

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

ppac 0611636878

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	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	Charlie Bettis	Mineral Owner		State		Lease No.	
---------------	----------------	---------------	--	-------	--	-----------	--

**LOCATION OF RELEASE**

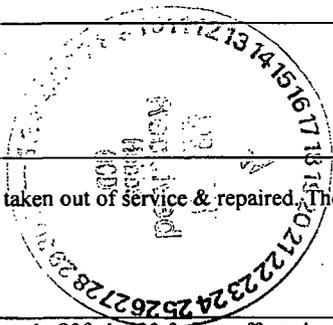
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	15	21S	37E					Lea

43'

Latitude N32 28.339 Longitude W103 08.923

**NATURE OF RELEASE**

Type of Release	Natural Gas and crude oil	Volume of Release	71 mcf gas, 15 bbls oil	Volume Recovered	0 bbls
Source of Release	Pipeline	Date and Hour of Occurrence	Not Known	Date and Hour of Discovery	4/9/06 10:45 a.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
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.\*

The 16" steel gathering pipeline, operating at 22 psi developed a leak, the line was taken out of service & repaired. The normal operating pressure for this line is 20 psi to 30 psi, with a potential H2S content of 4000 ppm.

Describe Area Affected and Cleanup Action Taken.\* An area measuring approximately 90ft. by 20 ft. was affected around the immediate leak area, or approximately 1800 sq. Ft. of pasture land was affected by the release. The site will be remediated as per NMOCD guidelines. The amount of the release is on this form under the volume of release, 71 mcf gas and 15 bbls of oil, none recovered.

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: John A. Savoie		Approved by District Supervisor:	
Title: EH&S Comp. Coord.	Approval Date:	Expiration Date:	
E-mail Address: jasavoie@sidrichgas.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 4/13/06	Phone: 505-395-2116		

\* Attach Additional Sheets If Necessary

Southern Union - 21232

incident - nPAC061163655/  
application - PPA60611636878

# *Basin Environmental Service Technologies, LLC*

3100 Plains Highway  
P. O. Box 301  
Lovington, New Mexico 88260

[jwlowry@basinenv.com](mailto:jwlowry@basinenv.com)

Office: (575) 396-2378

Fax: (575) 396-1429



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

**SOUTHERN UNION GAS SERVICES**

**MF-16" BETTIS (IRP-837)**

**HISTORICAL RELEASE SITE**

**Lea County, New Mexico**

**Unit Letter "O" (SW/SE), Section 15, Township 21 South, Range 37 East**

**Latitude 32° 28.339' North, Longitude 103° 08.923' West**

**NMOCD Reference # IRP-837**

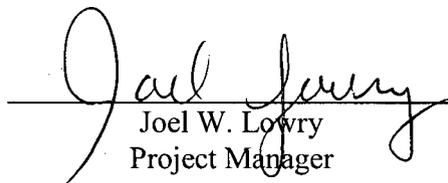
Prepared For:

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

**January 2013**

  
Joel W. Lowry  
Project Manager

HOBBS OCD  
JAN 14 2013  
RECEIVED

## TABLE OF CONTENTS

1.0 INTRODUCTION & BACKGROUND INFORMATION.....	1
2.0 NMOCD SITE CLASSIFICATION.....	1
3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES.....	2
4.0 QA/QC PROCEDURES.....	3
4.1 Soil Sampling.....	3
4.2 Decontamination of Equipment.....	3
4.3 Laboratory Protocol.....	3
5.0 SITE CLOSURE REQUEST.....	3
6.0 LIMITATIONS.....	4
7.0 DISTRIBUTION.....	5

### FIGURES

Figure 1 – Site Location Map

Figure 2 – Site & Sample Location Map

### TABLES

Table 1 – Concentrations of Benzene, BTEX, TPH & Chloride in Soil

### APPENDICES

Appendix A – Photographs

Appendix B – Transporter’s Manifests

Appendix C – Laboratory Analytical Reports

Appendix D – Release Notification and Corrective Action (Form C-141)

## 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 MF-16" Bettis Historical Release Site (IRP-837). The legal description of the release site is Unit Letter "O" (SW/SE), Section 15, Township 21 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32° 28.339' North latitude and 103° 08.923' West longitude. The property affected by the release is owned by Mr. Charlie Bettis. Please reference Figure 1 for a "Site Location Map".

On April 9, 2006, Southern Union discovered a release had occurred on the MF-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 fifteen barrels (15 bbls) of crude oil and seventy-one (71) mcf of natural gas. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on April 20, 2006. The Form C-141 indicated the release affected approximately one thousand, eight hundred square feet (1,800 ft<sup>2</sup>) of pasture land. General photographs of the release site are provided as Appendix A. The Form C-141 is provided as Appendix D.

On June 22, 2012, at the request of Southern Union, Basin assumed remediation responsibilities at the MF-16" Bettis 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 15, Township 21 South, Range 37 East. An NMOCD representative indicated groundwater should be encountered at approximately forty-three feet (43') below ground surface (bgs). Based on the NMOCD ranking system, twenty (20) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there is one (1) water well approximately seven hundred and seventy-nine feet (779') southeast of the release. Based on the NMOCD ranking system, twenty (20) 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 MF-16" Historical Release Site has an initial ranking score of forty (40) points. The soil remediation levels for a site with a ranking score of greater than nineteen (>19) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, toluene, ethylbenzene and xylene (BTEX) – 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) – 100 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**

On April 12, 2006, six (6) initial soil samples (MF-16 Surface @ Release Point, MF-16 @ 1'-10ft North of RP, MF-16 @ 30"-10ft North of RP, MF-16 Surface 80' North of RP, MF-16 @ 1'-80' North of RP and MF-16 @ 2'-80' North of RP) were collected from the release site and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicate TPH concentrations ranged from 820 mg/Kg for soil sample MF-16 @ 30"-10ft North of RP to 79,100 mg/Kg for soil sample MF-16 Surface @ Release Point. 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 C.

Between April 12, 2006, and May 5, 2006, remediation activities were conducted at the MF-16" Bettis Historical Release Site. Environmental records indicate at least five hundred and sixty-four cubic yards (564 yd<sup>3</sup>) of impacted material was excavated from the location and transported to Southern Union Gas Services' Landfarm (Discharge Permit # NM-02-0019) for treatment.

On April 21, 2006, one (1) soil sample (P.R. @ 10') was collected and submitted to the laboratory for analysis of BTEX and TPH concentrations. Laboratory analytical results indicated the benzene concentration was less than the laboratory method detection limit (MDL). The total BTEX concentration was 4.44 mg/Kg, and the TPH concentration was less than the laboratory MDL.

On April 26, 2006, eight (8) soil samples (P.R. @ 10', WW-Comp., S-Comp., A-Comp., B-Comp., NW-Comp., SW-Comp. and EW-Comp.) were collected from the excavation floor and sidewalls and submitted to the laboratory for analysis of TPH concentrations. Soil samples WW-Comp., S-Comp., A-Comp., B-Comp., NW-Comp., SW-Comp. and EW-Comp. were composite samples. Analytical results indicated TPH concentrations were less than the laboratory MDL in each of the soil samples submitted, with the exception of soil sample S-Comp., which had a concentration of 85.8 mg/Kg. Soil sample P.R. @ 10' was also analyzed for BTEX constituent concentrations, which were less than the appropriate laboratory MDL. Soil samples were not analyzed for chloride concentrations.

Environmental records indicated the excavation was backfilled with locally purchased material on or around May 3, 2006. Prior to backfilling the final dimensions of the excavation were approximately one hundred and five feet (105') in length, twenty feet (20') to thirty feet (30') in width, and ranged in depth from approximately four feet (4') to ten feet (10').

On December 5, 2012, Basin responded to the MF-16" Bettis Historical Release Site in an effort to determine if soil containing BTEX, TPH and chloride concentrations above NMOCD regulatory standards remained in-situ and to collect confirmation soil samples. A hand auger was utilized to locate native soil representing the former excavation floor and sidewalls. Eight (8) soil samples (North Sidewall, South Sidewall, East Sidewall #1, East Sidewall #2, West Sidewall #1, West Sidewall #2, Floor #1 and Floor #2) were collected from the location and submitted to the

laboratory for analysis of TPH and chloride analysis. Laboratory analytical results indicated TPH concentrations were less than the appropriate laboratory MDL for each of the submitted soil samples. Chloride concentrations ranged from less than the laboratory MDL for soil sample North Sidewall to 6.3 mg/Kg for soil sample Floor #1. Soil samples Floor #1 and Floor #2 were also analyzed for BTEX constituent concentrations. BTEX concentrations were less than the appropriate laboratory MDL for both soil samples.

#### **4.0 QA/QC PROCEDURES**

##### **4.1 Soil Sampling**

Soil samples were delivered to Xenco Laboratories, of Odessa, Texas, 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 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 from the MF-16” Bettis Historical Release Site suggested previous remediation activities met the requirements of the NMOCD’s “Guidelines for Remediation of Leaks, Spills and Releases”. Laboratory analytical results indicated benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory standards in each of the submitted soil samples. 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 MF-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.

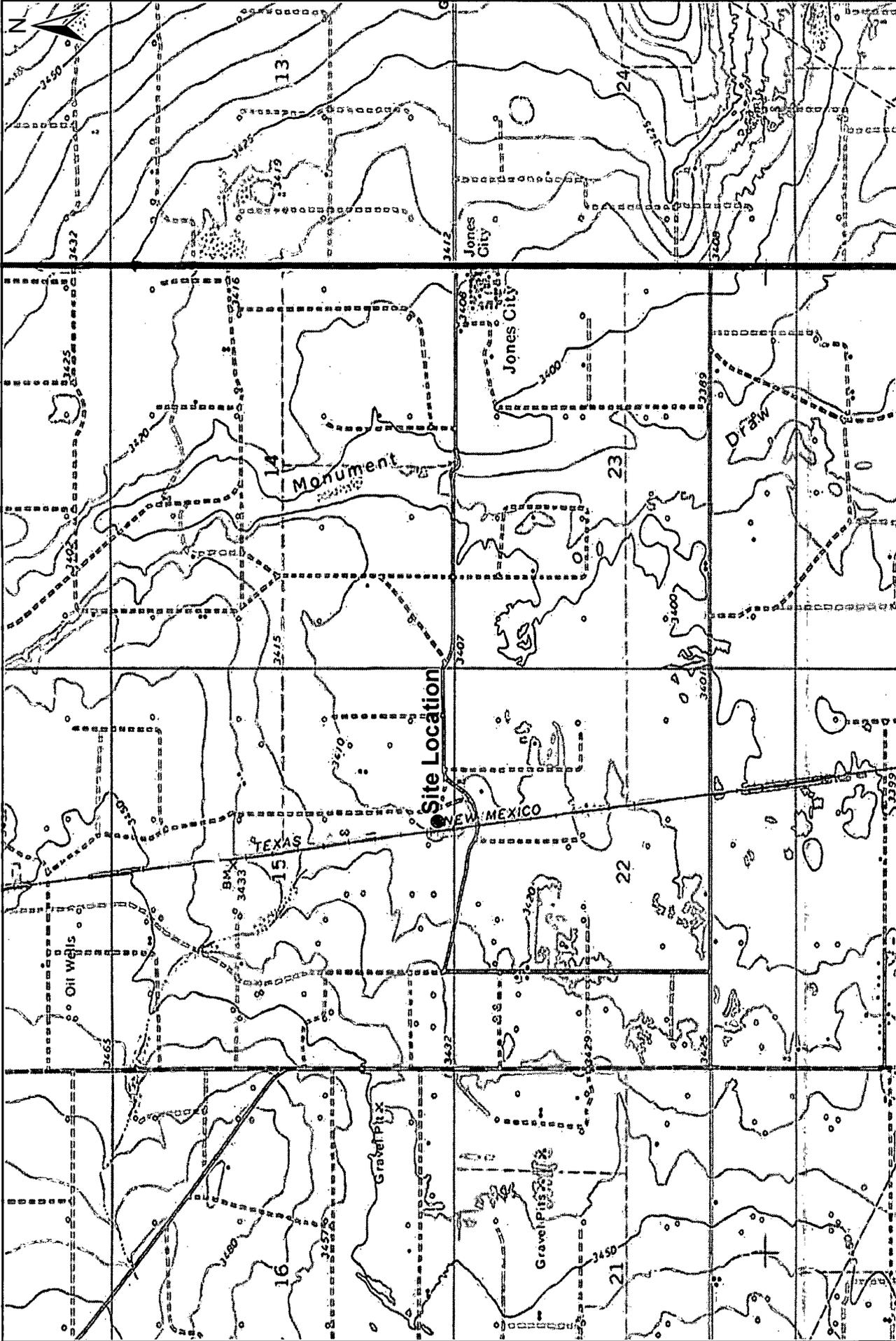
This report has been prepared for the benefit of Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and/or Southern Union Gas Services.

## 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

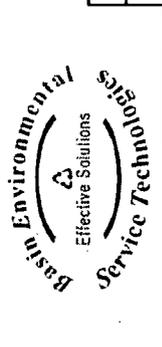
Copy 2: Rose Slade  
Southern Union Gas Services  
801 S. Loop 464  
Monahans, Texas 79756  
rose.slade@sug.com

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

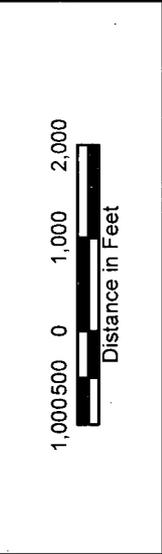


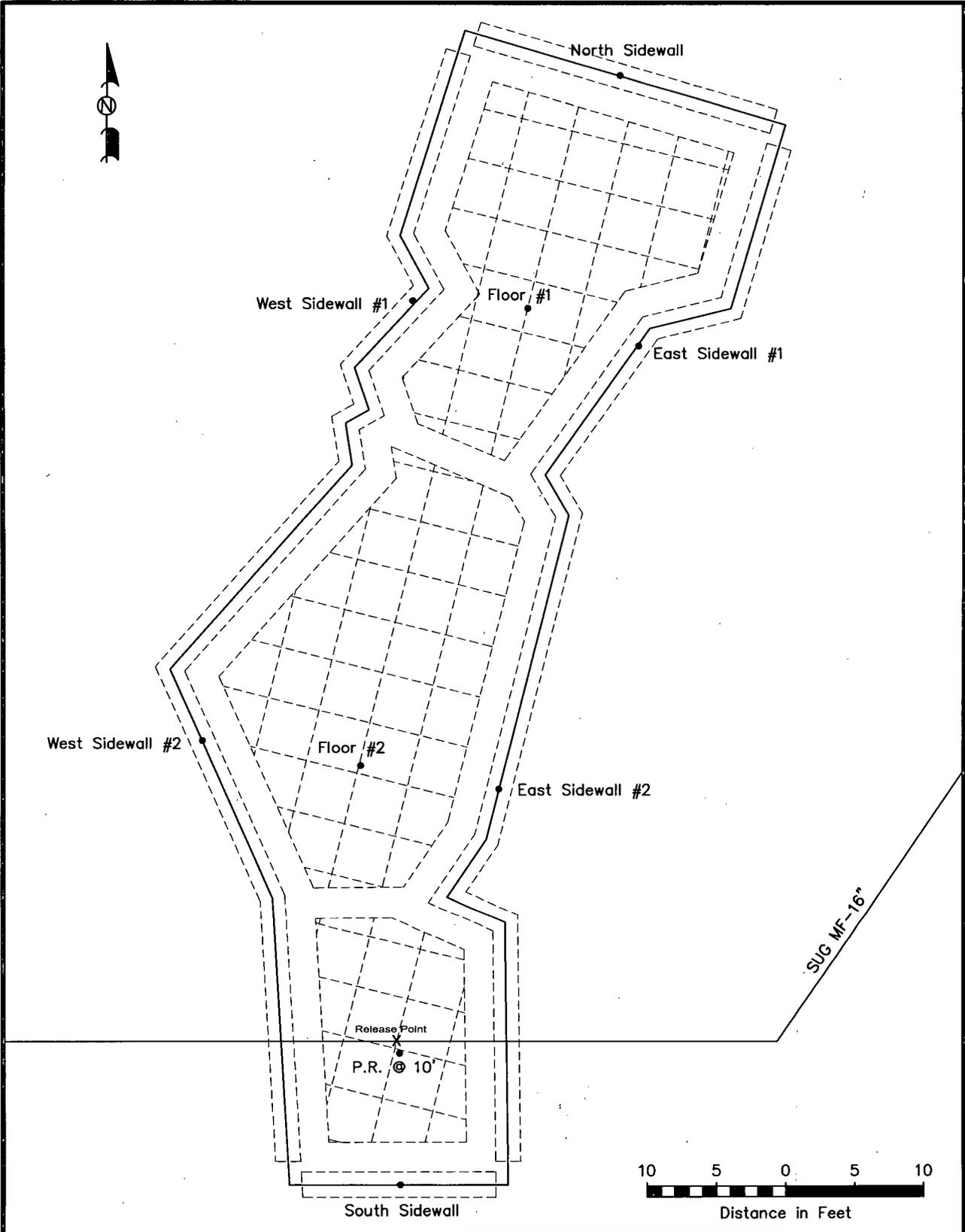
Basin Environmental Service Technologies, LLC  
 3100 Plains Hwy.  
 Lovington, NM 88260

Drawn By: BJA      Checked By: JWL  
 November 13, 2012      Scale: 1" = 2000'



**Figure 1**  
 Site Location Map  
 Southern Union Gas Services  
 MF-16" Bettis  
 Lea County, New Mexico  
 NMOCD Reference #: 1RP-837





**LEGEND:**

●	Sample Location	□ □ □ □	Composite Sample
—	Pipeline	—	
—	Fence	—	

**Figure 2**  
**Site & Sample Location Map**  
**Southern Union Gas Services**  
**MF-16" Bettis (RP-837)**  
**Lea County, NM**

**Basin Environmental Services**

Scale: 1" = 30'	Drawn By: JWJ	Prepared By: BJA
November 8, 2012		

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES  
 MF-16" BETTIS  
 HISTORICAL RELEASE SITE  
 LEA COUNTY, NEW MEXICO  
 NMOCD REF# 1RP-837

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	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>17</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>28</sub> (mg/Kg)	CHLORIDE (mg/Kg)
MF-16 Surface @ Release Point	Surface	4/12/2006	Excavated	-	-	-	-	-	4,320	68,500	6,260	79,100	-
MF-16 @ 1'-10' North of RP	1'	4/12/2006	Excavated	-	-	-	-	-	1,930	4,250	300	6,480	-
MF-16 @ 30"-10ft North of RP	30"	4/12/2006	Excavated	-	-	-	-	-	152	625	43.0	820	-
MF-16 Surface 80' North of RF	Surface	4/12/2006	Excavated	-	-	-	-	-	4,360	49,100	9,640	63,100	-
MF-16 @ 1'-80' North of RF	1'	4/12/2006	Excavated	-	-	-	-	-	1,820	3,460	257	5,540	-
MF-16 @ 2'-80' North of RF	2'	4/12/2006	Excavated	-	-	-	-	-	662	1,650	121	2,430	-
P.R. @ 10'	10'	4/21/2006	In-Situ	<1.00	1.01	1.80	1.63	4.44	<10.0	<10.0	<10.0	<10.0	-
P.R. @ 10'	10'	4/26/2006	In-Situ	<0.0250	<0.0250	<0.0250	<0.0250	<0.0250	<10.0	<10.0	<10.0	<10.0	-
WW-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
S-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	85.8	<10.0	85.8	-
A-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
B-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
NW-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
SW-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
EW-Comp.	N/A	4/26/2006	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0	-
North Sidewall	2'	12/05/12	In-Situ	-	-	-	-	-	<15.9	<15.9	<15.9	<15.9	<1.06
South Sidewall	2'	12/05/12	In-Situ	-	-	-	-	-	<15.6	<15.6	<15.6	<15.6	1.94
East Sidewall #1	2'	12/05/12	In-Situ	-	-	-	-	-	<15.9	<15.9	<15.9	<15.9	1.11
East Sidewall #2	2'	12/05/12	In-Situ	-	-	-	-	-	<16.0	<16.0	<16.0	<16.0	1.82
West Sidewall #1	2'	12/05/12	In-Situ	-	-	-	-	-	<16.0	<16.0	<16.0	<16.0	2.18
West Sidewall #2	2'	12/05/12	In-Situ	-	-	-	-	-	<15.8	<15.8	<15.8	<15.8	2.33
Floor #1	4'	12/05/12	In-Situ	<0.00105	<0.00210	<0.00105	<0.00210	<0.00210	<15.8	<15.8	<15.8	<15.8	6.3
Floor #2	5'	12/05/12	In-Situ	<0.00105	<0.00209	<0.00105	<0.00209	<0.00209	<15.6	<15.6	<15.6	<15.6	2.03
<b>NMOCD Standard</b>				<b>10</b>				<b>50</b>				<b>100</b>	<b>250</b>

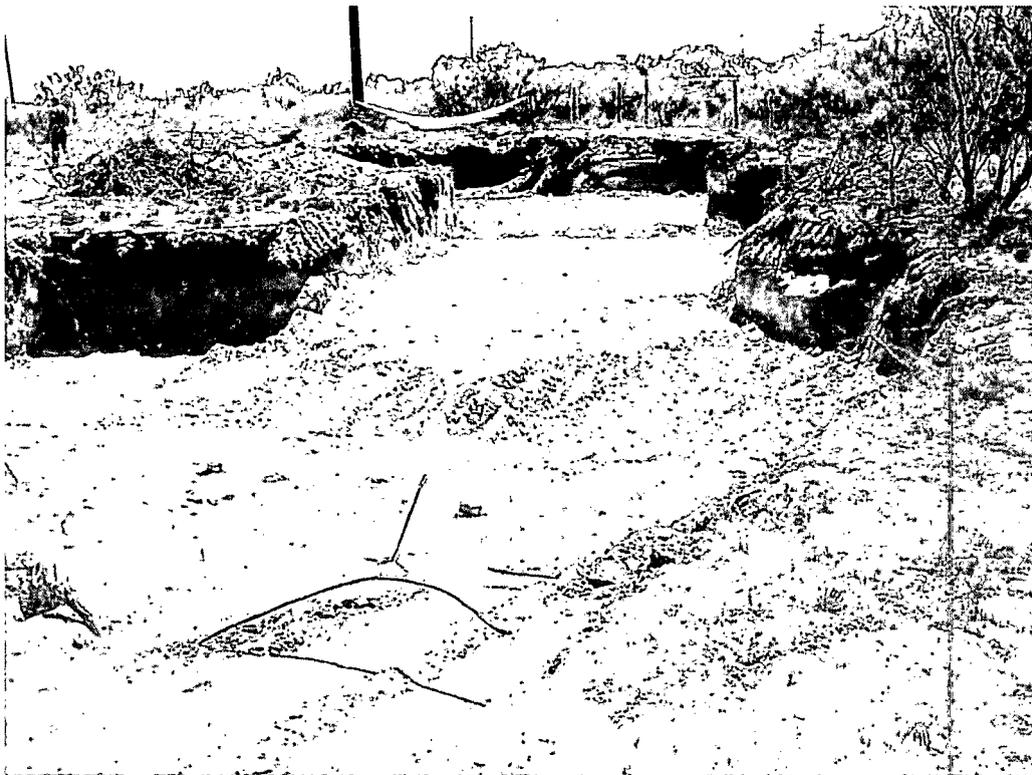
- = Not analyzed.



Photograph of the 2006 excavation at the MF-16" Bettis Historical Release Site.



Photograph of the 2006 excavation at the MF-16" Bettis Historical Release Site.



Photograph of the 2006 excavation at the MF-16" Bettis Historical Release Site.



Photograph of the remediated area at the MF-16" Bettis Historical Release Site.



Photograph of the remediated area at the MF-16" Bettis Historical Release Site.



Photograph of the remediated area at the MF-16" Bettis Historical Release Site.



Photograph of collection of confirmation soil samples at the MF-16" Bettis Historical Release Site.



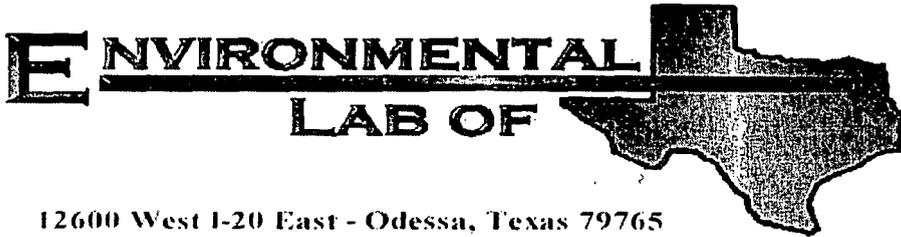
Photograph of collection of confirmation soil samples at the MF-16" Bettis Historical Release Site.











12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Tony Savoie

Southern Union Gas Services- Jal

P.O. Box 1226

Jal, NM 88252

Project: MF-16" Betti S

Project Number: 2006-014

Location: North of Eunice

Lab Order Number: 6D13012

Report Date: 04/20/06

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MF-16 Surface @ Release Point	6D13012-01	Soil	04/12/06 10:30	04/13/06 13:51
MF-16 @ 1'- 10ft North of RP	6D13012-02	Soil	04/12/06 10:30	04/13/06 13:51
MF-16 @ 30"- 10ft North of RP	6D13012-03	Soil	04/12/06 10:30	04/13/06 13:51
MF-16 Surface 80' North of RP	6D13012-04	Soil	04/12/06 10:30	04/13/06 13:51
MF-16 @ 1'- 80' North of RP	6D13012-05	Soil	04/12/06 10:30	04/13/06 13:51
MF-16 @ 2'- 80' North of RP	6D13012-06	Soil	04/12/06 10:30	04/13/06 13:51

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MF-16 Surface @ Release Point (6D13012-01) Soil</b>									
Carbon Ranges C6-C12	4320	200	mg/kg dry	20	ED61312	04/13/06	04/14/06	EPA 8015M	
Carbon Ranges C12-C28	68500	200	"	"	"	"	"	"	
Carbon Ranges C28-C35	6260	200	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	79100	200	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		7.02 %		70-130	"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		52.2 %		70-130	"	"	"	"	S-06
<b>MF-16 @ 1'- 10ft North of RP (6D13012-02) Soil</b>									
Carbon Ranges C6-C12	1930	10.0	mg/kg dry	1	ED61312	04/13/06	04/14/06	EPA 8015M	
Carbon Ranges C12-C28	4250	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	300	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	6480	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %		70-130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		128 %		70-130	"	"	"	"	
<b>MF-16 @ 30"- 10ft North of RP (6D13012-03) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED61907	04/19/06	04/19/06	EPA 8021B	
Toluene	0.0734	0.0250	"	"	"	"	"	"	
Ethylbenzene	0.138	0.0250	"	"	"	"	"	"	
Xylene (p/m)	0.330	0.0250	"	"	"	"	"	"	
Xylene (o)	0.239	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.8 %		80-120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.0 %		80-120	"	"	"	"	
Carbon Ranges C6-C12	152	10.0	mg/kg dry	1	ED61418	04/14/06	04/14/06	EPA 8015M	
Carbon Ranges C12-C28	625	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	43.0	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	820	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		100 %		70-130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		98.4 %		70-130	"	"	"	"	

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MF-16 Surface 80' North of RP (6D13012-04) Soil</b>									
Carbon Ranges C6-C12	4360	100	mg/kg dry	10	ED61418	04/14/06	04/18/06	EPA 8015M	
Carbon Ranges C12-C28	49100	100	"	"	"	"	"	"	
Carbon Ranges C28-C35	9640	100	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>63100</b>	<b>100</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Surrogate: 1-Chlorooctane		18.0 %	70-130		"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		79.0 %	70-130		"	"	"	"	S-04
<b>MF-16 @ 1'- 80' North of RP (6D13012-05) Soil</b>									
Carbon Ranges C6-C12	1820	10.0	mg/kg dry	1	ED61418	04/14/06	04/14/06	EPA 8015M	
Carbon Ranges C12-C28	3460	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	257	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>5540</b>	<b>10.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Surrogate: 1-Chlorooctane		83.2 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		86.6 %	70-130		"	"	"	"	
<b>MF-16 @ 2'- 80' North of RP (6D13012-06) Soil</b>									
Benzene	0.134	0.0250	mg/kg dry	25	ED61907	04/19/06	04/19/06	EPA 8021B	
Toluene	1.99	0.0250	"	"	"	"	"	"	
Ethylbenzene	3.09	0.0250	"	"	"	"	"	"	
Xylene (p/m)	6.33	0.0250	"	"	"	"	"	"	
Xylene (o)	3.41	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		135 %	80-120		"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		145 %	80-120		"	"	"	"	S-04
Carbon Ranges C6-C12	662	10.0	mg/kg dry	1	ED61418	04/14/06	04/14/06	EPA 8015M	
Carbon Ranges C12-C28	1650	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	121	10.0	"	"	"	"	"	"	
<b>Total Hydrocarbon C6-C35</b>	<b>2430</b>	<b>10.0</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	<b>"</b>	
Surrogate: 1-Chlorooctane		120 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-130		"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MF-16 Surface @ Release Point (6D13012-01) Soil</b>									
% Moisture	10.1	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation
<b>MF-16 @ 1'- 10ft North of RP (6D13012-02) Soil</b>									
% Moisture	9.1	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation
<b>MF-16 @ 30"- 10ft North of RP (6D13012-03) Soil</b>									
% Moisture	10.5	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation
<b>MF-16 Surface 80' North of RP (6D13012-04) Soil</b>									
% Moisture	5.6	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation
<b>MF-16 @ 1'- 80' North of RP (6D13012-05) Soil</b>									
% Moisture	9.3	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation
<b>MF-16 @ 2'- 80' North of RP (6D13012-06) Soil</b>									
% Moisture	9.0	0.1	%	1	ED61410	04/13/06	04/14/06	%	calculation

**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
<b>Batch ED61312 - Solvent Extraction (GC)</b>										
<b>Blank (ED61312-BLK1)</b>					Prepared & Analyzed: 04/13/06					
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 Hydrocarbon C6-C35	ND	10.0	"							
<i>Surrogate: 1-Chlorooctane</i>	40.1		mg/kg	50.0		80.2	70-130			
<i>Surrogate: 1-Chlorooctadecane</i>	40.6		"	50.0		81.2	70-130			
<b>LCS (ED61312-BS1)</b>					Prepared & Analyzed: 04/13/06					
Carbon Ranges C6-C12	464	10.0	mg/kg wet	500		92.8	75-125			
Carbon Ranges C12-C28	465	10.0	"	500		93.0	75-125			
Total Hydrocarbon C6-C35	929	10.0	"	1000		92.9	75-125			
<i>Surrogate: 1-Chlorooctane</i>	48.8		mg/kg	50.0		97.6	70-130			
<i>Surrogate: 1-Chlorooctadecane</i>	41.9		"	50.0		83.8	70-130			
<b>Calibration Check (ED61312-CCV1)</b>					Prepared: 04/13/06 Analyzed: 04/14/06					
Carbon Ranges C6-C12	286		mg/kg	250		114	80-120			
Carbon Ranges C12-C28	297		"	250		119	80-120			
Total Hydrocarbon C6-C35	583		"	500		117	80-120			
<i>Surrogate: 1-Chlorooctane</i>	49.2		"	50.0		98.4	70-130			
<i>Surrogate: 1-Chlorooctadecane</i>	44.2		"	50.0		88.4	70-130			
<b>Matrix Spike (ED61312-MS1)</b>					Source: 6D13008-11 Prepared & Analyzed: 04/13/06					
Carbon Ranges C6-C12	523	10.0	mg/kg dry	560	ND	93.4	75-125			
Carbon Ranges C12-C28	529	10.0	"	560	ND	94.5	75-125			
Total Hydrocarbon C6-C35	1050	10.0	"	1120	ND	93.8	75-125			
<i>Surrogate: 1-Chlorooctane</i>	50.3		mg/kg	50.0		101	70-130			
<i>Surrogate: 1-Chlorooctadecane</i>	41.5		"	50.0		83.0	70-130			

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

**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 ED61312 - Solvent Extraction (GC)**

<b>Matrix Spike Dup (ED61312-MSD1)</b>	<b>Source: 6D13008-11</b>			<b>Prepared &amp; Analyzed: 04/13/06</b>						
Carbon Ranges C6-C12	528	10.0	mg/kg dry	560	ND	94.3	75-125	0.951	20	
Carbon Ranges C12-C28	521	10.0	"	560	ND	93.0	75-125	1.52	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1120	ND	93.8	75-125	0.00	20	
Surrogate: 1-Chlorooctane	50.8		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	42.4		"	50.0		84.8	70-130			

**Batch ED61418 - Solvent Extraction (GC)**

<b>Blank (ED61418-BLK1)</b>	<b>Prepared &amp; Analyzed: 04/14/06</b>									
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 Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	45.7		mg/kg	50.0		91.4	70-130			
Surrogate: 1-Chlorooctadecane	46.3		"	50.0		92.6	70-130			

<b>LCS (ED61418-BS1)</b>	<b>Prepared &amp; Analyzed: 04/14/06</b>									
Carbon Ranges C6-C12	477	10.0	mg/kg wet	500		95.4	75-125			
Carbon Ranges C12-C28	491	10.0	"	500		98.2	75-125			
Total Hydrocarbon C6-C35	968	10.0	"	1000		96.8	75-125			
Surrogate: 1-Chlorooctane	51.8		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	45.2		"	50.0		90.4	70-130			

<b>Calibration Check (ED61418-CCV1)</b>	<b>Prepared: 04/14/06 Analyzed: 04/15/06</b>									
Carbon Ranges C6-C12	266		mg/kg	250		106	80-120			
Carbon Ranges C12-C28	294		"	250		118	80-120			
Total Hydrocarbon C6-C35	560		"	500		112	80-120			
Surrogate: 1-Chlorooctane	45.6		"	50.0		91.2	70-130			
Surrogate: 1-Chlorooctadecane	38.7		"	50.0		77.4	70-130			

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

**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 ED61418 - Solvent Extraction (GC)**

Matrix Spike (ED61418-MS1)	Source: 6D14012-01			Prepared & Analyzed: 04/14/06						
Carbon Ranges C6-C12	509	10.0	mg/kg dry	536	ND	95.0	75-125			
Carbon Ranges C12-C28	510	10.0	"	536	ND	95.1	75-125			
Total Hydrocarbon C6-C35	1020	10.0	"	1070	ND	95.3	75-125			
Surrogate: 1-Chlorooctane	56.1		mg/kg	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	47.4		"	50.0		94.8	70-130			

Matrix Spike Dup (ED61418-MSD1)	Source: 6D14012-01			Prepared & Analyzed: 04/14/06						
Carbon Ranges C6-C12	518	10.0	mg/kg dry	536	ND	96.6	75-125	1.75	20	
Carbon Ranges C12-C28	531	10.0	"	536	ND	99.1	75-125	4.03	20	
Total Hydrocarbon C6-C35	1050	10.0	"	1070	ND	98.1	75-125	2.90	20	
Surrogate: 1-Chlorooctane	57.0		mg/kg	50.0		114	70-130			
Surrogate: 1-Chlorooctadecane	47.9		"	50.0		95.8	70-130			

**Batch ED61907 - EPA 5030C (GC)**

Blank (ED61907-BLK1)	Prepared & Analyzed: 04/19/06									
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	39.2		ug/kg	40.0		98.0	80-120			
Surrogate: 4-Bromofluorobenzene	39.3		"	40.0		98.2	80-120			

LCS (ED61907-BS1)	Prepared & Analyzed: 04/19/06									
Benzene	1.31	0.0250	mg/kg wet	1.25		105	80-120			
Toluene	1.39	0.0250	"	1.25		111	80-120			
Ethylbenzene	1.44	0.0250	"	1.25		115	80-120			
Xylene (p/m)	3.00	0.0250	"	2.50		120	80-120			
Xylene (o)	1.50	0.0250	"	1.25		120	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.6		ug/kg	40.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	37.8		"	40.0		94.5	80-120			

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoic

Fax: 505-395-2326

Reported:  
04/20/06 11:20

**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 ED61907 - EPA 5030C (GC)**

**Calibration Check (ED61907-CCV1)**

Prepared: 04/19/06 Analyzed: 04/20/06

Benzene	58.6		ug/kg	50.0		117	80-120			
Toluene	56.6		"	50.0		113	80-120			
Ethylbenzene	59.7		"	50.0		119	80-120			
Xylene (p/m)	119		"	100		119	80-120			
Xylene (o)	59.1		"	50.0		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.1		"	40.0		97.8	80-120			
Surrogate: 4-Bromofluorobenzene	37.2		"	40.0		93.0	80-120			

**Matrix Spike (ED61907-MS1)**

Source: 6D13013-01

Prepared & Analyzed: 04/19/06

Benzene	1.25	0.0250	mg/kg dry	1.43	ND	87.4	80-120			
Toluene	1.24	0.0250	"	1.43	ND	86.7	80-120			
Ethylbenzene	1.33	0.0250	"	1.43	ND	93.0	80-120			
Xylene (p/m)	2.88	0.0250	"	2.86	ND	101	80-120			
Xylene (o)	1.41	0.0250	"	1.43	ND	98.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	32.3		ug/kg	40.0		80.8	80-120			
Surrogate: 4-Bromofluorobenzene	36.6		"	40.0		91.5	80-120			

**Matrix Spike Dup (ED61907-MSD1)**

Source: 6D13013-01

Prepared: 04/19/06 Analyzed: 04/20/06

Benzene	1.45	0.0250	mg/kg dry	1.43	ND	101	80-120	14.4	20	
Toluene	1.52	0.0250	"	1.43	ND	106	80-120	20.0	20	
Ethylbenzene	1.53	0.0250	"	1.43	ND	107	80-120	14.0	20	
Xylene (p/m)	3.37	0.0250	"	2.86	ND	118	80-120	15.5	20	
Xylene (o)	1.57	0.0250	"	1.43	ND	110	80-120	10.9	20	
Surrogate: a,a,a-Trifluorotoluene	38.6		ug/kg	40.0		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	35.1		"	40.0		87.8	80-120			

**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 ED61410 - General Preparation (Prep)**

<b>Blank (ED61410-BLK1)</b>					Prepared: 04/13/06 Analyzed: 04/14/06						
% Solids	.100		%								
<b>Duplicate (ED61410-DUP1)</b>					Source: 6D13001-01 Prepared: 04/13/06 Analyzed: 04/14/06						
% Solids	98.2		%		98.1			0.102	20		
<b>Duplicate (ED61410-DUP2)</b>					Source: 6D13008-10 Prepared: 04/13/06 Analyzed: 04/14/06						
% Solids	88.0		%		88.3			0.340	20		
<b>Duplicate (ED61410-DUP3)</b>					Source: 6D13012-04 Prepared: 04/13/06 Analyzed: 04/14/06						
% Solids	92.1		%		94.4			2.47	20		

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

Project: MF-16" Betti S  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/20/06 11:20

### 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

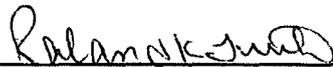
RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:



Date:

4-20-06

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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



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

Client: SUGS  
 Date/Time: 4/12/10 13:51  
 Order #: 013012  
 Initials: ck

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	4.5 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No	
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>
Custody Seals intact on sample bottles?	Yes	No	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/>	No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No	
Chain of custody agrees with sample label(s)	Yes	No	FD on cap
Container labels legible and intact?	Yes	No	n/a
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No	
Samples properly preserved?	<input checked="" type="checkbox"/>	No	
Sample bottles intact?	<input checked="" type="checkbox"/>	No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No	
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No	
LOC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Nct Applicable

Other observations:

---



---



---

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

---



---

Corrective Action Taken:

---



---



---



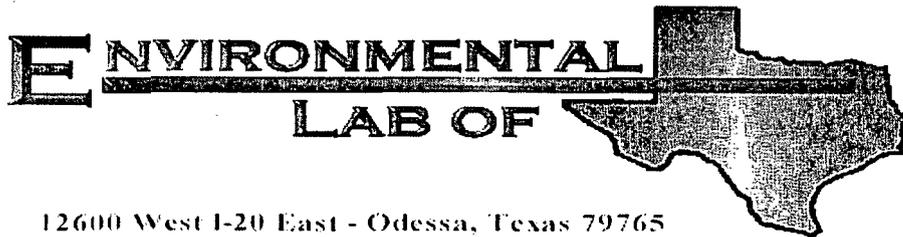
---



---



---



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

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

Project: MF-16"  
Project Number: 2006-014  
Location: Bettis Ranch

Lab Order Number: ~~6D21012~~

Report Date: 04/26/06

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 08:09

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P.R.@ 10'	6D21012-01	Soil	04/21/06 13:10	04/21/06 16:50

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 08:09

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>P.R.@ 10' (6D21012-01) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62407	04/24/06	04/25/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		88.8 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		93.6 %	70-130		"	"	"	"	

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 08:09

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>P.R.@ 10' (6D21012-01) Soil</b>									
% Moisture	6.5	0.1	%	1	ED62502	04/24/06	04/25/06	% calculation	

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 08:09

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B**  
**Environmental Lab of Texas**

Analyte	Reporting		Units	Dilution	Batch	Extracted	Prepared	Analyzed	Method	Notes
	Result	Limit								
<b>P.R.@ 10' (6D21012-01) Soil</b>										
Benzene	ND	1.00	ug/l	1	ED62605	04/24/06 TCLP	04/25/06	04/25/06	EPA 8260B	
Toluene	1.01	1.00	"	"	"	"	"	"	"	
Ethylbenzene	1.80	1.00	"	"	"	"	"	"	"	
Xylene (p/m)	1.63	1.00	"	"	"	"	"	"	"	
Xylene (o)	J [0.910]	1.00	"	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		83.6 %		70-139	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		86.8 %		52-149	"	"	"	"	"	
Surrogate: Toluene-d8		94.4 %		76-125	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		66-145	"	"	"	"	"	

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

**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
<b>Batch ED62407 - Solvent Extraction (GC)</b>										
<b>Blank (ED62407-BLK1)</b>					Prepared: 04/24/06 Analyzed: 04/25/06					
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 Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	41.0		mg/kg	50.0		82.0	70-130			
Surrogate: 1-Chlorooctadecane	43.5		"	50.0		87.0	70-130			
<b>I.CS (ED62407-BS1)</b>					Prepared & Analyzed: 04/24/06					
Carbon Ranges C6-C12	464	10.0	mg/kg wet	500		92.8	75-125			
Carbon Ranges C12-C28	479	10.0	"	500		95.8	75-125			
Total Hydrocarbon C6-C35	943	10.0	"	1000		94.3	75-125			
Surrogate: 1-Chlorooctane	48.0		mg/kg	50.0		96.0	70-130			
Surrogate: 1-Chlorooctadecane	43.2		"	50.0		86.4	70-130			
<b>Calibration Check (ED62407-CCV1)</b>					Prepared: 04/24/06 Analyzed: 04/25/06					
Carbon Ranges C6-C12	220		mg/kg	250		88.0	80-120			
Carbon Ranges C12-C28	288		"	250		115	80-120			
Total Hydrocarbon C6-C35	508		"	500		102	80-120			
Surrogate: 1-Chlorooctane	45.4		"	50.0		90.8	70-130			
Surrogate: 1-Chlorooctadecane	44.7		"	50.0		89.4	70-130			
<b>Matrix Spike (ED62407-MS1)</b>					Source: 6D21011-01 Prepared: 04/24/06 Analyzed: 04/25/06					
Carbon Ranges C6-C12	515	10.0	mg/kg dry	541	5.00	94.3	75-125			
Carbon Ranges C12-C28	535	10.0	"	541	18.3	95.5	75-125			
Total Hydrocarbon C6-C35	1050	10.0	"	1080	18.3	95.5	75-125			
Surrogate: 1-Chlorooctane	52.2		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	47.1		"	50.0		94.2	70-130			

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

**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 ED62407 - Solvent Extraction (GC)**

**Matrix Spike Dup (ED62407-MSD1)**      **Source: 6D21011-01**      Prepared: 04/24/06      Analyzed: 04/25/06

Carbon Ranges C6-C12	521	10.0	mg/kg dry	541	5.00	95.4	75-125	1.16	20	
Carbon Ranges C12-C28	535	10.0	"	541	18.3	95.5	75-125	0.00	20	
Total Hydrocarbon C6-C35	1060	10.0	"	1080	18.3	96.5	75-125	0.948	20	
Surrogate: 1-Chlorooctane	52.1		mg/kg	50.0		104	70-130			
Surrogate: 1-Chlorooctadecane	46.6		"	50.0		93.2	70-130			

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

**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 ED62502 - General Preparation (Prep)**

**Blank (ED62502-BLK1)**

Prepared: 04/24/06 Analyzed: 04/25/06

% Moisture ND 0.1 %

**Duplicate (ED62502-DUP1)**

Source: 6D21010-01

Prepared: 04/24/06 Analyzed: 04/25/06

% Solids 94.3 % 94.3 0.00 20

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B - Quality Control  
Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch ED62605 - EPA 1311/ZHE**

**Blank (ED62605-BLK1)**

Prepared & Analyzed: 04/25/06

Benzene	ND	1.00	ug/l							
Toluene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Xylene (p/m)	ND	1.00	"							
Xylene (o)	ND	1.00	"							
Surrogate: Dibromofluoromethane	39.2		ug/kg	50.0		78.4	70-139			
Surrogate: 1,2-Dichloroethane-d4	37.8		"	50.0		75.6	52-149			
Surrogate: Toluene-d8	44.7		"	50.0		89.4	76-125			
Surrogate: 4-Bromofluorobenzene	46.9		"	50.0		93.8	66-145			

**LCS (ED62605-BS1)**

Prepared & Analyzed: 04/25/06

Benzene	47.5		ug/kg	50.0		95.0	70-130			
Surrogate: Dibromofluoromethane	37.8		"	50.0		75.6	70-139			
Surrogate: 1,2-Dichloroethane-d4	42.2		"	50.0		84.4	52-149			
Surrogate: Toluene-d8	47.4		"	50.0		94.8	76-125			
Surrogate: 4-Bromofluorobenzene	48.0		"	50.0		96.0	66-145			

**Calibration Check (ED62605-CCV1)**

Prepared & Analyzed: 04/25/06

Toluene	38.4		ug/kg	50.0		76.8	70-130			
Ethylbenzene	36.5		"	50.0		73.0	70-130			
Surrogate: Dibromofluoromethane	37.1		"	50.0		74.2	70-139			
Surrogate: 1,2-Dichloroethane-d4	38.9		"	50.0		77.8	52-149			
Surrogate: Toluene-d8	46.1		"	50.0		92.2	76-125			
Surrogate: 4-Bromofluorobenzene	47.1		"	50.0		94.2	66-145			

**Matrix Spike (ED62605-MS1)**

Source: 6D21012-01

Prepared & Analyzed: 04/25/06

Benzene	45.6		ug/kg	50.0	ND	91.2	70-130			
Toluene	0.860	1.00	ug/l		1.01		70-130			J
Ethylbenzene	1.47	1.00	"		1.80		70-130			
Xylene (p/m)	1.68	1.00	"		1.63		70-130			
Xylene (o)	0.980	1.00	"		0.910		70-130			J
Surrogate: Dibromofluoromethane	37.8		ug/kg	50.0		75.6	70-139			
Surrogate: 1,2-Dichloroethane-d4	43.1		"	50.0		86.2	52-149			
Surrogate: Toluene-d8	47.6		"	50.0		95.2	76-125			
Surrogate: 4-Bromofluorobenzene	47.5		"	50.0		95.0	66-145			

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 8 of 10

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

**TCLP Volatile Organic Compounds by EPA Method 1311/8260B - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch ED62605 - EPA 1311/ZHE**

Matrix Spike Dup (ED62605-MSD1)	Source: 6D21012-01	Prepared & Analyzed: 04/25/06							
Benzene	48.4	ug/kg	50.0	ND	96.8	70-130	5.96	20	
Surrogate: Dibromofluoromethane	40.8	"	50.0		81.6	70-139			
Surrogate: 1,2-Dichloroethane-d4	48.2	"	50.0		96.4	52-149			
Surrogate: Toluene-d8	48.2	"	50.0		96.4	76-125			
Surrogate: 4-Bromofluorobenzene	48.8	"	50.0		97.6	66-145			

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

Project: MF-16"  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
04/26/06 16:34

### Notes and Definitions

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: Raland K Tuttle Date: 4-28-06

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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



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

Client: SUGS

Date/Time: 04-21-06 @ 1650

Order #: 6D21012

Initials: JMM

**Sample Receipt Checklist**

Temperature of container/cooler?	<input checked="" type="radio"/> Yes	No	I, S	C
Shipping container/cooler in good condition?	<input checked="" type="radio"/> Yes	No		
Custody Seals intact on shipping container/cooler?	<input checked="" type="radio"/> Yes	No	Not present	
Custody Seals intact on sample bottles?	<input checked="" type="radio"/> Yes	No	Not present	
Chain of custody present?	<input checked="" type="radio"/> Yes	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="radio"/> Yes	No		
Chain of custody agrees with sample label(s)	<input checked="" type="radio"/> Yes	No		
Container labels legible and intact?	<input checked="" type="radio"/> Yes	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="radio"/> Yes	No		
Samples in proper container/bottle?	<input checked="" type="radio"/> Yes	No		
Samples properly preserved?	<input checked="" type="radio"/> Yes	No		
Sample bottles intact?	<input checked="" type="radio"/> Yes	No		
Preservations documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
Containers documented on Chain of Custody?	<input checked="" type="radio"/> Yes	No		
Sufficient sample amount for indicated test?	<input checked="" type="radio"/> Yes	No		
All samples received within sufficient hold time?	<input checked="" type="radio"/> Yes	No		
DOC samples have zero headspace?	<input checked="" type="radio"/> Yes	No	Not Applicable	

Other observations:

---



---



---

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

---



---

Corrective Action Taken:

---



---



---



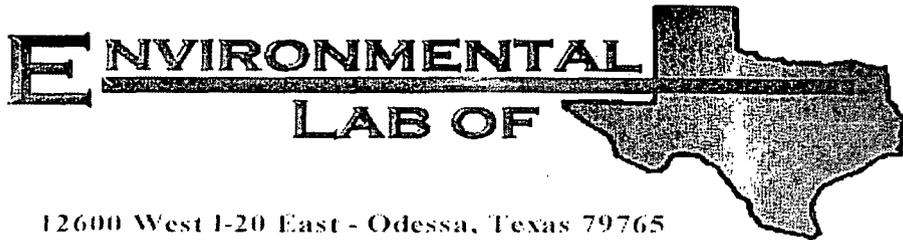
---



---



---



12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Tony Savoie

Southern Union Gas Services- Jal

P.O. Box 1226

Jal, NM 88252

Project: MF- 16" Bettis

Project Number: 2006-014

Location: C.Bettis Ranch- N

Lab Order Number: 6D27007

Report Date: 05/01/06

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P.R.@ 10'	6D27007-01	Soil	04/26/06 15:45	04/27/06 09:54
WW- Comp.	6D27007-02	Soil	04/26/06 15:45	04/27/06 09:54
S- Comp.	6D27007-03	Soil	04/26/06 15:45	04/27/06 09:54
A- Comp.	6D27007-04	Soil	04/26/06 15:45	04/27/06 09:54
B- Comp.	6D27007-05	Soil	04/26/06 15:45	04/27/06 09:54
NW- Comp.	6D27007-06	Soil	04/26/06 15:45	04/27/06 09:54
SW- Comp.	6D27007-07	Soil	04/26/06 15:45	04/27/06 09:54
EW- Comp.	6D27007-08	Soil	04/26/06 15:45	04/27/06 09:54

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>P.R.@ 10' (6D27007-01) Soil</b>									
Benzene	ND	0.0250	mg/kg dry	25	ED62806	04/28/06	04/28/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a.a.a-Trifluorotoluene		91.2 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.2 %	80-120		"	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		102 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		117 %	70-130		"	"	"	"	
<b>WW- Comp. (6D27007-02) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
Carbon Ranges C12-C28	J [8.34]	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		99.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		109 %	70-130		"	"	"	"	
<b>S- Comp. (6D27007-03) Soil</b>									
Carbon Ranges C6-C12	J [6.74]	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	J
Carbon Ranges C12-C28	85.8	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	85.8	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		96.6 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		108 %	70-130		"	"	"	"	

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.*

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoic

Fax: 505-395-2326

Reported:  
05/01/06 12:07

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>A- Comp. (6D27007-04) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>J [6.05]</b>	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		101 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		109 %	70-130		"	"	"	"	
<b>B- Comp. (6D27007-05) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>J [8.47]</b>	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		96.2 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		106 %	70-130		"	"	"	"	
<b>NW- Comp. (6D27007-06) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>ND</b>	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		98.4 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		107 %	70-130		"	"	"	"	
<b>SW- Comp. (6D27007-07) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
<b>Carbon Ranges C12-C28</b>	<b>J [8.18]</b>	10.0	"	"	"	"	"	"	J
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
<i>Surrogate: 1-Chlorooctane</i>		105 %	70-130		"	"	"	"	
<i>Surrogate: 1-Chlorooctadecane</i>		113 %	70-130		"	"	"	"	

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>EW- Comp. (6D27007-08) Soil</b>									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	ED62802	04/28/06	05/01/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		100 %	70-130		"	"	"	"	
Surrogate: 1-Chlorooctadecane		110 %	70-130		"	"	"	"	

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>P.R.@ 10' (6D27007-01) Soil</b>									
% Moisture	12.3	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>WW- Comp. (6D27007-02) Soil</b>									
% Moisture	1.7	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>S- Comp. (6D27007-03) Soil</b>									
% Moisture	3.4	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>A- Comp. (6D27007-04) Soil</b>									
% Moisture	3.4	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>B- Comp. (6D27007-05) Soil</b>									
% Moisture	3.7	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>NW- Comp. (6D27007-06) Soil</b>									
% Moisture	2.5	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>SW- Comp. (6D27007-07) Soil</b>									
% Moisture	1.6	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	
<b>EW- Comp. (6D27007-08) Soil</b>									
% Moisture	3.2	0.1	%	1	ED62801	04/27/06	04/28/06	% calculation	

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 5 of 10

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326  
Reported:  
05/01/06 12:07

**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 ED62802 - Solvent Extraction (GC)**

**Blank (ED62802-BLK1)**

Prepared: 04/28/06 Analyzed: 05/01/06

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 Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	57.6		mg/kg	50.0		115	70-130			
Surrogate: 1-Chlorooctadecane	64.4		"	50.0		129	70-130			

**LCS (ED62802-BS1)**

Prepared: 04/28/06 Analyzed: 05/01/06

Carbon Ranges C6-C12	449	10.0	mg/kg wet	500		89.8	75-125			
Carbon Ranges C12-C28	493	10.0	"	500		98.6	75-125			
Total Hydrocarbon C6-C35	942	10.0	"	1000		94.2	75-125			
Surrogate: 1-Chlorooctane	50.0		mg/kg	50.0		100	70-130			
Surrogate: 1-Chlorooctadecane	50.2		"	50.0		100	70-130			

**Calibration Check (ED62802-CCVI)**

Prepared: 04/28/06 Analyzed: 05/01/06

Carbon Ranges C6-C12	241		mg/kg	250		96.4	80-120			
Carbon Ranges C12-C28	258		"	250		103	80-120			
Total Hydrocarbon C6-C35	499		"	500		99.8	80-120			
Surrogate: 1-Chlorooctane	47.2		"	50.0		94.4	70-130			
Surrogate: 1-Chlorooctadecane	46.3		"	50.0		92.6	70-130			

**Matrix Spike (ED62802-MS1)**

Source: 6D27002-09

Prepared: 04/28/06 Analyzed: 05/01/06

Carbon Ranges C6-C12	466	10.0	mg/kg dry	518	ND	90.0	75-125			
Carbon Ranges C12-C28	500	10.0	"	518	ND	96.5	75-125			
Total Hydrocarbon C6-C35	966	10.0	"	1040	ND	92.9	75-125			
Surrogate: 1-Chlorooctane	49.8		mg/kg	50.0		99.6	70-130			
Surrogate: 1-Chlorooctadecane	50.1		"	50.0		100	70-130			

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

**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 ED62802 - Solvent Extraction (GC)**

**Matrix Spike Dup (ED62802-MSD1)**

Source: 6D27002-09

Prepared: 04/28/06 Analyzed: 05/01/06

Carbon Ranges C6-C12	477	10.0	mg/kg dry	518	ND	92.1	75-125	2.33	20	
Carbon Ranges C12-C28	522	10.0	"	518	ND	101	75-125	4.31	20	
Total Hydrocarbon C6-C35	999	10.0	"	1040	ND	96.1	75-125	3.36	20	
Surrogate: 1-Chlorooctane	51.2		mg/kg	50.0		102	70-130			
Surrogate: 1-Chlorooctadecane	49.4		"	50.0		98.8	70-130			

**Batch ED62806 - EPA 5030C (GC)**

**Blank (ED62806-BLK1)**

Prepared & Analyzed: 04/28/06

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	34.8		ug/kg	40.0		87.0	80-120			
Surrogate: 4-Bromofluorobenzene	32.4		"	40.0		81.0	80-120			

**LCS (ED62806-BS1)**

Prepared & Analyzed: 04/28/06

Benzene	1.14	0.0250	mg/kg wet	1.25		91.2	80-120			
Toluene	1.23	0.0250	"	1.25		98.4	80-120			
Ethylbenzene	1.14	0.0250	"	1.25		91.2	80-120			
Xylene (p/m)	2.83	0.0250	"	2.50		113	80-120			
Xylene (o)	1.39	0.0250	"	1.25		111	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.2		ug/kg	40.0		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	39.0		"	40.0		97.5	80-120			

**Calibration Check (ED62806-CCV1)**

Prepared: 04/28/06 Analyzed: 04/30/06

Benzene	59.9		ug/kg	50.0		120	80-120			
Toluene	56.1		"	50.0		112	80-120			
Ethylbenzene	58.1		"	50.0		116	80-120			
Xylene (p/m)	115		"	100		115	80-120			
Xylene (o)	58.1		"	50.0		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	40.7		"	40.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	41.7		"	40.0		104	80-120			

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 7 of 10

**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 ED62806 - EPA 5030C (GC)**

Matrix Spike (ED62806-MS1)	Source: 6D25002-17			Prepared & Analyzed: 04/28/06						
Benzene	1.36	0.0250	mg/kg dry	1.33	ND	102	80-120			
Toluene	1.33	0.0250	"	1.33	ND	100	80-120			
Ethylbenzene	1.30	0.0250	"	1.33	ND	97.7	80-120			
Xylene (p/m)	2.88	0.0250	"	2.66	ND	108	80-120			
Xylene (o)	1.41	0.0250	"	1.33	ND	106	80-120			
Surrogate: a,a,a-Trifluorotoluene	38.9		ug/kg	40.0		97.2	80-120			
Surrogate: 4-Bromofluorobenzene	39.6		"	40.0		99.0	80-120			

Matrix Spike.Dup (ED62806-MSD1)	Source: 6D25002-17			Prepared & Analyzed: 04/28/06						
Benzene	1.45	0.0250	mg/kg dry	1.33	ND	109	80-120	6.64	20	
Toluene	1.43	0.0250	"	1.33	ND	108	80-120	7.69	20	
Ethylbenzene	1.47	0.0250	"	1.33	ND	111	80-120	12.7	20	
Xylene (p/m)	3.12	0.0250	"	2.66	ND	117	80-120	8.00	20	
Xylene (o)	1.54	0.0250	"	1.33	ND	116	80-120	9.01	20	
Surrogate: a,a,a-Trifluorotoluene	41.4		ug/kg	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	40.8		"	40.0		102	80-120			

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	----------------	-----	--------------	-------

**Batch ED62801 - General Preparation (Prep)**

<b>Blank (ED62801-BLK1)</b>		Prepared: 04/27/06 Analyzed: 04/28/06							
% Solids	100		%						
<b>Duplicate (ED62801-DUP1)</b>		<b>Source: 6D27002-01</b>		Prepared: 04/27/06 Analyzed: 04/28/06					
% Solids	86.3		%		88.0		1.95	20	
<b>Duplicate (ED62801-DUP2)</b>		<b>Source: 6D27016-01</b>		Prepared: 04/27/06 Analyzed: 04/28/06					
% Solids	87.9		%		88.2		0.341	20	

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

Project: MF- 16" Bettis  
Project Number: 2006-014  
Project Manager: Tony Savoie

Fax: 505-395-2326

Reported:  
05/01/06 12:07

### Notes and Definitions

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: Raland K Tuttle Date: 5-01-06

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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



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

Client: SUGS

Date/Time: 4/27/06 9:54

Order #: 6D27007

Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	1.0	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<del>Not present</del>	
Custody Seals intact on sample bottles?	<input checked="" type="checkbox"/>	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/>	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No		
Container labels legible and intact?	<input checked="" type="checkbox"/>	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No		
Samples properly preserved?	<input checked="" type="checkbox"/>	No		
Sample bottles intact?	<input checked="" type="checkbox"/>	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable	

Other observations:

---



---



---

**Variance Documentation:**

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

---



---

Corrective Action Taken:

---



---



---



---



---

**Analytical Report 453592**  
**for**  
**Southern Union Gas Services- Monahans**

**Project Manager: Ben Arguijo**

**(RP-837)**

**MF-16' Bettis**

**11-DEC-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-DEC-12

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

Reference: XENCO Report No(s): **453592**  
**(RP-837)**  
Project Address: Lea County, NM

**Ben Arguijo:**

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) 453592. 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. 453592 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

*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 453592



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

(RP-837)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North SideWall	S	12-05-12 08:00		453592-001
South SideWall	S	12-05-12 08:30		453592-002
East SideWall #1	S	12-05-12 09:00		453592-003
East SideWall #2	S	12-05-12 09:30		453592-004
West SideWall #1	S	12-05-12 10:00		453592-005
West SideWall #2	S	12-05-12 10:30		453592-006
Floor #1	S	12-05-12 11:00		453592-007
Floor #2	S	12-05-12 11:30		453592-008



## CASE NARRATIVE

*Client Name: Southern Union Gas Services- Monahans*  
*Project Name: (RP-837)*



*Project ID: MF-16' Bettis*  
*Work Order Number(s): 453592*

*Report Date: 11-DEC-12*  
*Date Received: 12/06/2012*

---

**Sample receipt non conformances and comments:**

None

---

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

None

**Analytical non conformances and comments:**

Batch: LBA-902505 Inorganic Anions by EPA 300/300.1  
E300

Batch 902505, Chloride recovered below QC limits

Samples affected are: 453592-003, -006, -002, -004, -001, -007, -008, -005.

The Laboratory Control Sample for Chloride is within laboratory Control Limits



Project Id: MF-16' Bettis  
 Contact: Ben Arguijo  
 Project Location: Lea County, NM

Date Received in Lab: Thu Dec-06-12 11:30 am  
 Report Date: 11-DEC-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	453592-001	453592-002	453592-003	453592-004	453592-005	453592-006
	North SideWall	South SideWall	East SideWall #1	East SideWall #2	West SideWall #1	West SideWall #2					
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Dec-05-12 08:00	Dec-05-12 08:30	Dec-05-12 09:00	Dec-05-12 09:30	Dec-05-12 10:00	Dec-05-12 10:30					
	Dec-08-12 14:48	Dec-08-12 15:05	Dec-08-12 15:23	Dec-08-12 15:40	Dec-08-12 15:58	Dec-08-12 16:15					
	Dec-08-12 14:48	Dec-08-12 15:05	Dec-08-12 15:23	Dec-08-12 15:40	Dec-08-12 15:58	Dec-08-12 16:15					
Chloride	ND	1.94	1.11	1.82	2.18	2.33					
Percent Moisture	Dec-10-12 09:25	Dec-10-12 09:25	Dec-10-12 09:25	Dec-10-12 09:25	Dec-10-12 09:25	Dec-10-12 09:25					
	%	%	%	%	%	%					
	5.96	4.20	5.78	6.10	6.62	5.46					
TPH By SW8015 Mod	Dec-07-12 08:30	Dec-07-12 08:30	Dec-07-12 08:30	Dec-07-12 08:30	Dec-07-12 08:30	Dec-07-12 08:30					
	Dec-07-12 14:41	Dec-07-12 15:09	Dec-07-12 15:42	Dec-07-12 16:12	Dec-07-12 16:40	Dec-07-12 17:13					
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
C6-C12 Gasoline Range Hydrocarbons	ND	ND	ND	ND	ND	ND					
C12-C28 Diesel Range Hydrocarbons	ND	ND	ND	ND	ND	ND					
C28-C35 Oil Range Hydrocarbons	ND	ND	ND	ND	ND	ND					
Total TPH	ND	ND	ND	ND	ND	ND					

Nicholas Straccione  
 Project Manager

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 user of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.



# Certificate of Analysis Summary 453592

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



Project Id: MF-16' Bettis  
 Contact: Ben Arguijo  
 Project Location: Lea County, NM

Project Name: (RP-837)

Date Received in Lab: Thu Dec-06-12 11:30 am  
 Report Date: 11-DEC-12  
 Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	453592-007	453592-008
<b>BTEX by EPA 8021B</b>		Floor #1		SOIL	Dec-05-12 11:00	Floor #2	SOIL
Benzene	Extracted:	Dec-10-12 15:50			mg/kg RL	Dec-05-12 11:30	
Toluene	Analyzed:	Dec-10-12 18:01			mg/kg RL	Dec-10-12 15:50	
Ethylbenzene	Units/RL:					Dec-10-12 17:12	
m_p-Xylenes							
o-Xylene							
Total Xylenes							
Total BTEX							
<b>Inorganic Anions by EPA 300/300.1</b>							
Chloride	Extracted:	Dec-08-12 16:32				Dec-08-12 17:25	
	Analyzed:	Dec-08-12 16:32				Dec-08-12 17:25	
	Units/RL:						
		6.30	1.06			2.03	1.04
<b>Percent Moisture</b>	Extracted:						
	Analyzed:	Dec-10-12 09:25				Dec-10-12 09:25	
	Units/RL:					% RL	
		5.27	1.00			4.17	1.00
<b>TPH By SW8015 Mod</b>	Extracted:	Dec-07-12 08:30				Dec-07-12 08:30	
C6-C12 Gasoline Range Hydrocarbons	Analyzed:	Dec-07-12 17:45				Dec-07-12 18:57	
C12-C28 Diesel Range Hydrocarbons	Units/RL:					mg/kg RL	
C28-C35 Oil Range Hydrocarbons							
Total TPH							

Nicholas Straccione  
 Project Manager

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 user 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



# 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

***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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

	Phone	Fax
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	



# Form 2 - Surrogate Recoveries

Project Name: (RP-837)

Work Orders : 453592,

Project ID: MF-16' Bettis

Lab Batch #: 902402

Sample: 453592-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 14:41

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.5	99.6	96	70-135	
o-Terphenyl	46.4	49.8	93	70-135	

Lab Batch #: 902402

Sample: 453592-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 15:09

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	99.7	91	70-135	
o-Terphenyl	44.7	49.9	90	70-135	

Lab Batch #: 902402

Sample: 453592-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 15:42

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	43.3	50.1	86	70-135	

Lab Batch #: 902402

Sample: 453592-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 16:12

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.0	99.9	89	70-135	
o-Terphenyl	44.0	50.0	88	70-135	

Lab Batch #: 902402

Sample: 453592-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 16:40

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	99.8	93	70-135	
o-Terphenyl	45.6	49.9	91	70-135	

\* 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: (RP-837)

Work Orders : 453592,

Project ID: MF-16' Bettis

Lab Batch #: 902402

Sample: 453592-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 17:13

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.7	98	70-135	
o-Terphenyl	48.7	49.9	98	70-135	

Lab Batch #: 902402

Sample: 453592-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 17:45

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	99.8	89	70-135	
o-Terphenyl	43.4	49.9	87	70-135	

Lab Batch #: 902402

Sample: 453592-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/07/12 18:57

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.1	99.9	94	70-135	
o-Terphenyl	45.8	50.0	92	70-135	

Lab Batch #: 902523

Sample: 453592-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/10/12 17:12

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

Lab Batch #: 902523

Sample: 453592-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/10/12 18:01

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	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: (RP-837)

Work Orders : 453592,

Project ID: MF-16' Bettis

Lab Batch #: 902402

Sample: 630894-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/07/12 12:35

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	100	93	70-135	
o-Terphenyl	44.9	50.0	90	70-135	

Lab Batch #: 902523

Sample: 630987-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/10/12 16:55

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0247	0.0300	82	80-120	

Lab Batch #: 902402

Sample: 630894-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/07/12 10:51

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.1	100	91	70-135	
o-Terphenyl	52.7	50.1	105	70-135	

Lab Batch #: 902523

Sample: 630987-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/10/12 16:22

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 902402

Sample: 630894-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/07/12 12:04

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.8	99.8	89	70-135	
o-Terphenyl	54.9	49.9	110	70-135	

\* 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: (RP-837)

Work Orders : 453592,

Project ID: MF-16' Bettis

Lab Batch #: 902523

Sample: 630987-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 12/11/12 08:24

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 902402

Sample: 453592-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/08/12 00:59

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	54.1	50.1	108	70-135	

Lab Batch #: 902523

Sample: 453592-008 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/10/12 17:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 902402

Sample: 453592-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/08/12 01:33

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	54.8	50.1	109	70-135	

Lab Batch #: 902523

Sample: 453592-008 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 12/10/12 17:45

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	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.

**Project Name: (RP-837)**

Work Order #: 453592

Analyst: KEB

Lab Batch ID: 902523

Sample: 630987-1-BKS

Units: mg/kg

Date Prepared: 12/10/2012

Batch #: 1

Project ID: MF-16' Bettis

Date Analyzed: 12/10/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
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
BTEX by EPA 8021B											
Benzene	<0.00100	0.100	0.103	103	0.0996	0.0988	99	4	70-130	35	
Toluene	<0.00200	0.100	0.103	103	0.0996	0.0983	99	5	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0997	100	0.0996	0.0968	97	3	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.213	107	0.199	0.208	105	2	70-135	35	
o-Xylenes	<0.00100	0.100	0.100	100	0.0996	0.102	102	2	71-133	35	

Analyst: JOL

Lab Batch ID: 902505

Sample: 630973-1-BKS

Units: mg/kg

Date Prepared: 12/08/2012

Batch #: 1

Date Analyzed: 12/08/2012

Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
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
Inorganic Anions by EPA 300/300.1											
Chloride	<1.00	100	97.7	98	100	97.0	97	1	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: (RP-837)

Work Order #: 453592

Analyst: KEB

Lab Batch ID: 902402

Sample: 630894-1-BKS

Date Prepared: 12/07/2012

Batch #: 1

Project ID: MF-16' Bettis

Date Analyzed: 12/07/2012

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	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	1030	103	998	983	98	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1000	100	998	962	96	4	70-135	35	

### Analytes

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: (RP-837)

Work Order #: 453592

Lab Batch #: 902505

Date Analyzed: 12/08/2012

Date Prepared: 12/08/2012

Project ID: MF-16' Bettis

Analyst: JOL

QC- Sample ID: 453595-001 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	672	101	596	0	80-120	X

Lab Batch #: 902505

Date Analyzed: 12/08/2012

Date Prepared: 12/08/2012

Analyst: JOL

QC- Sample ID: 453597-002 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	172	103	242	68	80-120	X

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

Project Name: (RP-837)



Work Order #: 453592

Lab Batch ID: 902523

Date Analyzed: 12/10/2012

Reporting Units: mg/kg

Project ID: MF-16' Bettis

QC- Sample ID: 453592-008 S Batch #: 1 Matrix: Soil

Date Prepared: 12/10/2012 Analyst: KEB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
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
	BTEX by EPA 8021B										
Benzene	<0.00104	0.104	0.0963	93	0.104	0.0917	88	5	70-130	35	
Toluene	<0.00209	0.104	0.101	97	0.104	0.0961	92	5	70-130	35	
Ethylbenzene	<0.00104	0.104	0.0941	90	0.104	0.0915	88	3	71-129	35	
m_p-Xylenes	<0.00209	0.209	0.198	95	0.208	0.195	94	2	70-135	35	
o-Xylene	<0.00104	0.104	0.0942	91	0.104	0.0942	91	0	71-133	35	

Lab Batch ID: 902402

Date Analyzed: 12/08/2012

Reporting Units: mg/kg

QC- Sample ID: 453592-001 S

Date Prepared: 12/07/2012 Analyst: KEB

Batch #: 1 Matrix: Soil

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
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
	TPH By SW8015 Mod										
C6-C12 Gasoline Range Hydrocarbons	<16.0	1060	1110	105	1060	1100	104	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.0	1060	1130	107	1060	1110	105	2	70-135	35	

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

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

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



# Sample Duplicate Recovery



**Project Name: (RP-837)**

**Work Order #: 453592**

**Lab Batch #: 902481**

**Project ID: MF-16' Bettis**

**Date Analyzed: 12/10/2012 09:25**

**Date Prepared: 12/10/2012**

**Analyst: WRU**

**QC- Sample ID: 453595-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

		SAMPLE / SAMPLE DUPLICATE RECOVERY			
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	1.52	1.47	3	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



## Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Acceptable Temperature Range: 0 - 6 degC

Date/ Time Received: 12/06/2012 11:30:00 AM

Air and Metal samples Acceptable Range: Ambient

Work Order #: 453592

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.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: \_\_\_\_\_