# Basin Environmental Service Technologies, LLC

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# **REMEDIATION SUMMARY &**

# SITE CLOSURE REQUEST

## SOUTHERN UNION GAS SERVICES MA-DOOM Lea County, New Mexico Unit Letter "P" (SE/SE), Section 5, Township 24 South, Range 37 East Latitude 32° 14.491' North, Longitude 103° 10.858' West NMOCD Reference # 1RP-2899

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

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## 1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of Southern Union Gas Services (Southern Union), has prepared this *Remediation Summary & Site Closure Request* for the release site known as MA-Doom Historical. The legal description of the release site is Unit Letter "P" (SE/SE), Section 5, Township 24 South, Range 37 East, in Lea County, New Mexico. The geographic coordinates of the release site are 32° 14.491' North latitude and 103° 10.858' West longitude. The property affected by the release is owned by Jarold and Dan Doom. Please reference Figure 1 for a "Site Location Map".

On June 4, 2009, Southern Union discovered a release had occurred on the "MA" pipeline. The "Release Notification and Corrective Action Form" (Form C-141) indicated failure of a section of ten-inch (10") low-pressure pipeline resulted in the release of greater than fifty (50) Mcf of natural gas and ten barrels (10 bbls) of crude oil. The release was reported to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on July 31, 2009. The initial Form C-141 indicated the release affected approximately one thousand, nine hundred and fifty square feet (1,950 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.

### 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 the average depth to groundwater for Section 5, Township 24 South, Range 37 East is approximately one hundred and seven feet (107') bgs. Based on the NMOCD ranking system, ten (10) points will be assigned to the site as a result of this criterion.

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

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

NMOCD guidelines indicate the MA-Doom Historical Release Site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene -10 mg/Kg (ppm)
- Benzene, toluene, ethylbenzene and xylene (BTEX) 50 mg/Kg (ppm)
- Total petroleum hydrocarbons (TPH) 1,000 mg/Kg (ppm)

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

### 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On December 4, 2012, Basin began delineation activities at the release site. A test trench was advanced within the stained area to approximately three feet (3') bgs. During the advancement of the test trench, two soil samples (SP#1 @ Surface and SP#1 @ 3') were collected and submitted to Xenco Laboratories Inc., of Odessa, Texas, for analysis of TPH and chloride concentrations in accordance with EPA Methods SW 846-8015M and 300.1, respectively. Laboratory analytical results indicated TPH concentrations ranged 1,060 mg/Kg for soil sample SP#1 @ 3' to 16,300 mg/Kg for soil sample SP#1 @ Surface. Analytical results indicated chloride concentrations ranged from 165 mg/Kg for soil sample SP#1 @ 3' to 672 mg/Kg in soil SP#1 @ Surface. Table 1 summarizes the "Concentrations of Benzene, BTEX, TPH & Chloride in Soil". Soil sample locations are depicted in Figure 2, "Site & Sample Location Map". Laboratory analytical reports are provided as Appendix B.

On December 6, 2012, the test trench was advanced to approximately twelve feet (12') bgs. During the advancement of the test trench, two (2) soil samples (SP#1 @ 8' and SP#1 @ 12') were collected and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from 4,420 mg/Kg for soil samples SP#1 @ 8' to 9,420 mg/Kg for soil sample SP #1 @ 12'. Chloride concentrations ranged from 97.1 mg/Kg for soil sample SP#1 @ 12' to 379 mg/Kg for soil sample SP#1 @ 8'.

On December 17, 2012, the test trench was advanced to approximately eighteen feet (18') bgs. During the advancement of the test trench, one (1) soil sample (SP#1 @ 15') was collected and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated the TPH concentration was less than the laboratory MDL.

On December 18, 2012, Basin began excavation activities at the release site. The excavation floor and sidewalls were advanced until chloride field tests and photo-ionization detector (PID) readings suggested concentrations of chloride and TPH were less than NMOCD regulatory remediation action levels established for the site. Impacted material was stockpiled onsite pending final disposition. Two (2) soil samples (South Wall 12' bgs and North Wall 12' bgs) were collected from the excavation sidewalls and submitted to the laboratory for analysis of TPH and chloride concentrations. Laboratory analytical results indicated TPH concentrations ranged from less than the laboratory method detection limit MDL for soil sample South Wall 12' bgs to 20.4 mg/Kg for soil sample North Wall 12' bgs to 71.9 mg/Kg for soil sample South Wall 12'. TPH and chloride concentrations were less than NMOCD regulatory remediation action levels for each of the submitted soil samples.

On December 21, 2012, three (3) soil samples (East Wall 12' bgs, Floor 14' bgs and West Wall 12' bgs) were collected from the floor and sidewalls of the excavation and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were less than the appropriate laboratory MDL for each of the submitted soil samples. Soil samples East Wall 12' bgs and West Wall 12' bgs were also analyzed for chloride concentrations. Chloride concentrations ranged from 49.9 mg/Kg for soil sample East Wall 12' bgs to 97.1 mg/Kg for soil sample West Wall 12' bgs. Soil sample Floor 14' bgs was also analyzed for BTEX constituent concentrations in accordance with EPA Method SW 846-8021B. Analytical results indicated the BTEX concentration was less than the laboratory MDL. Benzene,

BTEX, TPH and chloride concentrations were less than NMOCD regulatory remediation action levels for each of the submitted soil samples.

On January 8, 2013. on receiving approval from an NMOCD representative, Basin began backfilling the excavation with locally purchased, non-impacted material. Excavation backfill was compacted in twelve-inch lifts and contoured to fit the surrounding topography. The final dimensions of the excavation were approximately forty feet (40') in length, thirty-five feet (35') in width, and approximately five feet (5') in depth. The final dimensions of the flowpath area were approximately three hundred fifty feet (350') in length, ten feet (10') in width, and ranged in depth from twelve inches (12'') to eighteen inches (18'') bgs.

Between December 20 and 27, 2012, approximately five hundred and fifty-two cubic yards (552 yd<sup>3</sup>) of impacted material was transported to Doom Landfarm (Discharge Permit # 0033) for treatment. Copies of disposal manifests are provided as Appendix C.

## 4.0 QA/QC PROCEDURES

## 4.1 Soil Sampling

Soil samples were delivered to Xenco Laboratories, Inc., 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 300.1

### 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 floor and sidewalls of the MA-Doom excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of benzene, BTEX, TPH and chloride were less than the regulatory remediation action levels established for the site. 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 MA-Doom 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





#### TABLE 1

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

#### SOUTHERN UNION GAS SERVICES MA-DOOM HISTORICAL RELEASE SITE LEA COUNTY, NEW MEXICO NMOCD REF# 1RP-2899

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	DEPTH SAMPLE SOIL BENZENE TOLUENE BENZENE XYLENES BTEX		TOTAL BTEX (mg/Kg)	GRO C <sub>6</sub> -C <sub>12</sub> (mg/Kg)	DRO C <sub>12</sub> -C <sub>28</sub> (mg/Kg)	ORO C <sub>28</sub> -C <sub>35</sub> (mg/Kg)	TOTAL TPH C <sub>6</sub> -C <sub>28</sub> (mg/Kg)	CHLORIDE (mg/Kg)				
SP#1 @ Surface	Surface	12/4/2012	Excavated	-	-	-	-	-	467	15,300	509	16,300	672
SP#1 @ 3'	3'	12/4/2012	Excavated	-	-	-	-	-	<18.0	978	83.1	1060	165
SP#1 @ 8'	8'	12/6/2012	Excavated	-	-	-	-	-	1030	3,290	98.6	9,820	379
SP#1 @ 12'	12'		Excavated	-	-	-	-	-	2,630	6,610	182	9,420	97.1
SP#1 @ 15'	15'	12/17/2012	In-Situ	-	-	-	-	-	<16.5	<16.5	<16.5	<16.5	-
South Wall 12' bgs	12'	12/18/2012	In-Situ	-	-	-	-	-	<16.1	<16.1	<16.1	<16.1	71.9
North Wall 12' bgs	12'	12/18/2012	In-Situ		-	-	-	-	<16.1	20.4	<16.1	20.4	33.3
East Wall 12' bgs	12'	12/21/2012	In-Situ	-	-	-	-	-	<19.9	<19.9	<19.9	<19.9	49.9
Floor 14' bgs	14'	12/21/2012	In-Situ	< 0.00104	<0.00209	<0.00104	< 0.00209	< 0.00209	<15.7	<15.7	<15.7	<15.7	-
West Wall 12' bgs	12'	12/21/2012	In-Situ	-	-	-	-	-	<15.9	<15.9	<15.9	<15.9	97.1
NMOCD Standard				10				50				1,000	500

- = Not analyzed.



Photograph of the initial release at the MA-Doom Historical Release Site.



Photograph of the initial release at the MA-Doom Historical Release Site.



Photograph of delineation activities at the MA-Doom Historical Release Site.



Photograph of delineation activities at the MA-Doom Historical Release Site.



Photograph of the MA-Doom Historical Release Site excavation.



Photograph of the MA-Doom Historical Release Site excavation.



Photograph of backfilling activities at the MA-Doom Historical Release Site.



Photograph of backfilling activities at the MA-Doom Historical Release Site.



Photograph of the MA-Doom Historical Release Site after being backfilled.



Photograph of the MA-Doom Historical Release Site after being backfilled.

# Analytical Report 453595

# for Southern Union Gas Services- Monahans

Project Manager: Ben Arguijo MA-DOOM

## 13-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)



13-DEC-12



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

Reference: XENCO Report No(s): **453595 MA-DOOM** 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) 453595. 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. 453595 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione Project Manager

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# Sample Cross Reference 453595



# Southern Union Gas Services- Monahans, Monahans, TX

MA-DOOM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP#1 @ Surface	S	12-04-12 13:00		453595-001
SP#1 @ 3'	S	12-04-12 13:10		453595-002



# CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans Project Name: MA-DOOM



Project ID: Work Order Number(s): 453595 Report Date: 13-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: 453595-001, -002. The Laboratory Control Sample for Chloride is within laboratory Control Limits



**Project Id:** 

Contact: Ben Arguijo

Project Location: Lea County, NM

# Certificate of Analysis Summary 453595

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: MA-DOOM



Date Received in Lab: Thu Dec-06-12 11:30 am Report Date: 13-DEC-12

Project Manager: Nicholas Straccione

	Lab Id:	453595-0	001	453595-0	02		
Anghaia Deguasted	Field Id:	SP#1 @ Su	rface	SP#1 @	3'		
Analysis Requested	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Dec-04-12	13:00	Dec-04-12 1	3:10		
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-08-12	17:42	Dec-08-12 1	7:59		
SUB: TX104704215	Analyzed:	Dec-08-12	17:42	Dec-08-12 1	7:59		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		672	1.01	165	1.20		
Percent Moisture	Extracted:						
	Analyzed:	Dec-10-12	09:25	Dec-10-12 0	9:25		
	Units/RL:	%	RL	%	RL		
Percent Moisture		1.52	1.00	17.0	1.00		
TPH By SW8015 Mod	Extracted:	Dec-07-12	08:30	Dec-07-12 0	08:30		
	Analyzed:	Dec-07-12	13:03	Dec-07-12 1	3:37		
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		467	152	ND	18.0		
C12-C28 Diesel Range Hydrocarbons		15300	152	978	18.0		
C28-C35 Oil Range Hydrocarbons		509	152	83.1	18.0		
Total TPH		16300	152	1060	18.0		

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

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ch-Nul

Nicholas Straccione Project Manager



# **Flagging Criteria**

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

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 (770) 449-5477

 (602) 437-0330
 (432) 563-1713

Final 1.000



# Form 2 - Surrogate Recoveries

Project Name: MA-DOOM

ork Orders : 453595 Lab Batch #: 902402	5, 453595 Sample: 453595-001 / SMP	Bate	Project II ch: <sup>1</sup> Matrix										
Units: mg/kg	Date Analyzed: 12/07/12 13:03		JRROGATE R		STUDY								
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags							
	Analytes			[D]									
1-Chlorooctane		101	99.6	101	70-135								
o-Terphenyl		59.5	49.8	119	70-135								
Lab Batch #: 902402	Sample: 453595-002 / SMP	Bate	ch: <sup>1</sup> Matrix	:Soil									
Units: mg/kg	Date Analyzed: 12/07/12 13:37	SURROGATE RECOVERY STUDY											
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1-Chlorooctane	Analytes	87.0	99.8	87	70-135								
o-Terphenyl		44.4	49.9	87	70-135								
Lab Batch #: 902402	<b>Sample:</b> 630894-1-BLK / BI				, , , , , , , , , , , , , , , , , , , ,								
	- r		JRROGATE R		STUDY								
Units: mg/kg	Date Analyzed: 12/07/12 12:35		1		1								
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags							
1-Chlorooctane	Anarytes	92.8	100	93	70-135								
o-Terphenyl		44.9	50.0	90	70-135								
Lab Batch #: 902402	Secondary 620804 1 BVS / DI				100100								
	Sample: 630894-1-BKS / BF		ch: 1 Matrix	-	STUDY								
Units: mg/kg	Date Analyzed: 12/07/12 10:51		1		1								
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 #: 902402	Sample: 630894-1-BSD / BS	SD Bate	ch: 1 Matrix	Solid									
Units: mg/kg	Date Analyzed: 12/07/12 12:04	SU	JRROGATE R	ECOVERY	STUDY								
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage							
1 Chloroostans	Analytes	00.0	00.0		70.125								
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 / BAll results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

# Project Name: MA-DOOM

Work Orders : 453595	, 453595	Project ID:												
Lab Batch #: 902402	Sample: 453592-001 S / MS	S Batch: 1 Matrix: Soil												
Units: mg/kg	Date Analyzed: 12/08/12 00:59	SURROGATE RECOVERY STUDY												
TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags								
	Analytes			[D]										
1-Chlorooctane		101	100	101	70-135									
o-Terphenyl		54.1	50.1	108	70-135									
Lab Batch #: 902402	Sample: 453592-001 SD / N	ASD Bate	h: <sup>1</sup> Matrix:	Soil										
Units: mg/kg	Date Analyzed: 12/08/12 01:33	SU	<b>RROGATE RI</b>	ECOVERY	STUDY									
ТРН	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									

\* 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 / BAll results are based on MDL and validated for QC purposes.





## Project Name: MA-DOOM

Work Order #: 453595, 453595				Project ID:												
Analyst: JOL	D	ate Prepar	red: 12/08/201	12	Date Analyzed: 12/08/2012											
Lab Batch ID: 902505 Sample: 630973-1	-BKS	Batc	<b>h #:</b> 1		Matrix: Solid											
Units: mg/kg		BLAN	K /BLANK S	SPIKE / F	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	PΥ						
Inorganic Anions by EPA 300/300.1 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					
Chloride	<1.00	100	97.7	98	100	97.0	97	1	80-120	20						
Analyst: KEB	Date Prepared: 12/07/2012         Date Analyzed: 12/07/2012															
Lab Batch ID: 902402 Sample: 630894-1	BKS Batch #: 1 Matrix: Solid															
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY															
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag					
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]									
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						

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: MA-DOOM** 



Work Order #: 453595											
Lab Batch #: 902505				Pr	oject ID:						
Date Analyzed: 12/08/2012	Date Prepared: 12/08/2012 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 P	Prepared: 12/08	8/2012	A	Analyst: JO	DL					
QC- Sample ID: 453597-002 S		<b>Batch #:</b> 1		]	Matrix: So	oil					
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY				
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag				
Chloride		172	103	242	68	80-120	X				

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

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries

### **Project Name: MA-DOOM**



Work Order #: 453595 **Project ID:** Lab Batch ID: 902402 QC- Sample ID: 453592-001 S Batch #: Matrix: Soil 1 **Date Prepared:** 12/07/2012 Analyst: KEB **Date Analyzed:** 12/08/2012 Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Parent Spiked Sample Spiked Duplicate Spiked Control Control TPH By SW8015 Mod Sample Result Spiked Sample RPD Limits Spike Sample Spike Dup. Limits Flag Result Added [C] %R Added Result [F] %R %R %RPD % Analytes [A] [B] [D] [E] [G] C6-C12 Gasoline Range Hydrocarbons <16.0 1060 1110 105 1060 1100 104 1 70-135 35 1130 107 105 2 C12-C28 Diesel Range Hydrocarbons <16.0 1060 1060 1110 70-135 35

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

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

Page 11 of 14



Sample Duplicate Recovery



## **Project Name: MA-DOOM**

Work Order #: 453595

Lab Batch #: 902481		Project ID:										
Date Analyzed: 12/10/2012 09:25	Date Prepar	ed: 12/10/2012	2 Anal	yst:WRU								
QC- Sample ID: 453595-001 D	Batcl	n#: 1										
<b>Reporting Units:</b> %		SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY						
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag						
Analyte			[ <b>B</b> ]									
Percent Moisture		1.52	1.47	3	20							

# **Xenco Laboratories**

### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

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

	Project Manager:	Ben J. Arguijo; Joel Lov	vry	· .								<u></u>				_	Pr	ojec	t Na	me:	MA	-DC	ON	1	:						
 	Company Name	Basin Environmental Se	rvice 1	echno	logies, LLC	11.1.1. 					ł.							Pi	ojec	:t #:								· · · ·		· ·	· · · ·
	Company Address:	P.O. Box 301					: `	· ·						1			. [	Proje	ect L	.oc:	Lea	Οοι	inty,	NM	1						
•	City/State/Zip:	Lovington, NM 88260			· · · · ·					1						:			PC	) #:	Bill	Sou	ther	n Uı	nion (	Gas	Serv	ices			
1	Telephone No:	(575)396-2378				Fax No:		(57	'5) 39	96-14	29						Repor	t Fo	rmat		X	Stan	dard		Ξ	] TR	RP			IPDE	
	Sampler Signature:		ú	4		e-mail:						com	cui	t.sta	nley		ug.com						n								
lab use DRDEI	1625	nh-1	45	53	595				Dre	serve	ation	- R.#	of	Conta	iners	<u>.</u>	Matrix			: · ·	тс тот	AL:			∋ For:	5				3, 72 hrs	
LAB # (lab use only)		LD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers		NNO <sup>3</sup>			NaOH		(Specify)	/ /ater SL=Sludg	water S=Soll/Soll ble Specify Othe	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (CI, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	CHLORIDES	Total Dissolved Solids	RUSH TAT (Pre-Schedule) 24, 48	Standard TAT 4 DAY
	SP#1	@ Surface			12/4/2012	1300		1	X							Τ	Soil	X	·	Ĩ			Ť		1			x		T	x
	SP	#1 @ 3'			12/4/2012	1310		1	x								Soil	X									$\square$	x			x
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pecial	Instructions:	Hold SP#1 @ 3' for BT	EX			· · ·		·		<u>.</u>		· :						•••			ple (	Sont	aine	rs In	nts: ntact? pace?				).	N N	
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## **XENCO** Laboratories



## Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- MonahanAcceptable Temperature Range: 0 - 6 degCDate/ Time Received: 12/06/2012 11:30:00 AMAir and Metal samples Acceptable Range: AmbientWork Order #: 453595Temperature 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: \_\_\_\_\_

# Analytical Report 453782

# for Southern Union Gas Services- Monahans

Project Manager: Ben Arguijo MA-Doom (Historical)

## 14-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)



14-DEC-12



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

Reference: XENCO Report No(s): **453782 MA-Doom (Historical)** 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) 453782. 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. 453782 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione Project Manager

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# Sample Cross Reference 453782



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

MA-Doom (Historical)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP#1 @ 8'	S	12-06-12 13:10		453782-001
SP#1 @ 12'	S	12-06-12 13:40		453782-002

# CASE NARRATIVE



Client Name: Southern Union Gas Services- Monahans Project Name: MA-Doom (Historical)



Project ID: Work Order Number(s): 453782 Report Date: 14-DEC-12 Date Received: 12/10/2012

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-902670 TPH By SW8015 Mod SW8015MOD\_NM

Batch 902670, C12-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 453782-001, -002. The Laboratory Control Sample for C12-C28 Diesel Range Hydrocarbons is within laboratory Control Limits



**Project Id:** 

Contact: Ben Arguijo

Project Location: Lea County, NM

# Certificate of Analysis Summary 453782

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: MA-Doom (Historical)



Date Received in Lab: Mon Dec-10-12 09:46 am

**Report Date:** 14-DEC-12

Project Manager: Nicholas Straccione

Analysis Requested	Lab Id:	453782-0	001	453782-0	02		
	Field Id:	SP#1 @	8'	SP#1 @ 1	12'		
Analysis Requested	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Dec-06-12	13:10	Dec-06-12 1	13:40		
Inorganic Anions by EPA 300/300.1 SUB: TX104704215	Extracted:	Dec-11-12 10:00		Dec-11-12 1	10:00		
	Analyzed:	Dec-11-12 18:49		Dec-11-12 18:49			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		379	1.13	97.1	1.09		
Percent Moisture	Extracted:						
	Analyzed:	Dec-10-12	16:37	Dec-10-12 1	16:37		
	Units/RL:	%	RL	%	RL		
Percent Moisture		11.4	1.00	8.28	1.00		
TPH By SW8015 Mod Extracted:		Dec-11-12 14:30		Dec-11-12 14:30			
	<b>Analyzed:</b> Dec-12-12 04:09		04:09	Dec-12-12 11:28			
	Units/RL:	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		1030	16.9	2630	81.5		
C12-C28 Diesel Range Hydrocarbons		3290	16.9	6610	81.5		
C28-C35 Oil Range Hydrocarbons		98.6	16.9	182	81.5		
Total TPH		4420	16.9	9420	81.5		

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

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Version: 1.%

Ctr. Nul

Nicholas Straccione Project Manager



# **Flagging Criteria**

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

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 (432) 563-1713

 (770) 449-8800
 (770) 449-5477

 (602) 437-0330
 (432) 563-1713

Final 1.000



# Form 2 - Surrogate Recoveries

# Project Name: MA-Doom (Historical)

Vork Orders : 453782 Lab Batch #: 902670	, Sample: 453782-001 / SMP	Project ID: Batch: 1 Matrix: Soil								
Units: mg/kg	SURROGATE RECOVERY STUDY									
TPH	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]						
1-Chlorooctane		98.5	100	99	70-135					
o-Terphenyl		54.5	50.1	109	70-135					
Lab Batch #: 902670 Sample: 453782-002 / SMP		Batch: 1 Matrix: Soil								
Units: mg/kg	Date Analyzed: 12/12/12 11:28 SURROGATE RECOVERY STUDY									
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		101	99.7	101	70-135					
o-Terphenyl		53.1	49.9	101	70-135					
Lab Batch #: 902670	Sample: 631085-1-BLK / B	LK Bate	h: <sup>1</sup> Matrix	:Solid						
Units: mg/kg	Date Analyzed: 12/11/12 18:57	SURROGATE RECOVERY STUDY								
TPH By SW8015 Mod Analytes		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage				
1-Chlorooctane		97.2	99.6	98	70-135					
o-Terphenyl		48.8	49.8	98	70-135					
Lab Batch #: 902670	Sample: 631085-1-BKS / B	KS Batc	h: 1 Matrix	Solid	1					
Units: mg/kg	Date Analyzed: 12/11/12 17:56	SURROGATE RECOVERY STUDY								
TPH 1	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags					
	Analytes			[D]						
1-Chlorooctane		102	99.7	102	70-135					
o-Terphenyl		61.4	49.9	123	70-135					
Lab Batch #: 902670	Sample: 631085-1-BSD / B									
Units: mg/kg	Date Analyzed: 12/11/12 18:27	SURROGATE RECOVERY STUDY								
TPH	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
	Analytes									
1-Chlorooctane		99.6	100	100	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.


### Project Name: MA-Doom (Historical)

<b>Work Orders :</b> 453782 Lab Batch #: 902670	2, Sample: 453701-006 S / MS	S Bate	Project II h: 1 Matrix			
Units: mg/kg	Date Analyzed: 12/12/12 05:02		RROGATE R		STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.6	100	97	70-135	
o-Terphenyl		55.8	50.0	112	70-135	
Lab Batch #: 902670	Sample: 453701-006 SD / M	ASD Bate	h: <sup>1</sup> Matrix	:Soil		
Units: mg/kg	Date Analyzed: 12/12/12 05:28	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		96.6	100	97	70-135	
o-Terphenyl		49.2	50.0	98	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.



#### **Project Name: MA-Doom (Historical)**

Work Order #: 453782							Pro	ject ID:			
Analyst: JOL	Da	ate Prepar	ed: 12/11/201	2			Date A	nalyzed:	12/11/2012		
Lab Batch ID: 902591 Sample: 631032-1	-BKS	Batcl	n#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	PΥ	
Inorganic Anions by EPA 300/300.1	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
Analytes			[C]								
Chloride	<1.00	100	99.1	99	100	98.7	99	0	80-120	20	
Analyst: KEB	Da	ate Prepar	ed: 12/11/201	2			Date A	nalyzed: 1	12/11/2012		
Lab Batch ID: 902670 Sample: 631085-1	-BKS	Batcl	n#: 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	PΥ	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	997	1020	102	1000	1050	105	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	997	1010	101	1000	1040	104	3	70-135	35	

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



### Form 3 - MS Recoveries



#### **Project Name: MA-Doom (Historical)**

Work Order #: 453782 Lab Batch #: 902591		Pr	oject ID:		
<b>Date Analyzed:</b> 12/11/2012	Date Prepared: 12/11/2012	A	Analyst: JO	DL	
QC- Sample ID: 453785-001 S	<b>Batch #:</b> 1	]	Matrix: So	oil	
Reporting Units: mg/kg	MATRIX / M	ATRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Spike Result Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A] [B]				
Chloride	6.29 104	107	97	80-120	

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

BRL - Below Reporting Limit



### Form 3 - MS / MSD Recoveries

#### **Project Name: MA-Doom (Historical)**



Work Order #: 453782						Project II	D:				
Lab Batch ID: 902670	QC- Sample II	<b>):</b> 453701	-006 S	Ba	tch #:	1 Matrix	k: Soil				
<b>Date Analyzed:</b> 12/12/2012	Date Prepare	<b>1:</b> 12/11/2	2012	An	alyst:	KEB					
Reporting Units: mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample		RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	<17.5	1170	1180	101	1170	1180	101	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.5	1170	3540	303	1170	2930	250	19	70-135	35	X

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

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





#### **Project Name: MA-Doom (Historical)**

Work Order #: 453782

Lab Batch #: 902526			Project I	D:	
Date Analyzed: 12/10/2012 16:00	Date Prepared: 12/10/201	2 Anal	lyst:WRU		
QC- Sample ID: 453796-021 D	<b>Batch #:</b> 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	e Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	13.2	13.0	2	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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

#### 12600 West I-20 East

Odessa, Texas 79765

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

	Project Manager:	Ben J. Arguijo; Joel Low	ry			· · ·	_				1	· · ·			<u> </u>		Pr	ojeci	Na	ne:	MA	-Do	om	<u>(His</u>	tor	ical)					
	Company Name	Basin Environmental Ser	vice T	echnol	ogies, LLC													Pr	ojec	f #:-	:										
<u>:</u> : : :					<u></u>	· · · · · · · · · · · · · · · · · · ·													0100	• 17 •	:										:
	Company Address:	P.O. Box 301	<u> </u>			· · · · · · · · · · · · · · · · · · ·									<u> </u>		ł	Proje	ct L	oc: _	Lea	Cou	nty,	NM		•		· · · · ·	<u></u>		
	City/State/Zip:	Lovington, NM 88260								1, 1									PC	) #:	Bill	Sout	herr	ı Uni	ion (	Gas S	Servio	ces	•		
												1								- 1				••••	÷					-	
•	Telephone No:	(575)396-2378	·			Fax No:		(57	5) 39	96-14	429				<u> </u>	Re	por	t Foi	mat	: l	<u>^</u>	Stan	dard			] TRI	₹P		NPD	DES	
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<b>A</b> B#		e de la companya de l	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	otal #.	e	HNO <sub>3</sub>	Ę	<sup>2</sup> S04	NaOH Na,S,O <sub>3</sub>	one	Other ( Specify)	DW = Drinking Water GW = Groundwater	NP=Non-	:Hd	TPH:	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Vietais: A Volatilee	Semivolatiles	BTEX 8021B/5030	RCI	N.O.R.M.	CHLORIDES Total Dissolved Solids		Ϋ́.	and
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### **XENCO** Laboratories



Comments

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

Client: Southern Union Gas Services- Monahan	Acceptable Temperature Range: 0 - 6 degC
Date/ Time Received: 12/10/2012 09:46:00 AM	Air and Metal samples Acceptable Range: Ambient
Work Order #: 453782	Temperature Measuring device used :

Sample Receipt Checklist	
#1 *Temperature of cooler(s)?	10.6
#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: \_\_\_\_\_

# Analytical Report 454441

## for Southern Union Gas Services- Monahans

Project Manager: Ben Arguijo MA-DOOM

#### 20-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)



20-DEC-12



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

Reference: XENCO Report No(s): **454441 MA-DOOM** 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) 454441. 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. 454441 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione Project Manager

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### Sample Cross Reference 454441



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

MA-DOOM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP#1 @ 15'	S	12-17-12 13:00		454441-001
SP#1 @ 18'	S	12-17-12 14:00		454441-002



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans Project Name: MA-DOOM



Project ID: Work Order Number(s): 454441 Report Date: 20-DEC-12 Date Received: 12/19/2012

### Sample receipt non conformances and comments:

hold for btex

Sample receipt non conformances and comments per sample:

None



**Project Id:** 

Contact: Ben Arguijo

Project Location: Lea County, NM

### Certificate of Analysis Summary 454441

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: MA-DOOM



Date Received in Lab: Wed Dec-19-12 02:00 pm Report Date: 20-DEC-12

Project Manager: Nicholas Straccione

						110jeee manager	
	Lab Id:	454441-00	1	454441-0	02		
Analysis Requested	Field Id:	SP#1 @ 15	5'	SP#1@	18'		
Analysis Kequesieu	Depth:						
	Matrix:	SOIL		SOIL			
	Sampled:	Dec-17-12 13	:00	Dec-17-12	14:00		
Percent Moisture	Extracted:						
	Analyzed:	Dec-19-12 15	5:30	Dec-19-12	15:30		
	Units/RL:	%	RL	%	RL		
Percent Moisture		9.13	1.00	7.27	1.00		
TPH By SW8015 Mod	Extracted:	Dec-19-12 14	1:20				
	Analyzed:	Dec-20-12 05	5:51				
	Units/RL:	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	16.5				
C12-C28 Diesel Range Hydrocarbons		ND	16.5				
C28-C35 Oil Range Hydrocarbons		ND	16.5				
Total TPH		ND	16.5				

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

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

ch Nul

Nicholas Straccione Project Manager

Page 5 of 13



### **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	<b>SDL</b> Sample Detection Limit	LOD Limit of Detection
----------------------------	-----------------------------------	------------------------

- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 (210) 509-3335

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 (813) 620-2033

 (432) 563-1800
 (432) 563-1713

 (770) 449-8800
 (770) 449-5477

 (602) 437-0330
 (432) 563-1713

Final 1.000



### Project Name: MA-DOOM

<b>fork Orders :</b> 454441		<b>D</b> . 4 1	Project I h: 1 Matrix			
Lab Batch #: 903328	Sample: 454441-001 / SMP	Batcl	h: <sup>1</sup> Matrix RROGATE R		STUDY	
Units: mg/kg	Date Analyzed: 12/20/12 05:51				1	
TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		93.1	100	93	70-135	
o-Terphenyl		45.9	50.1	92	70-135	
Lab Batch #: 903328	Sample: 631504-1-BLK / BI	LK Batcl	h: <sup>1</sup> Matrix	c:Solid		
Units: mg/kg	Date Analyzed: 12/19/12 22:14	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	1 mary tes	90.9	100	91	70-135	
o-Terphenyl		43.5	50.0	87	70-135	
Lab Batch #: 903328	Sample: 631504-1-BKS / BI	KS Batcl	h: <sup>1</sup> Matrix	: Solid	1	
Units: mg/kg	Date Analyzed: 12/19/12 21:10		RROGATE R		STUDY	
TPH ]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
1-Chlorooctane		93.7	100	94	70-135	
o-Terphenyl		51.3	50.0	103	70-135	
Lab Batch #: 903328	Sample: 631504-1-BSD / BS	SD Batcl	h: 1 Matrix	r: Solid		
Units: mg/kg	Date Analyzed: 12/19/12 21:42		RROGATE R		STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
1-Chlorooctane	Anarytes	94.9	99.7	95	70-135	
o-Terphenyl		53.1	49.9	106	70-135	
Lab Batch #: 903328					1	
Units: mg/kg	Date Analyzed: 12/20/12 08:05		RROGATE R		STUDY	
	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
	Analytes			[10]		
1-Chlorooctane		88.9	100	89	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



### Project Name: MA-DOOM

Work Orders : 454441,			Project II	):		
Lab Batch #: 903328	Sample: 454401-002 SD / M	ASD Bate	h: <sup>1</sup> Matrix:	Soil		
Units: mg/kg	Date Analyzed: 12/20/12 09:00	SU	RROGATE RI	ECOVERY S	STUDY	
	TPH By SW8015 Mod Analytes		True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		97.4	99.6	98	70-135	
o-Terphenyl		49.2	49.8	99	70-135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution





#### Project Name: MA-DOOM

Work Order #: 454441 Analyst: KEB	D	ate Prepar	red: 12/19/201	2				ject ID: nalyzed: 1	2/19/2012		
Lab Batch ID: 903328         Sample: 631	504-1-BKS	Bate	<b>h #:</b> 1					Matrix: S	Solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / F	BLANK S	PIKE DUPI	ICATE	RECOVE	ERY STUD	Y	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]				
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1020	102	997	1070	107	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	979	98	997	1030	103	5	70-135	35	

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



### Form 3 - MS / MSD Recoveries

#### **Project Name: MA-DOOM**



Work Order #: 454441 **Project ID:** Lab Batch ID: 903328 QC- Sample ID: 454401-002 S Matrix: Soil Batch #: 1 **Date Prepared:** 12/19/2012 Analyst: KEB **Date Analyzed:** 12/20/2012 Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Parent Spiked Sample Spiked Duplicate Spiked Control Control TPH By SW8015 Mod Sample Result Spiked Sample RPD Limits Spike Sample Spike Dup. Limits Flag Result Added [C] %R Added Result [F] %R %R %RPD % Analytes [A] [B] [D] [E] [G] C6-C12 Gasoline Range Hydrocarbons <15.9 1060 1110 105 1060 1070 101 4 70-135 35 1070 101 1030 97 C12-C28 Diesel Range Hydrocarbons <15.9 1060 1060 4 70-135 35

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

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

Page 10 of 13



Sample Duplicate Recovery



### **Project Name: MA-DOOM**

Work Order #: 454441

Lab Batch #: 903331			]	Project I	D:	
Date Analyzed: 12/19/2012 15:07	Date Prepared: 12/1	9/2012	Anal	yst:WRU		
QC- Sample ID: 454401-009 D	<b>Batch #:</b> 1		Mat	rix: Soil		
<b>Reporting Units:</b> %	SAM	IPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent S Res [A	ult	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte	_		[ <b>B</b> ]			
Percent Moisture	5.6	52	5.51	2	20	

Spike Relative Difference RPD 200 \*  $|\,(B\text{-}A)/(B\text{+}A)\,|$  All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

## **Xenco Laboratories**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

	Project Manager:	Ben J. Arguijo; Joel Low	/ry			<u> </u>										Proje	ct Na	me:	MA	DO	OM					<del></del>		<u> </u>	
	Company Name	Basin Environmental Ser	vice T	echnol	ogies, LLC			<u></u>					·	······		F	roje	ct #:	·····	a ba		·							
	Company Address:	P.O. Box 301				· · · ·									<b>-</b> . :	Pro	ject	Loc:	Lea	Cou	nty,	NM	1	::					
	City/State/Zip:	Lovington, NM 88260													_		P	0 #:	Bill	Sout	herr	n Uni	on G	as					
	Telephone No:	(575)396-2378				Fax No:		(57	5) 39	<b>6-1</b> 4	29		: *		Rep	ort Fe	orma	t:	X.	Stand	dard			TR	RP		П. N	IPDES	3 - 1
	Sampler Signature:	Jody Watts	5			e-mail:		pm	n@ba	asir	env.	com	<u> </u>			<b>-</b>	,			· · ·	Ana	lyze	For:					- <b>-</b>	7
(lab use ORDER		4							Pre	serv	ation	& # O	f Conta	iners	Matri	x ( 4		 T	TC TOT	.P: AL:			x				T	48, 72 hrs	
LAB# (lab use only) //		D CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	lce		HCI H <sub>*</sub> SO,		Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> None	( Specify)		NP = Non-Potable Specify Othe TPH: 418.1 8015M 8015	TX 1005 TX 10	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)		Metals: As Ag ba Cd Cr Pb Hg Se Volatilos	volaures Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.		Total Dissolved Solids	RUSH TAT (Pre-Schedule) 24, 4	Standard TAT 4 DAY
	SP#	<sup>1</sup> 1 @ 15'			12/17/2012	1300		1	x						Soil	>	2											X	$\square$
	SP#	1 @ 18'			12/17/2012	1400		1	X	_		1			Soil	<u> </u>	<u> </u>				_						$\perp$		
												-				_							ľ			-		$\square$	$\square$
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Special I	nstructions: Ran Verba	SPHI@151 13 M. Hold For	1. 1 BTE	fold X.	3PH T@	18: Ema	i	1	Re	<i>5a</i>	15	0.	r Ca		w/Ti	PI		Sar	orate nple Cs Fr	Cont	aine	rs int	act?			Q	3	N N	
Relinguisi Voc Relinguisi	n Watters	Date 17-17-12 Date	. ما إ	me 3 D me	Received by:	the	-			• :						Tir 84 Tir	Ar	Lab Cus Cus	els o stody stody nple l by Sa	n cor seal: seal land imple	ntain s on s on d Del er/Cl	ier(s) cont cool livere ient F	ainei er(s) d tep. 1	r(s)	ý	J.C.	2 2 2	N P P N N	
Relinquisl	ned by:	Date	Ti	me			n	<u>Z</u>	H	J				2	ate 9 ]2	円	ne )()	Ter	by Con			UF on Re			- ( 30	FedE	*) Lo	one Sta /#C	<sup>3</sup> " ク

Final 1.000



### **XENCO** Laboratories



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

Client: Southern Union Gas Services- MonahanAcceptable Temperature Range: 0 - 6 degCDate/ Time Received: 12/19/2012 02:00:00 PMAir and Metal samples Acceptable Range: AmbientWork Order #: 454441Temperature Measuring device used :

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

# Analytical Report 454444

## for Southern Union Gas Services- Monahans

Project Manager: Ben Arguijo MA-DOOM

#### 21-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)



21-DEC-12



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

Reference: XENCO Report No(s): **454444 MA-DOOM** 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) 454444. 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. 454444 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully

Nicholas Straccione Project Manager

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



### Sample Cross Reference 454444



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

MA-DOOM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Wall 12' BGS	S	12-18-12 13:00		454444-001
North Wall 12' BGS	S	12-18-12 13:10		454444-002





Client Name: Southern Union Gas Services- Monahans Project Name: MA-DOOM



Project ID: Work Order Number(s): 454444 Report Date: 21-DEC-12 Date Received: 12/19/2012

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None

*Analytical non conformances and comments:* Batch: LBA-903383 Inorganic Anions by EPA 300/300.1 E300

Batch 903383, Chloride recovered above QC limits in the Matrix Spike. Samples affected are: 454444-001, -002. The Laboratory Control Sample for Chloride is within laboratory Control Limits

Batch: LBA-903463 BTEX by EPA 8021B SW8021BM

Batch 903463, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 454444-001, -002. The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes, o-Xylene is within laboratory Control Limits



**Project Id:** 

Contact: Ben Arguijo

Project Location: Lea County, NM

### Certificate of Analysis Summary 454444

Southern Union Gas Services- Monahans, Monahans, TX

**Project Name: MA-DOOM** 



Date Received in Lab: Wed Dec-19-12 02:00 pm Report Date: 21-DEC-12

Project Manager: Nicholas Straccione

	Lab Id:	454444-(	001	454444-0	002			
A state in Deserve of a l	Field Id:	South Wall 1	2' BGS	North Wall 12	2' BGS			
Analysis Requested	Depth:							
	Matrix:	SOIL		SOIL				
	Sampled:	Dec-18-12	13:00	Dec-18-12	13:10			
BTEX by EPA 8021B	Extracted:	Dec-20-12	16:30	Dec-20-12	16:30			
	Analyzed:	Dec-21-12	13:17	Dec-21-12	13:34			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		ND	0.00107	ND	0.00107			
Toluene		ND	0.00214	ND	0.00214			
Ethylbenzene		ND	0.00107	ND	0.00107			
m_p-Xylenes		ND	0.00214	ND	0.00214			
o-Xylene		ND	0.00107	ND	0.00107			
Total Xylenes		ND	0.00107	ND	0.00107			
Total BTEX		ND	0.00107	ND	0.00107			
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-20-12	13:25	Dec-20-12	13:25			
SUB: TX104704215	Analyzed:	Dec-20-12	15:46	Dec-20-12	16:03			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		71.9	1.08	33.3	1.07			
Percent Moisture	Extracted:							
	Analyzed:	Dec-19-12	15:30	Dec-19-12	15:30			
	Units/RL:	%	RL	%	RL			
Percent Moisture		7.03	1.00	6.91	1.00			
TPH By SW8015 Mod	Extracted:	Dec-19-12	14:20	Dec-19-12	14:20			
	Analyzed:	Dec-20-12	06:18	Dec-20-12	06:45			
	Units/RL:	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	16.1	ND	16.1			
C12-C28 Diesel Range Hydrocarbons		ND	16.1	20.4	16.1			
C28-C35 Oil Range Hydrocarbons		ND	16.1	ND	16.1			
Total TPH		ND	16.1	20.4	16.1			

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

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

Nicholas Straccione Project Manager

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### **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the 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
- **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.* 

LOQ Limit of Quantitation

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 (214) 351-9139

 (210) 509-3334
 (210) 509-3335

 (813) 620-2000
 (813) 620-2033

 (432) 563-1800
 (432) 563-1713

 (770) 449-8800
 (770) 449-5477

 (602) 437-0330
 (432) 563-1713

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### Project Name: MA-DOOM

<b>Vork Orders :</b> 454444 Lab Batch #: 903328	, Sample: 454444-001 / SMP	Batch	Project I n: 1 Matrix			
Units: mg/kg	Date Analyzed: 12/20/12 06:18		RROGATE R	-	STUDY	
TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		93.6	99.9	94	70-135	
o-Terphenyl		45.3	50.0	91	70-135	
Lab Batch #: 903328	Sample: 454444-002 / SMP	Batch				
Units: mg/kg	Date Analyzed: 12/20/12 06:45	SU	RROGATE R	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		92.7	100	93	70-135	
o-Terphenyl		44.6	50.0	89	70-135	
Lab Batch #: 903463	Sample: 454444-001 / SMP	Batch	n: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 12/21/12 13:17	SUI	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	·	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene		0.0265	0.0300	88	80-120	
Lab Batch #: 903463	Sample: 454444-002 / SMP	Batch	n: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 12/21/12 13:34	SUI	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0308	0.0300	103	80-120	
4-Bromofluorobenzene		0.0303	0.0300	105	80-120	
Lab Batch #: 903328	Sample: 631504-1-BLK / BL					
Units: mg/kg	Date Analyzed: 12/19/12 22:14		RROGATE R		STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	1 mai y 10.5	90.9	100	91	70-135	
o-Terphenyl		,0.,	100		10 135	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



Project Name: MA-DOOM

ork Orders: 454444	ŀ,		Project II	D:		
Lab Batch #: 903463	Sample: 631588-1-BLK / B					
Units: mg/kg	Date Analyzed: 12/20/12 21:40	SU	RROGATE R	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
	Analytes					
1,4-Difluorobenzene		0.0273	0.0300	91	80-120	
4-Bromofluorobenzene		0.0271	0.0300	90	80-120	
Lab Batch #: 903328	Sample: 631504-1-BKS / B		-	-		
Units: mg/kg	Date Analyzed: 12/19/12 21:10	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		93.7	100	94	70-135	
o-Terphenyl		51.3	50.0	103	70-135	
Lab Batch #: 903463	Sample: 631588-1-BKS / B					
Units: mg/kg	Date Analyzed: 12/20/12 21:08	SU	RROGATE R	ECOVERY	STUDY	
BTE	X 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		0.0262	0.0300	87	80-120	
Lab Batch #: 903328	Sample: 631504-1-BSD / B	SD Batc	h: 1 Matrix	:Solid	1	
Units: mg/kg	Date Analyzed: 12/19/12 21:42		RROGATE R	-	STUDY	
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		94.9	99.7	95	70-135	
o-Terphenyl		53.1	49.9	106	70-135	
Lab Batch #: 903463	Sample: 631588-1-BSD / B	SD Bate	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 12/20/12 21:24		RROGATE R	ECOVERY	STUDY	
	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		1	1	1		
1,4-Difluorobenzene		0.0287	0.0300	96	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution



### Project Name: MA-DOOM

ork Orders: 454444	.,		Project II			
Lab Batch #: 903328	Sample: 454401-002 S / MS			-		
Units: mg/kg	Date Analyzed: 12/20/12 08:05	SU	RROGATE RI	ECOVERY S	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		88.9	100	89	70-135	
o-Terphenyl		50.0	50.1	100	70-135	
Lab Batch #: 903328	Sample: 454401-002 SD / M	ISD Batc	h: <sup>1</sup> Matrix	Soil		
Units: mg/kg	Date Analyzed: 12/20/12 09:00	SU	RROGATE RI	ECOVERY S	STUDY	
TPH ]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		97.4	99.6	98	70-135	
o-Terphenyl		49.2	49.8	99	70-135	
Lab Batch #: 903463	Sample: 454340-002 SD / M	ISD Batc	h: <sup>1</sup> Matrix	Soil		
Units: mg/kg	Date Analyzed: 12/21/12 01:59	SU	RROGATE RI	ECOVERY S	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	Analytes	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene		0.0330	0.0300	101	80-120	

\* Surrogate outside of Laboratory QC limits

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

\*\*\* Poor recoveries due to dilution





#### Project Name: MA-DOOM

Work Order #: 454444												
Analyst: KEB	Da	ate Prepar	ed: 12/20/201	2			Date A	nalyzed: 1	2/20/2012			
Lab Batch ID: 903463 Sample: 631588-1-E	KS	Batc	<b>h #:</b> 1					Matrix: S	olid			
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	JCATE 1	RECOVE	ERY STUD	Y		
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Benzene	<0.000994	0.0994	0.0866	87	0.100	0.112	112	26	70-130	35		
Toluene	<0.00199	0.0994	0.0898	90	0.100	0.113	113	23	70-130	35		
Ethylbenzene	< 0.000994	0.0994	0.0800	80	0.100	0.0977	98	20	71-129	35		
m_p-Xylenes	<0.00199	0.199	0.185	93	0.200	0.231	116	22	70-135	35		
o-Xylene	<0.000994	0.0994	0.0895	90	0.100	0.111	111	21	71-133	35		
Analyst: JOL	Da	ate Prepar	ed: 12/20/201	2			Date A	nalyzed: 1	2/20/2012			
Lab Batch ID: 903383 Sample: 631537-1-B	KS	Batc	<b>h #:</b> 1					Matrix: S	olid			
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	SPIKE DUPI	JCATE 1	RECOVE	ERY STUD	Y		
Inorganic Anions by EPA 300/300.1 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	
Chloride	2.93	100	101	101	100	103	103	2	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





#### Project Name: MA-DOOM

Work Order #: 454444 Analyst: KEB			-	red: 12/19/201	2	Project ID: Date Analyzed: 12/19/2012							
Lab Batch ID: 903328	Sample: 631504-1-B	KS		<b>h #:</b> 1					Matrix: S				
Units: mg/kg			BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	JCATE	RECOVE	ERY STUD	Y		
TPH By SW801	5 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes			[ <b>B</b> ]	[C]	[D]	[E]	Result [F]	[G]					
C6-C12 Gasoline Range Hydrocart	oons	<15.0	1000	1020	102	997	1070	107	5	70-135	35		
C12-C28 Diesel Range Hydrocarbo	ons	<15.0	1000	979	98	997	1030	103	5	70-135	35		

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



Chloride

Analytes

### Form 3 - MS Recoveries

Laboratories				105	Ľ		ALCON TO			
	Project Name: N	IA-DOOM	[				1980RATORI			
Work Order #: 454444										
Lab Batch #: 903383				Pr	oject ID:					
<b>Date Analyzed:</b> 12/20/2012	Date I	Prepared: 12/20/2012 Analyst: JOL								
QC- Sample ID: 454444-001 S		<b>Batch #:</b> 1	1 Matrix: Soil							
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY			
Inorganic Anio	ns by EPA 300	Parent Sample	Spike	Spiked Sample Result	%R	Control Limits	Flag			
Anal	vtes	Result [A]	Added [B]	[C]	[D]	%R				

71.9

108

263

177

80-120

Х

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

BRL - Below Reporting Limit



### Form 3 - MS / MSD Recoveries

#### **Project Name: MA-DOOM**



Work Order #: 454444 **Project ID:** Lab Batch ID: 903328 QC- Sample ID: 454401-002 S Batch #: Matrix: Soil 1 **Date Prepared:** 12/19/2012 Analyst: KEB **Date Analyzed:** 12/20/2012 Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Parent Spiked Sample Spiked Duplicate Spiked Control Control TPH By SW8015 Mod Sample Result Spiked Sample RPD Limits Spike Sample Spike Dup. Limits Flag Result Added [C] %R Added Result [F] %R %R %RPD % Analytes [A] [B] [D] [E] [G] C6-C12 Gasoline Range Hydrocarbons <15.9 1060 1110 105 1060 1070 101 4 70-135 35 1070 101 1030 97 C12-C28 Diesel Range Hydrocarbons <15.9 1060 1060 4 70-135 35

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

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

Page 13 of 16



Sample Duplicate Recovery



### **Project Name: MA-DOOM**

Work Order #: 454444

Lab Batch #: 903331	Project ID:								
Date Analyzed: 12/19/2012 15:07	Date Prepar	ared: 12/19/2012 Analyst: WRU							
QC- Sample ID: 454401-009 D	Batch	h#: 1 Matrix: Soil							
<b>Reporting Units:</b> %		SAMPLE	SAMPLE	DUPLIC	ATE RECO	OVERY			
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag			
Analyte			[ <b>B</b> ]						
Percent Moisture		5.62	5.51	2	20				

## **Xenco Laboratories**

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765

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

	Project Manager:	Ben J. Arguijo; Joel Lov	vry							_	·					Proj	ect I	Vame	»: <u>M</u>	A-D	OON	1				· ·		
	Company Name	Basin Environmental Se	rvice T	echno	logies, LLC	1999 - 1999 -				-1			د. د د	- · · · · · ·			Proj	ject #	•••••									
	Company Address:	P.O. Box 301										~	. :			Pr	oiec	t Loc	: le	a Co	unty,	NM						
	City/State/Zip:													:								2			• :			
	City/State/Zip:	Lovington, NM 88260																PO #			uther		on C	Gas				
	Telephone No:	(575)396-2378				Fax No:		(57	5) 39(	6-142	29				Re	port F	orn	nat:	X	Sta	ndarc	i .		TRF	RP		NPDE	S
	Sampler Signature:	1/och watte	$\sim$	-	:	e-mail:		pm	@ba	sine	env.c	<u>om</u>				· · ·					•							
(lab use	only) //~//													:		- F				TCLP:	Ana	ilyze l	For:	1			Π,	]
ORDE	4741	144			· · · ·			ľ	Drog	0.71/0	tion 0	"				_		·····		DTAL:			X	1			72 hrs	
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S						la de la	. • •		-						SL=Sludg s=Soil/Sol		L 19		nity)		Metals: As Ag Ba Cd Cr Pb Hg Se		BTEX			lids		
e only)			Beginning Depth		a l	7		iners								Spe	<b>5</b> )   ⁺		Anions (CI, SO4, Alkalinity)		0 PS	e l	0 or E			d So	Sche	40
S q			Ŭ D	Ending Depth	Date Sampled	Time Sampled	g	Total #. of Containers				:		ecify)	DW = Drinking Water GW = Groundwater	otable	410.1 TX 1005	n Mg,	SO4,	/ CEC	4g Ba	s s	B/503			° solve	T (Pre	Į
#(lab			innir	l gui	le Se	le Ss	Filtere	# (			0	τŚ		r (Sp	Grou	Ion-Po	4 10.1 T 4 10.1	< 0) s	°(C)	ESP	s: As /	olatile	8021		N	Disc	1 TA	lard
LAB	FIEI		Begi	End	Dat	<b>Hid</b>	Field Filtered	Total	lce		H₂SO₄	NaOH Na <sub>3</sub> S <sub>3</sub> O <sub>3</sub>	None	Other		NP= N		Cations (Ca, Mg, Na,	Anion	SAR / ESP / CEC	Metals: A	volaures Semivolatiles	BTEX 8021B/5030 or BTEX 8260	Ñ	N.O.R.M.	Total Dissolved Solids	RUSH TAT (Pre-Schedule)	Standard TAT 4 DAY
	South	Wall 12'865			12-18-12	13:00		Ţ	X						Soi	<b>, ,</b>	X				S.					X	TX	
	North v	Jall 12'365			12-18-12	13:10		1	Χ.						Soi		(		л. Т.								X	1
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<u>Special</u>	Instructions:		ļ	L		· .																						L
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Relinqui	shed by:	Date	Ti	me	Received by:								<u> </u>	Date	)	Ti	me		)Cs F bels	Free on co	of He ontain	adspa er(s)	ice?	er isk		B	N	
	shed by:	12-18-12	16:	a	1 At	me Bull	e.						10	18	12	160		Cu	stod	y sea	ils on ils on	conta	ainer	(s)		Š		) <sup>355033</sup> 108795
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						Pag	ge 1	5 of	16						Final	1.00	C											



### **XENCO** Laboratories



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

Client: Southern Union Gas Services- MonahanAcceptable Temperature Range: 0 - 6 degCDate/ Time Received: 12/19/2012 02:00:00 PMAir and Metal samples Acceptable Range: AmbientWork Order #: 454444Temperature Measuring device used :

Sample Receipt Checklist	Comments	
#1 *Temperature of cooler(s)?	1	
#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: \_\_\_\_\_
# Analytical Report 454701

# for Southern Union Gas Services- Monahans

Project Manager: Joel Lowry MA DOOM

### 27-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)



27-DEC-12



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

Reference: XENCO Report No(s): **454701 MA DOOM** Project Address: Lea County, NM

#### Joel Lowry:

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) 454701. 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. 454701 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.

Alejandro Montoya New Mexico Laboratory Director

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## Sample Cross Reference 454701



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

MA DOOM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
East wall 12' BGS	S	12-21-12 10:00		454701-001
Floor 14' BGS	S	12-21-12 10:10		454701-002
West Wall 12'BGS	S	12-21-12 10:20		454701-003



CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans Project Name: MA DOOM



Project ID: Work Order Number(s): 454701 Report Date: 27-DEC-12 Date Received: 12/24/2012

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



**Project Id:** 

**Contact:** Joel Lowry

Project Location: Lea County, NM

## Certificate of Analysis Summary 454701

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: MA DOOM



Date Received in Lab: Mon Dec-24-12 03:20 pm

**Report Date:** 27-DEC-12

Project Manager: Nicholas Straccione

								g8	 
	Lab Id:	454701-0	01	454701-0	02	454701-0	03		
Analysis Dogwood	Field Id:	East wall 12'	BGS	Floor 14' E	BGS	West Wall 12	BGS		
Analysis Requested	Depth:								
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Dec-21-12	10:00	Dec-21-12	0:10	Dec-21-12 1	0:20		
BTEX by EPA 8021B	Extracted:			Dec-26-12	1:00				
	Analyzed:			Dec-26-12	15:56				
	Units/RL:			mg/kg	RL				
Benzene	1				0.00104				
Toluene				ND	0.00209				
Ethylbenzene				ND	0.00104				
m,p-Xylenes				-	0.00209				
o-Xylene					0.00104				
Total Xylenes					0.00104				
Total BTEX				ND	0.00104				
Inorganic Anions by EPA 300/300.1	Extracted:	Dec-27-12	10:59			Dec-27-12 1	0:59		
SUB: E871002	Analyzed:	Dec-27-12	12:07			Dec-27-12 1	2:59		
	Units/RL:	mg/kg	RL			mg/kg	RL		
Chloride		49.9	1.35			97.1	1.08		
Percent Moisture	Extracted:								
	Analyzed:	Dec-26-12	12:00	Dec-26-12	2:00	Dec-26-12 1	2:00		
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		26.0	1.00	4.38	1.00	7.24	1.00		
TPH By SW8015 Mod	Extracted:	Dec-26-12	11:00	Dec-26-12	1:00	Dec-26-12 1	1:00		
	Analyzed:	Dec-26-12	15:35	Dec-26-12	6:58	Dec-26-12 1	7:25		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	19.9	ND	15.7	ND	15.9		
C12-C28 Diesel Range Hydrocarbons		ND	19.9	ND	15.7	ND	15.9		
C28-C35 Oil Range Hydrocarbons		ND	19.9	ND	15.7	ND	15.9		
Total TPH		ND	19.9	ND	15.7	ND	15.9		

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

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

huandro

Alejandro Montoya New Mexico Laboratory Director



## **Flagging Criteria**

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to 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
- **DL** Method Detection Limit
- NC Non-Calculable
- NELAC certification not offered for this compound.
- (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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LOQ Limit of Quantitation

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(281) 240-4200	(281) 240-4280
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(210) 509-3334	(210) 509-3335
(813) 620-2000	(813) 620-2033
(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	

Final 1.000



# Form 2 - Surrogate Recoveries

## Project Name: MA DOOM

				STUDV				
-	Amount	True		Control	Flags			
Analytas	Found [A]	[B]	%R	%R	Flags			
Analytes	20.9	08.0		70.125				
Sample: 454701-002 / SMP				10 100				
- -				STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage			
Analytes			[D]					
	0.0329	0.0300	110	80-120				
	0.0283	0.0300	94	80-120				
Sample: 454701-002 / SMP								
Date Analyzed: 12/26/12 16:58	SU	RROGATE R	ECOVERY	STUDY				
TPH By SW8015 Mod		True Amount [B]	Recovery %R	Control Limits %R	Flags			
Analytes			[D]					
	95.1	99.8	95	70-135				
	45.0	49.9	90	70-135				
Sample: 454701-003 / SMP								
Date Analyzed: 12/26/12 17:25	SUI	RROGATE R	ECOVERY	STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
	90.1	98.2	92	70-135				
	42.7	49.1	87	70-135				
Sample: 631733-1-BLK / BL	_K Batcl	h: 1 Matrix	solid	<u> </u>				
Date Analyzed: 12/26/12 15:06		RROGATE R		STUDY				
· · ·								
By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Found	Amount	•	Limits	Flags			
	Date Analyzed: 12/26/12 16:58         By SW8015 Mod         Analytes         Sample: 454701-003 / SMP         Date Analyzed: 12/26/12 17:25         By SW8015 Mod         Analytes         Sample: 631733-1-BLK / BL	Sample:         454701-001 / SMP         Batcl           Date Analyzed:         12/26/12 15:35         SU           By SW8015 Mod         Amount Found [A]         Amount Found [A]           Analytes         42.3           Sample:         454701-002 / SMP         Batcl           Date Analyzed:         12/26/12 15:56         SU           K by EPA 8021B         Amount Found [A]         Amount Found [A]           Analytes         0.0329         0.0283           Sample:         454701-002 / SMP         Batcl           Date Analyzed:         12/26/12 16:58         SU           By SW8015 Mod         Amount Found [A]         Amount Found [A]         SU           Analytes         95.1         45.0         SU           By SW8015 Mod         95.1         45.0         SU           By SW8015 Mod         Amount Found [A]         SU         SU           By SW8015 Mod         Amount Found [A]         SU         SU           By SW8015 Mod         Amount Found [A]         Found [A]         SU           Analytes         90.1         42.7         42.7           Sample:         631733-1-BLK / BLK         Batcl	Sample:       454701-001 / SMP       Batch:       1       Matrix         Date Analyzed:       12/26/12 15:35       SURROGATE R         By SW8015 Mod       Amount [A]       True Amount [B]       True Amount [B]         Analytes       89.8       98.0         42.3       49.0         Sample:       454701-002 / SMP       Batch:       1       Matrix         Date Analyzed:       12/26/12 15:56       SURROGATE R       R         X by EPA 8021B       Amount [A]       True Amount [A]       True Amount [B]       Amount [B]         Analytes       0.0329       0.0300         Date Analyzed:       12/26/12 16:58       SURROGATE R         By SW8015 Mod       Amount [A]       True Amount [B]       True Amount [B]         Analytes       95.1       99.8         Sample:       454701-003 / SMP       Batch:       1         Sample:       454701-003 / SMP       Batch:       1       Matrix         Date Analyzed:       12/26/12 17:25       SURROGATE R       By SW8015 Mod       45.0       49.9       45.0       49.9       45.0       49.9       45.0       49.9       45.0       49.9       45.0       49.9       45.0       49.9       45.0 <td< td=""><td>Sample:         454701-001 / SMP         Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 15:35         SURROGATE RECOVERY 3           By SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R [D]           Analytes         89.8         98.0         92           42.3         49.0         86           Sample:         454701-002 / SMP         Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 15:56         SURROGATE RECOVERY 3           K by EPA 8021B         Amount Found [A]         True Amount [A]         Recovery %R [D]           Analytes         0.0329         0.0300         110           0.0283         0.0300         94           Sample:         454701-002 / SMP Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 16:58         SURROGATE RECOVERY 3           By SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R [D]           Analytes         95.1         99.8         95           Matrix: Soil         90         3         3           Sample:         454701-003 / SMP         Batch:         1         Matrix: Soil           Date Analyzed</td><td>Sample:         454701-001 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 15:35         SURROGATE RECOVERY STUDY           By SW8015 Mod         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %k           Analytes         89.8         98.0         92         70-135           Manalytes         42.3         49.0         86         70-135           Sample:         454701-002 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 15:56         SURROGATE RECOVERY STUDY           K by EPA 8021B         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %k           Analytes         0.0329         0.0300         110         80-120           Marix:         0.0283         0.0300         94         80-120           Sample:         454701-002 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 16:58         SURROGATE RECOVERY STUDY           By SW8015 Mod         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %c R [D]           Analytes         95.1         99.8         95         70-135     <!--</td--></td></td<>	Sample:         454701-001 / SMP         Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 15:35         SURROGATE RECOVERY 3           By SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R [D]           Analytes         89.8         98.0         92           42.3         49.0         86           Sample:         454701-002 / SMP         Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 15:56         SURROGATE RECOVERY 3           K by EPA 8021B         Amount Found [A]         True Amount [A]         Recovery %R [D]           Analytes         0.0329         0.0300         110           0.0283         0.0300         94           Sample:         454701-002 / SMP Batch:         1         Matrix: Soil           Date Analyzed:         12/26/12 16:58         SURROGATE RECOVERY 3           By SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R [D]           Analytes         95.1         99.8         95           Matrix: Soil         90         3         3           Sample:         454701-003 / SMP         Batch:         1         Matrix: Soil           Date Analyzed	Sample:         454701-001 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 15:35         SURROGATE RECOVERY STUDY           By SW8015 Mod         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %k           Analytes         89.8         98.0         92         70-135           Manalytes         42.3         49.0         86         70-135           Sample:         454701-002 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 15:56         SURROGATE RECOVERY STUDY           K by EPA 8021B         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %k           Analytes         0.0329         0.0300         110         80-120           Marix:         0.0283         0.0300         94         80-120           Sample:         454701-002 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         12/26/12 16:58         SURROGATE RECOVERY STUDY           By SW8015 Mod         Amount [A]         True Amount [B]         Recovery %c R [D]         Control Limits %c R [D]           Analytes         95.1         99.8         95         70-135 </td			

\* 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 / BAll results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

Project Name: MA DOOM

York Orders: 454701 Lab Batch #: 903663	, Sample: 631732-1-BLK / B	LK Batc	Project II h: <sup>1</sup> Matrix					
Units: mg/kg	Date Analyzed: 12/26/12 15:07		RROGATE RI		STUDY			
	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1,4-Difluorobenzene		0.0304	0.0300	101	80-120			
4-Bromofluorobenzene		0.0246	0.0300	82	80-120			
Lab Batch #: 903671	Sample: 631733-1-BKS / B							
Units: mg/kg	Date Analyzed: 12/26/12 14:10	SU	RROGATE RI	ECOVERY	STUDY			
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	Analytes	05.0	00.5		70.125			
o-Terphenyl		95.9	99.5 49.8	96 99	70-135 70-135			
					70-135			
Lab Batch #: 903663	Sample: 631732-1-BKS / B	KS / BKS     Batch:     1     Matrix: Solid       23     SURROGATE     RECOVERY STUDY						
Units: mg/kg	<b>Date Analyzed:</b> 12/26/12 15:23	SU	RROGATE RI	ECOVERY	STUDY	1		
BTE	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene	Analytes	0.0277	0.0300	92	80-120			
4-Bromofluorobenzene		0.0318	0.0300	106	80-120			
Lab Batch #: 903671	Sample: 631733-1-BSD / B	SD Bate	h: 1 Matrix	:Solid				
Units: mg/kg	Date Analyzed: 12/26/12 14:38		RROGATE RI	-	STUDY			
	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		98.0	99.8	98	70-135			
o-Terphenyl		50.2	49.9	101	70-135			
Lab Batch #: 903663	Sample: 631732-1-BSD / B	SD Bate	h: 1 Matrix	:Solid				
Units: mg/kg	Date Analyzed: 12/26/12 15:39	SU	RROGATE RI	ECOVERY	STUDY			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene	·	0.0342	0.0300	114	80-120			
				1				

\* 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 / BAll results are based on MDL and validated for QC purposes.



# Form 2 - Surrogate Recoveries

## Project Name: MA DOOM

Vork Orders : 454701			Project I					
Lab Batch #: 903671	Sample: 454701-001 S / MS	MS Batch: 1 Matrix: Soil SURROGATE RECOVERY STUDY						
Units: mg/kg	Date Analyzed: 12/26/12 16:03 By SW8015 Mod	Amount	True		Control			
1111	by 5 w 8015 1000	Found [A]	Amount [B]	Recovery %R	Limits %R	Flags		
	Analytes			[D]				
1-Chlorooctane		98.2	99.0	99	70-135			
o-Terphenyl		50.2	49.5	101	70-135			
Lab Batch #: 903663	Sample: 454701-002 S / MS							
Units: mg/kg	Date Analyzed: 12/26/12 16:12	SU	RROGATE R	ECOVERY	STUDY			
BTE	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]				
1,4-Difluorobenzene		0.0359	0.0300	120	80-120			
4-Bromofluorobenzene		0.0310	0.0300	103	80-120			
Lab Batch #: 903663	Sample: 454701-002 SD / N	ISD Bate	h: <sup>1</sup> Matrix	<b>:</b> Soil				
Units: mg/kg	Date Analyzed: 12/26/12 16:29	SU	RROGATE R	ECOVERY	STUDY			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes		[D]	[D]	701			
1,4-Difluorobenzene		0.0335	0.0300	112	80-120			
4-Bromofluorobenzene		0.0318	0.0300	106	80-120			
Lab Batch #: 903671	Sample: 454701-001 SD / M	ISD Batc	h: 1 Matrix	:Soil				
Units: mg/kg	Date Analyzed: 12/26/12 16:31	SU	RROGATE R	ECOVERY	STUDY			
TPH 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1-Chlorooctane		95.6	99.1	96	70-135			
o-Terphenyl		49.7	49.6	100	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 / BAll results are based on MDL and validated for QC purposes.





### Project Name: MA DOOM

Work Order #: 454701	Project ID:										
Analyst: AMB	Da	ate Prepar	ed: 12/26/201	2			Date A	nalyzed: 1	2/26/2012		
Lab Batch ID: 903663         Sample: 631732-1-E	SKS	Batch	n #: 1		Matrix: Solid						
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOVE	ERY STUD	Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R [D]	Spike Added	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes		[D]	[C]		[E]	Kesuit [F]	[6]				
Benzene	< 0.000996	0.0996	0.0752	76	0.100	0.0741	74	1	70-130	35	
Toluene	< 0.00199	0.0996	0.0869	87	0.100	0.0822	82	6	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.0779	78	0.100	0.0766	77	2	71-129	35	
m,p-Xylenes	<0.00199	0.199	0.159	80	0.200	0.156	78	2	70-135	35	
o-Xylene	<0.000996	0.0996	0.0819	82	0.100	0.0799	80	2	71-133	35	
Analyst: RKO	Da	ate Prepar	ed: 12/27/201	2			Date A	nalyzed: 1	2/27/2012		
Lab Batch ID: 903747 Sample: 631776-1-E	SKS	Batcl	n#: 1					Matrix: S	olid		
Units: mg/kg		BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOVE	ERY STUD	Y	
Inorganic Anions by EPA 300/300.1 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
Chloride	<1.00	100	104	104	100	104	104	0	80-120	20	

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





### Project Name: MA DOOM

Work Order #: 454701 Analyst: AMB Lab Batch ID: 903671	Sample: 631733-1-B1	<b>Date Prepared:</b> 12/26/2012					Project ID: Date Analyzed: 12/26/2012 Matrix: Solid					
Units: mg/kg	Sampe: 031733-1-D	K5	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY									
TPH By SW801	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	
Analytes						,						
C6-C12 Gasoline Range Hydrocar	bons	<14.9	995	889	89	998	894	90	1	70-135	35	
C12-C28 Diesel Range Hydrocarb	ons	<14.9	995	835	84	998	848	85	2	70-135	35	

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



# Form 3 - MS Recoveries

Project Name: MA DOOM



Work Order #: 454701							
Lab Batch #: 903747			Pr	oject ID:			
<b>Date Analyzed:</b> 12/27/2012	Date Prepared: 12/27	<b>Prepared:</b> 12/27/2012 <b>Analyst:</b> RKO					
QC- Sample ID: 454701-001 S	<b>Batch #:</b> 1	Batch #: 1 Matrix: Soil					
Reporting Units: mg/kg	MATR	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag	
Analytes	[A]	[ <b>B</b> ]					
Chloride	49.9	135	178	95	80-120		

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

BRL - Below Reporting Limit



## Form 3 - MS / MSD Recoveries

#### **Project Name: MA DOOM**



<b>Work Order #:</b> 454701						Project II	D:				
Lab Batch ID: 903663	QC- Sample ID	454701	-002 S	Ba	tch #:	1 Matrix	x: Soil				
Date Analyzed: 12/26/2012	Date Prepared	: 12/26/2	012	An	alyst:	AMB					
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
BTEX by EPA 8021B	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[-]	[D]	[E]	[-]	[G]		,		
Benzene	<0.00104	0.104	0.0807	78	0.104	0.0754	73	7	70-130	35	
Toluene	<0.00208	0.104	0.0891	86	0.104	0.0830	80	7	70-130	35	
Ethylbenzene	< 0.00104	0.104	0.0837	80	0.104	0.0807	78	4	71-129	35	
m,p-Xylenes	<0.00208	0.208	0.174	84	0.209	0.166	79	5	70-135	35	
o-Xylene	< 0.00104	0.104	0.0809	78	0.104	0.0865	83	7	71-133	35	
Lab Batch ID: 903671	QC- Sample ID	454701	-001 S	Ba	tch #:	1 Matrix	<b>x:</b> Soil				
<b>Date Analyzed:</b> 12/26/2012	Date Prepared	: 12/26/2	012	An	alyst:	AMB					
Reporting Units: mg/kg		N	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY		
TPH By SW8015 Mod	Parent Sample Result	Spike Added	Spiked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	[A]	[B]	[~]	[D]	[E]		[G]				
C6-C12 Gasoline Range Hydrocarbons	<20.1	1340	1230	92	1340	1200	90	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<20.1	1340	1140	85	1340	1130	84	1	70-135	35	

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

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



Sample Duplicate Recovery



### Project Name: MA DOOM

Work Order #: 454701

Lab Batch #: 903662		Project ID:							
Date Analyzed: 12/26/2012 12:00	Date Prepar	pared: 12/26/2012 Analyst: AMB							
QC- Sample ID: 454701-001 D	Batch	Batch #: 1 Matrix: Soil							
<b>Reporting Units:</b> %		SAMPLE	SAMPLE	DUPLIC	ATE RECO	OVERY			
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag			
Analyte			[ <b>B</b> ]						
Percent Moisture		26.0	25.3	3	20				

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Page 15 of 15

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Doom Land Farm Waste Manifest	Generators/Originating Site S. Uncor Dogr	Section <u>5</u> Township 2.45 Range <u>3</u> Trucking Company Buew TRIPUE M 9LU	Drivers Signature: X Christopholo Type of Material ATS Quantity 6 Loads By 12 yd Dump Truck 72 Total yds Cell Number material was placed in land farm AT	Comments:	Attendant on duty signature:	As a condition of acceptance for disposal, I hereby certify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature: Environce
Doom Land Farm Waste Manifest	Generators/Originating Site Sublic Lucation:	Section 5 Township 245 Range 371	Drivers Signature: <u>A swene swawan</u> Type of Material <u>Hullin Wow Ingertal Sail</u> Quantity <u>b</u> Loads By <u>12</u> yd Dump Truck <u>72</u> Total yds Cell Number material was placed in land farm # 8	Comments:	Attendant on duty signature: //E/e/c/ /2011	As a condition of acceptance for disposal, I hereby certify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature:

Nm BCD Permit D1-0033 SCH 2157071 Scc 5 T259 L377 (575) 395-357 (555) 395-2877 GFS) 395-537 (555) 395-2877 Doom Land Farm Waste Manifest	Generators/Originating Site S. UNER LINE Dependent	Section <u>S</u> Township <u>245</u> Range <u>R375</u> Trucking Company <u>Brain</u> - 7/1/16 M BLUE Drivers Signature: <u>X</u> Equilated	Type of Material 77.27 Quantity <u>A1 6</u> Loads By 1/2 yd Dump Truck <u>72</u> Total yds Cell Number material was placed in land farm <u>#8</u> Comments:	Attendant on duty signature:	Signature
Doom Land Farm Waste Manifest	Generators/Originating Site S UNION LINE DUDY	Section S Township 245 Range 37 Range Brivers Signature: X EUG RA REDO TO RACE 3 Range 37 Ran	Type of Material $\gamma_{L}$ + $\gamma_{M}$ d Dump Truck $\frac{92}{8}$ Total yds Quantity $6$ Loads By $2^{2}$ yd Dump Truck $\frac{92}{8}$ Total yds Cell Number material was placed in land farm $\frac{2}{2}$ $8$	Attendant on duty signature: $Date 12-24-72$ Date 12-24-72 At a condition of acceptance for disposal, I hereby certify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature:

Signature: JUGRAIRINO 106R65

Doom Land Farm       Doom Land Farm         Waste Manifest       Waste Manifest         Generators/Originating Stie       Waste Manifest         Generators/Originating Stie       Community         Continuity       Township       Manifest         Section       Township       Manifest         Continuity       Township       Manifest         Trucking Company       Manual       Manual         Material       Manual       Manual         Manual       Loads By       Manual       Manual         Manual       Loads By       Total yds       Manual         Comments       Manual       Manual       Manual       Manual         Date       Date       Date       Date       Manual       Manual       Manual         Signature       Manual       Manual       Manual       Manual       Manual <t< th=""><th></th><th>Doom Land Farm Waste Manifest</th><th>Generators/Originating Site Location:</th><th>Section <u>S</u> Township 245 Range 37 Trucking Company <u>Bracin - TRMEM</u> BUE Drivers Signature: <u>Environe</u> Cuellen</th><th>Type of Material T.J. A Dump Truck <u>84</u> Total yds Quantity <u>7</u> Loads By <u>7</u> yd Dump Truck <u>84</u> Total yds Cell Number material was placed in land farm <i>AS</i> Comments:</th><th>Attendant on duty signature:</th><th>As a condition of acceptance for disposal, I hereby cartify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.</th><th>Signature:</th></t<>		Doom Land Farm Waste Manifest	Generators/Originating Site Location:	Section <u>S</u> Township 245 Range 37 Trucking Company <u>Bracin - TRMEM</u> BUE Drivers Signature: <u>Environe</u> Cuellen	Type of Material T.J. A Dump Truck <u>84</u> Total yds Quantity <u>7</u> Loads By <u>7</u> yd Dump Truck <u>84</u> Total yds Cell Number material was placed in land farm <i>AS</i> Comments:	Attendant on duty signature:	As a condition of acceptance for disposal, I hereby cartify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature:
	A A A A A A A A A A A A A A A A A A A	Doom Land Farm Waste Manifest	S. Un level Links - ]	Township 245. Basein Enviles	neted Soul	Attendant on duty signature: ////////////////////////////////////	As a condition of acceptance for disposal, I hereby certify that this waste is exempt waste as defined by the EPA. The waste listed above was generated as a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature:

Doom Land Farm Waste Manifest	Generators/Originating Site S, UNION LINE	Section       Section       Section       Section       Section       Stange       STF         Trucking Company       BAS/W & WLO       Drivers Signature:       Manuality       Stange       STF         Drivers Signature:       March       Market       Market       Stange       STF         Drivers Signature:       Market       Market       Market       Stange       STF         Drivers Signature:       Market       Market       Market       STR       STR         Cell Number material was placed in land farm       & St       Volantyds       Date       D	Signature:
Doom Land Farm Waste Manifest	Generators/Originating Site Location: 2014 - Donm	Section 5       Township 245,356       Range         Trucking Company Rusi 6       Tucking Company Rusi 6       Tucking Company Rusi 6         Drivers Signature       Material       Divers Signature         Type of Material       Material       Diverse         Duantity       Loads By       2       yd Dump Truck         Quantity       Loads By       2       yds         Cell Number material was placed in land farm       # 8       Total yds         Comments:       Material       Material       Material         Date       2       / 8       Total yds         Date       2       / 8       Confiltion of acceptance       Material was generated as a condition of acceptance for disposal. I hereby certify that this waste is exempt waste a result of oil and gas operations and is exempt from RCRA sub title c regulations and not mixed with non-exempt waste.	Signature:

State of New Mexico Energy Minerals and Natural Resources

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

Form C-141 Revised October 10, 2003

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

## **Release Notification and Corrective Action**

			OPERATOR	$\boxtimes$	Initial Report	Final Report
Name of Company	Southern Union	Gas Services, Ltd.	Contact			Tony Savoie
Address	P.O. Box 122	6 Jal, N.M. 88252	Telephone No.			505-395-2116
Facility Name	Lea (	County Field Dept.	Facility Type		Natu	ral Gas Gathering
Surface Owner: Jarold	and Dan Doom	Mineral Owner	r: State	Le	ease No.	]

#### LOCATION OF RELEASE

ECCATION OF RELEASE											
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County			
Р	5	24S	37E					Lea			

### Latitude N32 14.491 Longitude W103 10.858

#### NATURE OF RELEASE

Type of Release : Crude Oil, and Natural Gas	Volume of Release: Greater than	Volume Re	ecovered NONE						
	50 mcf gas and 10 bbls crude oil								
Source of Release : 10" Natural Gas Pipeline	Date and Hour of Occurrence	Date and H	Iour of Discovery 6/4/09						
	not known	10:23 a.m.	216						
Was Immediate Notice Given?	If YES, To Whom?								
🗌 Yes 🛛 No 🗌 Not Required									
By Whom?	Date and Hour:								
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	tercourse.							
🗌 Yes 🖾 No									
* a Watercourse was Impacted, Describe Fully.*									
Describe Cause of Problem and Remedial Action Taken.*									
The 10" Natural gas pipeline developed a leak while operating at approximately 30 psi, the affected area was clamped, all of the crude oil									
that was released had soaked into the ground. Permanent repairs v			1						
6 1	5,								
Describe Area Affected and Cleanup Action Taken. Approximately 1950	) sq.ft. of pasture land was affected by	the leak and t	emporary repair. Final						
remediation will follow the NMOCD recommended guidelines for leaks									
I hereby certify that the information given above is true and complete to	the best of my knowledge and understa	and that pursu	ant to NMOCD rules and						
regulations all operators are required to report and/or file certain release n									
public health or the environment. The acceptance of a C-141 report by the									
should their operations have failed to adequately investigate and remedia									
or the environment. In addition, NMOCD acceptance of a C-141 report of	does not relieve the operator of response	sibility for co	mpliance with any other						
federal, state, or local laws and/or regulations.									
	OIL CONSERV	VATION I	DIVISION						
Signature:									
orginatio.	Approved by District Supervisor:								
Printed Name:									
	I								
Title:	Approval Date:	Expiration D	ate:						
E-mail Address:	Conditions of Approval:		Attached						
Date: 7/31/09 Phone: 505-395-2116									

\* Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 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 Se	ervices, Ltd.	Contact	C	Crystal Callaway
Address	801 S. Loop 464, Mona	hans, TX, 79756	Telephone No.	(81	7) 302-9407
Facility Name:	MA-Doom (1RP-289	9)	Facility Type	Natu	ral Gas Gathering
Surface Owner Jaro	old and Dan Doom	Mineral Owner	: State	Lease No.	

#### LOCATION OF RELEASE

Unit Letter P	Section 5	Township 24S	Range 37E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea

Latitude N32 14.491

Longitude W103 10.858

#### NATURE OF RELEASE

Type of Release:	Crude Oil, and Natural Gas	Volume of Release Greater than	Volume Recovered NONE
4,00000		50 mcf gas and 10 bbls crude oil	
Source of Release:	10" Natural Gas Pipeline	Date and Hour of Occurrence	Date and Hour of Discovery 6/4/09
		Not known	10:23 a.m.
Was Immediate Noti	ce Given?	If YES, To Whom?	
	Yes No Not Required		
By Whom?		Date and Hour:	
Was a Watercourse H	Reached?	If YES, Volume Impacting the Wate	ercourse.
	🗌 Yes 🖾 No		
If a Wateracura was	Impacted Describe Fully *		

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken:

The 10" Natural gas pipeline developed a leak while operating at approximately 30 psi, the affected area was clamped, all of the crude oil that was release had soaked into the ground. Permanent repairs were made the following day.

Describe Area Affected and Cleanup Action Taken. Approximately 1950 sq. ft. of pasture land was affected by the leak and temporary repair. Final remediation will follow the NMOCD recommended guidelines for leaks and spills.

Approximately 350 yd<sup>3</sup> of impacted material was excavated from the remediation site. Confirmation soil samples collected from the floor and sidewalls of the MA-Doom excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory remediation action levels.

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

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

Signature: upth alany	OIL CONSER	VATION DIVISION
Printed Name: Crystal Callaway	Approved by District Supervisor:	
Title: Senior Environmental Remediation Specialist	Approval Date:	Expiration Date:
E-mail Address: Crystal.Callaway@Regencygas.com	Conditions of Approval:	
Date: 10/27/14 Phone: (817) 302-9407		