

# *Basin Environmental Service Technologies, LLC*

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## **REMEDIATION SUMMARY & SITE CLOSURE REQUEST**

**SOUTHERN UNION GAS SERVICES  
MC-16" (1RP-1511)  
HISTORICAL RELEASE SITE  
Lea County, New Mexico  
Unit Letter "C" (NE/NW), Section 34, Township 22 South, Range 36 East  
Latitude 32° 21.135' North, Longitude 103° 15.345' West  
NMOCD Reference # 1RP-1511**

Prepared For:

Southern Union Gas Services  
801 S. Loop 464  
Monahans, TX 79756

Prepared By:

Basin Environmental Service Technologies, LLC  
3100 Plains Highway  
Lovington, New Mexico 88260

**November 2012**

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Joel W. Lowry  
Project Manager

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## **1.0 INTRODUCTION & BACKGROUND INFORMATION**

Basin Environmental Service Technologies, LLC (Basin), on behalf of Southern Union Gas Services (Southern Union), has prepared this *Remediation Summary & Site Closure Request* for the MC-16” Historical Release Site (1RP-1511). The legal description of the release site is Unit Letter “C” (NE/NW), Section 34, Township 22 South, Range 36 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32° 21.135' North latitude and 103° 15.345' West longitude. The property affected by the release is owned by Wanda Jones. Please reference Figure 1 for a "Site Location Map".

On July 21, 2007, Southern Union discovered a release had occurred on the MC-16” Pipeline. The “Release Notification and Corrective Action Form” (Form C-141) indicated failure of a section of sixteen-inch (16”) low-pressure pipeline resulted in the release of approximately sixty barrels (60 bbls) of fluid and eighty (80) mcf of natural gas. During initial response activities approximately forty barrels (40 bbls) of fluid was recovered. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on July 21, 2007. The Form C-141 indicated the release affected approximately one thousand, six hundred square feet (1,600 ft<sup>2</sup>) of lease road. General photographs of the release site are provided as Appendix A. The Form C-141 is provided as Appendix C.

Previous remediation activities were conducted at the MC-16” Historical Release Site by an environmental contractor that is no longer affiliated with the site. The nature and extent of the aforementioned activities remains unclear, as environmental reports and work records are incomplete.

On June 22, 2012, at the request of Southern Union, Basin assumed remediation responsibilities at the MC-16” Historical Release Site.

## **2.0 NMOCD SITE CLASSIFICATION**

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 34, Township 22 South, Range 36 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately two hundred fifty feet (250’) below ground surface (bgs). Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within one thousand feet (1,000’) of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

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

NMOCD guidelines indicate the MC-16” Historical Release Site has an initial ranking score of zero (0) points. The soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, toluene, ethylbenzene and xylene (BTEX) – 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) – 5,000 mg/Kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

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

Beginning August 9, 2007, remediation activities were conducted on the MC-16” Release Site by an environmental contractor that is no longer affiliated with the site.

On August 9, 2007, six (6) soil samples (P.R. @ 6’, #1 @ Surface, #1 @ 8”, #1 @ 24”, #2 @ Surface and #2 @ 6”) were collected from the release site and submitted to Cardinal Laboratories, of Hobbs, New Mexico, for determination of TPH and chloride concentrations in accordance with EPA Methods SW 846-8015M and SM 4500 Cl-B, respectively. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory MDL for soil sample #1 @ 8” to 26,040 mg/Kg for soil sample #2 @ Surface. Chloride concentrations ranged from 90.4 mg/Kg for soil sample #2 @ 6” to 744 mg/Kg for soil sample #1 @ Surface. Table 1 summarizes the “Concentrations of Benzene, BTEX, TPH & Chloride in Soil”. Soil sample locations are depicted in Figure 2, “Site & Sample Location Map”. Laboratory analytical reports are provided as Appendix B. Based on Laboratory analytical reports from initial soil samples, further delineation would be required in the area represented by soil sample P.R. @ 6’.

Work records indicate an unknown volume of soil was transported off-site during remediation activities.

On October 3, 2012, Basin responded to the MC-16” Historical Release Site. During the initial investigation, no surface impact was visible, and revegetation was noted. Two (2) soil samples (TT-1 @ 5’ and TT-2 @ 6’) were collected from a test trench advanced adjacent to the inferred release point in an effort to collect a confirmation BTEX sample and achieve vertical delineation. Soil samples was submitted to Xenco Laboratories, Inc., of Odessa, Texas, for determination of chloride concentrations in accordance with EPA Method 300/300.1. Soil sample TT-1 @ 6’ was also analyzed for BTEX constituent concentrations in accordance with EPA Method SW 846-8021b. Laboratory analytical results indicated chloride concentrations ranged from 1.02 mg/Kg for soil sample TT-1 @ 5’ to 3.41 mg/Kg for soil sample TT-1 @ 6’. The BTEX concentration for soil sample TT-1 @ 6’ was 0.00119. Based on these laboratory analytical results, the vertical extent of soil impact had been determined.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

Soil samples were delivered to Xenco Laboratories, Inc., of Odessa, Texas, and/or Cardinal Laboratories, of Hobbs, New Mexico, for BTEX, TPH, and/or chloride analyses using the methods described below:

- BTEX concentrations in accordance with EPA Method SW-846 8021b
- TPH concentrations in accordance with modified EPA Method SW-846 8015M
- Chloride concentrations in accordance with EPA Method SM 4500-Cl B and/or EPA Method 300/300.1

### **4.2 Decontamination of Equipment**

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

### **4.3 Laboratory Protocol**

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

## **5.0 SITE CLOSURE REQUEST**

Confirmation soil samples collected during remediation activities indicated concentrations of benzene, BTEX, TPH and chloride were below NMOCD regulatory remediation action levels in each of the submitted soil samples. Laboratory analytical results from the soil samples collected on October 3, 2012, indicated vertical delineation had been achieved. Based on these laboratory analytical results, Basin recommends Southern Union provide the NMOCD Hobbs District Office a copy of this *Remediation Summary & Site Closure Request* and request the NMOCD grant site closure to the MC-16" Historical Release Site.

## 6.0 LIMITATIONS

Basin Environmental Service Technologies, LLC, has prepared this *Remediation Summary & Site Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended. Basin has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Basin has not conducted an independent examination of the facts contained in referenced materials and statements. Basin has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Basin has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

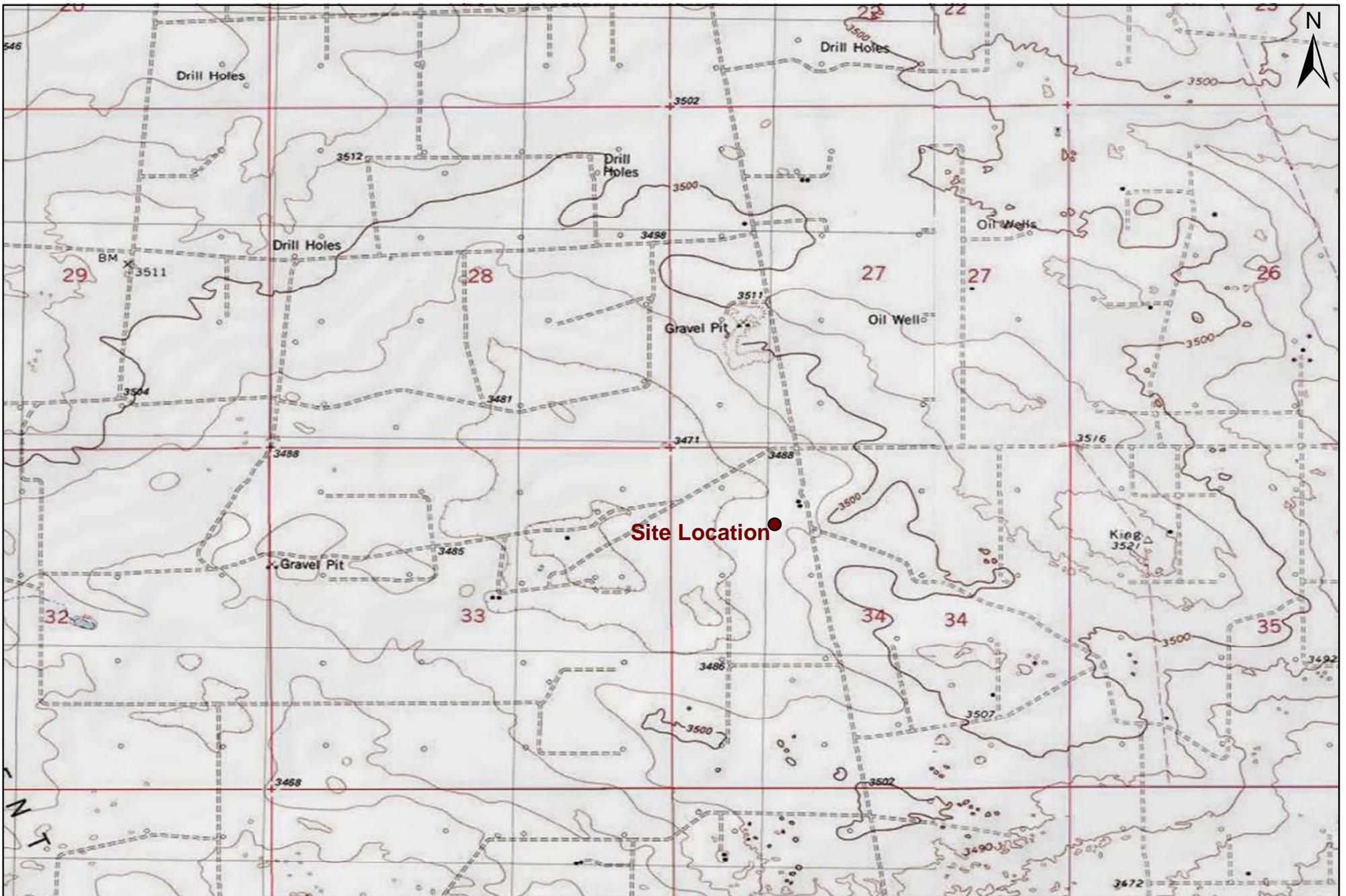
This report has been prepared for the benefit of Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Southern Union Gas Services.

## **7.0 DISTRIBUTION**

Copy 1: Geoffrey Leking  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division (District 1)  
1625 French Drive  
Hobbs, NM 88240  
GeoffreyR.Leking@state.nm.us

Copy 2: Rose Slade  
Southern Union Gas Services  
801 S. Loop 464  
Monahans, Texas 79756  
rose.slade@sug.com

Copy 3: Basin Environmental Service Technologies, LLC  
P.O. Box 301  
Lovington, New Mexico 88260



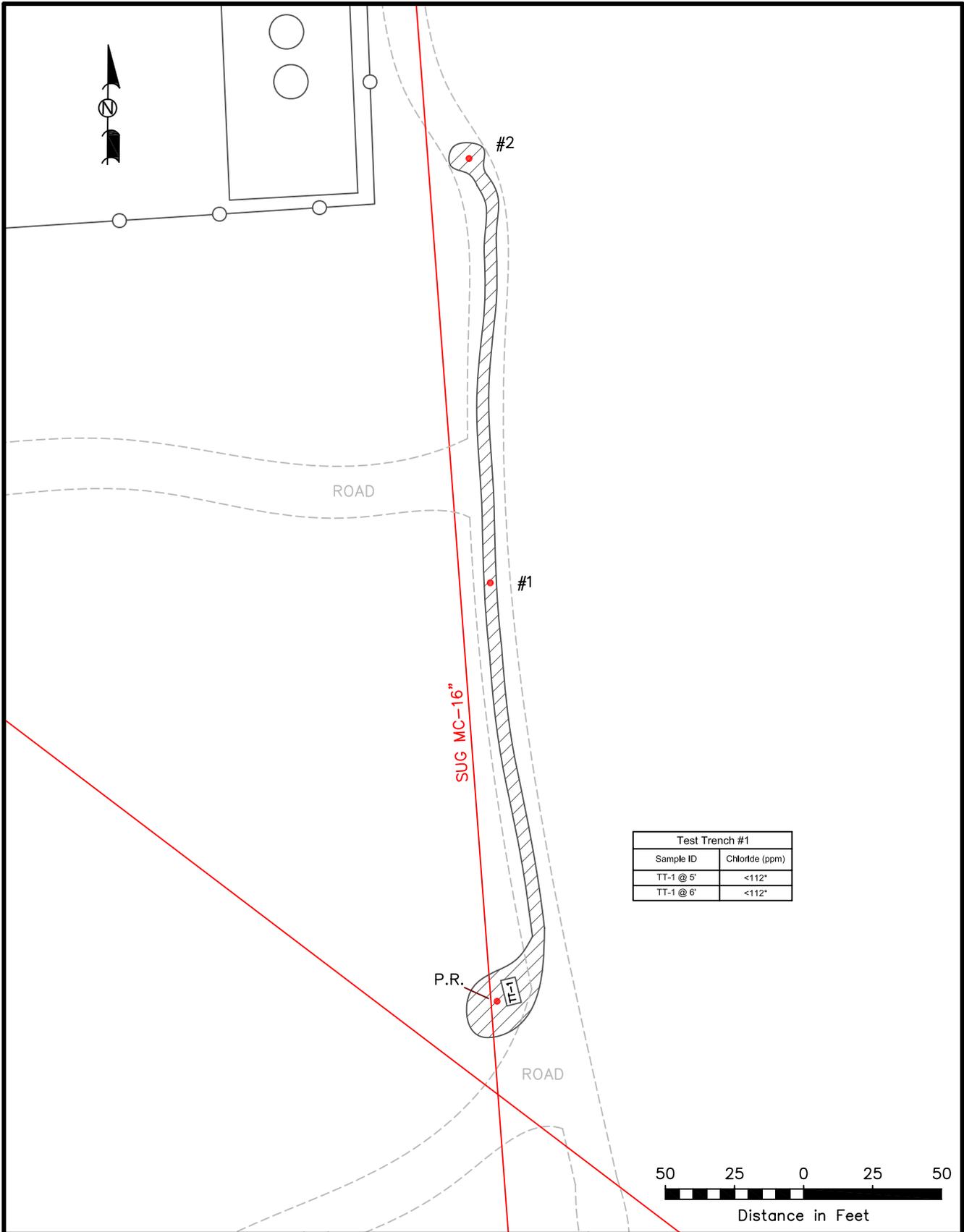
**Figure 1**  
**Site Location Map**  
 Southern Union Gas Services  
 MC-16" Historical  
 Lea County, New Mexico  
 NMOCD Reference #: 1RP-1511



Basin Environmental Service Technologies, LLC  
 3100 Plains Hwy.  
 Lovington, NM 88260

Drawn By: BJA	Checked By: JWL
October 16, 2012	Scale: 1" = 2000'

1,000 500 0 1,000 2,000  
 Distance in Feet



Test Trench #1	
Sample ID	Chloride (ppm)
TT-1 @ 5'	<112*
TT-1 @ 6'	<112*



**LEGEND:**

<span style="color: red;">●</span> Sample Location	Historical Flowpath
<span style="color: red;">—</span> Pipeline	Road
Test Trench	* Chloride Field Test Result

**Figure 2**  
**Site & Sample Location Map**  
 Southern Union Gas Services  
 MC-16" (RP-1511)  
 Lea County, NM

**Basin Environmental Services**

Scale: 1" = 50'	Drawn By: JWL	Prepared By: BJA
October 8, 2012		

TABLE 1

## CONCENTRATIONS OF BENZENE, BTEX, TPH &amp; CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES  
 MC-16"  
 HISTORICAL RELEASE SITE  
 LEA COUNTY, NEW MEXICO  
 NMOCD REF# 1RP-1511

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C <sub>6</sub> -C <sub>28</sub> (mg/Kg)	SM 4500-CI B CHLORIDE (mg/Kg)
				BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)		
P.R. @ 6'	6'	8/9/2007	In-Situ	-	-	-	-	-	547	2,580.0	354	3,481	585
#1 @ Surface	Surface	8/9/2007	Excavated	-	-	-	-	-	83.0	1510.0	264	1,857	744
#1 @ 8"	8"	8/9/2007	In-Situ	-	-	-	-	-	<10.6	<10.6	<10.6	<10.6	585
#1 @ 24"	24"	8/9/2007	In-Situ	-	-	-	-	-	<10.8	13.3	<10.8	13.3	170
#2 @ Surface	Surface	8/9/2007	Excavated	-	-	-	-	-	3,500	19,900	26,040	26,040	117
#2 @ 6"	6"	8/9/2007	In-Situ	-	-	-	-	-	<11.0	49.6	49.6	49.6	90.4
TT-1 @ 5'	5'	10/3/2012	In-Situ	-	-	-	-	-	-	-	-	-	1.02
TT-1 @ 6'	6'	10/3/2012	In-Situ	<0.00107	<0.00215	<0.00107	0.00119	0.00119	-	-	-	-	3.41
<b>NMOCD Standard</b>				<b>10</b>				<b>50</b>				<b>5,000</b>	<b>1,000</b>

- = Not analyzed.



Photograph of the advancement of Test Trench TT-1 at the MC-16" Historical Release Site.



Photograph of the advancement of Test Trench TT-1 at the MC-16" Historical Release Site.

# **Analytical Report 287643**

**for**

## **Southern Union Gas Services-Jal**

**Project Manager: Tony Savoie**

**MC-16" Line**

**2007-029**

**17-AUG-07**



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

**A Xenco Laboratories Company**

**NELAC certification numbers:**

**Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675**

**Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America**



17-AUG-07

Project Manager: **Tony Savoie**  
**Southern Union Gas Services-Jal**  
610 Commerce  
Jal, NM 88252

Reference: XENCO Report No: **287643**  
**MC-16" Line**  
Project Address: Site #1

**Tony Savoie:**

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 287643. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 287643 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,

**Brent Barron**

Odessa Laboratory Director

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*Certified and approved by numerous States and Agencies.*

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# Certificate of Analysis Summary 287643

## Southern Union Gas Services-Jal, Jal, NM



Project Id: 2007-029

Contact: Tony Savoie

Project Location: Site #1

Date Received in Lab: Thu Aug-09-07 04:40 pm

Report Date: 17-AUG-07

Project Manager: Brent Barron, II

Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:
287643-001	P.R. @ 6'	-6 ft	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	585 5.00
287643-002	#1 @ Surface	-0 ft	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	744 5.00
287643-003	#1 @ 8"	-8 in	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	585 5.00
287643-004	#1 @ 24"	-24 in	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	170 5.00
287643-005	#2 @ Surface	-0 ft	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	117 5.00
287643-006	#2 @ 6"	-6 in	SOIL	Aug-09-07 11:00	Aug-16-07 10:00	mg/L	90.4 5.00
<b>Analysis Requested</b>							
<b>Total Chloride by EPA 325.3</b>							
Chloride							

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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Brent Barron  
Odessa Laboratory Director



# Certificate of Analysis Summary 287643

## Southern Union Gas Services-Jal, Jal, NM



Project Id: 2007-029  
 Contact: Tony Savoie  
 Project Location: Site #1

Date Received in Lab: Thu Aug-09-07 04:40 pm  
 Report Date: 17-AUG-07

Project Manager: Brent Barron, II

Lab Id:	287643-001	287643-002	287643-003	287643-004	287643-005	287643-006
<b>Field Id:</b>	P.R. @ 6'	#1 @ Surface	#2 @ 8"	#1 @ 24"	#2 @ Surface	#2 @ 6"
<b>Depth:</b>	6 ft	0 ft	8 in	24 in	0 ft	6 in
<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
<b>Sampled:</b>	Aug-09-07 11:00	Aug-09-07 11:00	Aug-09-07 11:00	Aug-09-07 11:00	Aug-09-07 11:00	Aug-09-07 11:00
<b>Extracted:</b>						
<b>Analyzed:</b>	Aug-14-07 17:55	Aug-14-07 16:00	Aug-14-07 14:05	Aug-14-07 12:10	Aug-14-07 10:15	Aug-14-07 08:20
<b>Units/RL:</b>	% 13.5	% 1.68	% 6.63	% 7.31	% 4.36	% 10.3
<b>Extracted:</b>	Aug-15-07 16:12	Aug-15-07 16:12	Aug-15-07 16:12	Aug-15-07 16:12	Aug-15-07 16:12	Aug-15-07 16:12
<b>Analyzed:</b>	Aug-16-07 11:41	Aug-16-07 12:10	Aug-16-07 12:38	Aug-16-07 13:07	Aug-16-07 13:33	Aug-16-07 14:03
<b>Units/RL:</b>	mg/kg 547 2580 354	mg/kg 83.0 1510 264	mg/kg ND ND ND	mg/kg ND 13.3 ND	mg/kg 3500 19900 2640	mg/kg ND 49.6 ND
<b>Total TPH</b>	3481	1857	ND	13.3	26040	49.6

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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 Brent Barron  
 Odessa Laboratory Director



## 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 effect the recovery of the spike concentration. This condition could also effect 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 MQL and above the SQL.
- 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.

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(210) 509-3334	(201) 509-3335
(813) 620-2000	(813) 620-2033
(305) 823-8500	(305) 823-8555

# Form 2 - Surrogate Recoveries

**Project Name: MC-16" Line**

**Work Order #:** 287643

**Project ID:** 2007-029

**Lab Batch #:** 702475

**Sample:** 287642-002 S / MS

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctadecane	40.9	50.0	82	70-135	
1-Chlorooctane	41.2	50.0	82	70-135	

**Lab Batch #:** 702475

**Sample:** 287642-002 SD / MSD

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctadecane	40.1	50.0	80	70-135	
1-Chlorooctane	41.1	50.0	82	70-135	

**Lab Batch #:** 702475

**Sample:** 287643-001 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctadecane	54.1	48.9	111	70-135	
1-Chlorooctane	60.8	48.9	124	70-135	

**Lab Batch #:** 702475

**Sample:** 287643-002 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctadecane	8.01	49.8	16	70-135	**
1-Chlorooctane	4.09	49.8	8	70-135	**

**Lab Batch #:** 702475

**Sample:** 287643-003 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctadecane	45.4	49.4	92	70-135	
1-Chlorooctane	42.1	49.4	85	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: MC-16" Line



Work Order #: 287643

Project ID: 2007-029

Lab Batch #: 702475

Sample: 287643-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctadecane	53.7	50.0	107	70-135	
1-Chlorooctane	49.8	50.0	100	70-135	

Lab Batch #: 702475

Sample: 287643-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctadecane	111	49.8	223	70-135	**
1-Chlorooctane	36.6	49.8	73	70-135	

Lab Batch #: 702475

Sample: 287643-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctadecane	49.5	49.4	100	70-135	
1-Chlorooctane	45.5	49.4	92	70-135	

Lab Batch #: 702475

Sample: 498274-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctadecane	35.3	50.0	71	70-135	
1-Chlorooctane	36.0	50.0	72	70-135	

Lab Batch #: 702475

Sample: 498274-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

SURROGATE RECOVERY STUDY					
TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctadecane	38.4	50.0	77	70-135	
1-Chlorooctane	34.9	50.0	70	70-135	

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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

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

# Blank Spike Recovery

**Project Name: MC-16" Line**

Work Order #: 287643

Project ID: 2007-029

Lab Batch #: 702475      Sample: 498274-1-BKS      Matrix: Solid  
 Date Analyzed: 08/15/2007      Date Prepared: 08/15/2007      Analyst: SHE  
 Reporting Units: mg/kg      Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY						
TPH by SW8015 Mod	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
C6-C12 Gasoline Range Hydrocarbons	ND	500	443	89	70-135	
C12-C28 Diesel Range Hydrocarbons	ND	500	442	88	70-135	

Lab Batch #: 702430      Sample: 702430 BKS      Matrix: Water  
 Date Analyzed: 08/16/2007      Date Prepared: 08/16/2007      Analyst: IRO  
 Reporting Units: mg/L      Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY						
Total Chloride by EPA 325.3	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Analytes						
Chloride	14.9	100	93.6	79	80-120	

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



# Form 3 - MSD Recoveries



Project Name: MC-16" Line

Work Order #: 287643

Project ID: 2007-029

Lab Batch ID: 702475

QC- Sample ID: 287642-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/16/2007

Date Prepared: 08/15/2007

Analyst: SHE

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	26.8	573	507	84	573	517	86	2	70-135	35
C12-C28 Diesel Range Hydrocarbons	302	573	477	31	573	430	22	34	70-135	35	X

Lab Batch ID: 702430

QC- Sample ID: 287642-002 M S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/16/2007

Date Prepared: 08/16/2007

Analyst: IRO

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Total Chloride by EPA 325.3 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	308	200	542	117	200	510	101	15	80-120	20

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

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



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

Client: S. U. G. S. - Jal  
 Date/ Time: 8-9-07 16:40  
 Lab ID #: 287643  
 Initials: al

**Sample Receipt Checklist**

	Yes	No	Client Initials
#1 Temperature of container/ cooler?			.5 °C
#2 Shipping container in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#3 Custody Seals intact on shipping container/ cooler?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#4 Custody Seals intact on sample bottles/ container?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Present
#5 Chain of Custody present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#6 Sample instructions complete of Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#7 Chain of Custody signed when relinquished/ received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#8 Chain of Custody agrees with sample label(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID written on Cont / Lid
#9 Container label(s) legible and intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#10 Sample matrix/ properties agree with Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#11 Containers supplied by ELOT?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#12 Samples in proper container/ bottle?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#13 Samples properly preserved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#14 Sample bottles intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#15 Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#16 Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
#17 Sufficient sample amount for indicated test(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#18 All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Below
#19 Subcontract of sample(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable
#20 VOC samples have zero headspace?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not Applicable

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/ Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that Apply:
- See attached e-mail/ fax
  - Client understands and would like to proceed with analysis
  - Cooling process had begun shortly after sampling event

**Analytical Report 450296**  
**for**  
**Southern Union Gas Services- Monahans**

**Project Manager: Rose Slade**

**MC-16 (RP-1511)**

**SUG Historical Releases**

**11-OCT-12**

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)



11-OCT-12

Project Manager: **Rose Slade**  
**Southern Union Gas Services- Monahans**  
801 South Loop 464  
Monahans, TX 79756

Reference: XENCO Report No: **450296**  
**MC-16 (RP-1511)**  
Project Address: Lea County, New Mexico

**Rose Slade:**

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 450296. 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. 450296 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,

---

**Nicholas Straccione**  
Project Manager

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# Sample Cross Reference 450296



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

MC-16 (RP-1511)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TT-1 @ 5'	S	10-03-12 12:30		450296-001
TT-1 @ 6'	S	10-03-12 12:40		450296-002



## CASE NARRATIVE

*Client Name: Southern Union Gas Services- Monahans*  
*Project Name: MC-16 (RP-1511)*



*Project ID:                   SUG Historical Releases*  
*Work Order Number: 450296*

*Report Date: 11-OCT-12*  
*Date Received: 10/05/2012*

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**Sample receipt non conformances and comments:**

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

*Batch: LBA-898546 BTEX by EPA 8021B*  
*SW8021BM*

*Batch 898546, Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene RPD was outside laboratory control limits.*

*Samples affected are: 450296-002*



# Certificate of Analysis Summary 450296

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



**Project Id:** SUG Historical Releases

**Contact:** Rose Slade

**Project Name:** MC-16 (RP-1511)

**Date Received in Lab:** Fri Oct-05-12 11:30 am

**Report Date:** 11-OCT-12

**Project Location:** Lea County, New Mexico

**Project Manager:** Nicholas Straccione

<i>Analysis Requested</i>	<i>Lab Id:</i>	450296-001	450296-002				
	<i>Field Id:</i>	TT-1 @ 5'	TT-1 @ 6'				
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL				
	<i>Sampled:</i>	Oct-03-12 12:30	Oct-03-12 12:40				
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>		Oct-10-12 08:05				
	<i>Analyzed:</i>		Oct-10-12 13:58				
	<i>Units/RL:</i>		mg/kg      RL				
Benzene			ND    0.00107				
Toluene			ND    0.00215				
Ethylbenzene			ND    0.00107				
m,p-Xylenes			ND    0.00215				
o-Xylene			0.00119    0.00107				
Total Xylenes			0.00119    0.00107				
Total BTEX			0.00119    0.00107				
<b>Inorganic Anions by EPA 300/300.1 SUB: E871002</b>	<i>Extracted:</i>	Oct-08-12 19:13	Oct-08-12 19:29				
	<i>Analyzed:</i>	Oct-08-12 19:13	Oct-08-12 19:29				
	<i>Units/RL:</i>	mg/kg      RL	mg/kg      RL				
Chloride		1.02    0.979	3.41    1.01				
<b>Percent Moisture</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Oct-09-12 12:54	Oct-09-12 12:54				
	<i>Units/RL:</i>	%          RL	%          RL				
Percent Moisture		5.79    1.00	6.98    1.00				

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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Nicholas Straccione  
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 quantitation 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.

\* Surrogate recovered outside laboratory control limit.

**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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 12600 West I-20 East, Odessa, TX 79765  
 6017 Financial Drive, Norcross, GA 30071  
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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



# Form 2 - Surrogate Recoveries

Project Name: MC-16 (RP-1511)

Work Orders : 450296,

Project ID: SUG Historical Releases

Lab Batch #: 898546

Sample: 450296-002 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 10/10/12 13:58	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0243	0.0300	81	80-120	
4-Bromofluorobenzene		0.0239	0.0300	80	80-120	

Lab Batch #: 898546

Sample: 628423-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 10/10/12 09:31	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0296	0.0300	99	80-120	
4-Bromofluorobenzene		0.0268	0.0300	89	80-120	

Lab Batch #: 898546

Sample: 628423-1-BKS / BKS

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 10/10/12 09:00	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0335	0.0300	112	80-120	
4-Bromofluorobenzene		0.0343	0.0300	114	80-120	

Lab Batch #: 898546

Sample: 628423-1-BSD / BSD

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 10/10/12 09:15	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0297	0.0300	99	80-120	
4-Bromofluorobenzene		0.0281	0.0300	94	80-120	

Lab Batch #: 898546

Sample: 450296-002 S / MS

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 10/10/12 15:08	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
BTEX by EPA 8021B						
Analytes						
1,4-Difluorobenzene		0.0319	0.0300	106	80-120	
4-Bromofluorobenzene		0.0302	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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

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



# Form 2 - Surrogate Recoveries

Project Name: MC-16 (RP-1511)

Work Orders : 450296,

Project ID: SUG Historical Releases

Lab Batch #: 898546

Sample: 450296-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/12 15:23

## SURROGATE RECOVERY STUDY

<b>BTEX by EPA 8021B</b>  <b>Analytes</b>	<b>Amount Found [A]</b>	<b>True Amount [B]</b>	<b>Recovery %R [D]</b>	<b>Control Limits %R</b>	<b>Flags</b>
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

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

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



# BS / BSD Recoveries



**Project Name: MC-16 (RP-1511)**

**Work Order #: 450296**

**Analyst: KEB**

**Date Prepared: 10/10/2012**

**Project ID: SUG Historical Releases**

**Date Analyzed: 10/10/2012**

**Lab Batch ID: 898546**

**Sample: 628423-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.000998	0.0998	0.0987	99	0.100	0.0875	88	12	70-130	35	
Toluene	<0.00200	0.0998	0.100	100	0.100	0.0862	86	15	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.0973	97	0.100	0.0859	86	12	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.210	105	0.201	0.182	91	14	70-135	35	
o-Xylene	<0.000998	0.0998	0.103	103	0.100	0.0885	89	15	71-133	35	

**Analyst: TTE**

**Date Prepared: 10/08/2012**

**Date Analyzed: 10/08/2012**

**Lab Batch ID: 898337**

**Sample: 628330-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Chloride	<0.996	99.6	94.5	95	102	98.4	96	4	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



# Form 3 - MS Recoveries



Project Name: MC-16 (RP-1511)

Work Order #: 450296

Lab Batch #: 898337

Date Analyzed: 10/08/2012

QC- Sample ID: 450295-001 S

Reporting Units: mg/kg

Date Prepared: 10/08/2012

Batch #: 1

Project ID: SUG Historical Releases

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	<1.00	100	96.5	97	80-120	

Lab Batch #: 898337

Date Analyzed: 10/08/2012

QC- Sample ID: 450296-002 S

Reporting Units: mg/kg

Date Prepared: 10/08/2012

Batch #: 1

Analyst: TTE

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	3.41	101	103	99	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: MC-16 (RP-1511)

Work Order #: 450296

Project ID: SUG Historical Releases

Lab Batch ID: 898546

QC- Sample ID: 450296-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/10/2012

Date Prepared: 10/10/2012

Analyst: KEB

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	<0.00108	0.108	0.0912	84	0.107	0.111	104	20	70-130	35
Toluene	<0.00216	0.108	0.0917	85	0.107	0.113	106	21	70-130	35	
Ethylbenzene	<0.00108	0.108	0.0885	82	0.107	0.110	103	22	71-129	35	
m,p-Xylenes	<0.00216	0.216	0.185	86	0.215	0.235	109	24	70-135	35	
o-Xylene	0.00119	0.108	0.0914	84	0.107	0.114	105	22	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  $[G] = 100*(F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: MC-16 (RP-1511)**

**Work Order #: 450296**

**Lab Batch #: 898410**

**Project ID: SUG Historical Releases**

**Date Analyzed: 10/09/2012 12:30**

**Date Prepared: 10/09/2012**

**Analyst: WRU**

**QC- Sample ID: 450282-010 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

<b>Percent Moisture</b>	<b>Parent Sample Result [A]</b>	<b>Sample Duplicate Result [B]</b>	<b>RPD</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analyte</b>					
Percent Moisture	5.52	5.05	9	15	

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





Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

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

Date/ Time Received: 10/05/2012 11:30:00 AM

Temperature Measuring device used :

Work Order #: 450296

Sample Receipt Checklist

Comments

- #1 \*Temperature of cooler(s)? 7.5
#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

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst: PH Device/Lot#:

Checklist completed by:

Date:

Checklist reviewed by:

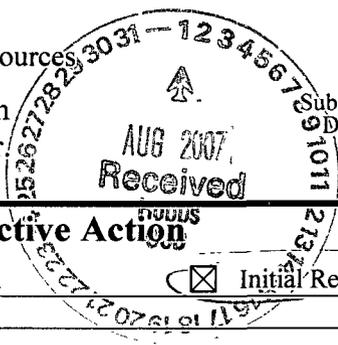
Date:

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

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



mc-16"

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company	Southern Union Gas Services, Ltd.	Contact	Tony Savoie
Address	P.O. Box 1226 Jal, N.M. 88252	Telephone No.	505-395-2116
Facility Name	Lea County Field Dept.	Facility Type	Natural Gas Gathering

Surface Owner: Wanda Jones	Mineral Owner: Fee	Lease No.
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**LOCATION OF RELEASE**

Unit Letter C	Section 34	Township 22S	Range 36E	Feet from the North/South Line	Feet from the East/West Line	County Lea
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Latitude N32 21.135 Longitude W103 15.345

**NATURE OF RELEASE**

Type of Release : Crude Oil, Produced water, and Natural Gas	Volume of Release: 60 Bbbs Fluid and 80 MCF Nat. Gas	Volume Recovered 40 Bbbs crude Oil and produced water
Source of Release : 16" Natural Gas Pipeline	Date and Hour of Occurrence not known	Date and Hour of Discovery 7/21/07 Time: 7:00 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD on call representative	
By Whom? Tony Savoie	Date and Hour: 7/21/07 7:15 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

A 16" Natural Gas gathering line developed a leak due to excess fluid delivered by a producer caused the line to pressure up and leak fluid and natural gas. Crews began shutting the line in at 7:45 pm. Approximately 40 bbbs of fluid was recovered before the line was shut in and allowed to blow down. A 200 ft. section of the 16" line was replaced on 7/23/07.

Describe Area Affected and Cleanup Action Taken. All of the affected area was contained to the lease road measuring approximately 1600 square feet. The final remediation will follow the NMOCD guidelines for the remediation of leaks and spills.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Tony Savoie		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <i>Tony Savoie</i> John A. Savoie		Approved by District Supervisor: <i>John A. Savoie</i>	
Title: Remediation Supervisor		Approval Date: 8-2-07	Expiration Date: 10-2-07
E-mail Address: tony.savoie@sug.com		Conditions of Approval:	
Date: 7/31/07 Phone: 505-395-2116		Attached <input type="checkbox"/> <i>↑</i>	

\* Attach Additional Sheets If Necessary

*SUBMIT FINAL C-141 OF*

*SUPPORTING DOCUMENTATION BY*

*RP# 1511*

District I  
1625 N. French Dr., Hobbs, NM 88240  
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1220 South St. Francis Dr.  
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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**

**OPERATOR**

Initial Report  Final Report

Name of Company	Southern Union Gas Services, Ltd.	Contact	Crystal Callaway
Address	801 S. Loop 464, Monahans, TX, 79756	Telephone No.	817-302-9407
Facility Name: MC-16" (RP-1511) Lea County Field Dept.		Facility Type	Natural Gas Gathering

Surface Owner	Wanda Jones	Mineral Owner: Fee	Lease No.
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	34	22S	36E					Lea

**Latitude N32 21.135 Longitude W103 15.345**

**NATURE OF RELEASE**

Type of Release	Crude Oil, Produced water and Natural Gas	Volume of Release	60 Bbls Fluid and 80 MCF Nat. Gas	Volume Recovered	40 bbls crude oil and produced water
Source of Release	16" Natural Gas Pipeline	Date and Hour of Occurrence	Not known	Date and Hour of Discovery	7/21/07 Time: 7:00 p.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	NMOCD on call representative		
By Whom?	Tony Savoie	Date and Hour:	7/21/07		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken:

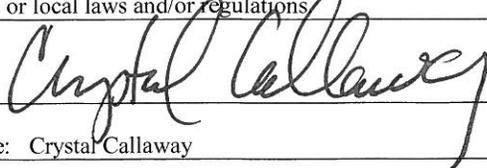
A 16" Natural Gas gathering line developed a leak due to excess fluid delivered by a producer caused the line to pressure up and leak fluid and natural gas. Crews began shutting the line in at 7:45 pm. Approximately 40 bbls of fluid was recovered before the line was shut in and allowed to blow down. A 200 ft. section of the 16" line was replaced on 7/23/07.

Describe Area Affected and Cleanup Action Taken. All of the affected area was contained to the lease road measuring approximately 1600 square feet. The final remediation will follow the NMOCD Guidelines for the remediation of leaks and spills.

**On or around August 9, 2007 remediation activities were conducted at the MC-16" Release Site by an environmental contractor that is no longer affiliated with the site. On October 3, 2012, the site was revisited in an effort to determine if soil exhibiting benzene, BTEX, TPH and chloride concentrations above NMOCD regulatory standards remained in-situ and collect confirmation soil samples. Laboratory analytical reports from the confirmation soil samples suggested previous remediation activities met the requirements of the NMOCD.**

**Please see the attached Basin Environmental Services Technologies Remediation Summary and Site Closure Request for details of remedial activities and the site investigation.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases, which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<b>OIL CONSERVATION DIVISION</b>	
Printed Name:	Crystal Callaway	Approved by District Supervisor:	
Title:	Senior Environmental Remediation Specialist	Approval Date:	Expiration Date:
E-mail Address:	Crystal.Callaway@Regencygas.com	Conditions of Approval:	
Date:	11/14/2014	Phone: 817-302-9407	