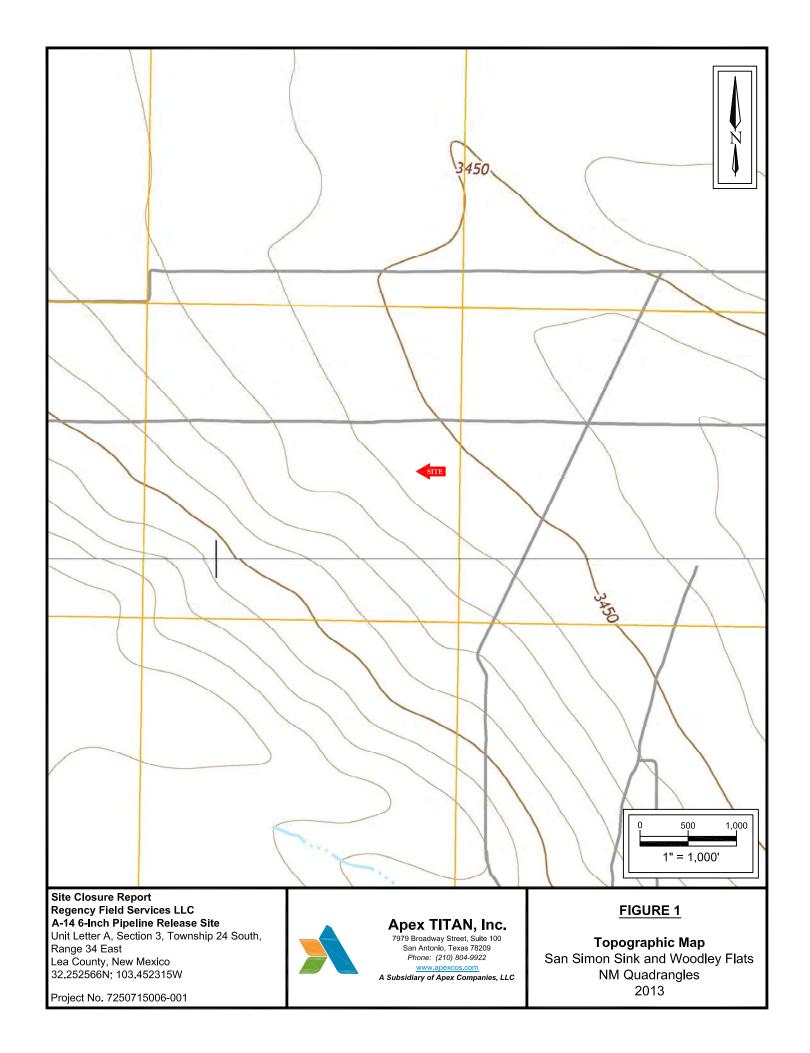
Based upon the response actions and laboratory analytical results, no further action appears to be necessary at this time. Apex recommends that the NMOCD review the Site for final closure.



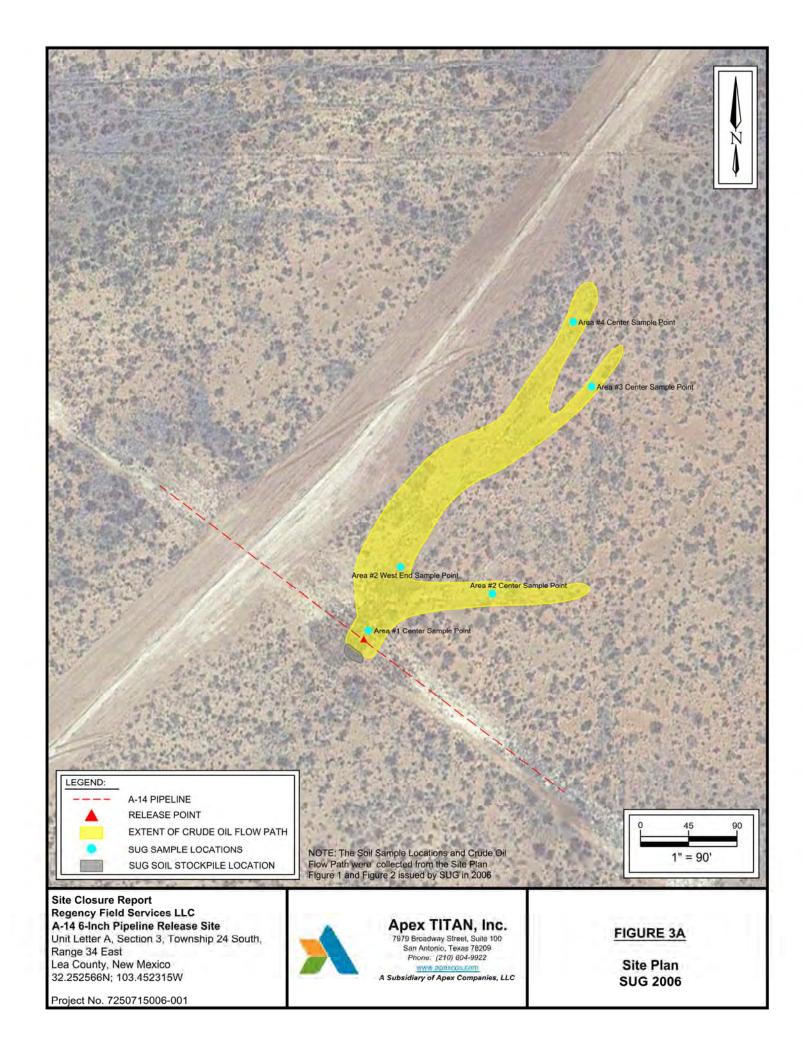


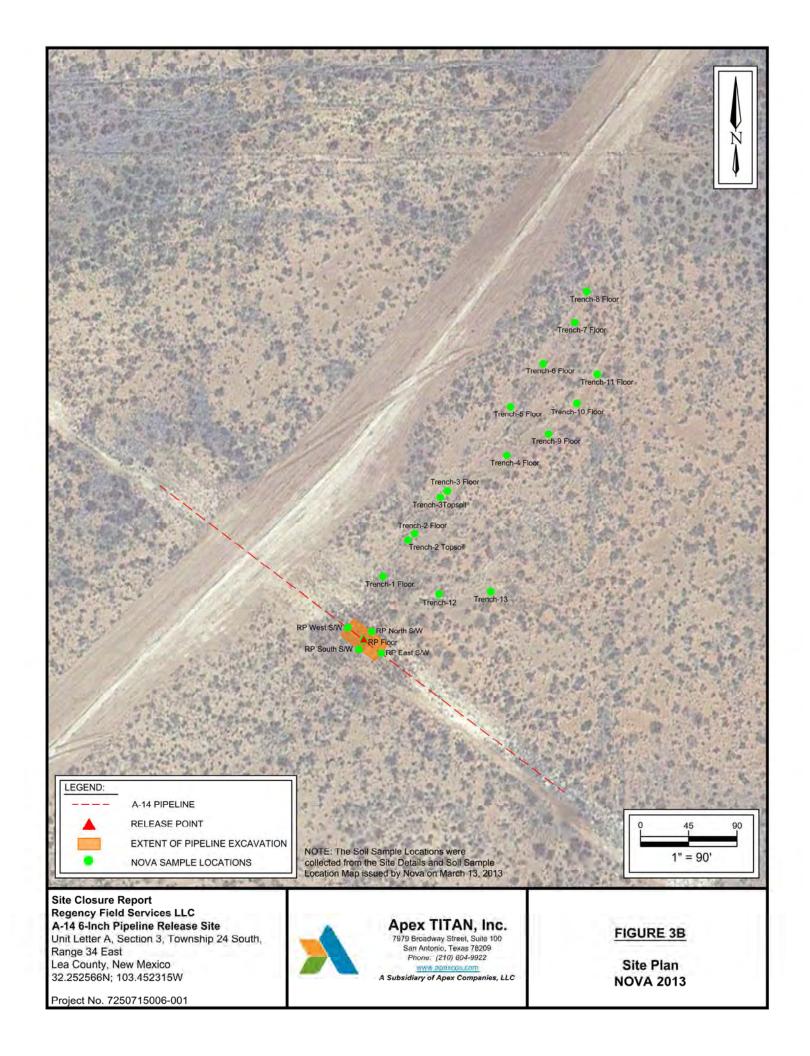
APPENDIX A

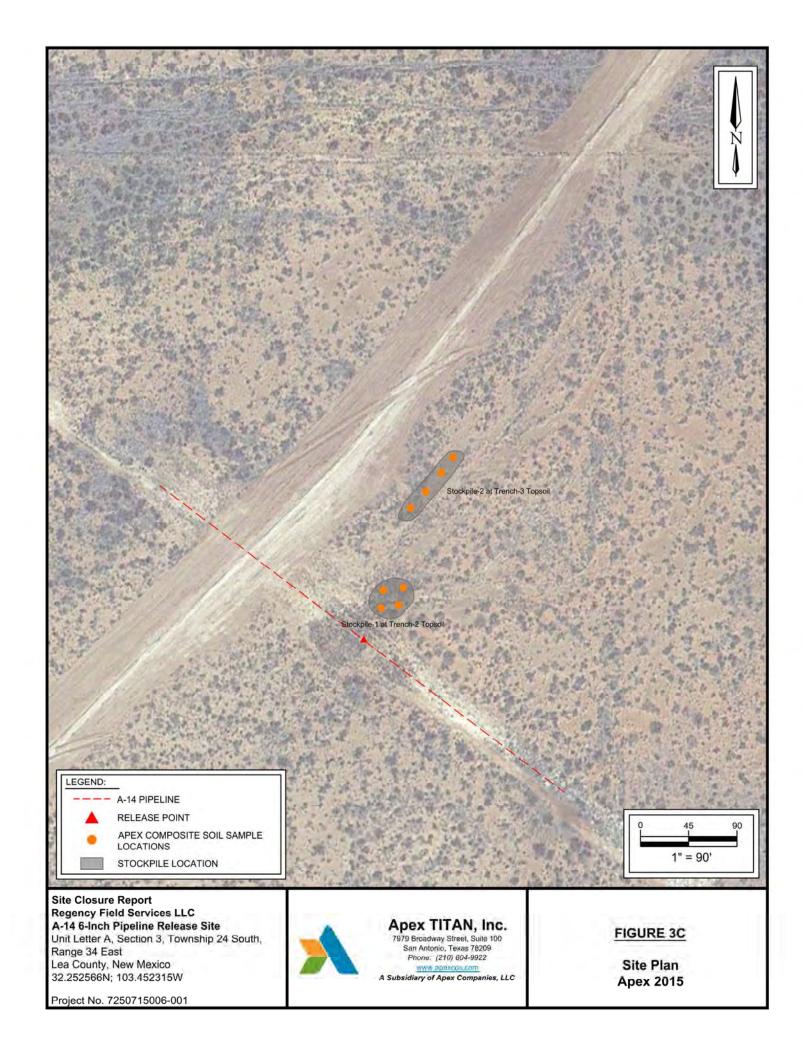
Figures













APPENDIX B

Photographic Documentation

## Photograph 1

View of vegetative overgrowth on former crude oil flow path near Trench 3.



# Photograph 2

View of Trench 2 excavation prior to backfill activities.



# Photograph 3

View of Trench 3 excavation prior to backfill activities.



# Photograph 4

View of Trench 3 excavation subsequent to backfill activities.





APPENDIX C

**Tables** 



#### TABLE 1

# REGENCY A-14 6-INCH PIPELINE RELEASE SITE UNIT LETTER A, SECTION 3, TOWNSHIP 24 SOUTH, RANGE 34 EAST LEA COUNTY, NEW MEXICO ANALYTICAL RESULTS

SOIL CONFIRMATION SAMPLES

Sample ID	Date	Sample Depth (feet)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (DRO) (mg/Kg)	TPH (GRO) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
NMOCD Remediation Action Levels			10	NE	NE	NE	50	N	IE	100	500
		•	Samp	les Collected b	y Southern Unio	n Gas Services	(SUG)				
**Area #1 Surface Composite	8/21/2006	-	NS	NS	NS	NS	NS	24,600	7,560	34,700	NS
Area #1 6" B.G.S. @ Center	8/21/2006	0.5	NS	NS	NS	NS	NS	257	40.2	323	NS
**Area #2 Surface Composite	8/21/2006	-	NS	NS	NS	NS	NS	38,500	5,490	47,100	NS
Area #2 6" B.G.S. @ Center	8/21/2006	0.5	NS	NS	NS	NS	NS	916	221	1,220	NS
Area #2 6" B.G.S. @ West End	8/21/2006	0.5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	53.9	6.66 (J)	65.4	NS
**Area #3 Surface Composite	8/21/2006	-	NS	NS	NS	NS	NS	29,900	6,700	39,300	NS
Area #3 6" B.G.S. @ Center	8/21/2006	0.5	NS	NS	NS	NS	NS	1550	279	1,970	NS
**Area #4 Surface Composite	8/21/2006	-	< 0.025	<0.025	< 0.025	<0.025	< 0.025	33,300	6,020	42,300	NS
Area #4 6" B.G.S. @ Center	8/21/2006	0.5	NS	NS	NS	NS	NS	135	16	171	NS
**Surface Composite	8/21/2006	0.1	NS	NS	NS	NS	NS	69,400	7,920	85,800	NS
**6" B.G.S. @ Center	8/21/2006	0.5	NS	NS	NS	NS	NS	5,600	3,290	9,390	NS
				Samp	les Collected by	NOVA					
RP Floor @ 11'	05/31/13	11	<0.00111	<0.00223	<0.00111	<0.00111	<0.00111	<15.0	<15.0	<15.0	492
RP East S/W @ 10'	05/31/13	10	< 0.00106	< 0.00213	< 0.00106	<0.00106	< 0.00106	<14.9	<14.9	<14.9	25.5
RP West S/W @ 10'	05/31/13	10	< 0.00103	< 0.00206	< 0.00103	< 0.00103	< 0.00103	<15.0	<15.0	<15.0	8.01
RP South S/W @ 11'	06/07/13	11	< 0.00103	< 0.00205	< 0.00103	< 0.00103	< 0.00103	<15.6	<15.6	<15.6	37.9
RP North S/W @ 11'	06/04/13	11	<0.000998	< 0.00200	<0.000998	<0.000998	<0.000998	<15.6	<15.6	<15.6	214
**RP @ 12'	06/03/13	12	<0.00108	< 0.00216	<0.00108	<0.00108	<0.00108	<16.4	<16.4	<16.4	97.5
**RP @ 18'	06/03/13	18	< 0.00107	< 0.00213	< 0.00107	< 0.00107	< 0.00107	<16.1	<16.1	<16.1	49.9
Trench-1 Floor @ 2'	06/03/13	2	<0.000990	<0.00198	< 0.000990	<0.00990	< 0.00990	<14.9	<14.9	<14.9	18.5
Trench-1 Floor @ 6'	06/04/13	6	<0.000992	<0.00198	< 0.000992	<0.000992	< 0.000992	<15.4	<15.4	<15.4	17.8
Trench-2 Floor @ 2'	06/03/13	2	<0.000994	< 0.00199	< 0.000994	< 0.000994	< 0.000994	69.1	<14.9	69.1	63.8
*Trench-2 Topsoil	06/04/13	-	<0.000992	<0.00198	< 0.000992	<0.000992	< 0.000992	10,600	260	12,900	4.22
Trench-2 Floor @ 4'	06/04/13	4	<0.000994	< 0.00199	< 0.000994	< 0.000994	< 0.000994	<15.5	<15.5	<15.5	50.4
*Trench-3 Topsoil	06/04/13	-	<0.000998	< 0.00200	<0.000998	<0.00200	<0.00200	5,970	99.2	7,800	2.84
Trench-3 Floor @ 2'	06/04/13	2	< 0.00100	< 0.00200	<0.00100	<0.00100	<0.00100	<15.5	<15.5	<15.5	2.66
Trench-4 Floor @ 2'	06/05/13	2	<0.000990	<0.00198	< 0.000990	<0.000990	< 0.000990	<15.5	<15.5	<15.5	<2.00
Trench-5 Floor @ 2'	06/05/13	2	<0.000990	<0.00198	< 0.000990	<0.000990	< 0.000990	<15.5	<15.5	<15.5	62.8
Trench-6 Floor @ 2'	06/05/13	2	< 0.00100	< 0.00200	< 0.00100	< 0.00100	< 0.00100	<15.3	<15.3	<15.3	12.7
Trench-7 Floor @ 2'	06/05/13	2	< 0.000994	< 0.00199	< 0.000994	< 0.000994	< 0.000994	<15.2	<15.2	<15.2	5.63
Trench-8 Floor @ 2'	06/05/13	2	< 0.000994	< 0.00199	<0.000994	<0.000994	<0.000994	<15.5	<15.5	<15.5	2.91
Trench-9 Floor @ 2'	06/05/13	2	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.3	<15.3	<15.3	22.3
Trench-10 Floor @ 2'	06/05/13	2	< 0.000996	< 0.00199	<0.000996	< 0.000996	<0.000996	<15.5	<15.5	<15.5	100
Trench-10 Floor @ 4'	06/05/13	4	<0.000998	<0.00200	<0.000998	<0.000998	<0.000998	<15.6	<15.6	<15.6	33.4
Trench-11 Floor @ 2'	06/05/13	2	< 0.000994	< 0.00199	<0.000994	< 0.000994	<0.000994	<15.4	<15.4	<15.4	4.97
Trench-12 @ 2'	06/06/13	2	<0.00104	<0.00208	<0.00104	<0.00104	<0.00104	<15.6	<15.6	<15.6	5.97
Trench-13 @ 2'	06/06/13	2	< 0.00103	< 0.00207	< 0.00103	< 0.00103	< 0.00103	43.7	<15.6	43.7	18.6
**SP-1	06/04/13	-	< 0.000990	<0.00198	<0.000990	< 0.000990	<0.000990	56.6	<15.2	56.6	54.9

#### TABLE 1

# REGENCY A-14 6-INCH PIPELINE RELEASE SITE UNIT LETTER A, SECTION 3, TOWNSHIP 24 SOUTH, RANGE 34 EAST LEA COUNTY, NEW MEXICO ANALYTICAL RESULTS

SOIL CONFIRMATION SAMPLES

				JOIL CO	NI IKWATION 3	PAIVIFLLS						
Sample ID	Date	Sample Depth (feet)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	Total BTEX (mg/Kg)	TPH (DRO) (mg/Kg)	TPH (GRO) (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)	
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE		100	500	
	Samples Collected by APEX											
Stockpile-1@Trench-2 Topsoil	03/18/15	-	< 0.0200	< 0.0200	<0.0200	< 0.0200	< 0.0200	<50.0	<4.00	<50.0	<20.0	
Stockpile-2@Trench-3 Topsoil	03/18/15	-	<0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<4.00	<50.0	<20.0	

<sup>\*</sup> indicates area that was resampled by APEX in 2015

NE - Not Established

NS - Not Sampled

(J) Indicates detected, but below the Reporting Limit; therefore, result is an estimated concentration

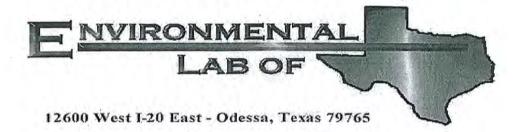
Note: Concentrations in Bold and yellow exceed the NMOCD Remediation Action Levels

<sup>\*\*</sup> Soil sample locations not identified or available for review by Apex mg/Kg- milligrams per Kilograms



# APPENDIX D

Laboratory Data Reports and Chain of Custody Documentation



# Analytical Report

# Prepared for:

Tony Savoie Southern Union Gas Services- Jal P.O. Box 1226 Jal, NM 88252

Project: A-14 6" Lateral SExNW Project Number: Leak Site #1 Location: Antelope Ridge

Lab Order Number: 6H22005

Report Date: 08/23/06

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie

ANALYTICAL REPORT FOR SAMPLES

## Fax: 505-395-2326

Laboratory ID	Matrix	Date Sampled	Date Received
6H22005-01	Soil	08/21/06 08:20	08-22-2006 10:10
6H22005-02	Soil	08/21/06 08:22	08-22-2006 10:16
6H22005-03	Soil	08/21/06 08:48	08-22-2006 10:16
6H22005-04	Soil	08/21/06 08:50	08-22-2006 10:16
	6H22005-01 6H22005-02 6H22005-03	6H22005-01 Soil 6H22005-02 Soil 6H22005-03 Soil	6H22005-01 Soil 08/21/06 08:20 6H22005-02 Soil 08/21/06 08:22 6H22005-03 Soil 08/21/06 08:48

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

# Organics by GC Environmental Lab of Texas

		Environi	0.500.500.03						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Area #1 Surface Composite (6H2200:	5-01) Soil				0				
Carbon Ranges C6-C12	7560	100	mg/kg dry	10	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	24600	100		.00					
Carbon Ranges C28-C35	2510	100		"	10			•	
Total Hydrocarbons	34700	100		и			(1)	*	
Surrogate: 1-Chlorooctane		25.2 %	70-1	30	"	"	"	"	S-0
Surrogate: 1-Chlorooctadecane		9.22 %	70-1	30	"		"	. "	S-0
Area #1 6" B.G.S@ Center (6H22005	5-02) Soil								
Carbon Ranges C6-C12	40.2	10.0	mg/kg dry	1	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	257	10.0		0	114				
Carbon Ranges C28-C35	25.7	10.0	**	0			ů.		
Total Hydrocarbons	323	10.0		n .			, n		
Surrogate: 1-Chlorooctane		129 %	70-1	30	."	"	"	"	
Surrogate: I-Chlorooctadecane		127 %	70-1	30	"	"	"	"	
Area #4 Surface Composite (6H2200	5-03) Soil								
Carbon Ranges C6-C12	6020	100	mg/kg dry	10	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	33300	100							
Carbon Ranges C28-C35	2940	100						(A)	
Total Hydrocarbons	42300	100			W.		N	*	
Surrogate: 1-Chlorooctane		24.6 %	70-1	30	"	"	"	ii .	S-0
Surrogate: 1-Chlorooctadecane		61.4 %	70-1	30	"	"	"		S-0
Area #4 6" B.G.S@ Center (6H22005	5-04) Soil								
Benzene	ND	0.0250	mg/kg dry	25	EH62213	08/22/06	08/22/06	EPA 8021B	
Toluene	ND	0.0250						,	
Ethylbenzene	ND	0.0250		"				, <del>ù</del>	
Xylene (p/m)	ND	0.0250	"	ń			**	U	
Xylene (o)	ND	0.0250							
Surrogate: a,a,a-Trifluorotoluene		89.2 %	80-1	20	"	,,	"		
Surrogate: 4-Bromofluorobenzene		108 %	80-1	20	**	"	"		
Carbon Ranges C6-C12	16.0	10.0	mg/kg dry	1	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	135	10.0				"			
Carbon Ranges C28-C35	19.9	10.0					**		
Total Hydrocarbons	171	10.0							
Surrogate: 1-Chlorooctane	1814	127 %	70-1	30			"	ű.	
Surrogate: 1-Chlorooctadecane		128 %	70-1		,	"	,,	,,	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 2 of 8

Southern Union Gas Services- Jal P.O. Box 1226

Jal NM, 88252

Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

# General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Area #1 Surface Composite	e (6H22005-01) Soil								
% Moisture	15.1	0.1	%	i	EH62307	08/22/06	08/23/06	% calculation	
Area #1 6" B.G.S@ Center	(6H22005-02) Soil								
% Moisture	13.2	0.1	%	I	EH62307	08/22/06	08/23/06	% calculation	
Area #4 Surface Composite	e (6H22005-03) Soil								
% Moisture	7.0	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
Area #4 6" B.G.S@ Center	(6H22005-04) Soil								
% Moisture	8.0	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

# Organics by GC - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Extraction	(GC)									
Blank (EH62203-BLK1)				Prepared	& Analyze	ed: 08/22/	06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet	had below to	775 T					
Carbon Ranges C12-C28	ND	10.0								
Carbon Ranges C28-C35	ND	10.0	11						1	
Total Hydrocarbons	ND	10.0								
Surrogate: I-Chlorooctane	56.7		mg/kg	50.0	_	113	70-130			
Surrogate: 1-Chlorooctadecane	50.8		"	50.0		102	70-130			
LCS (EH62203-BS1)				Prepared	& Analyzo	ed: 08/22/0	06			
Carbon Ranges C6-C12	493	10.0	mg/kg wet	500		98.6	75-125			
Carbon Ranges C12-C28	448	10.0		500		89.6	75-125			
Carbon Ranges C28-C35	ND	10.0		0.00			75-125			
Total Hydrocarbons	941	10.0		1000		94.1	75-125			
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	51.2		"	50.0		102	70-130			
Calibration Check (EH62203-CCV1)				Prepared	& Analyze	ed: 08/22/0	06			
Carbon Ranges C6-C12	202		mg/kg	250		80.8	80-120			
Carbon Ranges C12-C28	208			250		83.2	80-120			
Total Hydrocarbons	410		n	500		82.0	80-120			
Surrogate: 1-Chlorooctane	64.7		"	50.0		129	70-130			
Surrogate: 1-Chlorooctadecane	64.6		#	50.0		129	70-130			
Matrix Spike (EH62203-MS1)	So	urce: 6H220	05-04	Prepared	& Analyze	d: 08/22/0	06			
Carbon Ranges C6-C12	634	10.0	mg/kg dry	543	16.0	114	75-125			
Carbon Ranges C12-C28	731	10.0		543	135	110	75-125			
Carbon Ranges C28-C35	19.0	10.0	16	0.00	19.9		75-125			
Total Hydrocarbons	1380	10.0		1090	171	111	75-125			
Surrogate: 1-Chlorooctane	65.8		mg/kg	50.0		132	70-130			S-0
Surrogate: 1-Chlorooctadecane	60.4		"	50.0		121	70-130			

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

# Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Extraction (	GC)			TI.						
Matrix Spike Dup (EH62203-MSD1)	So	urce: 6H220	05-04	Prepared	& Analyze	ed: 08/22/	06			
Carbon Ranges C6-C12	653	10.0	mg/kg dry	543	16.0	117	75-125	2.95	20	
Carbon Ranges C12-C28	716	10.0		543	135	107	75-125	2.07	20	
Carbon Ranges C28-C35	18.1	10.0	и.	0.00	19.9		75-125	4.85	20	
Total Hydrocarbons	1380	10.0		1090	171	111	75-125	0.00	20	
Surrogate: 1-Chlorooctane	68.7		mg/kg	50.0		137	70-130			S-04
Surrogate: 1-Chlorooctadecane	60.7		"	50.0		121	70-130			
Batch EH62213 - EPA 5030C (GC)										
Blank (EH62213-BLK1)				Prepared	& Analyz	ed: 08/22/	06			
Benzene	ND	0.0250	mg/kg wet	1/2	11725					
Toluene	ND	0.0250								
Ethylbenzene	ND	0.0250								
Xylene (p/m)	ND	0.0250		70						
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	37.1		ug/kg	40.0		92.8	80-120			
Surrogate: 4-Bromofluorobenzene	40.1		"	40.0		100	80-120			
LCS (EH62213-BS1)				Prepared	& Analyz	ed: 08/22/	06			
Benzene	1.16	0.0250	mg/kg wet	1.25		92.8	80-120			
Toluene	1.30	0.0250		1.25		104	80-120			
Ethylbenzene	1.21	0.0250		1.25		96.8	80-120			
Xylene (p/m)	2.94	0.0250		2.50		118	80-120			
Xylene (o)	1.41	0.0250		1,25		113	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.8		ug/kg	40.0		97.0	80-120			
Surrogate: 4-Bromoftuorobenzene	47.1			40.0		118	80-120			

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

# Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62213 - EPA 5030C (GC)	7 800									
Calibration Check (EH62213-CCV1)	,			Prepared	& Analyze	ed: 08/22/	06			
Benzene	50.8		ug/kg	50.0		102	80-120			
Toluene -	56.2		0	50.0		112	80-120			
Ethylbenzene	59.2		W	50.0		118	80-120			
Xylene (p/m)	119			100		119	80-120			
Xylene (o)	57.5			50.0		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	43.2		"	40.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	42.3		"	40.0		106	80-120			
Matrix Spike (EH62213-MS1)	Sou	rce: 6H220	10-01	Prepared .	& Analyze	d: 08/22/0	06			
Benzene	1.27	0.0250	mg/kg dry	1.37	ND	92.7	80-120			
Toluene	1.47	0.0250		1.37	ND	107	80-120			
Ethylbenzene	1.40	0.0250	· u	1.37	ND	102	80-120			
Xylene (p/m)	3.24	0.0250	n	2.74	ND	118	80-120			
Xylene (o)	1.55	0.0250		1.37	ND	113	80-120			
Surrogate: a,a,a-Trifluorotoluene	43.9	(H)	ug/kg	40.0	-	110	80-120	_		
Surrogate: 4-Bromofluorobenzene	43.9		"	40.0		110	80-120			
Matrix Spike Dup (EH62213-MSD1)	Sou	rce: 6H220	10-01	Prepared	& Analyze	d: 08/22/0	06 .			
Benzene	1.29	0.0250	mg/kg dry	1.37	ND	94.2	80-120	1.61	20	
Toluene	1.45	0.0250		1.37	ND	106	80-120	0.939	20	
Ethylbenzene	1.45	0.0250		1.37	ND	106	80-120	3.85	20	
Xylene (p/m)	3.24	0.0250	- n	2.74	ND	118	80-120	0.00	20	
Xylene (o)	1.46	0.0250	. "	1.37	ND	107	80-120	5.45	20	
Surrogate: a,a,a-Trifluorotoluene	38.0		ug/kg	40.0		95.0	80-120			
Surrogate: 4-Bromofluorobenzene	46.5		"	40.0		116	80-120			

P.O. Box 1226

Jal NM, 88252

Duplicate (EH62307-DUP1)

% Solids

Project: A-14 6" Lateral SExNW

Prepared: 08/22/06 Analyzed: 08/23/06

92.0

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

0.218

20

# General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62307 - General Prepa	aration (Prep)				779					
Blank (EH62307-BLK1)				Prepared:	08/22/06	Analyzed	: 08/23/06			
% Solids	100		%							

Source: 6H22004-01

91.8

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

P.O. Box 1226

S-04

Project: A-14 6" Lateral SExNW Project Number: Leak Site #1

Fax: 505-395-2326

Jal NM, 88252

Project Manager: Tony Savoie

#### Notes and Definitions

The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or S-06 matrix interference's.

The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

Analyte DETECTED DET

ND Analyte NOT DETECTED at or above the reporting limit

Not Reported NR

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Duplicate Dup

Report Approved By:

8-22-06 Date:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

# **Environmental Lab of Texas**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

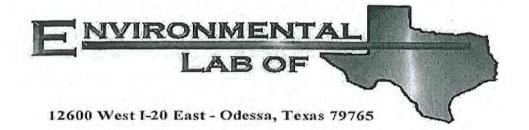
Phone: 432-563-1800 Fax: 432-563-1713

Project Name: A-14 6 "Lateral SEXXU TAT brebnet2 NPDES Lone Star RUSH TAT (Pro-Schodulf) 24,48, 72 hrs S Project Loc: Ande Lope Ridge 0 TRRP VOCs Free of Headspace? Custody seals on container(s) Custody seals on cooler(s) Sample Hand Delivered M.A.O.M. by Sampler/Client Rep. 7 by Couner? UPS Temperature Upon Receipt: RCI Sample Containers Intact? Leak Site Analyze For Laboratory Comments BTEX 80218/5030 or 8TEX 8260 402 glass N Standard Netals: As Ag Ba Cd Cr Pb Hg Se TCLP: FOTAL Project #: PO#: Jujous (Cl. 504, CO3, HCO3) Report Format: 000 Cations (Ca, Mg, Na, K) Time 7 7 1000 1005 M2108 5 S À SO 3 U. 5 5 1/2/26 Date Date Other (Specify) Preservation & # of Containers Mone COSSEN HOBN \*OSZH нсі FONH 7 No. of Containers e-mail: Fax No: 08 48 0880 0830 8480 6922 1680 0820 6832 08 40 Received by ELOT: Time Sampled Southern Union 625 Services 8/21/06 Received by: Received by: Date Sampled = : = = : E = = 88252 505- 631-9376 Ending Depth و و 9 Ö Time GID Commerce 0 6" B.G.S. @ Center 6" ی o' Beginning Depth 1 buy Javoile N.M. " B.6. S. @ West End 6" (\$6.5@ Centor 8/22/03 Sur Face Compasite 6" B 6. 3. @ Center SurFace Composite 6" B.6.5. @ Conter Sur Face Composite Surface Composite Date JAL, FIELD CODE 0.17700S ana Company Address: Sampler Signature: Project Manager: Company Name Telephone No: City/State/Zip: 7# Area #2 # 2 # Area #3 Of Area #4 Area # 1 #3 Arrea # 4 Special Instructions: Area Area Area Area Relinquished by: (lab use only) ORDER #: (vino esu dei) # 8A.

# Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Checklist		Client Initials
Yes	No	Client Initials
		1.0
		Not Present
		Mot Present
	No	
à Ses	No	
	-	ID written on Cont.(Lid)
Yes	No	Not Applicable
Yes	No	
	No	
⊁es	No	See Below
Xes	No	See Below
Yes	No	
Yes	No	
Yes	No	4
/Fes	No	See Below
₹ <b>e</b> s	No	See Below
Yes	No	Not Applicable
nentation	4	Date/ Time:
		î î
	Yes	Yes No

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event



## Analytical Report

## Prepared for:

Tony Savoie Southern Union Gas Services- Jal P.O. Box 1226 Jal, NM 88252

Project: A-14 6" Lateral SExNW Project Number: Leak Site #1 Location: Antelope Ridge

Lab Order Number: 6H22006

Report Date: 08/23/06

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Area #2 Surface Composite	6H22006-01	Soil	08/21/06 08:30	08-22-2006 10:16
Area #2 6" B.G.S@ Center	6H22006-02	Soil	08/21/06 08:32	08-22-2006 10:16
Area #2 6" B.G.S@ West End	6H22006-03	Soil	08/21/06 08:34	08-22-2006 10:16
Area #3 Surface Composite	6H22006-04	Soil	08/21/06 08:40	08-22-2006 10:16
Area #3 6" B.G.S@ Center	6H22006-05	Soil	08/21/06 08:42	08-22-2006 10:16

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

## Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Area #2 Surface Composite (6H2200	6-01) Soil					10-			
Carbon Ranges C6-C12	5490	100	mg/kg dry	10	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	38500	100					ii.		
Carbon Ranges C28-C35	3120	100	ii.				<b>9</b>		
Total Hydrocarbons	47100	100							
Surrogate: 1-Chlorooctane		22.8 %	70-1	30	"	"	"	,,	S-00
Surrogate: 1-Chlorooctadecane		18.6 %	70-1	30	. "	"	•	**	S-00
Area #2 6" B.G.S@ Center (6H2200	6-02) Soil								
Carbon Ranges C6-C12	221	10.0	mg/kg dry	1	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	916	10.0							
Carbon Ranges C28-C35	80.9	10.0	,	"	11				
Total Hydrocarbons	1220	10.0							
Surrogate: 1-Chlorooctane		129 %	70-1	30	"	"	"		
Surrogate: 1-Chlorooctadecane		125 %	70-1	30	"	,,	"	. "	
Area #2 6" B.G.S@ West End (6H22	2006-03) Soil					d			
Benzene	ND	0.0250	mg/kg dry	25	EH62213	08/22/06	08/22/06	EPA 8021B	
Toluene	ND	0.0250							
Ethylbenzene	ND	0.0250		n			*		
Xylene (p/m)	ND	0.0250							
Xylene (o)	ND	0.0250	ii,		u.		**		
Surrogate: a,a,a-Trifluorotoluene		92.0 %	80-1	20	"	"	"	. "	
Surrogate: 4-Bromofluorobenzene		112 %	80-1	20	"	u		*	*
Carbon Ranges C6-C12	J [6.66]	10.0	mg/kg dry	1	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	53.9	10.0					n	,	
Carbon Ranges C28-C35	11.5	10.0		n.			≥ 60	10	
Total Hydrocarbons	65.4	10.0					- e -	ii _	
Surrogate: 1-Chlorooctane		118 %	70-1	30	*	"		"	
Surrogate: 1-Chlorooctadecane		110%	70-1	30	"	"		"	

P.O. Box 1226 Jal NM, 88252

Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie

## Organics by GC **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
Area #3 Surface Composite (6H220	06-04) Soil								
Carbon Ranges C6-C12	6700	100	mg/kg dry	10	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	29900	100		н		•			
Carbon Ranges C28-C35	2690	100							
Total Hydrocarbons	39300	100							
Surrogate: 1-Chlorooctane		24.2 %	70-1	30	"	"		,,	S-06
Surrogate: 1-Chlorooctadecane		12.4 %	70-1	30		"	"	"	S-06
Area #3 6" B.G.S@ Center (6H2200	06-05) Soil								
Carbon Ranges C6-C12	279	10.0	mg/kg dry	1	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	1550	10.0		"					
Carbon Ranges C28-C35	142	10.0		0.					
Total Hydrocarbons	1970	10.0		. ,					
Surrogate: I-Chlorooctane		131 %	70-1	30	"	,,	"	"	S-04
Surrogate: I-Chlorooctadecane		138 %	70-1	30		"	**	"	S-04

Fax: 505-395-2326

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

## General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Area #2 Surface Composite	(6H22006-01) Soil								
% Moisture	11.6	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
Area #2 6" B.G.S@ Center	(6H22006-02) Soil								
% Moisture	11.2	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
Area #2 6" B.G.S@ West E	nd (6H22006-03) Soil								
% Moisture	14.2	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
Area #3 Surface Composite	(6H22006-04) Soil								
% Moisture	10.1	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
Area #3 6" B.G.S@ Center	(6H22006-05) Soil								
% Moisture	8.4	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

## Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Extraction	on (GC)				¥					
Blank (EH62203-BLK1)				Prepared	& Analyze	ed: 08/22/	06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0								
Carbon Ranges C28-C35	ND	10.0								
Total Hydrocarbons	ND	10.0								
Surrogate: 1-Chlorooctane	56.7		mg/kg	- 50.0		113	70-130			
Surrogate: 1-Chlorooctadecane	50.8		"	50.0		102	70-130			
LCS (EH62203-BS1)				Prepared	& Analyze	d: 08/22/	06			
Carbon Ranges C6-C12	493	10.0	mg/kg wet	500	23.5.111119 4.7	98.6	75-125			
Carbon Ranges C12-C28	448	10.0		500		89.6	75-125			
Carbon Ranges C28-C35	ND	10.0		0.00		1500	75-125			
Total Hydrocarbons	941	10.0		1000		94.1	75-125			
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	51.2		"	50.0		102	70-130			
Calibration Check (EH62203-CCV1)				Prepared .	& Analyze	d: 08/22/0	06			
Carbon Ranges C6-C12	202		mg/kg	250		80.8	80-120			
Carbon Ranges C12-C28	. 208		"	250		83.2	80-120			
Total Hydrocarbons	410			500		82.0	80-120			
Surrogate: 1-Chlorooctane	64.7		"	50.0		129	70-130	×		
Surrogate: I-Chlorooctadecane	64.6		"	50.0		129	70-130			
Matrix Spike (EH62203-MS1)	Sou	ırce: 6H220	05-04	Prepared a	& Analyze	d: 08/22/0	06			
Carbon Ranges C6-C12	634	10.0	mg/kg dry	543	16.0	114	75-125		-	
Carbon Ranges C12-C28	731	10.0		543	135	110	75-125			
Carbon Ranges C28-C35	19.0	10.0		0.00	19.9	0.00	75-125			
Total Hydrocarbons	1380	10.0		1090	171	111	75-125			
Surrogate: 1-Chlorooctane	65.8		mg/kg	50.0		132	70-130			S-
Surrogate: 1-Chlorooctadecane	60.4		"	50.0		121	70-130			3-

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie Fax: 505-395-2326

## Organics by GC - Quality Control Environmental Lab of Texas

Analyte		Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Ex	traction	(GC)			-1-						
Matrix Spike Dup (EH62203-M	SD1)	So	urce: 6H220	005-04	Prepared	& Analyze	ed: 08/22/	06			
Carbon Ranges C6-C12		653	10.0	mg/kg dry	543	16.0	117	75-125	2.95	20	
Carbon Ranges C12-C28		716	10.0		543	135	107	75-125	2.07	20	
Carbon Ranges C28-C35		18.1	10.0	n	0.00	19.9		75-125	4.85	20	
Total Hydrocarbons		1380	10.0		1090	171	111	75-125	0.00	20	
Surrogate: 1-Chlorooctane		68.7		mg/kg	50.0		137	70-130			S-0
Surrogate: 1-Chlorooctadecane		60.7		"	50.0		121	70-130			
Batch EH62213 - EPA 50300	C (GC)										
Blank (EH62213-BLK1)					Prepared	& Analyze	ed: 08/22/	06			
Benzene		ND	0.0250	mg/kg wet							
Toluene		ND	0.0250	ir							
Ethylbenzene		ND	0.0250								
Xylene (p/m)		ND	0.0250								
Xylene (o)		ND	0.0250								
Surrogate: a,a,a-Trifluorotoluene		37.1		ug/kg	40.0		92.8	80-120			
Surrogate: 4-Bromofluorobenzene		40.1		"	40.0		100	80-120			
LCS (EH62213-BS1)					Prepared	& Analyze	d: 08/22/	06			
Benzene		1.16	0.0250	mg/kg wet	1.25		92.8	80-120			
Toluene		1.30	0.0250		1.25		104	80-120			
Ethylbenzene		1.21	0.0250		1.25		96.8	80-120			
Xylene (p/m)		2.94	0.0250		2.50		118	80-120			
Xylene (o)		1.41	0.0250	ж.	1.25		113	80-120			
Surrogate: a,a,a-Trifluorotoluene		38.8		ug/kg	40.0		97.0	80-120			
Surrogate: 4-Bromofluorobenzene		47.1		"	40.0		118	80-120			

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1 Project Manager: Tony Savoie

## Organics by GC - Quality Control **Environmental Lab of Texas**

Prepared & Analyzed: 08/22/06	Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Senzene   So.8   ug/kg   So.0   102   80-120   Solution   Soluti	Batch EH62213 - EPA 5030C (GC)										
Servene   So.8   ug/kg   So.0   102   80-120   101	Calibration Check (EH62213-CCV1)				Prepared	& Analyze	ed: 08/22/	06	ō.		
Ethylbenzene 59.2 " 50.0 118 80-120    Xylene (p/m) 119 " 100 119 80-120    Xylene (o) 57.5 " 50.0 115 80-120    Surrogate: a,a,a-Trifluorotoluene 43.2 " 40.0 108 80-120    Surrogate: 4-Bromofluorobenzene 42.3 " 40.0 106 80-120    Matrix Spike (EH62213-MS1)	Benzene	50.8		ug/kg							
Sylene (p/m)	Toluene	56.2		*	50.0		112	80-120			
Sylene (o)   57.5   50.0   115   80-120	Ethylbenzene	59.2		9	50.0		118	80-120			
Surrogate: a,a,a-Trifluorotoluene 43.2 " 40.0 108 80-120 Surrogate: 4-Bromofluorobenzene 42.3 " 40.0 106 80-120 Surrogate: 4-Bromofluorobenzene 42.3 " 40.0 106 80-120 Surrogate: 4-Bromofluorobenzene 1.27 0.0250 mg/kg dry 1.37 ND 92.7 80-120 Surpogate: 4-Bromofluorobenzene 1.47 0.0250 " 1.37 ND 107 80-120 Surpogate: a,a,a-Trifluorotoluene 43.9 ug/kg 40.0 110 80-120 Surrogate: 4-Bromofluorobenzene 43.9 " 40.0 110 80-120 Surrogate: 4-Bromofluorobenze	Xylene (p/m)	119			100		119	80-120			
Matrix Spike (EH62213-MS1)   Source: 6H22010-01   Prepared & Analyzed: 08/22/06	Xylene (o)	57.5			50.0		115	80-120			
Source: 6H22010-01   Prepared & Analyzed: 08/22/06   Senzene   1.27   0.0250   mg/kg dry   1.37   ND   92.7   80-120   Solutione   1.47   0.0250   "   1.37   ND   107   80-120   Solutione   1.40   0.0250   "   1.37   ND   102   80-120   Solutione   1.40   0.0250   "   1.37   ND   118   80-120   Solutione   1.55   0.0250   "   1.37   ND   118   80-120   Solutione   1.55   0.0250   "   1.37   ND   113   80-120   Solutione   43.9   ug/kg   40.0   110   80-120   Solutione   43.9   wg/kg   40.0   110   80-120   Solutione   43.9   wg/kg   40.0   110   80-120   Solutione   43.9   wg/kg dry   1.37   ND   94.2   80-120   1.61   20   Solutione   1.45   0.0250   "   1.37   ND   106   80-120   0.939   20   Solutione   1.45   0.0250   "   1.37   ND   106   80-120   3.85   20   Solutione   1.45   0.0250   "   1.37   ND   106   80-120   3.85   20   Solutione   1.46   0.0250   "   1.37   ND   118   80-120   0.000   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.37   ND   107   80-120   5.45   20   Solutione   1.46   0.0250   "   1.47   ND   108   Solutione	Surrogate: a,a,a-Trifluorotoluene	43.2	5	"	40.0		108	80-120			
Senzene   1.27   0.0250   mg/kg dry   1.37   ND   92.7   80-120	Surrogate: 4-Bromofluorobenzene	42.3			40.0		106	80-120			
Serice   1.27   0.0250   mg/kg dry   1.37   ND   92.7   80-120	Matrix Spike (EH62213-MS1)	So	urce: 6H220	010-01	Prepared	& Analyze	d: 08/22/	06			
Toluene	Benzene	1.27	0.0250	mg/kg dry				-			
Xylene (p/m)   3.24   0.0250   2.74   ND   118   80-120	Toluene	1.47			1.37	ND	107	80-120			
Xylene (o)   1.55   0.0250   1.37   ND   113   80-120   80-120     80-120   80-12	Ethylbenzene	1.40	0.0250		1.37	ND	102	80-120			
Surrogate: a,a,a-Trifluorotoluene 43.9 ug/kg 40.0 110 80-120 Surrogate: 4-Bromofluorobenzene 43.9 " 40.0 110 80-120  Matrix Spike Dup (EH62213-MSD1) Source: 6H22010-01 Prepared & Analyzed: 08/22/06  Benzene 1.29 0.0250 mg/kg dry 1.37 ND 94.2 80-120 1.61 20  Foluene 1.45 0.0250 " 1.37 ND 106 80-120 0.939 20  Ethylbenzene 1.45 0.0250 " 1.37 ND 106 80-120 3.85 20  Kylene (p/m) 3.24 0.0250 " 2.74 ND 118 80-120 0.00 20  Kylene (o) 1.46 0.0250 " 1.37 ND 107 80-120 5.45 20  Surrogate: a,a,a-Trifluorotoluene 38.0 ug/kg 40.0 95.0 80-120	Xylene (p/m)	3.24	0.0250	96	2.74	ND	118	80-120			
Matrix Spike Dup (EH62213-MSD1)   Source: 6H22010-01   Prepared & Analyzed: 08/22/06	Xylene (o)	1.55	0.0250		1.37	ND	113	80-120			
Matrix Spike Dup (EH62213-MSD1)         Source: 6H22010-01         Prepared & Analyzed: 08/22/06           Benzene         1.29         0.0250 mg/kg dry         1.37 ND         94.2 80-120 1.61 20           Foluene         1.45 0.0250 " 1.37 ND 106 80-120 0.939 20           Ethylbenzene         1.45 0.0250 " 1.37 ND 106 80-120 3.85 20           Kylene (p/m)         3.24 0.0250 " 2.74 ND 118 80-120 0.00 20           Kylene (o)         1.46 0.0250 " 1.37 ND 107 80-120 5.45 20           Surrogate: a,a,a-Trifluorotoluene         38.0 ug/kg 40.0 95.0 80-120	Surrogate: a,a,a-Trifluorotoluene	43.9		ug/kg	40.0		110	80-120	-		
Serzene   1.29   0.0250 mg/kg dry   1.37 ND   94.2   80-120   1.61   20	Surrogate: 4-Bromofluorobenzene	43.9		"	40.0		110	80-120			
Toluene	Matrix Spike Dup (EH62213-MSD1)	So	urce: 6H220	010-01	Prepared	& Analyze	d: 08/22/0	06			
Ethylbenzene 1.45 0.0250 " 1.37 ND 106 80-120 3.85 20 Xylene (p/m) 3.24 0.0250 " 2.74 ND 118 80-120 0.00 20 Xylene (o) 1.46 0.0250 " 1.37 ND 107 80-120 5.45 20 Surrogate: a,a,a-Trifluorotoluene 38.0 ug/kg 40.0 95.0 80-120	Benzene	1.29	0.0250	mg/kg dry					1.61	20	
Ethylbenzene       1.45       0.0250       "       1.37       ND       106       80-120       3.85       20         Kylene (p/m)       3.24       0.0250       "       2.74       ND       118       80-120       0.00       20         Kylene (o)       1.46       0.0250       "       1.37       ND       107       80-120       5.45       20         Surrogate: a,a,a-Trifluorotoluene       38.0       ug/kg       40.0       95.0       80-120	Toluene	1.45	0.0250		1.37	ND	106	80-120	0.939	20	
Xylene (o)         1.46         0.0250         "         1.37         ND         107         80-120         5.45         20           Surrogate: a,a,a-Trifluorotoluene         38.0         ug/kg         40.0         95.0         80-120	Ethylbenzene	1.45	0.0250		1.37	ND	106	80-120	3.85		
Xylene (o)         1.46         0.0250         "         1.37         ND         107         80-120         5.45         20           Surrogate: a,a,a-Trifluorotoluene         38.0         ug/kg         40.0         95.0         80-120	Xylene (p/m)	3.24	0.0250		2.74	ND	118	80-120	0.00	20	
	Xylene (o)	1.46	0.0250		1.37	ND	107		10000	0.77	
	Surrogate: a,a,a-Trifluorotoluene	38.0		ug/kg	40.0		95.0	80-120	ANGE	7.0	
	Surrogate: 4-Bromofluorobenzene	46.5		"	40.0		116	80-120			

Fax: 505-395-2326

P.O. Box 1226

Jal NM, 88252

Project: A-14 6" Lateral SExNW

Project Number: Leak Site #1

Fax: 505-395-2326

Project Manager: Tony Savoie

## General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62307 - General Prepar	ation (Prep)							- 2.7		
Blank (EH62307-BLK1)				Prepared:	08/22/06	Analyzed	1: 08/23/06			
% Solids	100		%							
Duplicate (EH62307-DUP1)	Sou	urce: 6H2200	14-01	Prepared:	08/22/06	Analyzed	: 08/23/06			
% Solids	91.8	1.00	%		92.0	7	1 -11-48/88	0.218	20	-

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Fax: 505-395-2326

Project Number: Leak Site #1 Project Manager: Tony Savoie

Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or

matrix interference's.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

Ralandkjul

Date: 8-24-06

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director

Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

# Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East

Lateral SEXNW □ NPDES RUSH TAT (Pie-Schodule) 24, 48, 72 hrs X Project Loc: Ande Lope Ridge Phone: 432-563-1800 Fax: 432-563-1713 TRRP Leak Site # 1 M.A.O.M. Custody seals on container Custody seals on cooler(s) Sample Containers Intact? VOCs Free of Headspace ہ Analyze For BTEX 80218/5030 or BTEX 8260 selitelovimes N Standard ナーナ Metals: As Ag Ba Cd Cr Pb Hg Se TCLP: TOTAL: SAR / ESP / CEC Project #: Project Name: PO# Jujous (Cl. SO4, CO3, HCO3) Report Format: Cations (Ca, Mg, Na, K) 7 7 7 9001 8015M 1005 1.814 :H9T 1 200 8 34 U S 5 3 Other (Specify) euoN Odessa, Texas 79765 Na2S2O3 HOPN \*OSZH HCI CONH 901 No. of Containers Fax No: e-mail: 0848 0880 6922 840 0689 1680 0820 08 40 5832 Time Sampled Southern Union 6as Services 8/21/06 Received by: : = = = Date Sampled = : = \$8252 505-631-9376 ی Ending Depth Company Address: (AID Commerce . Beginning Depth 1 DAY JAVOIR N.M. 6" B.6.3. @ Center 6" (26,50 Center " B. 6. S. @ Wast End Sur Face Composite Sur Face Composite " (2 6.3. @ Center Sur Face Composite 6" B.6.5. @ Conter Surface Composite JAL, FIELD CODE Sampler Signature: Project Manager: Company Name Telephone No: City/State/Zip: 42 #3 Area #2 12 Area #3 Area 44 Ama # 4 # # Special Instructions: Area Brea Area Area (lab use only) ORDER #: (Vino esu dsi)# 8A.

TAT bisbrist

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Temperature Upon Receipt:

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James

Received by ELOT:

Time

Date

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Received by:

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8/22/03

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402 glass

by Sampler/Client Rep. ? by Couner? UPS

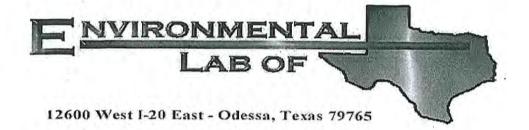
Date

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## Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Date/ Time: 8/22/00 (0.15			* *
	7/		
ab ID#: (0H2200G			0
nitials:			
Sample Rec	eipt Checklist		Client Initial
1 Temperature of container/ cooler?	Yes	No	1.0 °C
2 Shipping container in good condition?	Yes	No	
3 Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
4 Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
5 Chain of Custody present?	₹®s	No	
6 Sample instructions complete of Chain of Custody?	Yes	No	
7 Chain of Custody signed when relinquished/ received?		No	
8 Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont.(Lid)
9 Container label(s) legible and intact?	Yes	No	Not Applicable
10 Sample matrix/ properties agree with Chain of Custod		No	
11 Containers supplied by ELOT?	Xes	No	
12 Samples in proper container/ bottle?	⊁es	No	See Below
13 Samples properly preserved?	⊁es	No	See Below
14 Sample bottles intact?	Yes	No	
15 Preservations documented on Chain of Custody?	Yes	No	
16 Containers documented on Chain of Custody?	Yes	No	
17 Sufficient sample amount for indicated test(s)?	(Fes	No	See Below
18 All samples received within sufficient hold time?	à des	No	See Below
19 VOC samples have zero headspace?	Yes	No	Not Applicable
Contact: Contacted by:	ocumentation		Date/ Time:
Regarding:			
Corrective Action Taken:	a.		we we
Check all that Apply: See attached e-mail/ fa		+	

Cooling process had begun shortly after sampling event



# Analytical Report

## Prepared for:

Tony Savoie Southern Union Gas Services- Jal P.O. Box 1226 Jal, NM 88252

Project: A-14 6" Lateral SExNW Project Number: Leak Site #2 Location: Antelope Ridge

Lab Order Number: 6H22007

Report Date: 08/23/06

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie Fax: 505-395-2326

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Surface Composite	6H22007-01	Soil	08/21/06 10:02	08-22-2006 10:15
6" B.G.S@ Center	6H22007-02	Soil	08/21/06 10:04	08-22-2006 10:15

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie Fax: 505-395-2326

## Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit		Dilution	Batch	Prepared	Analyzed	Method	Note
Surface Composite (6H22007-01) Soi	1								
Carbon Ranges C6-C12	7920	1000	mg/kg dry	100	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	69400	1000							1
Carbon Ranges C28-C35	8440	1000						0	
Total Hydrocarbons	85800	1000			)ri		14		
Surrogate: 1-Chlorooctane		%	70-1	30	,,		*	"	S-06
Surrogate: 1-Chlorooctadecane		2.90 %	70-1	30	"	"	"	"	S-00
6" B.G.S@ Center (6H22007-02) Soil									
Benzene	14.5	0.200	mg/kg dry	200	EH62213	08/22/06	08/23/06	EPA 8021B	
Toluene	56.4	0.200							
Ethylbenzene	29.5	0.200							
Xylene (p/m)	58.1	0.200			0.00				
Xylene (o)	28.9	0.200		*		9.1		Ŭ.	
Surrogate: a,a,a-Trifluorotoluene		958 %	80-1	20		"	"	w	S-04
Surrogate: 4-Bromofluorobenzene		174 %	80-1	20			"	ü	S-04
Carbon Ranges C6-C12	3290	100	mg/kg dry	10	EH62203	08/22/06	08/22/06	EPA 8015M	
Carbon Ranges C12-C28	5600	100	ø						
Carbon Ranges C28-C35	498	100		- 18					
Total Hydrocarbons	9390	100						n .	
Surrogate: 1-Chlorooctane		17.7 %	70-1	30	"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		18.4 %	70-1	30	"	"	n	*	S-06

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie Fax: 505-395-2326

## General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surface Composite (6H22007-01) Soil	8								
% Moisture	13.3	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	
6" B.G.S@ Center (6H22007-02) Soil									
% Moisture	16.2	0.1	%	1	EH62307	08/22/06	08/23/06	% calculation	

P.O. Box 1226 Jal NM, 88252

Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie Fax: 505-395-2326

## Organics by GC - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Extraction	(GC)									
Blank (EH62203-BLK1)				Prepared	& Analyzo	ed: 08/22/	06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet	31119						
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0								
Total Hydrocarbons	ND	10.0	H							
Surrogate: 1-Chlorooctane	56.7		mg/kg	50.0		113	70-130			
Surrogate: 1-Chlorooctadecane	50.8		"	50.0		102	70-130			
LCS (EH62203-BS1)				Prepared	& Analyzo	ed: 08/22/	06			
Carbon Ranges C6-C12	493	10.0	mg/kg wet	500	-	98.6	75-125			
Carbon Ranges C12-C28	448	10.0		500		89.6	75-125			
Carbon Ranges C28-C35	ND	10.0	.0	0.00			75-125			
Total Hydrocarbons	941	10.0		1000		94.1	75-125			
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	51.2		#	50.0		102	70-130			
Calibration Check (EH62203-CCV1)				Prepared	& Analyze	ed: 08/22/0	06			
Carbon Ranges C6-C12	202		mg/kg	250		80.8	80-120			
Carbon Ranges C12-C28	208			250		83.2	80-120			
Total Hydrocarbons	410			500		82.0	80-120			
Surrogate: 1-Chlorooctane	64.7		"	50.0		129	70-130	-		
Surrogate: 1-Chlorooctadecane	64.6		"	50.0		129	70-130			
Matrix Spike (EH62203-MS1)	So	urce: 6H220	005-04	Prepared	& Analyze	ed: 08/22/0	06			
Carbon Ranges C6-C12	634	10.0	mg/kg dry	543	16.0	114	75-125			
Carbon Ranges C12-C28	731	10.0		543	135	110	75-125			
Carbon Ranges C28-C35	19.0	10.0	9"	0.00	19.9		75-125			
Total Hydrocarbons	1380	10.0		1090	171	111	75-125			
Surrogate: 1-Chlorooctane	65.8		mg/kg	50.0		132	70-130			S-
Surrogate: 1-Chlorooctadecane	60.4		"	50.0		121	70-130			

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie

## Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62203 - Solvent Extraction (	GC)									
Matrix Spike Dup (EH62203-MSD1)	So	urce: 6H220	005-04	Prepared	& Analyze	d: 08/22/	06			
Carbon Ranges C6-C12	653	10.0	mg/kg dry	543	16.0	117	75-125	2.95	20	~
Carbon Ranges C12-C28	716	10.0		543	135	107	75-125	2.07	20	
Carbon Ranges C28-C35	18.1	10.0	н	0.00	19.9		75-125	4.85	20	
Total Hydrocarbons	1380	10.0		1090	171	111	75-125	0.00	20 -	
Surrogate: 1-Chlorooctane	68.7		mg/kg	50.0		137	70-130	77.07.17	0.0	S-0
Surrogate: 1-Chlorooctadecane	60.7		"	50.0		121	70-130			
Batch EH62213 - EPA 5030C (GC)										
Blank (EH62213-BLK1)				Prepared	& Analyze	d: 08/22/	06			
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250								
Ethylbenzene	ND :	0.0250								
Xylene (p/m)	ND	0.0250								
Xylene (o)	ND	0.0250								
Surrogate: a,a,a-Trifluorotoluene	37.1		ug/kg	40.0		92.8	80-120			
Surrogate: 4-Bromòfluorobenzene	40.1		"	40.0		100	80-120			
LCS (EH62213-BS1)				Prepared a	& Analyze	d: 08/22/0	06			
Benzene	1.16	0.0250	mg/kg wet	1.25		92.8	80-120			
Toluene	1.30	0.0250	"	1.25		104	80-120			
Ethylbenzene	1.21	0.0250	0	1.25		96.8	80-120			
Xylene (p/m)	2.94	0.0250		2.50		118	80-120			
Xylene (o)	1.41	0.0250	н	1.25		113	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.8		ug/kg	40.0		97.0	80-120			
Surrogate: 4-Bromofluorobenzene	47.1		"	40.0		118	80-120			

Fax: 505-395-2326

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2 Project Manager: Tony Savoie

## Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit		Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62213 - EPA 5030C (GC)		3.6								
Calibration Check (EH62213-CCV1)				Prepared	& Analyzo	ed: 08/22/	06			
Benzene	50.8		ug/kg	50.0	-	102	80-120			
Toluene	56,2		10	50.0		112	80-120			
Ethylbenzene	59.2			50.0		118	80-120			
Xylene (p/m)	119			100		119	80-120			
Xylene (o)	57.5			50.0		115	80-120			
Surrogate: a,a,a-Trifluorotoluene	43.2		"	40.0		108	80-120			_
Surrogate: 4-Bromofluorobenzene	42.3		"	40.0		106	80-120			
Matrix Spike (EH62213-MS1)	So	urce: 6H220	10-01	Prepared	& Analyze	d: 08/22/0	06			
Benzene	1.27	0.0250	mg/kg dry	1.37	ND	92.7	80-120			
Toluene	1.47	0.0250		1.37	ND	107	80-120			
Ethylbenzene	1.40	0.0250		1.37	ND	102	80-120			
Xylene (p/m)	3.24	0.0250		2.74	ND	118	80-120			
Xylene (o)	1.55	0.0250		1.37	ND	113	80-120			
Surrogate: a,a,a-Trifluorotoluene	43.9		ug/kg	40.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	43.9		"	40.0		110	80-120			2
Matrix Spike Dup (EH62213-MSD1)	Son	ırce: 6H220	10-01	Prepared a	& Analyze	d: 08/22/0	06			
Benzene	1.29	0.0250	mg/kg dry	1.37	ND	94.2	80-120	1.61	20	
Toluene	1.45	0.0250	,	1.37	ND -	106	80-120	0.939	20	
Ethylbenzene	1.45	0.0250	9.	1.37	ND	106	80-120	3.85	20	
Xylene (p/m)	3.24	0.0250		2.74	ND	118	80-120	0.00	20	
Xylene (o)	1.46	0.0250		1.37	ND	107	80-120	5.45	20	
Surrogate: a,a,a-Trifluorotoluene	38.0		ug/kg	40.0		95.0	80-120	103.0		
Surrogate: 4-Bromofluorobenzene	46.5		"	40.0		116	80-120			

Fax: 505-395-2326

P.O. Box 1226 Jal NM, 88252 Project: A-14 6" Lateral SExNW

Project Number: Leak Site #2

Fax: 505-395-2326

Project Manager: Tony Savoie

## General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH62307 - General Prepar	ration (Prep)									
Blank (EH62307-BLK1)				Prepared:	08/22/06	Analyzed	: 08/23/06			
% Solids	100	:	%	111111						
Duplicate (EH62307-DUP1)	So	urce: 6H2200	4-01	Prepared:	08/22/06	Analyzed	: 08/23/06			
% Solids	91.8	NT-DOLL	%		92.0			0.218	20	

P.O. Box 1226

Jal NM, 88252

Project: A-14 6" Lateral SExNW

Fax: 505-395-2326

Project Number: Leak Site #2 Project Manager: Tony Savoie

## Notes and Definitions

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

Duplicate

MS Matrix Spike

Dup

Report Approved By: Roland K. Julia Date: 87-24-06

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director

Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist

Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

# **Environmental Lab of Texas**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

Phone: 432-563-1800 Fax: 432-563-1713

SEXNE	2	Ridge	7	NPDES		F	end ST	. '87	,AS (elubedos-chedule) 24, TAT bisbnist	7	7				_ z	: z (	& KD≥ >- >- (6	FedEx Lone Star	ů
Project Name: A-14 6" La Lave L SEX	Project# Lak Sile #	Project Loc: ANTE LODE R	PO#:	ormat: Standard TRRP		Analyze For:	TCLP: TOTAL:	B	TPH: 418.1 (O15M) 1005 1005 Cations (Ca, Mg, Na, K) Anions (Cl, SO4, CO3, HCO3) SAR / ESP / CEC Metals: As Ag Ba Cd Cr Pb Hg S Semivolatiles BTEX 60218/5030 or BTEX 826/ RCI RCI N.O.R.M.	7	7				Laboratory Comments: Sample Containers Infact?		United Custody seals on container(s) Custody seals on cooler(s) Sample Hand Delivered	p. ? DHL	Time 466 of a Second 160 (60)
Proj		<u>.</u>		Report Format:				ers Matrix	None Other (Specify) OW=Mon-Potable S=SolvSolid OW=Mon-Potable Specify Other	S	S					-	Date	Date	Date   Time
								Preservation & # of Containers	N92S202 N90H H2SO4 HCI HNO2 H002	2	7								
	Services		52	Fax No:	e-mail:				Time Sampled	10102 (	10:04								(10) -IL
	100		885	0	03				Date Sampled	8/21/06	11					Donnier Line	Received by:	Received by:	Received by ELOT.
Die	Nion	Commerce	N.M.	9376	Som				Beginning Depth	٥" ("	.º.			+		J.	2	Time	Time
DAY Savoie	Southern Union Gas	610 Com	Jal, A.	63	1 pm S	5	)			Composite	20					dec	8/24/00	Date	Date
Project Manager:	Company Name	Company Address:	City/State/Zip:	Telephone No: 505	Sampler Signature:		(lab use only) アルトイタチがド	** イブラー	FIELD CODE	Sur Face Comp	0		(		Special Instructions:	in his	y Delin	.kogs	ed by:
	Š	9	J		3,	Sales and Charles	(lab use only)	ORDER	(Vino ezu dal) # 8A.1	8	200	A STANCES		The second	Special In	Relinenished hy	0	Relinquishe	Relinquished by:

# Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

Client: SUGS			
Date/ Time: 8/22/00 10:15			
ab ID#: (cH22007			
- Colle			
nitials:			
Sample Receipt	Chacklist		
oumple recorpt	Oncomise		Client Initials
1 Temperature of container/ cooler?	Yes	No	1,0 °C
2 Shipping container in good condition?	Yes	No	
3 Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
4 Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
5 Chain of Custody present?	à€s	No	
6 Sample instructions complete of Chain of Custody?	Yes	No	
7 Chain of Custody signed when relinquished/ received?	à es	No	
8 Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./Lid
9 Container label(s) legible and intact?	Yes	No	Not Applicable
10 Sample matrix/ properties agree with Chain of Custody?	Yes	No	
11 Containers supplied by ELOT?	Xes	No	E H
12 Samples in proper container/ bottle?	χes	No	See Below
13 Samples properly preserved?	¥eş	No	See Below
14 Sample bottles intact?	Yes	No	
15 Preservations documented on Chain of Custody?	Yes	No	
16 Containers documented on Chain of Custody?	Yes	No	
17 Sufficient sample amount for indicated test(s)?	XFes .	No	See Below
418 All samples received within sufficient hold time?	des.	No	See Below
19 VOC samples have zero headspace?	Yes	No	Not Applicable
Contact: Contacted by:	mentation	-	Date/ Time:
Corrective Action Taken:			i s
Check all that Apply:  See attached e-mail/ fax  Client understands and wou  Cooling process had begun	of the state of the state of the state of		

# A-14 6" Lateral Job #2006-038

Date Collected	Location	C6-C12	C12-C28	C28-C35	C6-C35	Chloride	Benzene Toluene	Toluene	Ethylbenzene	p/m-Xylene	o-Xivene
		mg/kg	mg/kg		mg/kg	mg/kg mg/kg mg/kg mg/kg	mg/kg	mg/kg	mg/kg mg/kg mg/kg	mg/kg	mg/kg
8/21/2006	Area #1 Surface Comp.	7560	24600	2510	34700						
8/21/2006	Area #1 6" B.G.S. @ center	40.2	257	25.7	323						
8/21/2006	Area #2 Surface Comp.	5490	38500	3120	47100						
8/21/2006	Area #2 6" B.G.S. @ center	221	916	80.9	1220						
8/21/2006	Area #2 6" B.G.S. @ west end	J(6.66)	53.9	11.5	65.4		CN	CN	S	CN	CIN
8/21/2006	Area #3 Surface Comp.	6700	29900	2690	39300		2	2	2	2	ON .
8/21/2006	Area #3 6" B.G.S. @ center	279	1550	142	1970						
8/21/2006	Area #4 Surface Comp.	6020	33300	2940	42300						
8/21/2006	Area #4 6" B.G.S. @ center	16.0	135	19.9	171		CN	CN	CN	CN	CN

## **Analytical Report 464284**

## for

## **Southern Union Gas Services- Monahans**

Project Manager: Camille Bryant
SUGS Historical A-14 6 Inch Line 1RP-1116

04-JUN-13

Collected By: Client





## 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757) Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)





04-JUN-13

Project Manager: Camille Bryant

**Southern Union Gas Services- Monahans** 

801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 464284

**SUGS Historical A-14 6 Inch Line 1RP-1116**Project Address: Lea County, New Mexico

## **Camille Bryant**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464284. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464284 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Kelsey Brooks** 

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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## **Sample Cross Reference 464284**



## Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical A-14 6 Inch Line 1RP-1116

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
RP Floor @ 11'	S	05-31-13 11:30		464284-001
RP East S/W @ 10'	S	05-31-13 12:00		464284-002
RP West S/W @ 10'	S	05-31-13 12:30		464284-003



## **CASE NARRATIVE**



Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Project ID: Work Order Number(s):	464284	Report Date: Date Received:	

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



## **Certificate of Analysis Summary 464284**

## Southern Union Gas Services- Monahans, Monahans, TX



TNI

**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

**Date Received in Lab:** Mon Jun-03-13 11:25 am

**Report Date:** 04-JUN-13

Project Manager: Kelsey Brooks

, , ,							Troject Manager.	Reisey Diooks	
Lab Id:	464284-0	001	464284-0	02	464284-0	003			
Field Id:	RP Floor @	@ 11'	RP East S/W	@ 10'	RP West S/W	@ 10'			
Depth:									
Matrix:	SOIL		SOIL		SOIL				
Sampled:	May-31-13	11:30	May-31-13 1	12:00	May-31-13	12:30			
Extracted:	** ** **	**	** ** ** 1	kajk	** ** **	**			
Analyzed:	Jun-03-13	15:15	Jun-03-13 1	5:32	Jun-03-13	15:48			
Units/RL:	mg/kg	RL	mg/kg	RL		RL			
		0.00111			ND	0.00103			
	ND	0.00223	ND	0.00213	ND	0.00206			
	ND	0.00111	ND	0.00106	ND	0.00103			
	ND	0.00223	ND	0.00213	ND	0.00206			
	ND	0.00111			ND	0.00103			
	ND	0.00111	ND	0.00106	ND	0.00103			
	ND	0.00111	ND	0.00106	ND	0.00103			
Extracted:	Jun-03-13	12:00	Jun-03-13 1	2:00	Jun-03-13	12:00			
Analyzed:	Jun-04-13 (	01:12	Jun-04-13 0	2:17	Jun-04-13	02:39			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
	492	10.0	25.5	2.00	8.01	2.00			
Extracted:									
Analyzed:	Jun-03-13	13:05	Jun-03-13 1	3:05	Jun-03-13	13:05			
Units/RL:	%	RL	%	RL	%	RL			
	10.3	1.00	6.27	1.00	3.38	1.00			
Extracted:	Jun-03-13	16:00	Jun-03-13 1	6:00	Jun-03-13	16:00			
Analyzed:	Jun-04-13 (	05:22	Jun-04-13 0	5:48	Jun-04-13	06:14			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
	ND	15.0	ND	14.9	ND	15.0			
	ND	15.0	ND	14.9	ND	15.0			
	ND	15.0	ND	14.9	ND	15.0			
	ND	15.0	ND	14.9	ND	15.0			
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Analyzed: Analyzed:	Field Id:         RP Floor @           Depth:         Matrix:         SOIL           Sampled:         May-31-13           Extracted:         ** ** ** **           Analyzed:         Jun-03-13           Units/RL:         MD           ND         ND           ND         ND           ND         ND           Extracted:         Jun-03-13           Units/RL:         mg/kg           Extracted:         Analyzed:         Jun-03-13           Units/RL:         %           Extracted:         Jun-03-13           Analyzed:         Jun-04-13           Units/RL:         mg/kg           ND         ND	Field Id:         RP Floor @ 11'           Depth:         Matrix:         SOIL           Sampled:         May-31-13 11:30           Extracted:         ** ** ** ** **           Analyzed:         Jun-03-13 15:15           Units/RL:         mg/kg         RL           ND 0.00111         ND 0.00223           ND 0.00111         ND 0.00111           ND 0.00111         ND 0.00111           Extracted:         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12           Units/RL:         mg/kg         RL           492 10.0           Extracted:         Analyzed:         Jun-03-13 13:05           Units/RL:         %         RL           10.3 1.00         Extracted:         Jun-04-13 05:22           Units/RL:         mg/kg         RL           ND 15.0         ND 15.0	Field Id:         RP Floor @ 11'         RP East S/W           Depth:         Matrix:         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 11:30           Extracted:         ** ** ** ** **         ** ** ** ** **           Analyzed:         Jun-03-13 15:15         Jun-03-13 1           Units/RL:         mg/kg         RL         mg/kg           ND         0.00111         ND           ND         0.00223         ND           ND         0.00111         ND           ND         0.00111         ND           ND         0.00111         ND           ND         0.00111         ND           Extracted:         Jun-03-13 12:00         Jun-03-13 1           Analyzed:         Jun-04-13 01:12         Jun-04-13 0           Extracted:         Analyzed:         Jun-03-13 13:05         Jun-03-13 1           Units/RL:         %         RL         %           Extracted:         Jun-03-13 16:00         Jun-03-13 1         Jun-04-13 0           Extracted:         Jun-04-13 05:22         Jun-04-13 0         O           Extracted:         Jun-04-13 05:22         Jun-04-13 0         ND           ND <td>Field Id:         RP Floor @ 11'         RP East S/W @ 10'           Depth:         Matrix:         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00           Extracted:         ** ** ** ** **         ** ** ** **           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106           ND         0.00223         ND         0.00213           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL           Analyzed:         Jun-03-13 13:05         Jun-03-13 13:05         Jun-03-13 16:00           Extracted:         Jun-03-13 16:00         Jun-03-13 16:00         Jun-03-1</td> <td>Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13           Extracted:         ** ** ** ** **         ** ** ** **         ** ** ** **           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg           ND         0.00111         ND         0.00106         ND           ND         0.00223         ND         0.00213         ND           ND         0.00111         ND         0.00106         ND           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13         Jun-03-13           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg           Extracted:         Analyzed:         Jun-03-13 13:05</td> <td>Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         ********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00223         ND         0.00213         ND         0.00206           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         Jun-04-13 02:39           Extracted:<!--</td--><td>Lab Id:         464284-001         464284-002         464284-003         RP West S/W @ 10'           Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00223         ND         0.00213         ND         0.00226           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00</td><td>Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00212         ND         0.00213         ND         0.00206           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         Jun-04-13 02:39     </td></td>	Field Id:         RP Floor @ 11'         RP East S/W @ 10'           Depth:         Matrix:         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00           Extracted:         ** ** ** ** **         ** ** ** **           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106           ND         0.00223         ND         0.00213           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           ND         0.00111         ND         0.00106           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL           Analyzed:         Jun-03-13 13:05         Jun-03-13 13:05         Jun-03-13 16:00           Extracted:         Jun-03-13 16:00         Jun-03-13 16:00         Jun-03-1	Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13           Extracted:         ** ** ** ** **         ** ** ** **         ** ** ** **           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg           ND         0.00111         ND         0.00106         ND           ND         0.00223         ND         0.00213         ND           ND         0.00111         ND         0.00106         ND           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13         Jun-03-13           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg           Extracted:         Analyzed:         Jun-03-13 13:05	Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         ********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00223         ND         0.00213         ND         0.00206           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         Jun-04-13 02:39           Extracted: </td <td>Lab Id:         464284-001         464284-002         464284-003         RP West S/W @ 10'           Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00223         ND         0.00213         ND         0.00226           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00</td> <td>Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00212         ND         0.00213         ND         0.00206           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         Jun-04-13 02:39     </td>	Lab Id:         464284-001         464284-002         464284-003         RP West S/W @ 10'           Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00223         ND         0.00213         ND         0.00226           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00	Field Id:         RP Floor @ 11'         RP East S/W @ 10'         RP West S/W @ 10'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         May-31-13 11:30         May-31-13 12:00         May-31-13 12:30           Extracted:         *********         *********         *********           Analyzed:         Jun-03-13 15:15         Jun-03-13 15:32         Jun-03-13 15:48           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00111         ND         0.00106         ND         0.00103           ND         0.00212         ND         0.00213         ND         0.00206           ND         0.00111         ND         0.00106         ND         0.00103           Extracted:         Jun-03-13 12:00         Jun-03-13 12:00         Jun-03-13 12:00           Analyzed:         Jun-04-13 01:12         Jun-04-13 02:17         Jun-04-13 02:39

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



## **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave. Phoenix, AZ 85040	(602) 437-0330	

<sup>\*</sup> Surrogate recovered outside laboratory control limit.



## Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

 Work Orders:
 464284,
 Project ID:

 Lab Batch #:
 915314
 Sample:
 464284-001 / SMP
 Batch:
 1
 Matrix:
 Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/03/13 15:15 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** %R [A] [B] %R [D] **Analytes** 1,4-Difluorobenzene 0.0263 0.0300 88 80-120 0.0300 4-Bromofluorobenzene 0.0284 95 80-120

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/03/13 15:32 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0326 0.0300 109 80-120 4-Bromofluorobenzene 0.0327 0.0300 109 80-120

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/03/13 15:48	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 05:22	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	103	100	103	70-135			
o-Terphenyl	57.6	50.0	115	70-135			

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 05:48	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	102	99.6	102	70-135		
o-Terphenyl	56.7	49.8	114	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



o-Terphenyl

## Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

49.9

116

70-135

 Work Orders: 464284,
 Project ID:

 Lab Batch #: 915289
 Sample: 464284-003 / SMP
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/04/13 06:14 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** %R [A] [B] %R [D] **Analytes** 1-Chlorooctane 105 99.8 105 70-135

57.8

Lab Batch #: 915314 Sample: 639110-1-BLK / BLK Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/03/13 14:59 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0300 0.0300 100 80-120 4-Bromofluorobenzene 0.0277 0.0300 92 80-120

Lab Batch #: 915289 Sample: 639104-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 04:57	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1-Chlorooctane	111	99.8	111	70-135			
o-Terphenyl	62.7	49.9	126	70-135			

Lab Batch #: 915314 Sample: 639110-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/03/13 14:10	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0297	0.0300	99	80-120			
4-Bromofluorobenzene	0.0306	0.0300	102	80-120			

Lab Batch #: 915289 Sample: 639104-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 04:07	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	106	100	106	70-135		
o-Terphenyl	64.7	50.1	129	70-135		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464284,

Lab Batch #: 915314

Sample: 639110-1-BSD / BSD

Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/03/13 14:26	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
Analytes			[12]			
1,4-Difluorobenzene	0.0259	0.0300	86	80-120		
4-Bromofluorobenzene	0.0271	0.0300	90	80-120		

Lab Batch #: 915289 Sample: 639104-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 04:32	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
Analytes			. ,			
1-Chlorooctane	111	99.7	111	70-135		
o-Terphenyl	64.2	49.9	129	70-135		

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/03/13 21:02	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0276	0.0300	92	80-120			
4-Bromofluorobenzene	0.0347	0.0300	116	80-120			

**Lab Batch #:** 915289 **Sample:** 464284-001 S / MS **Batch:** 1 **Matrix:** Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 06:40	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	109	99.6	109	70-135		
o-Terphenyl	64.0	49.8	129	70-135		

Units: mg/kg Date Analyzed: 06/03/13 21:19	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0340	0.0300	113	80-120		
4-Bromofluorobenzene	0.0319	0.0300	106	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

 Work Orders: 464284,
 Project ID:

 Lab Batch #: 915289
 Sample: 464284-001 SD / MSD
 Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/04/13 07:05	SURROGATE RECOVERY STUDY					
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	112	99.9	112	70-135		
o-Terphenyl	64.9	50.0	130	70-135		

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



## **BS / BSD Recoveries**



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

**Work Order #:** 464284

Project ID:

Analyst: DYV

**Date Prepared:** 06/03/2013

**Date Analyzed:** 06/03/2013

**Lab Batch ID:** 915314

**Sample:** 639110-1-BKS **Batch #:** 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000990	0.0990	0.100	101	0.0996	0.0825	83	19	70-130	35	
Toluene	< 0.00198	0.0990	0.101	102	0.0996	0.0882	89	14	70-130	35	
Ethylbenzene	<0.000990	0.0990	0.103	104	0.0996	0.0874	88	16	71-129	35	
m,p-Xylenes	< 0.00198	0.198	0.197	99	0.199	0.165	83	18	70-135	35	
o-Xylene	<0.000990	0.0990	0.0986	100	0.0996	0.0823	83	18	71-133	35	

Analyst: AMB Date Prepared: 06/03/2013 Date Analyzed: 06/04/2013

Lab Batch ID: 915357 Sample: 639154-1-BKS Batch #: 1 Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/kg Blk. Spk Blank Spike Blank Blank Blank Control Control **Inorganic Anions by EPA 300/300.1** Spike Sample Result Added Spike Spike Spike Dup. RPD Limits Limits Flag Added [A] Result %R Duplicate %R % %R %RPD Result [F] [B] [C] [D] [G] [E]**Analytes** Chloride < 2.00 50.0 47.8 96 50.0 47.7 95 0 80-120 20

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



## **BS / BSD Recoveries**



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

**Work Order #:** 464284

Project ID:

Analyst: DYV

**Date Prepared:** 06/03/2013

**Batch #:** 1

**Date Analyzed:** 06/04/2013

**Lab Batch ID:** 915289

Dute Trepureu: 00/03/201

**Sample:** 639104-1-BKS

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Units: mg/kg											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1070	107	997	1090	109	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1110	111	997	1140	114	3	70-135	35	



## Form 3 - MS Recoveries



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464284

**Date Analyzed:** 06/03/2013

**Project ID: Lab Batch #:** 915357 **Date Prepared:** 06/03/2013 Analyst: AMB

**QC- Sample ID:** 464286-001 S Batch #: 1 Matrix: Soil

Reporting Units: mg/kg	MATE	RIX / MA'	TRIX SPIKE	RECOV	VERY STU	DY
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	5.45	50.0	53.0	95	80-120	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



## Form 3 - MS / MSD Recoveries

## Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



Work Order #: 464284 **Project ID:** 

Lab Batch ID: 915314 **QC- Sample ID:** 464286-005 S

Batch #:

Matrix: Soil

**Date Analyzed:** 

06/03/2013

**Date Prepared:** 06/03/2013

**Reporting Units:** mg/kg Analyst: DYV

#### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.00104	0.104	0.0969	93	0.104	0.102	98	5	70-130	35	
Toluene	< 0.00209	0.104	0.117	113	0.104	0.102	98	14	70-130	35	
Ethylbenzene	< 0.00104	0.104	0.112	108	0.104	0.110	106	2	71-129	35	
m,p-Xylenes	< 0.00209	0.209	0.207	99	0.208	0.207	100	0	70-135	35	
o-Xylene	< 0.00104	0.104	0.108	104	0.104	0.0988	95	9	71-133	35	

Lab Batch ID: 915289 **QC- Sample ID:** 464284-001 S Batch #: 1 Matrix: Soil

06/04/2013 Analyst: DYV **Date Prepared:** 06/03/2013 **Date Analyzed:** 

**Reporting Units:** mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<14.9	996	1050	105	999	1070	107	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<14.9	996	1100	110	999	1120	112	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



# **Sample Duplicate Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464284

 Lab Batch #:
 915294
 Project ID:

 Date Analyzed:
 06/03/2013 13:05
 Date Prepared:
 06/03/2013
 Analyst:
 WRU

 QC- Sample ID:
 464284-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	10.3	10.3	0	20	

# Xenco Laboratories

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Relinquished by Relinquished by	Special					03	S	0	LAB # (lab use only)	ORDEF	(lab use							1
ned by:	Special Instructions:					RP V	RP E	RF		Co	(lab use only)	Sampler Signature	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	
6/3/						RP West S/W @ 10'	RP East S/W @ 10'	RP Floor @ 11'	FIELD CODE	100	1001	ind Company	432.520.7720	Midland, TX 79703	ss: 2057 Commerce	Nova Safety and Environmental		
									Beginning Depth	1		Q.				vironmental	Camille Bryant	
16:30 Time			Ħ	- 1					Ending Depth	1	(	1					ant	
Received by:						5/31/2013	5/31/2013	5/31/2013	Date Sampled			1			l			
Come						12:30	12:00	11:30	Time Sampled			e-mail:	Fax No:					
								1	Field Filtered	]		ř.	15				1	
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			+	$\rightarrow$	-	×	×	×	Ice HNO <sub>3</sub>	Pre		8	432.520.7701		1			Odessa, Texas 79765
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			++						H <sub>2</sub> SO <sub>4</sub>	ation a		( <u>a</u> )						Texa
				$\top$					NaOH	44.		VOL		1				as 7
								1,71	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	# of Containers		atra			1			976
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Date Date									Other ( Specify)	\ \frac{\sigma}{2}		0.00					١.	
S						Soil	Soil	Soil	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix			Report Format:		70		Pro	
Time						×	×	×	TPH: 418.1 8015M 80	015B	4	П	For		Project Loc:	Pro	ject	
9			$\perp$						TPH: TX 1005 TX 1006			П	mat	PO #:	Ct L	Project #:	Nan	
Labe Cust Cust Sam	Sam VOC								Cations (Ca, Mg, Na, K)			П		*	, c	*	. e.	
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seal seal seal seal	Cont Cont		+	+	$\overline{}$	-			SAR / ESP / CEC	. C.	F79	H	itano		1		I S	70
Labels on container(s) Custody seals on container(s) Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep.?	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?		++	+			-		Metals: As Ag Ba Cd Cr Pb Hg Volatiles	36	-	Ana	Standard		_		storic	Fax:
con coo livera	men rs In adsp		++	+++		-			Semivolatiles		+	Analyze For:			69		al A-	
taine ler(s ed Rep.	tact		++	+		×	×	×	BTEX 8021B/5038 or BTEX 82	260		For:			Cou		146	32-5
PHL PHL			+			4.20			RCI	35		11			nty.		Inch	63-
Ė			11	++			-	-	N.O.R.M.			11	TRRP		Lea County, New Mexico		Lin	432-563-1713
FedEx < < < <			11			×	×	×	Chloride E 300.0			11			Me		e 1R	w
LL.	<b>~ ~</b>											11			XICO		Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116	
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			_															
Ex Lone Star	zz			1121		×	×	×	RUSH TAT (Pre-Schedule) 24	48,	72 hrs		_			1		



## **XENCO Laboratories**

## **Prelogin/Nonconformance Report- Sample Log-In**



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/03/2013 11:25:00 AM

Work Order #- 464284

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

**Temperature Measuring device used:** 

ork Order #: 464284		modeling device deed :
	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		3
#2 *Shipping container in good conditi	on?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping of	container/ cooler?	Yes
#5 Custody Seals intact on sample bo	ttles?	Yes
#6 *Custody Seals Signed and dated?		Yes
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on C	hain of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when rel	inquished/ received?	Yes
#11 Chain of Custody agrees with san	nple label(s)?	Yes
#12 Container label(s) legible and inta	ct?	Yes
#13 Sample matrix/ properties agree v	vith Chain of Custody?	Yes
#14 Samples in proper container/ bottl	e?	Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indic	cated test(s)?	Yes
#18 All samples received within hold ti	me?	Yes
#19 Subcontract of sample(s)?		Yes
#20 VOC samples have zero headspa	ce (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with	HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with	n NaAsO2+NaOH, ZnAc+NaOH?	Yes
Must be completed for after-hours d	elivery of samples prior to placing	in the refrigerator
Analyst: PH D	evice/Lot#:	
Checklist completed by:  Checklist reviewed by:	Kelsey Brooks	Date: <u>06/04/2013</u>
Checklist reviewed by:	Muns Moah  Kelsey Brooks	Date: 06/04/2013

# **Analytical Report 464486**

# for Southern Union Gas Services- Monahans

Project Manager: Camille Bryant
SUGS Historical A-14 6 Inch Line 1RP-1116

06-JUN-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





06-JUN-13

Project Manager: Camille Bryant

**Southern Union Gas Services- Monahans** 

801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 464486

**SUGS Historical A-14 6 Inch Line 1RP-1116**Project Address: Lea County, New Mexico

#### **Camille Bryant**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464486. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464486 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Kelsey Brooks** 

Project Manager

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# **Sample Cross Reference 464486**



# Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical A-14 6 Inch Line 1RP-1116

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Trench-1 Floor @ 2'	S	06-03-13 13:30		464486-001
Trench-2 Floor @ 2'	S	06-03-13 14:30		464486-002



## CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Project ID: Report Date: 06-JUN-13 Work Order Number(s): 464486 Date Received: 06/05/2013

Sample receipt non conformances and comments:

## Sample receipt non conformances and comments per sample:

None

## **Analytical non conformances and comments:**

Batch: LBA-915597 Inorganic Anions by EPA 300/300.1

E300

Batch 915597, Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 464486-001, -002.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



## Southern Union Gas Services- Monahans, Monahans, TX



THI

**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

**Date Received in Lab:** Wed Jun-05-13 03:27 pm

**Report Date:** 06-JUN-13

**Project Manager:** Kelsey Brooks

Lab Id:							Project Manager:	Keisey Brooks	
Analysis Requested		Lab Id:	464486-0	001	464486-0	02			
Matrix:   SOIL   SOIL   SOIL   SOIL   Sampled:   Jun-03-13 14:30   Jun-03-13 14:30	Anadusia Damasta I	Field Id:	Trench-1 Floo	or @ 2'	Trench-2 Floo	r @ 2'			
Sampled:   Jun-03-13 13:30   Jun-03-13 14:30	Analysis Kequesiea	Depth:							
BTEX by EPA 8021B		Matrix:	SOIL		SOIL				
Analyzed:   Jun-05-13 22:39   Jun-05-13 22:55   mg/kg		Sampled:	Jun-03-13 1	13:30	Jun-03-13 1	4:30			
Analyzed:   Jun-05-13 22:39   Jun-05-13 22:55   mg/kg	BTEX by EPA 8021B	Extracted:	Jun-05-13	16:45	Jun-05-13 1	6:45			
Benzene	·	Analyzed:	Jun-05-13	22:39	Jun-05-13 2	2:55			
Benzene		· I	mg/kg	RL	mg/kg	RL			
Ethylbenzene	Benzene			0.000990		0.000994			
Mp   ND   0.00198   ND   0.00199   ND   0.00199   ND   0.000994   ND   0.000	Toluene		ND	0.00198	ND	0.00199			
ND   0.000990   ND   0.000994	Ethylbenzene		ND	0.000990	ND (	0.000994			
Total Xylenes	m,p-Xylenes		ND	0.00198	ND	0.00199			
Total BTEX									
Inorganic Anions by EPA 300/300.1   Extracted:	Total Xylenes								
SUB: TX104704215	Total BTEX		ND	0.000990	ND (	0.000994			
Miniput   Mini		Extracted:	Jun-06-13 (	08:00	Jun-06-13 0	8:00			
Chloride	SUB: TX104704215	Analyzed:	Jun-06-13	16:36	Jun-06-13 1	6:53			
Percent Moisture		Units/RL:	mg/kg	RL	mg/kg	RL			
Analyzed:   Jun-05-13 17:15   Jun-05-13 17:15   Jun-05-13 17:15     Jun-05-13 17:15   Jun-	Chloride		18.5	2.00	63.8	2.00			
Units/RL:	Percent Moisture	Extracted:							
Percent Moisture  3.59 1.00 3.53 1.00  TPH By SW8015 Mod  Extracted: Jun-05-13 16:30 Jun-05-13 16:30  Analyzed: Jun-06-13 01:42 Jun-06-13 02:08  Units/RL: mg/kg RL mg/kg RL		Analyzed:	Jun-05-13	17:15	Jun-05-13 1	7:15			
TPH By SW8015 Mod    Extracted:   Jun-05-13 16:30   Jun-05-13 16:30     Jun-05-13 16:30     Jun-06-13 02:08     Jun-06-13 02:08     Units/RL:   mg/kg   RL   mg/kg   RL		Units/RL:	%	RL	%	RL			
Analyzed:         Jun-06-13 01:42         Jun-06-13 02:08           Units/RL:         mg/kg         RL         mg/kg         RL	Percent Moisture		3.59	1.00	3.53	1.00			
Units/RL: mg/kg RL mg/kg RL	TPH By SW8015 Mod	Extracted:	Jun-05-13	16:30	Jun-05-13 1	6:30			
		Analyzed:	Jun-06-13 (	01:42	Jun-06-13 0	2:08			
		Units/RL:	mg/kg	RL	mg/kg	RL			
	C6-C12 Gasoline Range Hydrocarbons			14.9		14.9			
C12-C28 Diesel Range Hydrocarbons ND 14.9 69.1 14.9	C12-C28 Diesel Range Hydrocarbons		ND	14.9	69.1	14.9			
C28-C35 Oil Range Hydrocarbons ND 14.9 ND 14.9	C28-C35 Oil Range Hydrocarbons		ND	14.9	ND				
Total TPH ND 14.9 69.1 14.9	Total TPH		ND	14.9	69.1	14.9			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

<sup>\*</sup> Surrogate recovered outside laboratory control limit.



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Lab Batch #: 915497 Sample: 464486-001 / SMP Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/05/13 22:39	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0242	0.0300	81	80-120	

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/05/13 22:55 Amount True Control BTEX by EPA 8021B Recovery Found Amount Limits Flags [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0323 0.0300 108 80-120 4-Bromofluorobenzene 0.0306 0.0300 102 80-120

Lab Batch #: 915496 Sample: 464486-001 / SMP Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 01:42	Su	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Anarytes					
1-Chlorooctane	102	99.5	103	70-135	
o-Terphenyl	55.6	49.8	112	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 02:08	SU	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	95.9	99.6	96	70-135	
o-Terphenyl	52.2	49.8	105	70-135	

Lab Batch #: 915497 Sample: 639240-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/05/13 17:59	SURROGATE RECOVERY STUDY							
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
1,4-Difluorobenzene	0.0337	0.0300	112	80-120				
4-Bromofluorobenzene	0.0289	0.0300	96	80-120				

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

 Work Orders:
 464486, 464486
 Project ID:

 Lab Batch #:
 915496
 Sample:
 639238-1-BLK / BLK
 Batch:
 1
 Matrix:
 Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 01:15	SURROGATE RECOVERY STUDY								
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
Analytes			[D]						
1-Chlorooctane	101	99.8	101	70-135					
o-Terphenyl	55.0	49.9	110	70-135					

Lab Batch #: 915497 Sample: 639240-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/05/13 17:26	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0347	0.0300	116	80-120					
4-Bromofluorobenzene	0.0332	0.0300	111	80-120					

Lab Batch #: 915496 Sample: 639238-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 00:23	SURROGATE RECOVERY STUDY								
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
Analytes									
1-Chlorooctane	99.1	99.9	99	70-135					
o-Terphenyl	61.3	50.0	123	70-135					

Lab Batch #: 915497 Sample: 639240-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/05/13 17:43	SURROGATE RECOVERY STUDY								
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1,4-Difluorobenzene	0.0317	0.0300	106	80-120					
4-Bromofluorobenzene	0.0255	0.0300	85	80-120					

Lab Batch #: 915496 Sample: 639238-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 00:49	SURROGATE RECOVERY STUDY								
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1-Chlorooctane	103	100	103	70-135					
o-Terphenyl	61.6	50.1	123	70-135					

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Work Orders: 464486, 464486 **Project ID:** Lab Batch #: 915497 **Sample:** 464484-003 S / MS Batch: Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/05/13 23:11 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits %R [A] [B] %R

**Flags** [D] **Analytes** 1,4-Difluorobenzene 0.0257 0.0300 86 80-120 4-Bromofluorobenzene 0.0314 0.0300 105 80-120

Lab Batch #: 915496 **Sample:** 464484-002 S / MS Batch: Matrix: Soil 1

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/06/13 03:25 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 100 100 100 70-135 o-Terphenyl 58.2 50.1 116 70-135

Lab Batch #: 915497 **Sample:** 464484-003 SD / MSD Matrix: Soil Batch:

SURROGATE RECOVERY STUDY Date Analyzed: 06/05/13 23:27 Units: mg/kg Amount True Control BTEX by EPA 8021B Limits **Found** Amount Recovery Flags %R %R [A] [B] [D] **Analytes** 1,4-Difluorobenzene 0.0355 0.0300 118 80-120 4-Bromofluorobenzene 0.0321 0.0300 107 80-120

**Sample:** 464484-002 SD / MSD Lab Batch #: 915496 Batch: Matrix: Soil 1

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/06/13 03:50	SURROGATE RECOVERY STUDY								
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
Analytes			[D]						
1-Chlorooctane	99.2	99.7	99	70-135					
o-Terphenyl	60.0	49.9	120	70-135					

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **Blank Spike Recovery**



## Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Work Order #: 464486 Project ID:

 Lab Batch #:
 915597
 Sample:
 639259-1-BKS
 Matrix:
 Solid

 Date Analyzed:
 06/06/2013
 Date Prepared:
 06/06/2013
 Analyst:
 RKO

Reporting Units: mg/kg Batch #: 1		BLANK /BLANK SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags		
Analytes	[A]	[b]	[C]	[D]	70K			
Chloride	<2.00	100	101	101	80-120			



## **BS / BSD Recoveries**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464486, 464486

**Project ID:** 

Analyst: DYV **Lab Batch ID:** 915497

**Sample:** 639240-1-BKS

**Date Prepared:** 06/05/2013 **Batch #:** 1

Matrix: Solid

**Date Analyzed:** 06/05/2013

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0903	90	0.0994	0.0827	83	9	70-130	35	
Toluene	< 0.00200	0.100	0.0986	99	0.0994	0.0932	94	6	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.109	109	0.0994	0.0986	99	10	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.203	102	0.199	0.180	90	12	70-135	35	
o-Xylene	< 0.00100	0.100	0.111	111	0.0994	0.0937	94	17	71-133	35	

Analyst: DYV **Date Prepared:** 06/05/2013 **Date Analyzed:** 06/06/2013

Matrix: Solid **Lab Batch ID:** 915496 **Batch #:** 1 **Sample:** 639238-1-BKS

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/kg

TPH By SW8015 Mod  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	1100	110	1000	1120	112	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1160	116	1000	1170	117	1	70-135	35	



## Form 3 - MS / MSD Recoveries

## Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464486

Project ID:

**Lab Batch ID:** 915497

**QC- Sample ID:** 464484-003 S

Batch #:

Matrix: Soil

Date Analyzed: Reporting Units: 06/05/2013

mg/kg

**Date Prepared:** 06/05/2013

Analyst: DYV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000990	0.0990	0.0806	81	0.100	0.0815	82	1	70-130	35	
Toluene	< 0.00198	0.0990	0.0850	86	0.100	0.0828	83	3	70-130	35	
Ethylbenzene	< 0.000990	0.0990	0.0887	90	0.100	0.0906	91	2	71-129	35	
m,p-Xylenes	< 0.00198	0.198	0.165	83	0.200	0.165	83	0	70-135	35	
o-Xylene	< 0.000990	0.0990	0.0889	90	0.100	0.0821	82	8	71-133	35	

**Lab Batch ID:** 915597 **QC- Sample ID:** 464484-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/06/2013 Date Prepared: 06/06/2013 Analyst: RKO

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	106	100	187	81	100	188	82	1	80-120	20	

**Lab Batch ID:** 915597 **QC- Sample ID:** 464486-002 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	63.8	100	197	133	100	197	133	0	80-120	20	X

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|



## Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464486

Project ID:

**Lab Batch ID:** 915496

**QC- Sample ID:** 464484-002 S

Batch #:

Matrix: Soil

Date Analyzed: Reporting Units: 06/06/2013

mg/kg

**Date Prepared:** 06/05/2013

Analyst: DYV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.4	1030	1090	106	1020	1070	105	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.4	1030	1190	116	1020	1140	112	4	70-135	35	



# **Sample Duplicate Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464486

 Lab Batch #:
 915509
 Project ID:

 Date Analyzed:
 06/05/2013 17:15
 Date Prepared:
 06/05/2013
 Analyst:
 WRU

 QC- Sample ID:
 464484-011 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	3.42	3.52	3	20	

# **Analytical Report 464683**

# for **Southern Union Gas Services- Monahans**

**Project Manager: Camille Bryant** SUGS Historical A-14 6 Inch Line 1RP-1116

#### 13-JUN-13

Collected By: Client





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





13-JUN-13

Project Manager: Camille Bryant

**Southern Union Gas Services- Monahans** 

801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 464683

**SUGS Historical A-14 6 Inch Line 1RP-1116**Project Address: Lea County, New Mexico

#### **Camille Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464683. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464683 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectivity,

**Kelsey Brooks** 

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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# **Sample Cross Reference 464683**



## Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical A-14 6 Inch Line 1RP-1116

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
RP North S/W @ 11'	S	06-04-13 12:30		464683-001
Trench-1 Floor @ 6'	S	06-04-13 13:00		464683-002
Trench-2 Topsoil	S	06-04-13 13:10		464683-003
Trench-2 Floor @ 4'	S	06-04-13 13:20		464683-004
Trench-3 Topsoil	S	06-04-13 13:40		464683-005
Trench-3 Floor @ 2'	S	06-04-13 13:50		464683-006
SP-1	S	06-04-13 14:30		464683-007
Trench-4 Floor @ 2'	S	06-05-13 09:00		464683-008
Trench-5 Floor @ 2'	S	06-05-13 09:10		464683-009
Trench-6 Floor @ 2'	S	06-05-13 09:40		464683-010
Trench- 7 Floor @ 2'	S	06-05-13 10:10		464683-011
Trench-8 Floor @ 2'	S	06-05-13 10:40		464683-012
Trench-9 Floor @ 2'	S	06-05-13 11:00		464683-013
Trench-10 Floor @ 2'	S	06-05-13 12:30		464683-014
Trench-10 Floor @ 4'	S	06-05-13 13:15		464683-015
Trench-11 Floor @ 2'	S	06-05-13 14:00		464683-016



#### CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Project ID: Report Date: 13-JUN-13 Work Order Number(s): 464683 Date Received: 06/07/2013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-916025 Inorganic Anions by EPA 300/300.1

E300

Batch 916025, Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 464683-007, -008, -011, -001, -002, -004, -006, -003, -012, -010, -013, -005, -009. The Laboratory Control Sample for Chloride is within laboratory Control Limits



## Southern Union Gas Services- Monahans, Monahans, TX



TNI VBORATORY

**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Fri Jun-07-13 02:18 pm

**Report Date:** 13-JUN-13

**Project Manager:** Kelsey Brooks

								Project Ma	nager: r	Kelsey Brooks	S		
	Lab Id:	464683-0	001	464683-0	02	464683-0	003	464683-0	004	464683-0	005	464683-	006
4 1 : D 4 1	Field Id:	RP North S/W	7 @ 11'	Trench-1 Floo	or @ 6'	Trench-2 To	psoil	Trench-2 Flo	or @ 4'	Trench-3 To	psoil	Trench-3 Flo	oor @ 2'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOII	_
	Sampled:	Jun-04-13	12:30	Jun-04-13 1	3:00	Jun-04-13 1	13:10	Jun-04-13	13:20	Jun-04-13 1	13:40	Jun-04-13	13:50
BTEX by EPA 8021B	Extracted:	Jun-10-13	08:00	Jun-10-13 0	8:00	Jun-10-13 (	08:00	Jun-10-13 (	08:00	Jun-10-13 (	08:00	Jun-10-13	08:00
	Analyzed:	Jun-10-13	11:22	Jun-10-13 1	1:39	Jun-10-13	11:55	Jun-10-13	17:10	Jun-10-13 1	17:27	Jun-10-13	13:34
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.000998	ND (	0.000992	ND	0.000992	ND	0.000994	ND	0.000998	ND	0.00100
Toluene		ND	0.00200	1,2	0.00198	ND	0.00198	ND	0.00199	ND	0.00200	ND	0.00200
Ethylbenzene		ND	0.000998	ND (	0.000992	ND	0.000992	ND	0.000994	ND	0.000998	ND	0.00100
m,p-Xylenes		ND	0.00200	ND	0.00198		0.00198	ND	0.00199	ND	0.00200	ND	0.00200
o-Xylene		ND	0.000998		0.000992		0.000992		0.000994		0.000998	ND	0.00100
Total Xylenes		ND	0.000998	ND (	0.000992	ND	0.000992	ND	0.000994	ND	0.000998	ND	0.00100
Total BTEX		ND	0.000998	ND (	0.000992	ND	0.000992	ND	0.000994	ND	0.000998	ND	0.00100
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-11-13	11:27	Jun-11-13 1	1:27	Jun-11-13	11:27	Jun-11-13	11:27	Jun-11-13 1	11:27	Jun-11-13	11:27
SUB: TX104704215	Analyzed:	Jun-12-13	00:51	Jun-12-13 0	1:10	Jun-12-13 (	01:28	Jun-12-13 (	02:23	Jun-12-13 (	)2:42	Jun-12-13	03:00
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		214	2.00	17.8	2.00	4.22	2.00	50.4	2.00	2.84	2.00	2.66	2.00
Percent Moisture	Extracted:												
	Analyzed:	Jun-10-13	14:20	Jun-10-13 1	4:20	Jun-10-13	14:20	Jun-10-13	14:20	Jun-10-13 1	14:20	Jun-10-13	14:20
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.38	1.00	3.08	1.00	1.81	1.00	2.98	1.00	ND	1.00	2.86	1.00
TPH By SW8015 Mod	Extracted:	Jun-12-13	13:00	Jun-12-13 1	3:00	Jun-12-13	13:00	Jun-12-13	13:00	Jun-12-13 1	13:00	Jun-12-13	13:00
	Analyzed:	Jun-13-13	03:58	Jun-13-13 0	5:13	Jun-13-13 (	05:37	Jun-13-13 (	06:02	Jun-13-13 1	13:03	Jun-13-13	06:52
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.6	ND	15.4	260	76.4	ND	15.5	99.2	75.1	ND	15.5
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	15.4	10600	76.4	ND	15.5	5970	75.1	ND	15.5
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	15.4	2050	76.4	ND	15.5	1730	75.1	ND	15.5
Total TPH		ND	15.6	ND	15.4	12900	76.4	ND	15.5	7800	75.1	ND	15.5

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi



## Southern Union Gas Services- Monahans, Monahans, TX



TNI VBORATORY

**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Fri Jun-07-13 02:18 pm

**Report Date:** 13-JUN-13

**Project Manager:** Kelsey Brooks

								I I OJECE MIA	mager.	Keisey Diook			
	Lab Id:	464683-0	007	464683-0	08	464683-0	009	464683-0	010	464683-0	011	464683-	-012
An alunia Danasasa J	Field Id:	SP-1		Trench-4 Floo	r @ 2'	Trench-5 Flo	or @ 2'	Trench-6 Flo	or @ 2'	Trench- 7 Flo	or @ 2'	Trench-8 Flo	oor @ 2'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL	,	SOII	L
	Sampled:	Jun-04-13	14:30	Jun-05-13 0	9:00	Jun-05-13	09:10	Jun-05-13	09:40	Jun-05-13	10:10	Jun-05-13	3 10:40
BTEX by EPA 8021B	Extracted:	Jun-10-13	08:00	Jun-10-13 0	8:00	Jun-10-13	08:00	Jun-10-13	08:00	Jun-10-13	08:00	Jun-10-13	2 08:00
	Analyzed:	Jun-10-13		Jun-10-13 0		Jun-10-13		Jun-10-13		Jun-10-13		Jun-10-13	
D	Units/RL:	mg/kg	RL 0.000990	mg/kg	RL 0.000990	mg/kg	RL 0.000990	mg/kg ND	RL 0.00100	mg/kg	RL 0.000994	mg/kg	RL 0.000994
Toluene Toluene		ND ND	0.000990		0.00198	ND ND		ND ND	0.00100	ND ND	0.000994	ND ND	
					0.00198		0.00198		0.00200		0.00199		0.00199
Ethylbenzene			0.000990					ND					
m,p-Xylenes		ND	0.00198		0.00198		0.00198	ND	0.00200	ND	0.00199	ND	
o-Xylene			0.000990		0.000990		0.000990	ND	0.00100		0.000994		0.000994
Total Xylenes			0.000990		0.000990		0.000990	ND	0.00100		0.000994		0.000994
Total BTEX		ND	0.000990	ND (	0.000990	ND	0.000990	ND	0.00100	ND	0.000994	ND	0.000994
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-11-13	11:27	Jun-11-13 1	1:27	Jun-11-13	11:27	Jun-11-13	11:27	Jun-11-13	11:27	Jun-11-13	3 11:27
SUB: TX104704215	Analyzed:	Jun-12-13	03:18	Jun-12-13 0	4:14	Jun-12-13	04:32	Jun-12-13	04:51	Jun-12-13	05:09	Jun-12-13	3 05:27
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride	·	54.9	2.00	ND	2.00	62.8	2.00	12.7	2.00	5.63	2.00	2.91	2.00
Percent Moisture	Extracted:												
	Analyzed:	Jun-10-13	14:20	Jun-10-13 1	4:20	Jun-10-13	14:50	Jun-10-13	14:50	Jun-10-13	14:50	Jun-10-13	3 14:50
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.59	1.00	2.97	1.00	2.86	1.00	2.02	1.00	1.49	1.00	3.09	1.00
TPH By SW8015 Mod	Extracted:	Jun-12-13	13:00	Jun-12-13 1	3:00	Jun-12-13	13:00	Jun-12-13	13:00	Jun-12-13	13:00	Jun-12-13	3 13:00
	Analyzed:	Jun-13-13	07:17	Jun-13-13 0	8:08	Jun-13-13	08:33	Jun-13-13	08:58	Jun-13-13	09:50	Jun-13-13	3 10:17
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.2	ND	15.5	ND	15.5	ND	15.3	ND	15.2	ND	15.5
C12-C28 Diesel Range Hydrocarbons		56.6	15.2	ND	15.5	ND	15.5	ND	15.3	ND	15.2	ND	15.5
GOO GOT OUR III I		ND	15.2	ND	15.5	ND	15.5	ND	15.3	ND	15.2	ND	15.5
C28-C35 Oil Range Hydrocarbons		ND	10.2	110		1,12							

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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## Southern Union Gas Services- Monahans, Monahans, TX





**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Fri Jun-07-13 02:18 pm

**Report Date:** 13-JUN-13

**Project Manager:** Kelsey Brooks

								1 Toject Ma	mager.	Keisey Drooks	
	Lab Id:	464683-0	)13	464683-0	14	464683-0	)15	464683-	016		
Analysis Pagyastad	Field Id:	Trench-9 Flo	or @ 2'	Trench-10 Flo	or @ 2'	Trench-10 Flo	or @ 4'	Trench-11 Flo	oor @ 2'		
Analysis Requested	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL	,		
	Sampled:	Jun-05-13	11:00	Jun-05-13 1	2:30	Jun-05-13 1	13:15	Jun-05-13	14:00		
BTEX by EPA 8021B	Extracted:	Jun-10-13	08:00	Jun-10-13 (	8:00	Jun-10-13 (	08:00	Jun-10-13	16:00		
	Analyzed:	Jun-10-13	15:12	Jun-10-13 1	5:29	Jun-10-13	15:47	Jun-10-13	19:23		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.00100		0.000996		0.000998	ND	0.000994		
Toluene		ND	0.00200	ND	0.00199	ND	0.00200	ND	0.00199		
Ethylbenzene		ND	0.00100	ND	0.000996		0.000998		0.000994		
m,p-Xylenes		ND	0.00200		0.00199		0.00200		0.00199		
o-Xylene		ND	0.00100		0.000996		0.000998		0.000994		
Total Xylenes		ND	0.00100		0.000996		0.000998		0.000994		
Total BTEX		ND	0.00100	ND	0.000996	ND	0.000998	ND	0.000994		
Inorganic Anions by EPA 300/300.1	Extracted:	Jun-11-13	11:27	Jun-11-13 1	1:30	Jun-11-13	11:30	Jun-11-13	11:30		
SUB: TX104704215	Analyzed:	Jun-12-13	05:46	Jun-12-13 (	7:18	Jun-12-13 (	08:13	Jun-12-13	08:31		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		22.3	2.00	100	2.00	33.4	2.00	4.97	2.00		
Percent Moisture	Extracted:										
	Analyzed:	Jun-10-13	14:50	Jun-10-13 1	5:38	Jun-10-13	15:38	Jun-10-13	15:38		
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		2.31	1.00	3.56	1.00	4.12	1.00	3.18	1.00		
TPH By SW8015 Mod	Extracted:	Jun-12-13	13:00	Jun-12-13 1	3:00	Jun-12-13	13:00	Jun-12-13	13:00		
	Analyzed:	Jun-13-13	10:44	Jun-13-13 1	1:11	Jun-13-13	11:39	Jun-13-13	12:06		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	15.3	ND	15.5	ND	15.6	ND	15.4		
C12-C28 Diesel Range Hydrocarbons		ND	15.3	ND	15.5	ND	15.6	ND	15.4		
C28-C35 Oil Range Hydrocarbons		ND	15.3	ND	15.5	ND	15.6	ND	15.4		
Total TPH		ND	15.3	ND	15.5	ND	15.6	ND	15.4		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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# Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

<sup>\*</sup> Surrogate recovered outside laboratory control limit.



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

 Work Orders: 464683,
 Project ID:

 Lab Batch #: 915856
 Sample: 464683-008 / SMP
 Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/10/13 09:36 SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Amount Found Amount [A]

True Amount Recovery Limits %R
%R
Flag

Found [A] Recovery (B] Recovery

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/10/13 11:22 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0268 0.0300 89 80-120 4-Bromofluorobenzene 0.0267 0.0300 89 80-120

SURROGATE RECOVERY STUDY Date Analyzed: 06/10/13 11:39 Units: mg/kg Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** %R %R [A] [B] [D] **Analytes** 1,4-Difluorobenzene 0.0280 0.0300 93 80-120 4-Bromofluorobenzene 0.0300 110 0.0330 80-120

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/10/13 11:55 True Control Amount BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0305 0.0300 102 80-120 4-Bromofluorobenzene 0.0336 0.0300 112 80-120

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 13:34	SU	RROGATE RI	COVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

 Work Orders:
 464683,
 Project ID:

 Lab Batch #:
 915856
 Sample:
 464683-007 / SMP
 Batch:
 1
 Matrix:
 Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 13:50	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 14:06	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 14:23	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 14:39	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 14:55	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464683, Project ID:

Lab Batch #: 915856 Sample: 464683-013 / SMP Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 15:12	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 15:29	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Units: mg/kg Date Analyzed: 06/10/13 15:47	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 17:10	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 17:27	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0242	0.0300	81	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Work Orders: 464683, Project ID:

Lab Batch #: 915863 Sample: 464683-016 / SMP Batch: 1 Matrix: Soil

Units: mg/kg Date Analyzed: 06/10/13 19:	23 <b>SU</b>	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0262	0.0300	87	80-120		
4-Bromofluorobenzene	0.0252	0.0300	84	80-120		

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 03:58 Amount True Control TPH By SW8015 Mod Recovery Found Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 97.0 99.5 97 70-135 o-Terphenyl 52.2 49.8 105 70-135

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 05:13	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	96.8	99.5	97	70-135	
o-Terphenyl	51.2	49.8	103	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 05:37	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	96.7	100	97	70-135	
o-Terphenyl	54.0	50.0	108	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 06:02	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	99.8	100	100	70-135	
o-Terphenyl	53.0	50.2	106	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



1-Chlorooctane

o-Terphenyl

## Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

100

50.1

91

95

70-135

70-135

 Work Orders: 464683,
 Project ID:

 Lab Batch #: 916148
 Sample: 464683-006 / SMP
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 06:52 Amount True Control TPH By SW8015 Mod Flags **Found** Amount Recovery Limits %R [A] [B] %R [D] **Analytes** 

91.0

47.6

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 07:17 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 93.1 99.5 94 70-135 o-Terphenyl 49.0 49.8 98 70-135

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 08:08	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	81.1	100	81	70-135	
o-Terphenyl	42.1	50.1	84	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 08:33	SU	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	91.0	100	91	70-135	
o-Terphenyl	48.0	50.1	96	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 08:58	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.5	99.9	92	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464683, Project ID:

 Lab Batch #: 916148
 Sample: 464683-011 / SMP
 Batch: 1 Matrix: Soil

 Units: mg/kg
 Date Analyzed: 06/13/13 09:50
 SURROGATE RECOVERY STUDY

Units: mg/kg Date Analyzeu: 00/13/13 09:30	SCHROGHIE RECOVERY STOET				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	81.0	99.9	81	70-135	
o-Terphenyl	41.5	50.0	83	70-135	

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 10:17 Amount True Control TPH By SW8015 Mod Found Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 87.6 99.9 70-135 o-Terphenyl 46.4 50.0 93 70-135

Units: mg/kg Date Analyzed: 0	6/13/13 10:44	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amou Foun [A]		Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1-Chlorooctane	90.7	99.8	91	70-135		
o-Terphenyl	46.9	49.9	94	70-135		

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 11:11	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	85.6	99.5	86	70-135	
o-Terphenyl	45.1	49.8	91	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 11:39	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	91.9	99.5	92	70-135	
o-Terphenyl	48.5	49.8	97	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



o-Terphenyl

## Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

49.8

91

70-135

 Work Orders: 464683,
 Project ID:

 Lab Batch #: 916148
 Sample: 464683-016 / SMP
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 12:06 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** %R [A] [B] %R [D] **Analytes** 1-Chlorooctane 86.7 99.6 87 70-135

45.5

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 13:03 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 102 99.5 103 70-135 o-Terphenyl 54.7 49.8 110 70-135

Lab Batch #: 915856 Sample: 639463-1-BLK/BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 09:10	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0353	0.0300	118	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 915863 Sample: 639469-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 19:06	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 916148 Sample: 639552-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 03:33	SURRUGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	112	99.7	112	70-135	
o-Terphenyl	59.3	49.9	119	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.

CLIDDOCATE DECOVEDY CTUDY

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464683,

Lab Batch #: 915856

Sample: 639463-1-BKS / BKS

Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 08:21	3 08:21 SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 915863 Sample: 639469-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 18:33	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0360	0.0300	120	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 916148 Sample: 639552-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 02:44	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	55.4	50.1	111	70-135	

Lab Batch #: 915856 Sample: 639463-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 08:37	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 915863 Sample: 639469-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 18:49	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464683,

Lab Batch #: 916148

Sample: 639552-1-BSD / BSD

Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 03:08	13/13 03:08 SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	88.1	100	88	70-135	
o-Terphenyl	54.1	50.1	108	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 12:28	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 20:45	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Units: mg/kg Date Analyzed: 06/13/13 04:23	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	99.6	99.6	100	70-135	
o-Terphenyl	56.6	49.8	114	70-135	

Units: mg/kg Date Analyzed: 06/10/13 12:44	SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0270	0.0300	90	80-120		
4-Bromofluorobenzene	0.0332	0.0300	111	80-120		

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **Form 2 - Surrogate Recoveries**

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

 Work Orders: 464683,
 Project ID:

 Lab Batch #: 915863
 Sample: 464685-004 SD / MSD
 Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 21:01	SU	RROGATE RI	ECOVERY S	STUDY	
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0349	0.0300	116	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 04:48	SU	RROGATE RE	ECOVERY S	STUDY	
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.9	105	70-135	
o-Terphenyl	61.9	50.0	124	70-135	

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **Blank Spike Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Work Order #: 464683 Project ID:

 Lab Batch #:
 916025
 Sample:
 639472-1-BKS
 Matrix:
 Solid

 Date Analyzed:
 06/11/2013
 Date Prepared:
 06/11/2013
 Analyst:
 RKO

Reporting Units: mg/kg	<b>Batch #:</b> 1	BLANK /B	BLANK SPI	KE REC	OVERY S	STUDY
Inorganic Anions by EPA 300/300.1	Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	[A]	[ <b>D</b> ]	[C]	[D]	70K	
Chloride	<2.00	100	102	102	80-120	

 Lab Batch #: 916039
 Sample: 639474-1-BKS
 Matrix: Solid

 Date Analyzed: 06/12/2013
 Date Prepared: 06/11/2013
 Analyst: RKO

Reporting Units: mg/kg Batch #: BLANK /BLANK SPIKE RECOVERY STUDY Blank Spike Blank Blank Control **Inorganic Anions by EPA 300/300.1** Result Added Spike Spike Limits Flags %R [A] [B] Result %R **Analytes** [D] [C] < 2.00 100 102 102 80-120 Chloride

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



### **BS / BSD Recoveries**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464683 Analyst: DYV

**Date Prepared:** 06/10/2013

**Project ID:** 

**Date Analyzed:** 06/10/2013

**Lab Batch ID:** 915856

**Sample:** 639463-1-BKS

Matrix: Solid

Units: mg/kg

**Batch #:** 1

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00100	0.100	0.0920	92	0.0998	0.0872	87	5	70-130	35	
Toluene	< 0.00200	0.100	0.0949	95	0.0998	0.0928	93	2	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.106	106	0.0998	0.105	105	1	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.193	97	0.200	0.191	96	1	70-135	35	
o-Xylene	< 0.00100	0.100	0.102	102	0.0998	0.0995	100	2	71-133	35	

Analyst: DYV **Date Prepared:** 06/10/2013 **Date Analyzed:** 06/10/2013

Matrix: Solid **Lab Batch ID:** 915863 **Batch #:** 1 **Sample:** 639469-1-BKS

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/kg

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.000998	0.0998	0.0851	85	0.0996	0.0824	83	3	70-130	35	
Toluene	< 0.00200	0.0998	0.0838	84	0.0996	0.0905	91	8	70-130	35	
Ethylbenzene	< 0.000998	0.0998	0.0954	96	0.0996	0.0932	94	2	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.180	90	0.199	0.174	87	3	70-135	35	
o-Xylene	<0.000998	0.0998	0.0919	92	0.0996	0.0833	84	10	71-133	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



# **BS / BSD Recoveries**



**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

**Work Order #:** 464683

**Project ID:** 

Analyst: DYV

**Date Prepared:** 06/12/2013

**Date Analyzed:** 06/13/2013

**Lab Batch ID:** 916148

**Sample:** 639552-1-BKS **Batch #:** 1

Matrix: Solid

<b>Units:</b>	mg/kg
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## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Cinto: 0 8											
TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1020	102	1000	947	95	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1070	107	1000	995	100	7	70-135	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100\*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]
All results are based on MDL and Validated for QC Purposes



### Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464683

Project ID:

**Lab Batch ID:** 915856

mg/kg

**QC- Sample ID:** 464683-004 S

Batch #:

Matrix: Soil

**Date Analyzed:** 06/10/2013

**Reporting Units:** 

**Date Prepared:** 06/10/2013

Analyst: DYV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000996	0.0996	0.0821	82	0.100	0.0824	82	0	70-130	35	
Toluene	< 0.00199	0.0996	0.0869	87	0.100	0.0861	86	1	70-130	35	
Ethylbenzene	< 0.000996	0.0996	0.0996	100	0.100	0.0881	88	12	71-129	35	
m,p-Xylenes	< 0.00199	0.199	0.183	92	0.200	0.165	83	10	70-135	35	
o-Xylene	< 0.000996	0.0996	0.0874	88	0.100	0.0850	85	3	71-133	35	

**Lab Batch ID:** 915863 **QC- Sample ID:** 464685-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/10/2013 Date Prepared: 06/10/2013 Analyst: DYV

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0953	95	0.0996	0.0875	88	9	70-130	35	
Toluene	< 0.00200	0.0998	0.104	104	0.0996	0.0912	92	13	70-130	35	
Ethylbenzene	< 0.000998	0.0998	0.107	107	0.0996	0.0998	100	7	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.200	100	0.199	0.185	93	8	70-135	35	
o-Xylene	<0.000998	0.0998	0.108	108	0.0996	0.0920	92	16	71-133	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



### Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464683

**Project ID:** 

**Lab Batch ID:** 916025

**QC- Sample ID:** 464552-001 S

Batch #:

Matrix: Soil

Date Analyzed: Reporting Units: 06/11/2013

mg/kg

**Date Prepared:** 06/11/2013

Analyst: RKO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	24200	200	24200	0	200	23900	0	1	80-120	20	X

**Lab Batch ID:** 916025 **QC- Sample ID:** 464683-003 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/12/2013 **Date Prepared:** 06/11/2013 **Analyst:** RKO

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DU

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4.22	100	106	102	100	107	103	1	80-120	20	

**Lab Batch ID:** 916039 **QC- Sample ID:** 464683-014 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/12/2013 **Date Prepared:** 06/11/2013 **Analyst:** RKO

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	100	100	182	82	100	183	83	1	80-120	20	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464683

464683 916148

**QC- Sample ID:** 464683-001 S

Batch #:

Matrix: Soil

**Date Analyzed:** 06/

Lab Batch ID:

06/13/2013

**Date Prepared:** 06/12/2013

Analyst: DYV

......

**Project ID:** 

**Reporting Units:** mg/kg

12/2015 Analys

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	1020	98	1040	1050	101	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1090	105	1040	1120	108	3	70-135	35	



# **Sample Duplicate Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464683

 Lab Batch #:
 915867
 Project ID:

 Date Analyzed:
 06/10/2013 14:20
 Date Prepared:
 06/10/2013
 Analyst:
 WRU

 QC- Sample ID:
 464673-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE A	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	1.63	1.57	4	20	

**Lab Batch #:** 915869

 Date Analyzed:
 06/10/2013 15:38
 Date Prepared:
 06/10/2013
 Analyst:
 WRU

 QC- Sample ID:
 464683-014 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	Parent Sample Result [A] Sample Duplicate Result [B] Control Limits %RPD					
Percent Moisture  Analyte	Result	Duplicate Result	RPD	Limits	Flag	
Percent Moisture	3.56	3.41	4	20		

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

Fax:	Phone:
432-563-1713	432-563-1800

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	ple Hand I by Sampler by Courier?	y sea	ree	Con		1									SAR / ESP / CEC		TOTAL	TCLP:			¥ Standard				
	oler/C	als o	of H	ntain											Metals: As Ag Ba Cd Cr Pb Hg	g Se			An		ndan				
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	nple Hand Delivered by Sampler/Client Rep. by Courier? UPS	Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s)	VOCs Free of Headspace?	Sample Containers Intact?	_									-	Semivolatiles	000	-	$\vdash$	e For:				Cot		
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# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West J-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

Relinquished by	Relinquished by	Relinquished by	Special I			16	15	2	= (	7	2	II	LAB # (lab use only)	ORDER #:	(lab use only)							
	ed by Con to l	and bound 6	Special Instructions:			Trench-11 Floor @ 2	Trench-10 Floor @ 4	TIENCIFIC FIOOL @ 2	Transh 10 Elect @ 2'	Trench-9 Floor @ 2'	Trench-8 Floor @ 2'	Trench-7 Floor @ 2'	FIELD CODE		Windling 2		Sampler Signature.	Telephone No: 432.520.7720	City/State/Zip: Midland, TX 79703	Company Address: 2057 Commerce	Company Name Nova Safety and Environmental	Project Manager:
Date	7/17	\(\frac{7}{2}\)							1							]	1		ω		nvironmen	Camille Bryant
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ne	ime	\$ C.											Ending Depth			9	E.					1
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on:	-	Repr				2.00	2.00	4.45	12:30	11:00	10:40	10:10	Time Sampled				e-mail:	Fax No:				
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		27				00	001	2	Soil	Soil	Soil	Soil	GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix				Report Format:		7		Pro
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X													TPH: TX 1005 TX 1006			П		mat	PO	Project Loc:	Project #:	Nar
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Up	by Sampler/Client Rep by Courier? UPS	_abels on container(s) Custody seals on cool Custody seals on cool	Laboratory Comments: Sample Containers Intac VOCs Free of Headspac	$\vdash$			+	-			-	-	Metals: As Ag Ba Cd Cr Pb Hg	Se Se	1	Ana		Standard				stori
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Temperature Upon Receipti	0	Labels on container(s) Custody seals on cooler(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?	$\vdash$			< >	<	×	×	×	×	Semivolatiles  BTEX 8021B/5030 o BTEX 82	260	+	Analyze For:				Lea County, New Mexico		Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116
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Work Order #: 464683

### **XENCO Laboratories**

## Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/07/2013 02:18:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

**Temperature Measuring device used:** 

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.5	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	Yes	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	Yes	

Analyst:	PH D	evice/Lot#:	
Checklist comp	leted by:	Kelsey Brooks	Date: <u>06/07/2013</u>
Checklist revie	wed by:	Mms Hoah  Kelsey Brooks	Date: <u>06/07/2013</u>

# **Analytical Report 464554**

# for

### **Southern Union Gas Services- Monahans**

Project Manager: Camille Bryant
SUGS Historical A-14 6 Inch Line 1RP-1116

### 13-JUN-13

Collected By: Client





### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135) Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





13-JUN-13

Project Manager: Camille Bryant

**Southern Union Gas Services- Monahans** 

801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 464554

**SUGS Historical A-14 6 Inch Line 1RP-1116**Project Address: Lea County, New Mexico

### **Camille Bryant:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464554. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464554 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectivity,

**Kelsey Brooks** 

Project Manager

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# **Sample Cross Reference 464554**



## Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical A-14 6 Inch Line 1RP-1116

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
RP @ 12'	S	06-03-13 12:50		464554-001
RP @ 18'	S	06-03-13 15:15		464554-002



### **CASE NARRATIVE**



Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Project ID: Work Order Number(s): 464554	Report Date: Date Received:	

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



# Certificate of Analysis Summary 464554

# Southern Union Gas Services- Monahans, Monahans, TX Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



Project Id:

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Thu Jun-06-13 10:51 am

**Report Date:** 13-JUN-13

**Project Manager:** Kelsey Brooks

I								
Lab Id:	464554-0	01	464554-0	02				
Field Id:	RP @ 12	2'	RP @ 18	3'				
Depth:								
Matrix:	SOIL		SOIL					
Sampled:	Jun-03-13 1	2:50	Jun-03-13 1	5:15				
Extracted:	Jun-10-13 (	08:00	Jun-10-13 0	8:00				
Analyzed:	Jun-10-13 1	0:49	Jun-10-13 1	1:06				
Units/RL:	mg/kg	RL	mg/kg	RL				
	ND	0.00108	ND	0.00107				
	ND	0.00216						
	ND	0.00108	ND	0.00107				
Extracted:	Jun-11-13	1:31	Jun-11-13 1	1:31				
Analyzed:	Jun-13-13 (	3:35	Jun-13-13 0	4:30				
Units/RL:	mg/kg	RL	mg/kg	RL				
	97.5	2.00	49.9	2.00				
Extracted:								
Analyzed:	Jun-06-13 1	16:35	Jun-06-13 1	6:35				
Units/RL:	%	RL	%	RL				
	8.32	1.00	6.84	1.00				
Extracted:	Jun-07-13 1	7:00	Jun-07-13 1	7:00				
Analyzed:	Jun-11-13 (	)3:23	Jun-11-13 1	1:05				
Units/RL:	mg/kg	RL	mg/kg	RL				
	ND	16.4	ND	16.1				
	ND	16.4	ND	16.1				
	ND	16.4	ND	16.1				
	ND	16.4	ND	16.1				
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Analyzed: Analyzed: Analyzed:	Field Id:         RP @ 12           Depth:         Matrix:         SOIL           Sampled:         Jun-03-13 1           Extracted:         Jun-10-13 0           Analyzed:         Jun-10-13 0           ND         ND           ND         ND           ND         ND           Extracted:         Jun-11-13 0           Analyzed:         Jun-13-13 0           Units/RL:         %           Extracted:         Analyzed:           Units/RL:         %           Extracted:         Analyzed:           Jun-07-13 0         Jun-11-13 0           Units/RL:         mg/kg           ND         ND           ND         ND	Field Id:         RP @ 12'           Depth:         Matrix:         SOIL           Sampled:         Jun-03-13 12:50           Extracted:         Jun-10-13 08:00           Analyzed:         Jun-10-13 10:49           Units/RL:         mg/kg         RL           ND         0.00108           ND         0.00216           ND         0.00108           ND         0.00108           ND         0.00108           Extracted:         Jun-11-13 11:31           Analyzed:         Jun-13-13 03:35           Units/RL:         mg/kg         RL           Analyzed:         Jun-06-13 16:35           Units/RL:         %         RL           Extracted:         Jun-07-13 17:00           Analyzed:         Jun-11-13 03:23           Units/RL:         mg/kg         RL           ND         16.4         ND         16.4           ND         16.4         ND         16.4           ND         16.4         ND         16.4	Field Id:         RP @ 12'         RP @ 18'           Depth:         Matrix:         SOIL         SOIL           Sampled:         Jun-03-13 12:50         Jun-03-13 1           Extracted:         Jun-10-13 08:00         Jun-10-13 0           Analyzed:         Jun-10-13 10:49         Jun-10-13 1           Units/RL:         mg/kg         RL         mg/kg           ND         0.00108         ND           ND         0.00216         ND           ND         0.00108         ND           ND         0.00108         ND           ND         0.00108         ND           Extracted:         Jun-11-13 11:31         Jun-11-13 1           Analyzed:         Jun-13-13 03:35         Jun-13-13 0           Units/RL:         mg/kg         RL         mg/kg           Extracted:         Analyzed:         Jun-06-13 16:35         Jun-06-13 1           Units/RL:         %         RL         %           Extracted:         Jun-07-13 17:00         Jun-07-13 1         Jun-11-13 03:23         Jun-11-13 1           Units/RL:         mg/kg         RL         mg/kg           ND         16.4         ND           ND         16.4	Field Id:         RP @ 12'         RP @ 18'           Depth:         Matrix:         SOIL         SOIL           Sampled:         Jun-03-13 12:50         Jun-03-13 15:15           Extracted:         Jun-10-13 08:00         Jun-10-13 08:00         Jun-10-13 11:06           Analyzed:         Jun-10-13 10:49         Jun-10-13 11:06         mg/kg         RL           ND         0.00108         ND         0.00107           ND         0.00216         ND         0.00213           ND         0.00216         ND         0.00107           ND         0.00108         ND         0.00107           ND         0.00108         ND         0.00107           ND         0.00108         ND         0.00107           ND         0.00108         ND         0.00107           Extracted:         Jun-11-13 11:31         Jun-11-13 11:31         Jun-11-13 11:31           Analyzed:         Jun-13-13 03:35         Jun-13-13 04:30         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL           Analyzed:         Jun-06-13 16:35         Jun-06-13 16:35         Jun-06-13 17:00           Analyzed:         Jun-07-13 17:00 <td< td=""><td>Field Id:         RP @ 18'           Matrix:         SOIL         SOIL         SOIL           Sampled:         Jun-03-13 12:50         Jun-03-13 15:15           Extracted:         Jun-10-13 08:00         Jun-10-13 08:00           Analyzed:         Jun-10-13 10:49         Jun-10-13 11:06           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00108         ND         0.00107           ND         0.00216         ND         0.00213           ND         0.00108         ND         0.00107           Extracted:         Jun-11-13 11:31         Jun-11-13 11:31         Jun-11-13 11:31           Analyzed:         Jun-13-13 03:35         Jun-13-13 04:30         RL           Extracted:         MR         mg/kg         RL           Units/RL:         %         RL         %         RL           Extracted:         Jun-06-13 16:35         Jun-06-13 17</td><td>  Field Id:</td><td>  Field Id:</td></td<>	Field Id:         RP @ 18'           Matrix:         SOIL         SOIL         SOIL           Sampled:         Jun-03-13 12:50         Jun-03-13 15:15           Extracted:         Jun-10-13 08:00         Jun-10-13 08:00           Analyzed:         Jun-10-13 10:49         Jun-10-13 11:06           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00108         ND         0.00107           ND         0.00216         ND         0.00213           ND         0.00108         ND         0.00107           Extracted:         Jun-11-13 11:31         Jun-11-13 11:31         Jun-11-13 11:31           Analyzed:         Jun-13-13 03:35         Jun-13-13 04:30         RL           Extracted:         MR         mg/kg         RL           Units/RL:         %         RL         %         RL           Extracted:         Jun-06-13 16:35         Jun-06-13 17	Field Id:	Field Id:

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks Project Manager



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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4143 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
6017 Financial Drive, Norcross, GA 30071	(770) 449-8800	(770) 449-5477
3725 E. Atlanta Ave, Phoenix, AZ 85040	(602) 437-0330	

<sup>\*</sup> Surrogate recovered outside laboratory control limit.



4-Bromofluorobenzene

# Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

0.0300

87

80-120

 Work Orders: 464554,
 Project ID:

 Lab Batch #: 915856
 Sample: 464554-001 / SMP
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/10/13 10:49 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** %R [A] [B] %R [D] **Analytes** 1,4-Difluorobenzene 0.0244 0.0300 81 80-120

0.0262

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/10/13 11:06 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0245 0.0300 80-120 4-Bromofluorobenzene 0.0273 0.0300 91 80-120

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/11/13 03:23	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	48.6	50.0	97	70-135	

**Lab Batch #:** 915871 **Sample:** 464554-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg Date Analyzed: 06/11/13 11:05	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	93.5	99.8	94	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 915856 Sample: 639463-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 09:10	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0353	0.0300	118	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464554,

Lab Batch #: 915871

Sample: 639417-1-BLK / BLK

Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/11/13 02:58	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	99.7	95	70-135	
o-Terphenyl	51.9	49.9	104	70-135	

Lab Batch #: 915856 Sample: 639463-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 08:21	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0334	0.0300	111	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	80-120	

Lab Batch #: 915871 Sample: 639417-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/11/13 02:08	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	96.9	99.9	97	70-135	
o-Terphenyl	59.3	50.0	119	70-135	

Lab Batch #: 915856 Sample: 639463-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 08:37	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 915871 Sample: 639417-1-BSD / BSD Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/11/13 02:33	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	61.5	50.1	123	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

 Work Orders: 464554,
 Project ID:

 Lab Batch #: 915856
 Sample: 464683-004 S / MS
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg **Date Analyzed:** 06/10/13 12:28 True Amount Control BTEX by EPA 8021B Amount Limits Flags **Found** Recovery %R [A] [B] %R [D] **Analytes** 1,4-Difluorobenzene 0.0296 0.0300 99 80-120 4-Bromofluorobenzene 0.0300 0.0314 105 80-120

**Lab Batch #:** 915871 **Sample:** 464554-002 S / MS **Batch:** 1 **Matrix:** Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/11/13 04:13 Amount True Control TPH By SW8015 Mod Recovery **Found** Amount Limits **Flags** [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 89.8 100 90 70-135 o-Terphenyl 56.3 50.1 112 70-135

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/10/13 12:44	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

**Lab Batch #:** 915871 **Sample:** 464554-002 SD / MSD **Batch:** 1 **Matrix:** Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/11/13 04:38	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	59.6	50.1	119	70-135	

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **Blank Spike Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Work Order #: 464554 Project ID:

 Lab Batch #:
 916083
 Sample:
 639475-1-BKS
 Matrix:
 Solid

 Date Analyzed:
 06/13/2013
 Date Prepared:
 06/11/2013
 Analyst:
 RKO

Reporting Units: mg/kg	Batch #: 1	BLANK /E	BLANK SPI	KE REC	COVERYS	STUDY
Inorganic Anions by EPA 300/300.1	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes	[A]	[B]	Result [C]	%R [D]	%R	
Chloride	<10.0	500	511	102	80-120	

Blank Spike Recovery [D] = 100\*[C]/[B]All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



### **BS / BSD Recoveries**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464554 Analyst: DYV

**Date Prepared:** 06/10/2013 **Batch #:** 1

**Project ID:** 

**Date Analyzed:** 06/10/2013

**Lab Batch ID:** 915856

**Sample:** 639463-1-BKS

Matrix: Solid

Units:	mg/kg
--------	-------

# BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Benzene	< 0.00100	0.100	0.0920	92	0.0998	0.0872	87	5	70-130	35	
Toluene	< 0.00200	0.100	0.0949	95	0.0998	0.0928	93	2	70-130	35	
Ethylbenzene	< 0.00100	0.100	0.106	106	0.0998	0.105	105	1	71-129	35	
m,p-Xylenes	< 0.00200	0.200	0.193	97	0.200	0.191	96	1	70-135	35	
o-Xylene	< 0.00100	0.100	0.102	102	0.0998	0.0995	100	2	71-133	35	

**Date Prepared:** 06/07/2013 Analyst: DYV **Date Analyzed:** 06/11/2013

Matrix: Solid **Lab Batch ID:** 915871 **Batch #:** 1 **Sample:** 639417-1-BKS

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY Units: mg/kg

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	1030	103	1000	1030	103	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1100	110	1000	1080	108	2	70-135	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E] All results are based on MDL and Validated for QC Purposes



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464554

**Project ID:** 

**Lab Batch ID:** 915856

**QC- Sample ID:** 464683-004 S

Batch #:

Matrix: Soil

**Date Analyzed:** 06/10/2013

**Date Prepared:** 06/10/2013

Analyst: DYV

Analyst. D1 v

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Parent Sample	Spike	Spiked Sample Result	Sample	_	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Benzene	< 0.000996	0.0996	0.0821	82	0.100	0.0824	82	0	70-130	35	
Toluene	< 0.00199	0.0996	0.0869	87	0.100	0.0861	86	1	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.0996	100	0.100	0.0881	88	12	71-129	35	
m,p-Xylenes	< 0.00199	0.199	0.183	92	0.200	0.165	83	10	70-135	35	
o-Xylene	<0.000996	0.0996	0.0874	88	0.100	0.0850	85	3	71-133	35	

 Lab Batch ID:
 916083
 QC- Sample ID:
 464554-001 S
 Batch #:
 1
 Matrix:
 Soil

Date Analyzed: 06/13/2013 Date Prepared: 06/11/2013 Analyst: RKO

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	97.5	100	182	85	100	183	86	1	80-120	20	

**Lab Batch ID:** 915871 **QC- Sample ID:** 464554-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/11/2013 Date Prepared: 06/07/2013 Analyst: DYV

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.1	1080	1080	100	1080	1070	99	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.1	1080	1140	106	1080	1150	106	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



# **Sample Duplicate Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464554

 Lab Batch #:
 915637
 Project ID:

 Date Analyzed:
 06/06/2013 16:35
 Date Prepared:
 06/06/2013
 Analyst:
 WRU

 QC- Sample ID:
 464554-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE / SAMPLE DUPLICATE RECOVERY									
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag					
Analyte										
Percent Moisture	8.32	8.20	1	20						

# Xenco Laboratories The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Relinquished by:	Relinquished by Relinquished by	Special								LAB # (lab use only)	ORDER #:	(lab use only)								The Envi
ned by:	and by the the	Special Instructions:						RP	RF	FIEL	4	WIND WIND	Campion Oignator	Campler Cionatura	Telephone No:	City/State/Zip:	Company Address:	Company Name	Project Manager:	The Environmental Lab of Texas
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Temperature Upon Receipt:	Labels on container(s) Custody seals on container Custody seals on cooler(s) Sample Hand Delivered by Sampler/Client Rep. 2 by Courier? UPS	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?	$\vdash$	-	-	-		-	-	SAR / ESP / CEC		F. 19	41		Standard		4		를 등	T 7
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Page 14 of 15



### **XENCO Laboratories**

## Prelogin/Nonconformance Report- Sample Log-In



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/06/2013 10:51:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Work Order #: 464554	Temperature Measuring device used :					
Sample Recei	pt Checklist Comments					
#1 *Temperature of cooler(s)?	3					
#2 *Shipping container in good condition?	Yes					
#3 *Samples received on ice?	Yes					
#4 *Custody Seals intact on shipping container/ cooler?	Yes					
#5 Custody Seals intact on sample bottles?	Yes					
#6 *Custody Seals Signed and dated?	Yes					
#7 *Chain of Custody present?	Yes					
#8 Sample instructions complete on Chain of Custody?	Yes					
#9 Any missing/extra samples?	No					
#10 Chain of Custody signed when relinquished/ received?	Yes					
#11 Chain of Custody agrees with sample label(s)?	Yes					
#12 Container label(s) legible and intact?	Yes					
#13 Sample matrix/ properties agree with Chain of Custody	? Yes					
#14 Samples in proper container/ bottle?	Yes					
#15 Samples properly preserved?	Yes					
#16 Sample container(s) intact?	Yes					
#17 Sufficient sample amount for indicated test(s)?	Yes					
#18 All samples received within hold time?	Yes					
#19 Subcontract of sample(s)?	Yes					
#20 VOC samples have zero headspace (less than 1/4 inch	bubble)? Yes					
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes					
#22 >10 for all samples preserved with NaAsO2+NaOH, Zn	Ac+NaOH? Yes					
* Must be completed for after-hours delivery of samples p	prior to placing in the refrigerator					

Analyst: PH Device/Lot#: Checklist completed by:

Kelsey Brooks

Checklist reviewed by:

Kelsey Brooks Date: 06/06/2013 Date: 06/06/2013

# **Analytical Report 464805**

# for **Southern Union Gas Services- Monahans**

**Project Manager: Camille Bryant** SUGS Historical A-14 6 Inch Line 1RP-1116

18-JUN-13

Collected By: Client





### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135) Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)





18-JUN-13

Project Manager: Camille Bryant

**Southern Union Gas Services- Monahans** 

801 South Loop 464 Monahans, TX 79756

Reference: XENCO Report No(s): 464805

**SUGS Historical A-14 6 Inch Line 1RP-1116**Project Address: Lea County, New Mexico

### **Camille Bryant**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 464805. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 464805 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectivity,

**Kelsey Brooks** 

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



# **Sample Cross Reference 464805**



## Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical A-14 6 Inch Line 1RP-1116

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Trench 12 @ 2'	S	06-06-13 10:00		464805-001
Trench 13 @ 2'	S	06-06-13 11:00		464805-002
RP South S/W @ 11'	S	06-07-13 09:00		464805-003



### **CASE NARRATIVE**



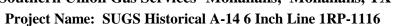
Client Name: Southern Union Gas Services- Monahans Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

Project ID: Report Date: 18-JUN-13 Work Order Number(s): 464805 Date Received: 06/11/2013



# Certificate of Analysis Summary 464805

### Southern Union Gas Services- Monahans, Monahans, TX





**Project Id:** 

**Contact:** Camille Bryant

Project Location: Lea County, New Mexico

**Date Received in Lab:** Tue Jun-11-13 11:20 am

**Report Date:** 18-JUN-13

Project Manager: Kelsey Brooks

							1 Toject Manager.	Reisey Brooks	
Lab Id:	464805-0	)01	464805-00	02	464805-0	003			
Field Id:	Trench 12	@ 2'	Trench 13 (	@ 2'	RP South S/W	V @ 11'			
Depth:									
Matrix:	SOIL		SOIL		SOIL				
Sampled:	Jun-06-13 1	10:00	Jun-06-13 1	1:00	Jun-07-13 (	09:00			
Extracted:	Jun-12-13	10:00	Jun-12-13 1	0:00	Jun-12-13	10:00			
Analyzed:	Jun-12-13	11:53	Jun-12-13 1	2:10	Jun-12-13	12:26			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
		0.00104		0.00103		0.00103			
	ND	0.00208	ND	0.00207	ND	0.00205			
	ND	0.00104	ND	0.00103	ND	0.00103			
	ND	0.00208	ND	0.00207	ND	0.00205			
	ND	0.00104	ND	0.00103	ND	0.00103			
	ND	0.00104	ND	0.00103	ND	0.00103			
	ND	0.00104	ND	0.00103	ND	0.00103			
Extracted:	Jun-14-13	Jun-14-13 10:00		0:00	Jun-14-13	10:00			
Analyzed:	Jun-15-13 (	04:24	Jun-15-13 0	5:08	Jun-15-13 (	05:29			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
	5.97	2.00	18.6	2.00	37.9	2.00			
Extracted:									
Analyzed:	Jun-11-13	13:00	Jun-11-13 1	3:00	Jun-11-13	13:00			
Units/RL:	%	RL	%	RL	%	RL			
	3.39	1.00	3.94	1.00	3.57	1.00			
Extracted:	Jun-13-13	12:30	Jun-13-13 1	2:30	Jun-13-13	12:30			
Analyzed:	Jun-13-13 2	Jun-13-13 21:43		2:07	Jun-13-13	22:32			
Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
	ND	15.6	ND	15.6	ND	15.6			
	ND	15.6	43.7	15.6	ND	15.6			
	ND	15.6	ND	15.6	ND	15.6			
	ND	15.6	43.7	15.6	ND	15.6			
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Units/RL:  Extracted: Analyzed: Analyzed: Analyzed:	Field Id:         Trench 12           Depth:         Matrix:         SOIL           Sampled:         Jun-06-13 1           Extracted:         Jun-12-13 1           Analyzed:         Jun-12-13 1           Units/RL:         mg/kg           ND         ND           ND         ND           ND         ND           Extracted:         Jun-14-13 1           Analyzed:         Jun-15-13 0           Units/RL:         %           Extracted:         Jun-11-13 1           Analyzed:         Jun-13-13 1           Units/RL:         mg/kg           ND         ND           ND         ND           ND         ND	Field Id:         Trench 12 @ 2'           Depth:         Matrix:         SOIL           Sampled:         Jun-06-13 10:00           Extracted:         Jun-12-13 11:53           Units/RL:         mg/kg         RL           ND         0.00104           Extracted:         Jun-14-13 10:00           Analyzed:         Jun-15-13 04:24           mg/kg         RL           5.97         2.00           Extracted:         Analyzed:           Jun-11-13 13:00         Units/RL:           %         RL           3.39         1.00           Extracted:         Jun-13-13 21:43           Units/RL:         mg/kg         RL           ND         15.6           ND         15.6	Field Id:         Trench 12 @ 2'         Trench 13 @ 2'           Depth:         Matrix:         SOIL         SOIL Jun-06-13 1           Sampled:         Jun-06-13 10:00         Jun-12-13 1           Extracted:         Jun-12-13 11:53         Jun-12-13 1           Analyzed:         Jun-12-13 11:53         Jun-12-13 1           Units/RL:         mg/kg         RL         mg/kg           ND         0.00104         ND           ND         0.00208         ND           ND         0.00104         ND           ND         0.00104         ND           ND         0.00104         ND           Extracted:         Jun-14-13 10:00         Jun-14-13 1           Analyzed:         Jun-15-13 04:24         Jun-15-13 0           Units/RL:         mg/kg         RL         mg/kg           Extracted:         Analyzed:         Jun-11-13 13:00         Jun-11-13 1           Units/RL:         %         RL         %           Extracted:         Jun-13-13 2:30         Jun-13-13 1         Jun-13-13 2:43           Units/RL:         mg/kg         RL         mg/kg           ND         15.6         ND           ND         15.6	Field Id:         Trench 12 @ 2'         Trench 13 @ 2'           Depth:         Matrix:         SOIL         SOIL           Sampled:         Jun-06-13 10:00         Jun-12-13 11:00           Extracted:         Jun-12-13 11:53         Jun-12-13 12:10           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00104         ND         0.00103           ND         0.00208         ND         0.00207           ND         0.00104         ND         0.00103           ND         0.00104         ND         0.00103           ND         0.00104         ND         0.00103           ND         0.00104         ND         0.00103           Extracted:         Jun-14-13 10:00         Jun-14-13 10:00         Jun-14-13 10:00           Analyzed:         Jun-15-13 04:24         mg/kg         RL           Units/RL:         mg/kg         RL         mg/kg         RL           Extracted:         Analyzed:         Jun-11-13 13:00         Jun-11-13 13:00           Units/RL:         %         RL         %         RL           Analyzed:         Jun-13-13 21:43         Jun-13-13 22:07           Units/RL:	Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/V           Depth:         Matrix:         SOIL         SOIL <td>Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Depth:         Matrix:         SOIL         S</td> <td>Lab Id:         464805-001         464805-002         464805-003         RP South S/W @ 11'           Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         Jun-06-13 10:00         Jun-06-13 11:00         Jun-07-13 09:00           Extracted:         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00           Analyzed:         Jun-12-13 11:53         Jun-12-13 12:10         Jun-12-13 12:26           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00104         ND         0.00103         ND         0.00103           ND         0.00208         ND         0.00207         ND         0.00205           ND         0.00104         ND         0.00103         ND         0.00103           Extracted:         Jun-14-13 10:00         Jun-14-13 10:00</td> <td>Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Matrix:         SOIL         Jun-07-13 09:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 12:26         mg/kg         RL         Mg/kg         Mg/kg</td>	Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Depth:         Matrix:         SOIL         S	Lab Id:         464805-001         464805-002         464805-003         RP South S/W @ 11'           Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Depth:         Matrix:         SOIL         SOIL         SOIL           Sampled:         Jun-06-13 10:00         Jun-06-13 11:00         Jun-07-13 09:00           Extracted:         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00           Analyzed:         Jun-12-13 11:53         Jun-12-13 12:10         Jun-12-13 12:26           Units/RL:         mg/kg         RL         mg/kg         RL           ND         0.00104         ND         0.00103         ND         0.00103           ND         0.00208         ND         0.00207         ND         0.00205           ND         0.00104         ND         0.00103         ND         0.00103           Extracted:         Jun-14-13 10:00         Jun-14-13 10:00	Field Id:         Trench 12 @ 2'         Trench 13 @ 2'         RP South S/W @ 11'           Matrix:         SOIL         Jun-07-13 09:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 10:00         Jun-12-13 12:26         mg/kg         RL         Mg/kg         Mg/kg

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks Project Manager



# **Flagging Criteria**



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantiation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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<sup>\*</sup> Surrogate recovered outside laboratory control limit.



# Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464805, Project ID:

Lab Batch #: 916079 Sample: 464805-001 / SMP Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/12/13 11:53	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/12/13 12:10	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0244	0.0300	81	80-120	

Units: mg/kg Date Analyzed: 06/12/13 12:26	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

**Lab Batch #:** 916300 **Sample:** 464805-001 / SMP **Batch:** 1 **Matrix:** Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 21:43	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	47.6	50.2	95	70-135	

Units: mg/kg Date Analyzed: 06/13/13 22:07	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	85.3	100	85	70-135	
o-Terphenyl	46.8	50.1	93	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



o-Terphenyl

# Form 2 - Surrogate Recoveries

Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

50.2

104

70-135

 Work Orders: 464805,
 Project ID:

 Lab Batch #: 916300
 Sample: 464805-003 / SMP
 Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/13/13 22:32 Amount True Control TPH By SW8015 Mod **Found** Amount Recovery Limits **Flags** %R [A] [B] %R [D] **Analytes** 1-Chlorooctane 95.5 100 96 70-135

52.2

Lab Batch #: 916079 Sample: 639597-1-BLK / BLK Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY Units: mg/kg Date Analyzed: 06/12/13 11:37 Amount True Control BTEX by EPA 8021B **Found** Amount Recovery Limits **Flags** [A] [B] %R %R [D] **Analytes** 1,4-Difluorobenzene 0.0256 0.0300 85 80-120 4-Bromofluorobenzene 0.0290 0.0300 97 80-120

Lab Batch #: 916300 Sample: 639745-1-BLK / BLK Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 19:10	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	99.5	100	100	70-135	
o-Terphenyl	54.8	50.2	109	70-135	

Lab Batch #: 916079 Sample: 639597-1-BKS / BKS Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/12/13 11:04 SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 916300 Sample: 639745-1-BKS / BKS Batch: 1 Matrix: Solid

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 18:17	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	99.1	99.9	99	70-135	
o-Terphenyl	57.7	50.0	115	70-135	

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

Work Orders: 464805,
Lab Batch #: 916079
Sample: 639597-1-BSD / BSD
Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/12/13 11:2	20 SU	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
Analytes			[D]			
1,4-Difluorobenzene	0.0255	0.0300	85	80-120		
4-Bromofluorobenzene	0.0343	0.0300	114	80-120		

Lab Batch #: 916300 Sample: 639745-1-BSD / BSD Batch: 1 Matrix: Solid

Units: mg/kg Date Analyzed: 06/13/13 18:44	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	98.8	99.5	99	70-135	
o-Terphenyl	57.9	49.8	116	70-135	

Units: mg/kg Date Analyzed: 06/12/13 13:16	SURROGATE RECOVERY STUDY				
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1,4-Difluorobenzene	0.0359	0.0300	120	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

**Lab Batch #:** 916300 **Sample:** 464805-003 S / MS **Batch:** 1 **Matrix:** Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/13/13 22:58	SURROGATE RECOVERY STUDY				
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	94.9	99.9	95	70-135	
o-Terphenyl	56.6	50.0	113	70-135	

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/12/13 13:32	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
Analytes			[D]				
1,4-Difluorobenzene	0.0351	0.0300	117	80-120			
4-Bromofluorobenzene	0.0342	0.0300	114	80-120			

<sup>\*</sup> Surrogate outside of Laboratory QC limits

Surrogate Recovery [D] = 100 \* A / B

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# Form 2 - Surrogate Recoveries

**Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116** 

 Work Orders: 464805,
 Project ID:

 Lab Batch #: 916300
 Sample: 464805-003 SD / MSD
 Batch: 1 Matrix: Soil

<b>Units:</b> mg/kg <b>Date Analyzed:</b> 06/14/13 07:50	SURROGATE RECOVERY STUDY						
TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	91.6	100	92	70-135			
o-Terphenyl	60.6	50.0	121	70-135			

Surrogate Recovery [D] = 100 \* A / B

<sup>\*</sup> Surrogate outside of Laboratory QC limits

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution



# **BS / BSD Recoveries**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464805

**Date Prepared:** 06/12/2013

**Project ID: Date Analyzed:** 06/12/2013

Analyst: DYV **Lab Batch ID:** 916079

Sample: 639597-1-BKS

Matrix: Solid

**Batch #:** 1

Units: mg/kg	BLANK/BLANK SPIKE/BLANK SPIKE DUPLICATE RECOVERY STUDY												
RTEV by EDA 9021R	Rlank	Snike	Rlank	Rlank	Sniko	Rlank	Rlk. Snk		Control	Control			

BTEX by EPA 8021B  Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000994	0.0994	0.0869	87	0.0996	0.0828	83	5	70-130	35	
Toluene	< 0.00199	0.0994	0.0942	95	0.0996	0.0891	89	6	70-130	35	
Ethylbenzene	< 0.000994	0.0994	0.108	109	0.0996	0.103	103	5	71-129	35	
m,p-Xylenes	< 0.00199	0.199	0.198	99	0.199	0.190	95	4	70-135	35	
o-Xylene	< 0.000994	0.0994	0.0951	96	0.0996	0.0975	98	2	71-133	35	

**Date Prepared:** 06/14/2013 **Date Analyzed:** 06/14/2013 Analyst: AMB

Matrix: Solid **Lab Batch ID:** 916443 **Batch #:** 1 **Sample:** 639704-1-BKS

Units: mg/kg		BLAN	K /BLANK S	BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY							
Inorganic Anions by EPA 300/300.1	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<2.00	50.0	47.7	95	50.0	47.6	95	0	80-120	20	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



# **BS / BSD Recoveries**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464805 Analyst: AMB

**Lab Batch ID:** 916249

**Date Prepared:** 06/14/2013

**Project ID: Date Analyzed:** 06/14/2013

**Batch #:** 1

Matrix: Solid

Units: mg/kg

<b>BLANK/BLANK SPIKE</b>	/ BLANK	SPIKE DUPLICATE	RECOVERY STUDY

Inorganic Anions by EPA 300	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride	<2.00	50.0	47.8	96	50.0	47.6	95	0	80-120	20	

Analyst: DYV

Units: mg/kg

**Sample:** 639704-1-BKS

**Date Prepared:** 06/13/2013

**Date Analyzed:** 06/13/2013

Matrix: Solid

**Lab Batch ID:** 916300

**Sample:** 639745-1-BKS

**Batch #:** 1

# BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD	Control Limits %R	Control Limits %RPD	Flag
Analytes	[/1]	[B]	[C]	[D]	[E]	Result [F]	[G]	70	/ <b>U</b> IX	70KI D	
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	1020	102	995	1020	103	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1060	106	995	1050	106	1	70-135	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464805

Lab Batch #: 916443Project ID:Date Analyzed: 06/15/2013Date Prepared: 06/14/2013Analyst: AMB

**QC- Sample ID:** 464805-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg MATRIX / MATRIX SPIKE RECOVERY STUDY **Parent Inorganic Anions by EPA 300** Spiked Sample Control Sample Spike Result %R Limits Flag Result Added [D] %R [C] [A] [B] **Analytes** Chloride 5.97 50.0 51.8 92 80-120

**Lab Batch #:** 916443

Date Analyzed: 06/15/2013 Date Prepared: 06/14/2013 Analyst: AMB

**QC- Sample ID:** 464827-008 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STUDY									
Inorganic Anions by EPA 300  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag				
Chloride	2750	1070	3920	109	80-120					

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

# Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116



**Work Order #:** 464805

Project ID:

**Lab Batch ID:** 916079

mg/kg

**QC- Sample ID:** 464773-002 S

Batch #:

Matrix: Soil

**Date Analyzed:** 06/

**Reporting Units:** 

06/12/2013 **Date Prepared:** 06/12/2013

Analyst: DYV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	< 0.00113	0.113	0.0902	80	0.113	0.0926	82	3	70-130	35	
Toluene	< 0.00225	0.113	0.104	92	0.113	0.112	99	7	70-130	35	
Ethylbenzene	< 0.00113	0.113	0.114	101	0.113	0.127	112	11	71-129	35	
m,p-Xylenes	< 0.00225	0.225	0.210	93	0.226	0.217	96	3	70-135	35	
o-Xylene	< 0.00113	0.113	0.101	89	0.113	0.108	96	7	71-133	35	

**Lab Batch ID:** 916300 **QC- Sample ID:** 464805-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/13/2013 Date Prepared: 06/13/2013 Analyst: DYV

Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.5	1040	1050	101	1040	1010	97	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.5	1040	1120	108	1040	1130	109	1	70-135	35	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference RPD = 200\*|(C-F)/(C+F)| Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E



# **Sample Duplicate Recovery**



Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116

**Work Order #:** 464805

 Lab Batch #:
 915976
 Project ID:

 Date Analyzed:
 06/11/2013 13:00
 Date Prepared:
 06/11/2013
 Analyst:
 WRU

 QC- Sample ID:
 464805-001 D
 Batch #:
 1
 Matrix:
 Soil

Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.39	3.34	1	20	

# Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
12600 West I-20 East
Phone: 432-563-1800
Odessa, Texas 79765
Fax: 432-563-1713

Relingt	Relinquished	Relingu	Specia				u Ú)					LAB # (lab use only)	220	200	(lab use only)							
Relinguished by:	matt Come	emale 7	Special Instructions:						RP Sou	Tren	Tren	FIE		SOXL'E			Sampler Signature:	Telephone No:	City/State/Zip:	Company Address: 2057 Commerce	Company Name	Project Manager:
Date	6/11/13	X40 [1]							RP South S/W @ 11'	Trench 13 @ 2'	Trench 12 @ 2'	FIELD CODE		\rac{1}{2}	١		( amules	A32,520.7720 -	Midland, TX 79703	2057 Commerce	Nova Safety and Environmental	Can
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China	-	Repri							9:00	11:00	10:00	Time Sampled					e-mail:	Fax No:				
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npe	by S	stod	nple Cs F									Anions (CI, SO4, Alkalinity)		75	1 1	П		*	1			US
ratu	Sam	y se	Co								4	SAR / ESP / CEC		IOIAL:	TCLP:	П		X Standard				GS
e U	pler/	als	of H									Metals: As Ag Ba Cd Cr Pb Hg	Se	$\overline{}$		Þ		nda		1		Histo
Temperature Upon Receipt:	Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Laboratory Comments: Sample Containers Intact? VOCs Free of Headspace?									Volatiles			T	Analyze		a		5		Project Name: SUGS Historical A-14 6 Inch Line 1RP-1116
Re	nt R	ont:	int.		9-1							Semivolatiles		1	T	ze f				Lea C		A
ceip	S e q	aine er(s)	act?				10		×	×	×	BTEX 8021B/5030 or BTEX 82	260	1	T	For:				County, New Mexico		14 6
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O	Star							$\vdash$	X	1	Y	RUSH TAT (Pre-Schedule) 24,	, 48	, 72	hrs							
	7								X	X	X	Standard TAT										



# XENCO Laboratories

# **Prelogin/Nonconformance Report- Sample Log-In**



Client: Southern Union Gas Services- Monahan

Date/ Time Received: 06/11/2013 11:20:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

**Work Order #:** 464805

**Temperature Measuring device used:** 

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		6
#2 *Shipping container in good conditi	on?	Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seals intact on shipping	container/ cooler?	Yes
#5 Custody Seals intact on sample bo	ttles?	Yes
#6 *Custody Seals Signed and dated?	•	Yes
#7 *Chain of Custody present?		Yes
#8 Sample instructions complete on C	hain of Custody?	Yes
#9 Any missing/extra samples?		No
#10 Chain of Custody signed when re	linquished/ received?	Yes
#11 Chain of Custody agrees with san	nple label(s)?	Yes
#12 Container label(s) legible and inta	ct?	Yes
#13 Sample matrix/ properties agree v	vith Chain of Custody?	Yes
#14 Samples in proper container/ bott	le?	Yes
#15 Samples properly preserved?		Yes
#16 Sample container(s) intact?		Yes
#17 Sufficient sample amount for indic	cated test(s)?	Yes
#18 All samples received within hold t	ime?	Yes
#19 Subcontract of sample(s)?		Yes
#20 VOC samples have zero headspa	ice (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with	HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with	n NaAsO2+NaOH, ZnAc+NaOH?	Yes
* Must be completed for after-hours of		n the refrigerator
Analyst: PH D	evice/Lot#:	
Checklist completed by:  Checklist reviewed by:	Mmv Moah  Kelsey Brooks  Mmv Moah	Date: 06/11/2013  Date: 06/11/2013
	Kelsey Brooks	Date. 00/11/2013

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 1 of 1

# **Summary Report**

Report Date: March 24, 2015

Work Order: 15031904

Thomas Franklin APEX/Titan 2351 W. Northwest Hwy. Suite 3321 Dallas, Tx 75220

Project Location: Lea Co, NM

Project Name: Regency -A-14 6" Line

Project Number: 7250715006.001

			Date	$\operatorname{Time}$	Date
Sample	Description	Matrix	Taken	Taken	Received
389081	Stockpile-1@Trench-2 Topsoil	soil	2015-03-18	14:40	2015-03-19
389082	Stockpile-2@Trench-3 Topsoil	soil	2015-03-18	14:46	2015-03-19

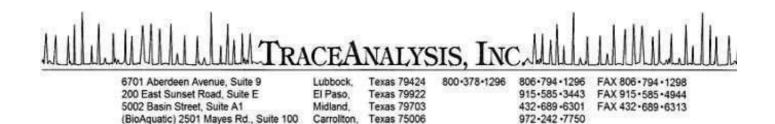
		]	BTEX	TPH DRO - NEW	TPH GRO	
	Benzene	Toluene	Ethylbenzene	DRO	GRO	
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
389081 - Stockpile-1@Trench-2 Topsoil	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	<4.00 Qs
389082 - Stockpile-2@Trench-3 Topsoil	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	$<4.00 _{\mathrm{Qs}}$

# Sample: 389081 - Stockpile-1@Trench-2 Topsoil

Param	Flag	Result	Units	RL
Chloride		< 20.0	$\mathrm{mg/Kg}$	4

### Sample: 389082 - Stockpile-2@Trench-3 Topsoil

Param	Flag	Result	Units	RL
Chloride		< 20.0	m mg/Kg	4



# Certifications

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

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

Thomas Franklin APEX/Titan 2351 W. Northwest Hwy. Suite 3321 Dallas, Tx, 75220

Project Location: Lea Co, NM

Project Name: Regency -A-14 6" Line

Project Number: 7250715006.001

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
389081	Stockpile-1@Trench-2 Topsoil	soil	2015-03-18	14:40	2015-03-19
389082	Stockpile-2@Trench-3 Topsoil	soil	2015-03-18	14:46	2015-03-19

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

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Date: March 24, 2015

15031904

Work Order:

# Report Contents

Case Narrative	3
Analytical Report Sample 389081 (Stockpile-1@Trench-2 Topsoil)	<b>4</b> 4
Method Blanks	7
QC Batch 120142 - Method Blank (1)	7
QC Batch 120148 - Method Blank (1)	7
QC Batch 120168 - Method Blank (1)	7
QC Batch 120169 - Method Blank (1)	8
Laboratory Control Spikes	9
QC Batch 120142 - LCS (1)	ç
QC Batch 120148 - LCS (1)	9
QC Batch 120168 - LCS (1)	9
QC Batch 120169 - LCS (1)	10
Matrix Spikes	12
	12
QC Batch 120148 - MS (1)	12
QC Batch 120168 - MS (1)	12
QC Batch 120169 - MS (1)	13
Calibration Standards	15
	15
·	$\frac{15}{15}$
· · · · · · · · · · · · · · · · · · ·	15
	15
·	15
QC Batch 120168 - CCV (2)	16
	16
QC Batch 120169 - CCV (2)	16
Appendix	17
	$\frac{1}{17}$
•	17
Standard Flags	
	15

# Case Narrative

Samples for project Regency -A-14 6" Line were received by TraceAnalysis, Inc. on 2015-03-19 and assigned to work order 15031904. Samples for work order 15031904 were received intact at a temperature of 4.1 C.

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

		$\operatorname{Prep}$	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	101644	2015-03-20 at 07:53	120168	2015-03-23 at 07:26
Chloride (Titration)	SM $4500$ -Cl B	101653	2015-03-20 at 11:50	120142	2015-03-20 at 11:51
TPH DRO - NEW	S 8015 D	101652	2015-03-19 at 17:00	120148	2015-03-20 at $12:52$
TPH GRO	S 8015 D	101644	2015-03-20 at $07:53$	120169	2015-03-23 at $07:31$

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 15031904 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: March 24, 2015 Work Order: 15031904 Page Number: 4 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

# **Analytical Report**

### Sample: 389081 - Stockpile-1@Trench-2 Topsoil

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 Sample Preparation: 2015-03-20 Prepared By: AK

			$\operatorname{RL}$			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	U	1	< 0.0200	m mg/Kg	1	0.0200
Toluene	U	1	< 0.0200	$\mathrm{mg}/\mathrm{Kg}$	1	0.0200
Ethylbenzene	U	1	< 0.0200	$\mathrm{mg}/\mathrm{Kg}$	1	0.0200
Xylene	U	1	< 0.0200	mg/Kg	1	0.0200

						$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	70 - 130
4-Bromofluorobenzene (4-BFB)			2.10	mg/Kg	1	2.00	105	70 - 130

### Sample: 389081 - Stockpile-1@Trench-2 Topsoil

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EM Prep Batch: 101653 Sample Preparation: 2015-03-20 Prepared By: EM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	U		< 20.0	mg/Kg	5	4.00

### Sample: 389081 - Stockpile-1@Trench-2 Topsoil

Laboratory: Midland

TPH DRO - NEW Analytical Method: Prep Method: Analysis: S 8015 D N/AQC Batch: 120148 Date Analyzed: 2015-03-20 Analyzed By: SCPrep Batch: 101652 Sample Preparation: 2015-03-19 Prepared By: SC

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

Report Date: March 24, 2015 7250715006.001

Work Order: 15031904

Regency -A-14 6" Line

Page Number: 5 of 18

Lea Co, NM

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			105	mø/Kø	1	100	105	70 - 130

### Sample: 389081 - Stockpile-1@Trench-2 Topsoil

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AKPrep Batch: 101644 Sample Preparation: 2015-03-20 Prepared By: AK

RLParameter Flag  $\operatorname{Cert}$ Result Units Dilution RL $\overline{GRO}$ < 4.00mg/Kg 4.00 Qs,U

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.91	$\mathrm{mg}/\mathrm{Kg}$	1	2.00	96	70 - 130

# Sample: 389082 - Stockpile-2@Trench-3 Topsoil

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 120168 Date Analyzed: 2015 - 03 - 23Analyzed By: AK2015-03-20 Prep Batch: 101644 Sample Preparation: Prepared By: AK

RLParameter Flag Cert Result Units Dilution RL0.0200 Benzene < 0.0200 mg/Kg 1 U 1 Toluene < 0.0200mg/Kg1 0.0200U 1 0.0200Ethylbenzene < 0.0200mg/KgU mg/Kg1 0.0200Xylene U < 0.0200

						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			2.04	mg/Kg	1	2.00	102	70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 6 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

### Sample: 389082 - Stockpile-2@Trench-3 Topsoil

Laboratory: Midland

Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EMSample Preparation: Prep Batch: 101653 2015-03-20 Prepared By: EM

### Sample: 389082 - Stockpile-2@Trench-3 Topsoil

Laboratory: Midland

Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/AQC Batch: SC120148 Date Analyzed: 2015-03-20 Analyzed By: Prep Batch: 101652 Sample Preparation: 2015 - 03 - 19Prepared By: SC

RLParameter Flag Cert Result Dilution RLUnits  $\overline{\mathrm{DRO}}$ U < 50.0 mg/Kg 1 50.0 1 a .1

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			114	mg/Kg	1	100	114	70 - 130

### Sample: 389082 - Stockpile-2@Trench-3 Topsoil

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 Sample Preparation: Prepared By: 2015-03-20 AK

						$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.75	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 7 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

# **Method Blanks**

Method Blank (1) QC Batch: 120142

QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EM Prep Batch: 101653 QC Preparation: 2015-03-20 Prepared By: EM

		$\mathrm{MDL}$							
Parameter	Flag	Cert	Result	Units	RL				
Chloride			< 3.85	mg/Kg	4				

Method Blank (1) QC Batch: 120148

QC Batch: 120148 Date Analyzed: 2015-03-20 Analyzed By: SC Prep Batch: 101652 QC Preparation: 2015-03-19 Prepared By: SC

			MDL		
Parameter	$\operatorname{Flag}$	Cert	Result	Units	RL
DRO		1	< 7.41	mg/Kg	50

MINT

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qsr		147	${ m mg/Kg}$	1	100	147	70 - 130

Method Blank (1) QC Batch: 120168

QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 QC Preparation: 2015-03-20 Prepared By: AK

			MDL		
Parameter	Flag	$\operatorname{Cert}$	Result	Units	RL
Benzene		1	< 0.00533	m mg/Kg	0.02
Toluene		1	< 0.00645	$\mathrm{mg}/\mathrm{Kg}$	0.02
Ethylbenzene		1	< 0.0116	$\mathrm{mg}/\mathrm{Kg}$	0.02
Xylene		1	< 0.00874	$\mathrm{mg}/\mathrm{Kg}$	0.02

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.85	mg/Kg	1	2.00	92	70 - 130

 $continued \dots$ 

Report Date: March 24, 2015

7250715006.001

Work Order: 15031904

Page Number: 8 of 18 Regency -A-14 6" Line Lea Co, NM

method blank continued								
						Spike	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
4-Bromofluorobenzene (4-BFB)			2.01	mg/Kg	1	2.00	100	70 - 130

Method Blank (1) QC Batch: 120169

QC Batch: 120169 Date Analyzed: Analyzed By: 2015 - 03 - 23

AKPrep Batch: 101644 QC Preparation: Prepared By: 2015 - 03 - 20AK

MDL $\operatorname{Cert}$  $\operatorname{RL}$  ${\bf Parameter}$ Flag  ${\bf Result}$ Units  $\overline{\text{GRO}}$ < 2.32 1 mg/Kg

						$\operatorname{Spike}$	Percent	Recovery
Surrogate	Flag	$\operatorname{Cert}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 9 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

# Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 120142 Prep Batch: 101653

Date Analyzed: 2015-03-20 QC Preparation: 2015-03-20 Analyzed By: EM Prepared By: EM

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	$\operatorname{Limit}$
Chloride			2540	mg/Kg	5	2500	<19.2	101	85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2540	mg/Kg	5	2500	<19.2	101	85 - 115	0	20

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

### Laboratory Control Spike (LCS-1)

QC Batch: 120148 Prep Batch: 101652 Date Analyzed: 2015-03-20 QC Preparation: 2015-03-19 Analyzed By: SC Prepared By: SC

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	259	mg/Kg	1	250	< 7.41	104	70 - 130

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	221	mg/Kg	1	250	< 7.41	88	70 - 130	16	20

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

			LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	Qsr	Qsr	132	129	mg/Kg	1	100	132	129	70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 10 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

### Laboratory Control Spike (LCS-1)

QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 QC Preparation: 2015-03-20 Prepared By: AK

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	2.02	mg/Kg	1	2.00	< 0.00533	101	70 - 130
Toluene		1	1.96	mg/Kg	1	2.00	< 0.00645	98	70 - 130
Ethylbenzene		1	1.98	mg/Kg	1	2.00	< 0.0116	99	70 - 130
Xylene		1	5.97	mg/Kg	1	6.00	< 0.00874	100	70 - 130

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	2.03	mg/Kg	1	2.00	< 0.00533	102	70 - 130	0	20
Toluene		1	1.94	mg/Kg	1	2.00	< 0.00645	97	70 - 130	1	20
Ethylbenzene		1	1.94	mg/Kg	1	2.00	< 0.0116	97	70 - 130	2	20
Xylene		1	5.88	mg/Kg	1	6.00	< 0.00874	98	70 - 130	2	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.69	1.62	mg/Kg	1	2.00	84	81	70 - 130
4-Bromofluorobenzene (4-BFB)	2.00	1.92	mg/Kg	1	2.00	100	96	70 - 130

### Laboratory Control Spike (LCS-1)

QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 QC Preparation: 2015-03-20 Prepared By: AK

			LCS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	21.9	mg/Kg	1	20.0	< 2.32	110	70 - 130

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	23.0	mg/Kg	1	20.0	< 2.32	115	70 - 130	5	20

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

 $continued \dots$ 

Work Order: 15031904 Page Number: 11 of 18 Report Date: March 24, 2015 7250715006.001Regency -A-14 6" Line Lea Co, NM control spikes continued . . . LCS LCSDSpike LCSLCSD Rec. Result Units Dil. Amount Limit  ${\bf Surrogate}$ Result Rec.  ${\rm Rec.}$ LCSLCSLCSD ${\rm Spike}$ LCSD Rec. Limit  ${\bf Surrogate}$ Result Result Units Dil. Amount  ${\rm Rec.}$ Rec. Trifluorotoluene (TFT) mg/Kg 70 - 130 1.84 1.85 1 2.00 92 92

1.91

mg/Kg

1

2.00

94

96

70 - 130

1.89

4-Bromofluorobenzene (4-BFB)

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 12 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

# Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 389003

QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EM Prep Batch: 101653 QC Preparation: 2015-03-20 Prepared By: EM

			MS			$_{ m Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2820	mg/Kg	5	2500	<19.2	113	78.9 - 121

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			3000	mg/Kg	5	2500	<19.2	120	78.9 - 121	6	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: 389081

QC Batch: 120148 Date Analyzed: 2015-03-20 Analyzed By: SC Prep Batch: 101652 QC Preparation: 2015-03-19 Prepared By: SC

			MS			Spike	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	198	mg/Kg	1	250	< 7.41	79	70 - 130

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
DRO		1	192	mg/Kg	1	250	< 7.41	77	70 - 130	3	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	113	105	mg/Kg	1	100	113	105	70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 13 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

Matrix Spike (MS-1) Spiked Sample: 389081

QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 QC Preparation: 2015-03-20 Prepared By: AK

			MS			$\operatorname{Spike}$	Matrix		Rec.
Param	$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.65	mg/Kg	1	2.00	< 0.00533	82	70 - 130
Toluene		1	1.67	$\mathrm{mg}/\mathrm{Kg}$	1	2.00	< 0.00645	84	70 - 130
Ethylbenzene		1	1.77	mg/Kg	1	2.00	< 0.0116	88	70 - 130
Xylene		1	5.42	mg/Kg	1	6.00	< 0.00874	90	70 - 130

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
Benzene		1	1.68	mg/Kg	1	2.00	< 0.00533	84	70 - 130	2	20
Toluene		1	1.72	mg/Kg	1	2.00	< 0.00645	86	70 - 130	3	20
Ethylbenzene		1	1.83	mg/Kg	1	2.00	< 0.0116	92	70 - 130	3	20
Xylene		1	5.56	mg/Kg	1	6.00	< 0.00874	93	70 - 130	3	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.65	1.55	mg/Kg	1	2	82	78	70 - 130
4-Bromofluorobenzene (4-BFB)	2.04	1.98	mg/Kg	1	2	102	99	70 - 130

Matrix Spike (MS-1) Spiked Sample: 389081

QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AK Prep Batch: 101644 QC Preparation: 2015-03-20 Prepared By: AK

				MS			Spike	Matrix		Rec.
Param		$\mathbf{F}$	$\mathbf{C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	Qs	Qs	1	12.6	mg/Kg	1	20.0	< 2.32	63	70 - 130

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
GRO		1	14.8	mg/Kg	1	20.0	< 2.32	74	70 - 130	16	20

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

 $continued \dots$ 

Report Date: March 24, 2015 Work Order: 15031904Page Number: 14 of 18 7250715006.001Regency -A-14 6" Line Lea Co, NM matrix spikes continued . . . MSMSDSpike MSMSDRec. Result  ${\bf Units}$ Dil. Amount Limit  ${\bf Surrogate}$ Result Rec. Rec. MSMSDSpike MS $\operatorname{MSD}$  ${\rm Rec.}$ Dil. Limit  ${\bf Surrogate}$ Result Result Units Amount Rec. Rec. Trifluorotoluene (TFT) mg/Kg70 - 130 1.77 2 1.75 1 88 88 2 4-Bromofluorobenzene (4-BFB) 1.951.99mg/Kg1 98 100 70 - 130

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 15 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

# Calibration Standards

### Standard (ICV-1)

QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EM

				ICVs	ICVs	ICVs	Percent	D. A
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2015-03-20

# Standard (CCV-1)

QC Batch: 120142 Date Analyzed: 2015-03-20 Analyzed By: EM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.0	99	85 - 115	2015-03-20

### Standard (CCV-1)

QC Batch: 120148 Date Analyzed: 2015-03-20 Analyzed By: SC

				CCVs	$\operatorname{CCVs}$	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	251	100	80 - 120	2015-03-20

### Standard (CCV-2)

QC Batch: 120148 Date Analyzed: 2015-03-20 Analyzed By: SC

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	299	120	80 - 120	2015-03-20

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 16 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

Standard (CCV-1)

QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0967	97	80 - 120	2015-03-23
Toluene		1	mg/kg	0.100	0.0937	94	80 - 120	2015-03-23
Ethylbenzene		1	mg/kg	0.100	0.0933	93	80 - 120	2015 - 03 - 23
Xylene		1	mg/kg	0.300	0.285	95	80 - 120	2015 - 03 - 23

# Standard (CCV-2)

QC Batch: 120168 Date Analyzed: 2015-03-23 Analyzed By: AK

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0985	98	80 - 120	2015-03-23
Toluene		1	mg/kg	0.100	0.0963	96	80 - 120	2015-03-23
Ethylbenzene		1	mg/kg	0.100	0.0957	96	80 - 120	2015-03-23
Xylene		1	mg/kg	0.300	0.287	96	80 - 120	2015-03-23

# Standard (CCV-1)

QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AK

				CCVs	$\operatorname{CCVs}$	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	$\operatorname{Cert}$	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.15	115	80 - 120	2015-03-23

# Standard (CCV-2)

QC Batch: 120169 Date Analyzed: 2015-03-23 Analyzed By: AK

				$\mathrm{CCVs}$	$\mathrm{CCVs}$	$\mathrm{CCVs}$	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.07	107	80 - 120	2015-03-23

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 17 of 18 7250715006.001 Regency -A-14 6" Line 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
$\mathbf{C}$	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100 - 86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-14-8	Midland

# 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.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- 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

Report Date: March 24, 2015 Work Order: 15031904 Page Number: 18 of 18 7250715006.001 Regency -A-14 6" Line Lea Co, NM

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

CHAIN OF CUSTODY RECORD	Lab use only Due Date:	Temp. of coolers :     Y					Lab Sample ID (Lab Use Only)	389081-		384082					Bill to Reserved				O - Oil
	ANALYSIS	्यम् <u>)</u>	D80		16031 M-310	> X	Miles Glass Jar 378 194 Ch le	メ メ メ メ		メメメ					Date: NOTES:	Date: Time:	Date: Time:	Date: Time:	C - Charcoal tube SL - sludge
	Laboratory: Trace Analysis	Address: M. Llond TX	Phone:	PO/SO #:	Sampler's Signature	North	Start End Depth AOV AOV AUG THE		Topsoil	(o - a)	3 Tepol			☐ 50% Rush ☐ 100% Rush	Time: Received by: (Rignature)	Time: Received by: (Signature)	Time: Received by: (Signature)	Time: Received by: (Signature)	W-Water S-Soil SD-Solid L-Liquid A-Air Bag
		J XX		Franklin	رن	Project Name Lec. Co	C G Identifying Marks of Sample(s)	Stockpile	Tranch-3	Stocker	Start B	-		☐ 25% Rush ☐		Date:	Date:	Date:	W - Water
		AIーLX Office Location <i>Midlass</i>		Project Manager Thomas Franklin PO/SO#:	Sampler's Name	2		Ch:/h1		S 3/18 14:46 X				Turn around time   Normal	Relinduished by Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Relinquished by (Signature)	Matrix WW - Wastewater

Apex TITAN, Inc. • 2351 W. Northwest Hwy., Suite 3321 • Dallas, Texas 75220 • Office: 214-350-5469 • Fax 214-350-2914



APPENDIX E

Form C-141

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 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-141

Revised October 10, 2003

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

# **Release Notification and Corrective Action**

						<b>OPERA</b>	ГOR	$\boxtimes$	Initia	l Report	Final Rep	ort
Name of Co	mpany			Gas Services,		Contact					Tony Savoi	
Address		P.C		26 Jal, N.M. 88		Telephone N					505-395-211	_
Facility Nan	ne		Lea	County Field D	ept.   I	Facility Typ	ral Gas Gatherin	ıg				
Surface Own	ner: Rubei	t Madera Tr	ust	Mineral C	)wner: I	Federal		Le	ase N	0.		
				LOCA	TION	OF REI	LEASE					
Unit Letter A	Section 3	Township 24S	Range 34E	Feet from the							Lea	
Latitude N32 15.154 Longitude W103 27.139												
T CD-1		-:1 4	-1	NAT	URE	OF RELI		C   W-1	D		0 kkla	<del></del>
Type of Relea	ise : Crude	on and natura	ıı gas			50 bbls oil	Release 83 mcf	gas, von	ume K	ecovered	0 bbls	
Source of Rel	ease			Pipeline		Date and H Unknown	lour of Occurrenc		and F		covery 8/19/06	
Was Immedia	te Notice (	iven?				If YES, To	Whom?	1 1111	C GIIKI	10 W11.		
			Yes 🛚	No 🗌 Not Re	equired							
By Whom? T			nion Gas S	ervices	•		lour: Verbally rep			son @ 7:56	a.m. 8/22/06	
Was a Watero	ourse Read	ched?	Yes ⊠	l No		If YES, Vo	lume Impacting t	ne Watercour	rse.			
If a Watercou	rse was Im	pacted, Descr	ibe Fully.	i								$\dashv$
										<i>*</i> ***		
									-av	⊊a.		
Describe Cau	oo of Drobl	am and Dama	dial Astic	Tokon *				3.2	, s ( )	3		_
The 6" steel g	athering pi was blend	peline, operat ed on site to p	ing at 25 p	si developed a le							06. The oil si, with a potentia	1
	<b>FF</b> -								€ ye be	•		
Describe Area	Affected.	and Cleanup	Action Tal	en. The affected a	area is n	asture. An are	ea covering appro	ximately 15.6	570 sa	ft. was affe	ected by the releas	e
and response The landowne	activities. A	A site assessmacted on 8/21.	ent and sa /06 regard	mpling event was	conductors	ted on 8/21/0 d discuss rem	6 to determine the ediation options.	e area affecte Remediation	d and e	estimate the ies will star	liquid volume los t after a section of	ss.
I hereby certi	fy that the i	nformation gi	iven above	is true and comp	lete to th	e best of my	knowledge and u	nderstand tha	it pursi	uant to NMO	OCD rules and	$\neg$
				nd/or file certain r e of a C-141 repo								
should their o	perations h	ave failed to	adequately	investigate and r	emediate	contaminati	on that pose a thre	eat to ground	water,	, surface wa	ter, human health	
or the enviror federal, state,				tance of a C-141	report de	oes not reliev	e the operator of	responsibility	for co	mpliance w	ith any other	
Tederal, state,	01 10001 10						OIL CON:	SERVAT	ION :	DIVISIO	<u>N</u>	
Signature:			•	Tony Savoie			٠ م					
						Approved by	District Supervis	of the s	0			
Printed Name	:			John A. Savoie				ter	<del>)</del>	-85_		$\dashv$
Title:			EH&S	Comp. Coord.		Approval Dat	e: 11.1.06	Expir	ation [	Date: (Z	1.06	4
E-mail Addre	ss:		jasavoie@	sidrichgas.com	(	Conditions of	Approval:			Attached	П	
Date: 8/24/06			Ph	one: 505-395-21	16	Subma	THE OF A	HALYS	<b>'</b> S			
Attach Addit	ional She	ets If Necess	ary —n (	PACOSO -PPACO	313	4863	ŀ			R	p#11	1
a	ppl	ication	څ <b>ن</b> -	-PPAC	06							



APPENDIX F

Well Records



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.) (R=POD has been replaced, O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

	POD Sub-		QQ	Q						Depth	Depth	Water
POD Number	Code basin	County	64 16	4	Sec	Tws	Rng	Х	Y	Well	Water	Column
C 02373	С	LE	4	1	32	24S	34E	641979	3560916* 🎒	600		
C 02386		LE	4 1	2	04	24S	34E	643962	3569290* 🌍	575	475	100
C 02387		LE		1	11	24S	34E	646513	3567613* 🎒	62	40	22
C 02397		LE	4 1	2	04	24S	34E	643962	3569290* 🌍	575	475	100

Average Depth to Water: 330 feet

Minimum Depth: 40 feet

Maximum Depth: 475 feet

**Record Count: 4** 

**PLSS Search:** 

Township: 24S Range: 34E



# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number C 02373 Q64 Q16 Q4 Sec Tws Rng

X Y

4 1 32 24S 34E

641979 3560916\*



**Driller License:** 

Driller Name: ENRON OIL AND GAS

Drill Start Date: Drill Finish Date: 12/31/1982 Plug Date:

Log File Date: PCW Rcv Date: Source: Shallow

Pump Type: Pipe Discharge Size: Estimated Yield: Casing Size: 6.00 Depth Well: 600 feet Depth Water:

Meter Number: 5957 Meter Make: MASTER METER

Meter Serial Number:6866773Meter Multiplier:100.0000Number of Dials:5Meter Type:Diversion

Unit of Measure: Gallons Return Flow Percent:

Usage Multiplier: Reading Frequency: Quarterly

-----

### **Meter Readings (in Acre-Feet)**

Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount
2002	0	Α	RPT	0
2002	16997	Α	RPT	5.216
2003	17909	Α	RPT	0.280
2003	42235	Α	RPT	7.465
2003	55200	Α	ab	3.979
2003	64421	Α	ab	2.830
2004	64421	Α	RPT	0
2004	64421	Α	RPT	0
2005	64421	Α	RPT	0
2005	64421	Α	RPT	0
2005	64421	Α	RPT	0
2005	64421	Α	RPT	0
2006	64601	Α	RPT	0.055
2006	64602	Α	tw	0
2006	0	Α	tw	0
2007	24	Α	tw	0.007
2007	41	Α	RPT	0.005
2007	116	Α	RPT	0.023
2007	131	Α	RPT	0.005
2008	157	Α	RPT	0.008
	2002 2003 2003 2003 2003 2004 2004 2005 2005 2005 2006 2006 2006 2007 2007 2007	2002       0         2002       16997         2003       17909         2003       42235         2003       55200         2003       64421         2004       64421         2005       64421         2005       64421         2005       64421         2005       64421         2006       64601         2006       64602         2007       24         2007       41         2007       116         2007       131	2002       0 A         2002       16997 A         2003       17909 A         2003       42235 A         2003       55200 A         2003       64421 A         2004       64421 A         2005       64421 A         2006       64601 A         2006       64602 A         2006       0 A         2007       24 A         2007       41 A         2007       116 A         2007       131 A	2002 0 A RPT 2002 16997 A RPT 2003 17909 A RPT 2003 42235 A RPT 2003 55200 A ab 2003 64421 A RPT 2004 64421 A RPT 2005 64421 A RPT 2005 64421 A RPT 2005 64421 A RPT 2006 64601 A RPT 2006 64602 A tw 2007 24 A tw 2007 116 A RPT 2007 131 A RPT 2007 131 A RPT

\*UTM location was derived from PLSS - see Help

# **Meter Readings (in Acre-Feet)**

Read Date	Year	Mtr Reading	Flag	g Rdr Comment	Mtr Amount
06/30/2008	2008	197	Α	RPT	0.012
09/30/2008	2008	238	Α	RPT	0.013
12/30/2008	2008	283	Α	RPT	0.014
03/31/2010	2010	24989	Α	RPT	7.582
06/30/2010	2010	39689	Α	tw	4.511
09/30/2010	2010	43062	Α	RPT	1.035
10/01/2010	2010	0	Α	RPT	0
12/31/2010	2010	1200	Α	RPT	0.368
04/01/2011	2011	1356	Α	RPT	0.048
04/02/2011	2011	0	Α	RPT	0
**YTD Meter	Amoun	nts: Year		Amount	
		2002		5.216	
		2003		14.554	
		2004		0	
		2005		0	
		2006		0.055	
		2007		0.040	
		2008		0.047	
		2010		13.496	
		2011		0.048	

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/28/15 3:17 PM Page 2 of 2 POD SUMMARY - C 02373



# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

**POD Number** 

Q64 Q16 Q4 Sec Tws Rng

X Y

C 02386

4 1 2 04 24S 34E

643962 3569290\*



**Driller License:** 

Driller Name: SHELL OIL

Drill Start Date: Drill Finish Date: 01/31/1960 Plug Date: Log File Date: PCW Rcv Date: Source:

Pump Type:Pipe Discharge Size:Estimated Yield: 30 GPMCasing Size:5.00Depth Well:575 feetDepth Water:475 feet

9/28/15 3:18 PM Page 1 of 1 POD SUMMARY - C 02386



# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

**POD Number** 

Q64 Q16 Q4 Sec Tws Rng

Χ

C 02387

1 11 24S 34E

646513 3567613\*



**Driller License:** 

Driller Name: UNKNOWN

Drill Start Date: Drill Finish Date: 12/31/1916 Plug Date: Log File Date: PCW Rcv Date: Source:

Pump Type:Pipe Discharge Size:Estimated Yield: 3 GPMCasing Size:6.00Depth Well:62 feetDepth Water:40 feet

9/28/15 3:18 PM Page 1 of 1 POD SUMMARY - C 02387



# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

2 04 24S 34E

(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number C 02397 Q64 Q16 Q4 Sec Tws Rng

X Y

643962 3569290\*



**Driller License:** 

Driller Name: SHELL OIL

Drill Start Date: 01/01/1960 Drill Finish Date: 01/31/1960 Plug Date:

Log File Date:PCW Rcv Date:Source:ShallowPump Type:ELECTRPipe Discharge Size:Estimated Yield: 30 GPMCasing Size:5.00Depth Well:575 feetDepth Water:475 feet

Meter Number:525Meter Make:MASTERMeter Serial Number:13485213Meter Multiplier:10.0000Number of Dials:6Meter Type:Diversion

Unit of Measure: Gallons Return Flow Percent:

Usage Multiplier: Reading Frequency: Quarterly

### Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr Comment	Mtr Amount
02/15/1999	1999	472959	Α	ms	0
12/07/1999	1999	560576	Α	ms	2.689
01/06/2000	1999	565151	Α	ms	0.140
05/05/2000	2000	612343	Α	MB	1.448
04/14/2004	2004	0	Α	RPT	0
11/11/2004	2004	189248	Α	RPT	5.808
12/31/2004	2004	220399	Α	RPT	0.956
04/06/2005	2005	372336	Α	RPT	4.663
09/15/2005	2005	495401	Α	RPT	3.777
09/16/2005	2005	495401	Α	RPT	0
12/31/2005	2005	625522	Α	RPT	3.993
09/01/2012	2012	0	Α	RPT	0
09/30/2012	2012	300206	Α	RPT	9.213
10/01/2012	2012	0	Α	tw	0
10/31/2012	2012	133860	Α	RPT	4.108
09/30/2013	2013	300206	Α	tw	5.105

\*\*YTD Meter Amounts: Year Amount 1999 2.829

2000 3.289

\*UTM location was derived from PLSS - see Help

**YTD Meter Amounts:	Year	Amount
	2004	6.764
	2005	12.433
	2012	13.321
	2013	5.105

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9/28/15 3:18 PM Page 2 of 2 POD SUMMARY - C 02397



**APPENDIX E** 

Bill of Lading and Backfill Check Receipt Form

A-14,64 LAT - SITE MY 2006-038 2-11-08

7- Londs Topsoil From Pitchfook pit

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A-14, 6" LAT. SITE# 1
2006-038

2-11-08
7-LOAds TOPSOIL FROM PITCHFORK PIT
OCOTILLO ENVIRONMENTAL. LLC.

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1-14,60 - 17. - 5/TE#1 2006-038 2008-038 7-608ds FROM P. TCh FORK PIT (Topsoil)

HOURS WORKED	@ S PER HOUR S	
TRUCKER 1. Combs	12 YD. DUMP TRUCK 1102	DATE 2-12-0
ADDRESS	American Company of the Company of t	
COMPANY 54.6.5.		
PIT OWNER PITCH FORK RONCH	TOTAL YDS. 84 RATE_	TOTAL
ADDRESS	DATE PAID	_ CK. NO
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2006-038 2-12-08

7-Losds FROM PITCHERK PIT (TOPSOIL)

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5,4.6.5. 1-14,641472 - 517E #1 2006-038 2-13-08

7-LOAds Topsoil FROM PITONFORK PIT

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1-14,64 LAT -SITE # 8 2006-038 2-13-08

## 6- Londs Topsoil From PiTebfork PiT

HOURS WORKED 10 a	S PER HOUR S
TRUCKER _ 6. Combs	12 YD. DUMP TRUCK 1102 DATE 2-13-0
ADDRESS	
COMPANY S.4.6 S.	
ADDRESS	TOTAL YDS. 72 RATE TOTAL
ADDRESS	
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 XXXXXX	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
	6 42

# A-14,6" LIST. #2 - SITE# 2806-038 1-22-08 7-608ds to PF. LOND FARM (CONTEMINATED) OCOTILLO ENVIRONMENTAL LIC

# 1-14 & Lit #1 - SITE #1 2006-038 1-22-08 7-LOADS TO RE LAND FARM (CONTAMINATED) OCOTILLO ENVIRONMENTAL. LLC.

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1-14,60 LOT: #1 - SITE#1 2006-038 1-23-08 3-LODGS TO HE LANDEDAM (CONTAMINATED)

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## **CHECK REQUEST FORM**

Payable to	Rubert & Loys Madera Trust B
Address	524 Antelope Jal, New Mexico 88252
A/P Supplier No.	52659
Date Check REQUIRED	4/15/2008
Total Amount	\$7,128
Additional Instructions	
Return Check to	
Special Handling	
Requested by	J.A. Savoie
Date Requested	4/7/2008
Approved By	
Additional Approval	
Additional Approval	

Description	348 c.y @\$12 & 492 cy @ \$6 For Remediation Site 2006-038 "A" Sec.3,Twns 24S, 34E

Amount	Company	FERC / Acct / Gen	Expenditure / E type/Sub	Home / Project Cost Center	Location
\$7,128	7100	2320261		SUG-0004	Lea County
		-			
					-
					<u> </u>
					1 10/0/0007