HOBBS OCD

MAR 17 2014

RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Regency Field Service, LLC Formerly Southern Union Gas Services	Contact: Crystal Callaway
Address: 801 South Loop 464 Monahans, Texas 79756	Telephone No.: 817-302-9407 (Office) 817-807-6514 (Cell)
Facility Name: Unknown Dinwiddie – Historical	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Dinwiddie	Mineral Owner Federal	API No – 30-025-28822

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	11	26S	33E					Lea

Latitude N32° 03.911' Longitude: W103° 32.949'

NATURE OF RELEASE

Type of Release: Natural Gas and Produced Water	Volume of Release: 236 MCF Nat. Gas, <5 bbls of produced water	Volume Recovered: None
Source of Release: 16" Natural Gas Pipeline	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: 5/8/2007 0930 hours
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Buddy Hill	Date and Hour: 5/8/07 1000 hours	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A 16" Natural Gas pipeline operating at approximately 35 PSI developed a leak. The line was shut-in and blown down, approximately 333 mcf of natural gas was released during the blow-down event. There was no H2S observed being released during the leak assessment or the blow-down event.

Describe Area Affected and Cleanup Action Taken.*
The affected area measured approximately 30 feet by 40 feet of pasture land and right-of-way road. In March through May 2013, additional soil investigation and remediation activities were conducted at the release site. Approximately 2,115 cubic yards of impacted material was transported to Sundance Services in Eunice, New Mexico. Soil samples were collected from the excavation sidewalls and floor to demonstrate accordance with NMOCD Guidelines. Please reference the "Soil Investigate Summary and Closure Request" dated December 2013 for additional details.

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

Signature: Crystal Callaway Printed Name: Crystal Callaway	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Geoffrey Leking Environmental Specialist	
Title: Senior Remediation Specialist	Approval Date: 3/18/14	Expiration Date: –
E-mail Address: crystal.callaway@regencygas.com Date: 2/14/14 Phone: 817-302-9407	Conditions of Approval: –	Attached ☐ 1RP-1309

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

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

Surface Owner: Dinwiddie	Mineral Owner: Federal	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	11	26S	33E					Lea

Latitude N32 3.911 Longitude W103 32.949

NATURE OF RELEASE

Type of Release : Natural Gas and produced water	Volume of Release: 236 MCF Nat. Gas < 5 bbls of produced water.	Volume Recovered 0
Source of Release : 16" Natural Gas Pipeline	Date and Hour of Occurrence Not Known	Date and Hour of Discovery 5/8/07 Time: 9:30 a.m..
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Buddy Hill	Date and Hour: 5/8/07 10:00 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Received
Hobbs
OCD

Describe Cause of Problem and Remedial Action Taken.*
A 16" Natural Gas pipeline operating at approximately 35 PSI developed a leak. The line was shut in and blown down approximately 333 mch of natural gas was released during the blow-down event. There was no H2S observed being released during the leak assessment or the blow down event.

Describe Area Affected and Cleanup Action Taken. The affected area measured approximately 30 ft. by 40ft. of pasture land and right-of-way road. The damaged pipe will be replaced 5/9/07 and the affected area will be remediated in accordance to the NMOCD guidelines for leaks and spills.

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

Signature: Tony Savoie	OIL CONSERVATION DIVISION
Printed Name: John A. "Tony" Savoie	Approved by District ~~Supervisor~~ ENVIRONMENTAL:
Title: Remediation Supervisor	Approval Date: 5.22.07 Expiration Date: 7.22.07
E-mail Address: tony.savoie@sug.com	Conditions of Approval: Attached ☐
Date: 5/907 Phone: 505-395-2116	SUBMITTAL OF FINAL C-141 BY w/ ALL SUPPORTING DATA ATTACHED

* Attach Additional Sheets If Necessary

incident - nPAC0714240422
application - pPAC0714240539

RP# 134

SOIL INVESTIGATION SUMMARY

AND SITE

CLOSURE REQUEST

Regency Field Services, LLC
Formerly Southern Union Gas Services
Unknown Dinwiddie – Historical Release Site
Lea County, New Mexico
UNIT LTR "D" (NW ¼ /NW ¼), Section 11, Township 26 South, Range 33 East
Latitude 32° 03.911' North, Longitude 103° 32.949' West
NMOCD Reference # 1RP-1309

NOVA safety and environmental

Prepared For:

Regency Field Services, LLC
Formerly Southern Union Gas Services
801 South Loop 464
Monahans, Texas 79756

approved
Geoffrey Leking
Environmental Specialist
NMOCD-DIST 1
3/18/14

Prepared By:

NOVA Safety & Environmental
2057 Commerce
Midland, Texas 79703

February 2014

Curt D. Stanley
Project Manager

Brittan K. Byerly, P.G.
President

1.0 INTRODUCTION

Nova Safety & Environmental (NOVA), on behalf of Regency Field Services LLC, formerly Southern Union Gas Services (SUGS), has prepared this Soil Investigation Summary and Site Closure Request for the Unknown Dinwiddie Historical Release Site. The legal description of the release site is Unit Letter "D" (NW ¼ NW ¼), Section 11, Township 24 South, Range 33 East, in Lea County, New Mexico. The property affected by the release is owned by Dinwiddie Cattle Company. The release site GPS coordinates are 32° 03.911' North and 103° 32.949' West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site Details and Soil Sample Locations Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix B.

On May 8, 2007, Regency Field Services, LLC, discovered a release of produced water and natural gas had occurred from a sixteen (16) inch low pressure steel pipeline. The cause of the release was attributed to failure of a segment of the steel pipeline. The release volume was estimated to be less than five (5) barrels of liquid and two hundred thirty six (236) thousand cubic feet (mcf) of natural gas with no recovery. Approximately three hundred thirty three (333) mcf of natural gas was release during pipeline blow-down activities. The area affected by the release measured approximately thirty (30) feet by forty (40) feet along the pipeline right-of-way and in the adjacent pasture. Regency Field Services, LLC, verbally notified the New Mexico Oil Conversation Division (NMOCD) Hobbs District Office of the release on May 8, 2007, and submitted the Release Notification and Corrective Action (Form C-141) to the NMOCD Hobbs District Office on May 22, 2007. Subsequent to release, the affected pipeline was replaced by Regency Field Services, LLC.

Regency Field Services, LLC, has researched and identified various historical release sites located in New Mexico. At the request of Regency Field Services, LLC, NOVA has reviewed the historical data for these sites and conducted the necessary activities to ensure the sites meet the criteria for closure in accordance with NMOCD regulatory guidelines.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database identified a water well located in Unit Letter H, Section 11, Township 26 South, Range 33 East. The identified water well record indicated the water well was installed in December 1949 and encountered groundwater at one hundred forty five (145) feet below ground surface (bgs). A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately one hundred twelve (112) feet below ground surface (bgs). Site classification of the Unknown Dinwiddie Release Site utilized the NMOCD reference map data stated above. The depth to groundwater at the Unknown Dinwiddie Historical Release Site results in a score of ten (10) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

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

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

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

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

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On March 4, 2013, NOVA commenced soil investigation activities at the Unknown Dinwiddie Historical Release Site. All marked pipelines within the area to be excavated were hand spotted prior to the beginning of excavation to verify location and depth. The soil investigation and delineation activities began by "stripping" two (2) sixteen (16) inch diameter pipelines (California A and California B). This effort was undertaken to locate the inferred release point. Based on historical documentation and stressed vegetation, eight (8) soil investigation trenches were excavated in the vicinity of the inferred release point and flowpath area in an effort to delineate the horizontal extent of the release. The trenches were completed to varying depths of approximately five (5) to eighteen (18) feet bgs. The final depth of the trenches was determined by a review of the historical data and by field observations conducted during excavation activities.

The first trench (Release Point Trench) was excavated at the inferred release point in an east-west direction. The second trench (East Trench) was excavated in an east-west direction and was located approximately fifty (50) feet east of the inferred release point. The third trench (North Trench-1) was excavated in a north-south direction and was located approximately twenty-five (25) feet north of the inferred release point. The fourth trench (Road Trench) was excavated in an east-west direction and was located approximately twenty-five (25) feet south of the inferred release point in the center line of the right-of-way road. The "Road Trench" was backfilled immediately after the collection of soil samples due to safety concerns. The fifth trench (South Road Trench) was excavated in an east-west direction and was located approximately fifty (50) feet south of the inferred release point. The sixth trench (South Trench-2) was excavated in a north-south direction and was located approximately sixty (60) feet south of the inferred release point. The seventh trench (North Trench-2) was excavated in a north-south direction and was located approximately fifty (50) feet north of the inferred release point. The eighth trench (West Trench) was excavated in an east-west direction and was located approximately fifty (50) feet west of the inferred release point. Please reference Figure 2 for site details.

On March 6, 2013, four (4) soil samples (RP @ 2', RP @ 8', RP @ 12' and RP @ 18') were collected from the Release Point Trench and four (4) soil samples (East Trench @ 2', East Trench @ 6', East Trench @ 8' and East Trench S/W @ 7') were collected the East Trench. The soil samples were submitted to the laboratory for determination of concentrations of benzene,

toluene, ethyl-benzene, and xylene (BTEX), total petroleum hydrocarbons (TPH), and chlorides using EPA SW-846 8021B, 8015M, and E 300, respectively.

The analytical results for the soil samples collected from the Release Point Trench indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory method detection limits (MDL) for all submitted soil samples. Chloride concentrations ranged from 153 mg/Kg for soil sample RP @ 18' to 1,970 mg/Kg for soil sample RP @ 8'. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A.

The analytical results for soil samples collected from the East Trench indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 177 mg/Kg for soil sample East Trench @ 2' to 1,230 mg/Kg for soil sample East Trench @ 6'.

On March 7, 2013, three (3) soil samples (North Trench-1 @ 2', North Trench-1 @ 6' and North Trench-1 S/W @ 5') were collected from the North Trench -1 and three (3) soil samples (North Trench-2 @ 2', North Trench-2 @ 6' and North Trench-2 S/W @ 5') were collected from the North Trench-2. In addition, four (4) soil samples (West Trench @ 2', West Trench @ 6', West Trench @ 10' and West Trench S/W @ 9') were collected from the West Trench and four (4) soil samples (Road @ 2', Road @ 4', Road @ 10' and Road S/W @ 9') were collected from the Road Trench. In addition, one (1) soil sample (South Road-1 @ 9") was collected from the South Road-1 Trench and four (4) soil samples (South Trench-2 @ 9', South Trench-2 @ 8', South Trench-2 @ 16' and South Trench-2 S/W @ 15') were collected from the South Trench-2.

The analytical results for soil samples collected from the North Trench-1 indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 158 mg/Kg for soil sample North Trench-1 @ 6' to 687 mg/Kg for soil sample North Trench-1 S/W @ 5'.

The analytical results for soil samples collected from the North Trench-2 indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 40 mg/Kg for soil sample North Trench-2 @ 5' to 88.5 mg/Kg for soil sample North Trench-2 @ 6'.

The analytical results for soil samples collected from the West Trench indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 49.4 mg/Kg for soil sample West Trench @ 10' to 148 mg/Kg for soil sample West Trench @ 2'.

The analytical results for soil samples collected from the Road Trench indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL, with the exception of soil sample Road @ 10', which exhibited a TPH concentration of 21.3 mg/Kg. Chloride concentrations ranged from 60.6 mg/Kg for soil sample Road @ 10' to 1,100 mg/Kg for soil sample Road S/W @ 9'.

The analytical results for soil samples collected from the South Trench-2 indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL, with the

exception of soil sample South Trench-2 S/W @ 15' which exhibited a TPH concentration of 63.2 mg/Kg. Chloride concentrations ranged from 50.7 mg/Kg for soil sample South Trench-2 @ 16' to 945 mg/Kg for soil sample South Trench-2 @ 2'.

On March 27, 2013, in a meeting attended by Regency Field Services, LLC, NOVA and NMOCD representatives, Regency Field Services, LLC, requested and received NMOCD approval to excavate and backfill the excavation with locally purchased non-impacted caliche as the project proceeded. Regency Field Services, LLC, requested approval based on the proximity of the excavation to a well-travelled caliche road. In addition, the NMOCD granted permission to leave in situ soil exhibiting chloride concentrations less than 1,000 mg/Kg, provided delineation soil sample exhibited chloride concentration less than 250 mg/Kg.

On April 30, 2013 through May 2, 2013, six (6) soil samples (North Excavation Floor @ 6', North Excavation Floor @ 15', North Excavation S/W @ 14', North Excavation East S/W @ 14', and North Excavation East S/W @ 7') were collected from the North Excavation. The analytical results for soil samples collected from the North Excavation indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all soil samples. Chloride concentrations ranged from 88.1 mg/Kg for soil sample North Excavation North S/W @ 14' to 161 mg/Kg for soil sample North Excavation East S/W @ 14'.

On May 6, 2013, three (3) soil samples (Road Trench C @ 2', Road Trench C @ 4' and Road Trench @ 10') were collected from Road Trench C. The analytical results for soil samples collected from Road Trench C indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all soil samples. Chloride concentrations ranged from 90.4 mg/Kg for soil sample Road Trench C @ 10' to 224 mg/Kg for soil sample Road Trench C @ 2'.

On May 7, 2013 and May 8, 2013, four (4) soil samples (North Excavation South S/W @ 14' and North Excavation West S/W @ 14', North Excavation West Floor @ 8' and North Excavation West S/W @ 7') were collected from the North Excavation. The analytical results for soil samples collected from North Excavation indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all soil samples. Chloride concentrations ranged from 139 mg/Kg for soil sample North Excavation West S/W @ 14' to 237 mg/Kg for soil sample North Excavation South S/W @ 14'.

On May 9, 2013, three (3) soil samples (Trench E @ 2', Trench E @ 4' and Trench E @ 10') were collected from Trench E. The analytical results for soil samples collected from Trench E indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all soil samples. Chloride concentrations ranged from 86.9 mg/Kg for soil sample Trench E @ 10' to 246 mg/Kg for soil sample Trench E @ 4'.

On May 13, 2013 through May 16, 2013, eight (8) soil samples (South Excavation Floor @ 12', South Excavation North S/W @ 11', South Excavation West S/W @ 11', South Excavation East S/W @ 11', South Excavation South Floor-2, South Excavation SSW @ 11', South Excavation West S/W-2 @ 11' and South Excavation East S/W-2 @ 11') were collected from South Excavation. The analytical results for soil samples collected from the South Excavation indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all soil samples. Chloride concentrations ranged from 82.1 mg/Kg for soil sample South Excavation Floor @ 12' to 254 mg/Kg for soil sample South Excavation North S/W @ 11'.

Based on the analytical results of trench and excavation confirmation soil samples, the Release Site has been excavated to concentrations less than the approved NMOCD regulatory guidelines and no further excavation is warranted. Based on the analytical results, Regency Field Services, LLC, opted to transport and dispose of all impacted soil at Sundance Services, Inc. (Sundance Services) located in Eunice, New Mexico. From May 13, 2013 through May 20, 2013, approximately 2,115 cubic yards of impacted soil was transported to Sundance Services. Sundance Services, Inc. Waste Manifests are provided on the enclosed disk. As stated above, the excavation was backfilled with locally obtained non-impacted caliche as the project proceeded. Following the completion of the backfilling activities, the disturbed area was contoured to fit the surrounding topography.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

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

The soil samples were analyzed as follows:

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

4.2 Decontamination of Equipment

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

4.3 Laboratory Protocol

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

5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples, NOVA recommends Regency Field Services, LLC, provide the NMOCD a copy of this Soil Investigation Summary and Site Closure Request and request the NMOCD grant final closure to the Unknown Dinwiddie Historical Release Site.

6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Report on behalf of, and for the sole and exclusive use of Regency Field Services, LLC. This report was prepared by NOVA Safety and Environmental for the benefit of Regency Field Services, LLC. The information contained in this Report may be released to third parties, who may use and rely upon the information at their discretion. However, any use of or reliance upon the information by a party other than specifically named above shall create no rights, obligations, or liabilities on the part of NOVA Safety and Environmental with respect to any such party. The information shall not be used or relied upon by a party that does not agree to be bound by the above statement.

In preparing this Report, NOVA Safety and Environmental may have obtained and relied upon information from multiple sources including the Regency Field Services, LLC, and other consultants working for the Regency Field Services, LLC, or other parties. Unless specifically stated, NOVA Safety and Environmental has made no attempt to verify the accuracy or completeness of such information.

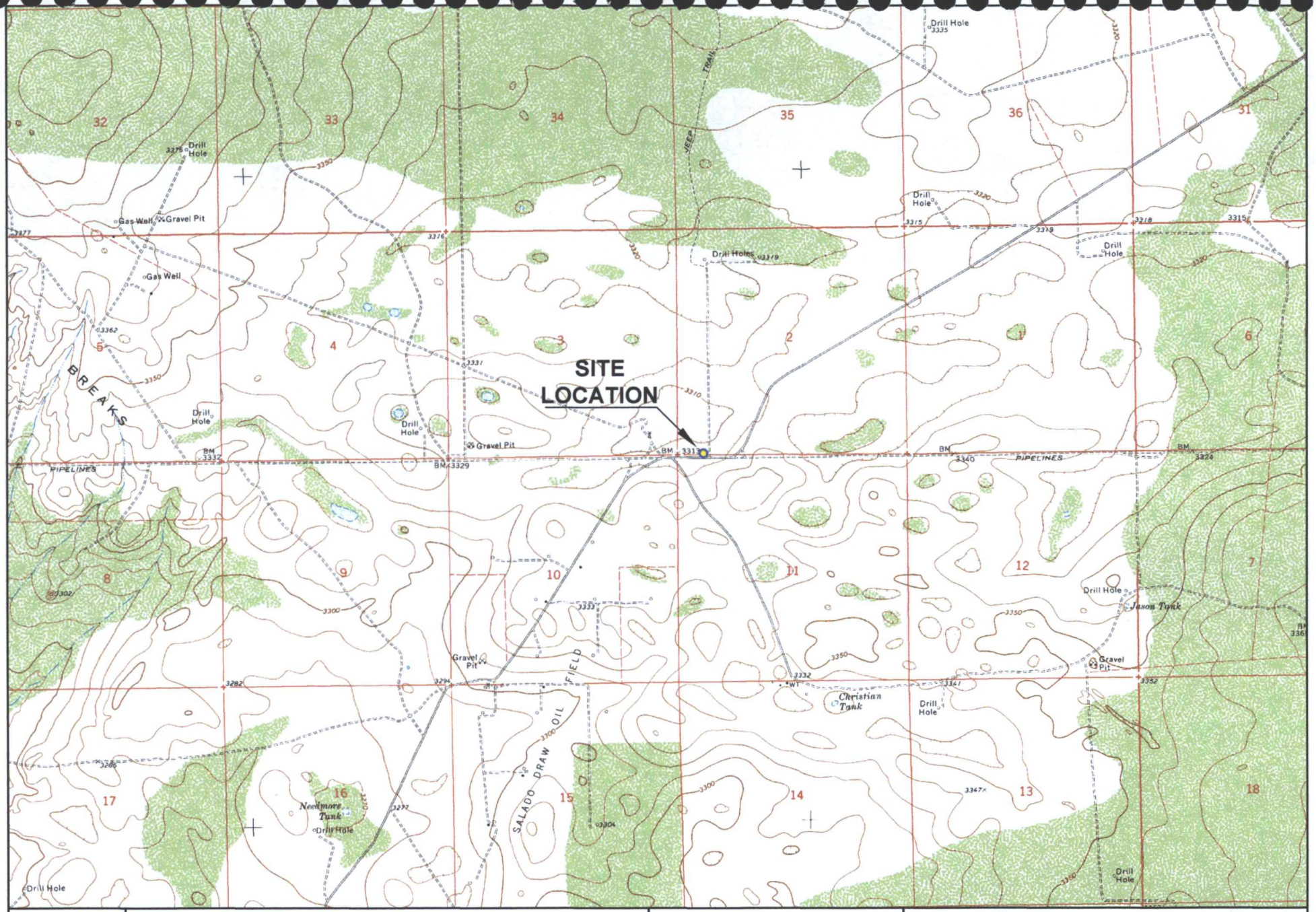
7.0 DISTRIBUTION

Copy 1: Geoffrey Leking
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 1)
1625 French Drive
Hobbs, New Mexico 88240

Copy 2: Rachel Johnson
Regency Field Services, LLC
801 South Loop 464
Monahans, Texas 79756

Copy 3: Crystal Callaway, BSN, RN, CHMM
Regency Field Services, LLC
301 Commerce Street, Suite 700
Fort Worth, Texas 76102

Copy 4: NOVA Safety & Environmental
2057 Commerce Street
Midland, Texas 79703



Legend:

Mapped edited and Published by the Geological Survey Control by USGS & USC & GS

Map Re-edited by Nova Safety and Environmental for the purpose of Site Location Maps.

Planimetry by Photogrammetric methods from aerial Photographs taken 1958. Topography by Planetabe Surveys 1961.

Fine red dashed lines indicate selected fence lines.

This map Complies with National Map Accuracy Standards

3000 1500 0 1500 3000

Distance in Feet

Figure 1
Site Map
Southern Union Gas Service
Unknown Dinwiddie
Lea County, NM
1RP-1309

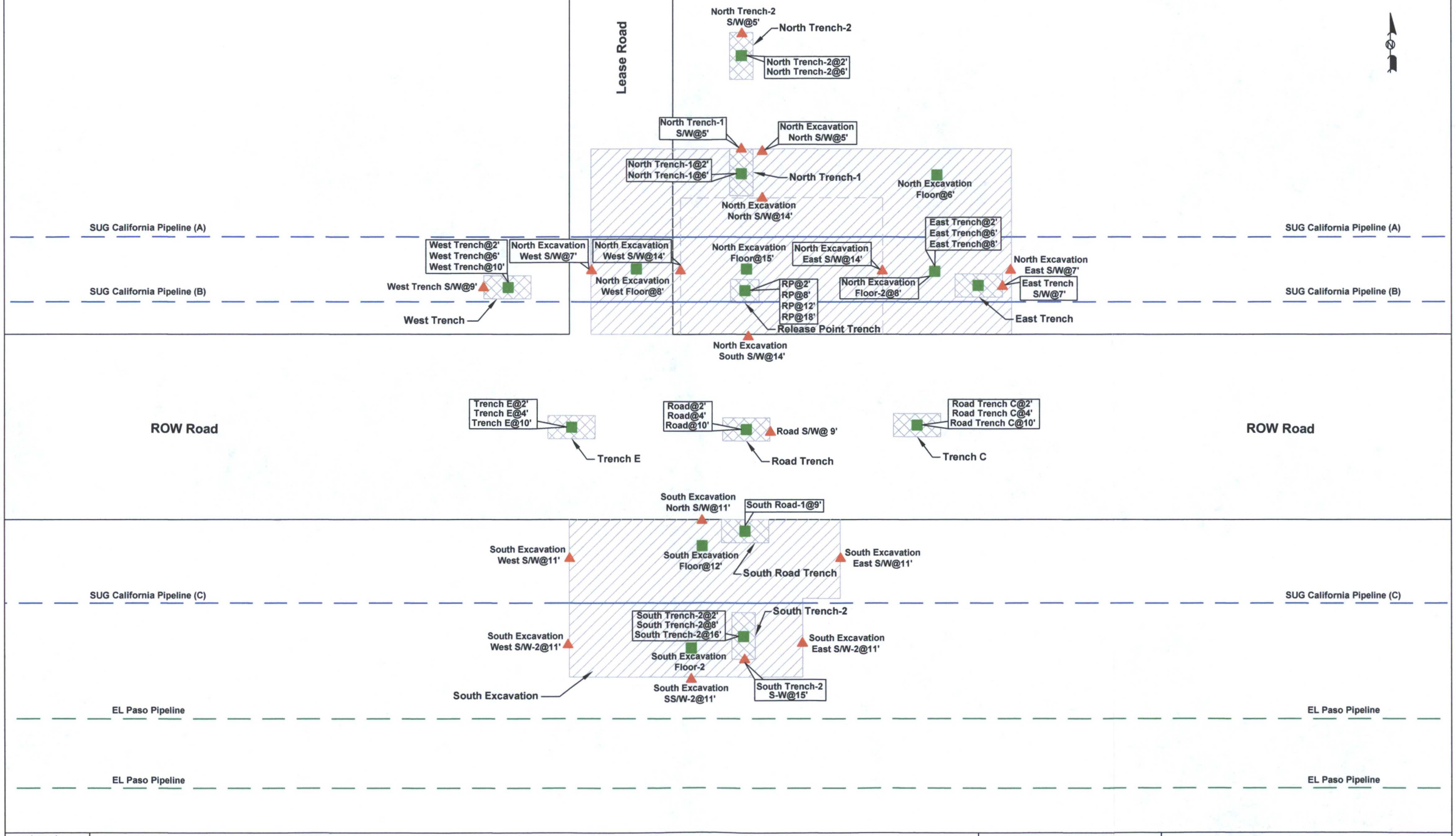
NOVA safety and environmental

2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

March 22, 2013	Scale: 1" - 3000'	CAD By: CAS	Checked By:

Lat. N 32° 3' 54.65" Long. W 103° 32' 56.94"



Legend:

- Sidewall Soil Sample Location
- Floor Soil Sample Location

20 10 0 10 20

Distance in Feet

Figure 2
Site Details & Soil Sample Locations Map
Southern Union Gas Service
Unknown Dinwiddie
Lea County, NM

NOVA safety and environmental
2057 Commerce Drive
Midland, Texas 79703
432.520.7720
www.novasafetyandenvironmental.com

March 13, 2013	Scale: 1" - 20'	CAD By: CAS	Checked By:

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES
UNKNOWN DINWIDDIE HISTORICAL RELEASE SITE
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE # 1RP-1309

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{12}	TPH DRO C_{12}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
NMOCD Regulatory Guideline		**10**	**-**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**1,000**	**-**
RP @ 2'	03/06/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.9	<15.9	<15.9	<15.9	1,130
RP @ 8'	03/06/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.9	<15.9	<15.9	<15.9	1,970
RP @ 12'	03/06/13	<0.00107	<0.00214	<0.00107	<0.00214	<0.00107	<0.00214	<16.1	<16.1	<16.1	<16.1	568
RP @ 18'	03/06/13	<0.00103	<0.00206	<0.00103	<0.00206	<0.00103	<0.00206	<15.5	<15.5	<15.5	<15.5	153
East Trench @ 2'	03/06/13	<0.00105	<0.00210	<0.00105	<0.00210	<0.00105	<0.00210	<15.9	<15.9	<15.9	<15.9	151
East Trench @ 6'	03/06/13	<0.00105	<0.00211	<0.00105	<0.00211	<0.00105	<0.00211	<15.8	<15.8	<15.8	<15.8	1,230
East Trench @ 8'	03/06/13	<0.00109	<0.00218	<0.00109	<0.00218	<0.00109	<0.00218	<16.3	<16.3	<16.3	<16.3	177
East Trench S/W @ 7'	03/06/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.9	<15.9	<15.9	<15.9	974
North Trench-1 @ 2'	03/07/13	<0.00112	<0.00224	<0.00112	<0.00224	<0.00112	<0.00224	<16.9	<16.9	<16.9	<16.9	172
North Trench-1 @ 6'	03/07/13	<0.00106	<0.00213	<0.00106	<0.00213	<0.00106	<0.00213	<15.9	<15.9	<15.9	<15.9	158
North Trench-1 S/W @ 5'	03/07/13	<0.00108	<0.00216	<0.00108	<0.00216	<0.00108	<0.00216	<16.2	<16.2	<16.2	<16.2	687
North Trench-2 @ 2'	03/07/13	<0.00106	<0.00211	<0.00106	<0.00211	<0.00106	<0.00211	<16.0	<16.0	<16.0	<16.0	78.2
North Trench-2 @ 6'	03/07/13	<0.00106	<0.00211	<0.00106	<0.00211	<0.00106	<0.00211	<16.0	<16.0	<16.0	<16.0	88.5
North Trench-2 S/W @ 5'	03/07/13	<0.00103	<0.00206	<0.00103	<0.00206	<0.00103	<0.00206	<15.5	<15.5	<15.5	<15.5	40.0
West Trench @ 2'	03/07/13	<0.00103	<0.00206	<0.00103	<0.00206	<0.00103	<0.00206	<15.5	<15.5	<15.5	<15.5	148
West Trench @ 6'	03/07/13	<0.00105	<0.00209	<0.00105	<0.00209	<0.00105	<0.00209	<15.7	<15.7	<15.7	<15.7	49.5
West Trench @ 10'	03/07/13	<0.00103	<0.00206	<0.00103	<0.00206	<0.00103	<0.00206	<15.6	<15.6	<15.6	<15.6	49.4
West Trench S/W @ 9'	03/07/13	<0.00104	<0.00207	<0.00104	<0.00207	<0.00104	<0.00207	<15.5	<15.5	<15.5	<15.5	60.6
Road @ 2'	03/07/13	<0.00105	<0.00210	<0.00105	<0.00210	<0.00105	<0.00210	<15.7	<15.7	<15.7	<15.7	391
Road @ 4'	03/07/13	<0.00109	<0.00217	<0.00109	<0.00217	<0.00109	<0.00217	<16.5	<16.5	<16.5	<16.5	608
Road @ 10'	03/07/13	<0.00105	<0.00211	<0.00105	<0.00211	<0.00105	<0.00211	21.3	<15.8	<15.8	21.3	173
Road S/W @ 9'	03/07/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<16.0	<16.0	<16.0	<16.0	1,100
South Road-1 @ 9'	03/07/13	<0.00107	<0.00214	<0.00107	<0.00214	<0.00107	<0.00214	<16.2	<16.2	<16.2	<16.2	477
South Trench-2 @ 2'	03/07/13	<0.00110	<0.00219	<0.00110	<0.00219	<0.00110	<0.00219	<16.5	<16.5	<16.5	<16.5	945
South Trench-2 @ 8'	03/07/13	<0.00108	<0.00216	<0.00108	<0.00216	<0.00108	<0.00216	<16.3	<16.3	<16.3	<16.3	437
South Trench-2 @ 16'	03/07/13	<0.00102	<0.00203	<0.00102	<0.00203	<0.00102	<0.00203	<15.2	<15.2	<15.2	<15.2	50.7
South Trench-2 S/W @ 15'	03/07/13	<0.00104	<0.00207	<0.00104	<0.00207	<0.00104	<0.00207	<15.6	63.2	<15.6	63.2	482
North Excavation Floor @ 6'	04/30/13	<0.000996	<0.00199	<0.000996	<0.00199	<0.000996	<0.00199	<15.0	<15.0	<15.0	<15.0	129
North Excavation Floor @ 15'	04/30/13	<0.00101	<0.00201	<0.00101	<0.00201	<0.00101	<0.00201	<15.0	<15.0	<15.0	<15.0	123

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES
UNKNOWN DINWIDDIE HISTORICAL RELEASE SITE
LEA COUNTY, NEW MEXICO
NMOCD REFERENCE # 1RP-1309

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{12}	TPH DRO C_{12}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
NMOCD Regulatory Guideline		**10**	**-**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**1,000**	**-**
North Excavation North SW @ 14'	04/30/13	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<15.0	<15.0	<15.0	<15.0	88.1
North Excavation North SW @ 5'	04/30/13	<0.00101	<0.00201	<0.00101	<0.00201	<0.00101	<0.00201	<15.0	<15.0	<15.0	<15.0	100
North Excavation East S/W @ 14'	05/01/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.0	<15.0	<15.0	<15.0	161
North Excavation Floor-2 @ 8'	05/02/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.0	<15.0	<15.0	<15.0	120
North Excavation East S/W @ 7'	05/02/13	<0.00104	<0.00208	<0.00104	<0.00208	<0.00104	<0.00208	<15.0	<15.0	<15.0	<15.0	160
Road Trench C @ 2'	05/06/13	<0.00107	<0.00214	<0.00107	<0.00214	<0.00107	<0.00214	<15.0	<15.0	<15.0	<15.0	224
Road Trench C @ 4'	05/06/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<15.0	<15.0	<15.0	<15.0	75.6
Road Trench C @ 10'	05/06/13	<0.00105	<0.00210	<0.00105	<0.00210	<0.00105	<0.00210	<15.0	<15.0	<15.0	<15.0	90.4
North Excavation South S/W @ 14'	05/07/13	<0.00105	<0.00211	<0.00105	<0.00211	<0.00105	<0.00221	<15.8	<15.8	<15.8	<15.8	237
North Excavation West SW @ 14'	05/07/13	<0.00104	<0.00207	<0.00104	<0.00207	<0.00104	<0.00207	<15.7	<15.7	<15.7	<15.7	139
North Excavation West Floor @ 8'	05/08/13	<0.00103	<0.00206	<0.00103	<0.00206	<0.00103	<0.00206	<15.6	<15.6	<15.6	<15.6	124
North Excavation West S/W @ 7'	05/08/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<16.1	<16.1	<16.1	<16.1	141
Trench E @ 2'	05/09/13	<0.000996	<0.00199	<0.000996	<0.00199	<0.000996	<0.00199	<17.5	<17.5	<17.5	<17.5	133
Trench E @ 4'	05/09/13	<0.000994	<0.00199	<0.000994	<0.00199	<0.000994	<0.00199	<16.6	<16.6	<16.6	<16.6	246
Trench E @ 10'	05/09/13	<0.000996	<0.00199	<0.000996	<0.00199	<0.000996	0.00199	<16.1	<16.1	<16.1	<16.1	86.9
South Excavation Floor @ 12'	05/13/13	<0.00104	<0.00208	<0.00104	<0.00208	<0.00104	<0.00208	<15.6	<15.6	<15.6	<15.6	82.1
South Excavation North S/W @ 11'	05/13/13	<0.00106	<0.00212	<0.00106	<0.00212	<0.00106	<0.00212	<16.0	<16.0	<16.0	<16.0	254
South Excavation West S/W @ 11'	05/15/13	<0.00105	<0.00211	<0.00105	<0.00211	<0.00105	<0.00211	<15.9	<15.9	<15.9	<15.9	113
South Excavation East S/W @ 11'	05/15/13	<0.00104	<0.00208	<0.00104	<0.00208	<0.00104	<0.00208	<15.7	<15.7	<15.7	<15.7	131
South Excavation South Floor-2	05/15/13	<0.00103	<0.00207	<0.00103	<0.00207	<0.00103	<0.00207	<15.6	<15.6	<15.6	<15.6	233
South Excavation SSW @ 11'	05/15/13	<0.00104	<0.00207	<0.00104	<0.00207	<0.00104	<0.00207	<15.7	<15.7	<15.7	<15.7	198
South Excavation West S/W-2 @ 11'	05/16/13	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<15.4	<15.4	<15.4	<15.4	97
South Excavation East S/W-2 @ 11'	05/16/13	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<15.5	<15.5	<15.5	<15.5	170

Analytical Report 459027

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

18-MAR-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

18-MAR-13

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

Reference: XENCO Report No(s): **459027**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 459027. 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. 459027 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

XENCO Laboratories

Sample Cross Reference 459027

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unknown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
RP @ 2'	S	03-06-13 14:30		459027-001
RP @ 8'	S	03-06-13 14:40		459027-002
RP @ 12'	S	03-06-13 14:50		459027-003
RP @ 18'	S	03-06-13 15:10		459027-004
East Trench @ 2'	S	03-06-13 15:20		459027-005
East Trench @ 6'	S	03-06-13 15:30		459027-006
East Trench @ 8'	S	03-06-13 15:40		459027-007
East Trench S/W @ 7'	S	03-06-13 15:50		459027-008
North Trench-1 @ 2'	S	03-07-13 10:40		459027-009
North Trench-1 @ 6'	S	03-07-13 10:50		459027-010
North Trench-1 S/W @ 5'	S	03-07-13 11:05		459027-011
North Trench-2 @ 2'	S	03-07-13 11:30		459027-012
North Trench-2 @ 6'	S	03-07-13 11:50		459027-013
North Trench-2 S/W @ 5'	S	03-07-13 12:10		459027-014
West Trech @ 2'	S	03-07-13 13:30		459027-015
West Trench @ 6'	S	03-07-13 13:50		459027-016
West Trench @ 10'	S	03-07-13 14:10		459027-017
West Trench S/W @ 9'	S	03-07-13 14:20		459027-018
Road @ 2'	S	03-07-13 15:00		459027-019
Road @ 4'	S	03-07-13 15:10		459027-020
Road @ 10'	S	03-07-13 15:30		459027-021
Road S/W @ 9'	S	03-07-13 15:50		459027-022
South Road-1 @ 9'	S	03-07-13 16:00		459027-023
South Trench-2 @ 2'	S	03-07-13 16:50		459027-024
South Trench-2 @ 8'	S	03-07-13 17:00		459027-025
South Trench-2 @ 16'	S	03-07-13 17:30		459027-026
South Trench-2 S/W @ 15'	S	03-07-13 17:40		459027-027

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *459027*

Report Date: *18-MAR-13*
Date Received: *03/11/2013*

Sample receipt non conformances and comments:
None

Sample receipt non conformances and comments per sample:

None

XENCO Laboratories

Certificate of Analysis Summary 459027

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Mon Mar-11-13 12:25 pm

Report Date: 18-MAR-13

Project Manager: Nicholas Straccione

Analysis Requested	*Lab Id:*	459027-001		459027-002		459027-003		459027-004		459027-005		459027-006	
	Field Id:	RP @ 2'		RP @ 8'		RP @ 12'		RP @ 18'		East Trench @ 2'		East Trench @ 6'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-06-13 14:30		Mar-06-13 14:40		Mar-06-13 14:50		Mar-06-13 15:10		Mar-06-13 15:20		Mar-06-13 15:30	
BTEX by EPA 8021B	*Extracted:*	Mar-13-13 15:30		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40	
	Analyzed:	Mar-14-13 02:11		Mar-13-13 16:07		Mar-13-13 16:24		Mar-13-13 16:40		Mar-13-13 16:56		Mar-13-13 17:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00106	ND	0.00106	ND	0.00107	ND	0.00103	ND	0.00105	ND	0.00105
Toluene		ND	0.00212	ND	0.00212	ND	0.00214	ND	0.00206	ND	0.00210	ND	0.00211
Ethylbenzene		ND	0.00106	ND	0.00106	ND	0.00107	ND	0.00103	ND	0.00105	ND	0.00105
m_p-Xylenes		ND	0.00212	ND	0.00212	ND	0.00214	ND	0.00206	ND	0.00210	ND	0.00211
o-Xylene		ND	0.00106	ND	0.00106	ND	0.00107	ND	0.00103	ND	0.00105	ND	0.00105
Total Xylenes		ND	0.00106	ND	0.00106	ND	0.00107	ND	0.00103	ND	0.00105	ND	0.00105
Total BTEX		ND	0.00106	ND	0.00106	ND	0.00107	ND	0.00103	ND	0.00105	ND	0.00105
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00	
	Analyzed:	Mar-13-13 16:15		Mar-13-13 16:59		Mar-13-13 17:20		Mar-13-13 17:42		Mar-13-13 18:04		Mar-13-13 18:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1130	200	1970	200	568	200	153	20.0	151	20.0	1230	40.0
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.04	1.00	5.83	1.00	6.81	1.00	3.46	1.00	5.68	1.00	5.24	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00	
	Analyzed:	Mar-13-13 12:06		Mar-13-13 12:59		Mar-13-13 13:25		Mar-13-13 13:54		Mar-13-13 14:20		Mar-13-13 14:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.9	ND	15.9	ND	16.1	ND	15.5	ND	15.9	ND	15.8
C12-C28 Diesel Range Hydrocarbons		ND	15.9	ND	15.9	ND	16.1	ND	15.5	ND	15.9	ND	15.8
C28-C35 Oil Range Hydrocarbons		ND	15.9	ND	15.9	ND	16.1	ND	15.5	ND	15.9	ND	15.8
Total TPH		ND	15.9	ND	15.9	ND	16.1	ND	15.5	ND	15.9	ND	15.8

Nicholas Straccione
Project Manager

XENCO Laboratories

Certificate of Analysis Summary 459027

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Mon Mar-11-13 12:25 pm

Report Date: 18-MAR-13

Project Manager: Nicholas Straccione

Analysis Requested	*Lab Id:*	459027-007		459027-008		459027-009		459027-010		459027-011		459027-012	
	Field Id:	East Trench @ 8'		East Trench S/W @ 7'		North Trench-1 @ 2'		North Trench-1 @ 6'		North Trench-1 S/W @ 5'		North Trench-2 @ 2'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-06-13 15:40		Mar-06-13 15:50		Mar-07-13 10:40		Mar-07-13 10:50		Mar-07-13 11:05		Mar-07-13 11:30	
BTEX by EPA 8021B	*Extracted:*	Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40	
	Analyzed:	Mar-13-13 17:29		Mar-13-13 17:45		Mar-13-13 18:02		Mar-13-13 18:18		Mar-13-13 18:35		Mar-13-13 19:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00109	ND	0.00106	ND	0.00112	ND	0.00106	ND	0.00108	ND	0.00106
Toluene		ND	0.00218	ND	0.00212	ND	0.00224	ND	0.00213	ND	0.00216	ND	0.00211
Ethylbenzene		ND	0.00109	ND	0.00106	ND	0.00112	ND	0.00106	ND	0.00108	ND	0.00106
m_p-Xylenes		ND	0.00218	ND	0.00212	ND	0.00224	ND	0.00213	ND	0.00216	ND	0.00211
o-Xylene		ND	0.00109	ND	0.00106	ND	0.00112	ND	0.00106	ND	0.00108	ND	0.00106
Total Xylenes		ND	0.00109	ND	0.00106	ND	0.00112	ND	0.00106	ND	0.00108	ND	0.00106
Total BTEX		ND	0.00109	ND	0.00106	ND	0.00112	ND	0.00106	ND	0.00108	ND	0.00106
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00	
	Analyzed:	Mar-13-13 19:31		Mar-13-13 19:52		Mar-13-13 20:14		Mar-13-13 20:36		Mar-13-13 20:57		Mar-13-13 21:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		177	20.0	974	40.0	172	20.0	158	20.0	687	100	78.2	4.00
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		8.29	1.00	5.70	1.00	11.2	1.00	6.03	1.00	7.46	1.00	6.37	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00	
	Analyzed:	Mar-13-13 15:14		Mar-13-13 15:40		Mar-13-13 16:05		Mar-13-13 16:57		Mar-13-13 17:24		Mar-13-13 17:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.3	ND	15.9	ND	16.9	ND	15.9	ND	16.2	ND	16.0
C12-C28 Diesel Range Hydrocarbons		ND	16.3	ND	15.9	ND	16.9	ND	15.9	ND	16.2	ND	16.0
C28-C35 Oil Range Hydrocarbons		ND	16.3	ND	15.9	ND	16.9	ND	15.9	ND	16.2	ND	16.0
Total TPH		ND	16.3	ND	15.9	ND	16.9	ND	15.9	ND	16.2	ND	16.0

Nicholas Straccione
Project Manager

XENCO Laboratories

Certificate of Analysis Summary 459027

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Mon Mar-11-13 12:25 pm

Report Date: 18-MAR-13

Project Manager: Nicholas Straccione

Analysis Requested	*Lab Id:*	459027-013		459027-014		459027-015		459027-016		459027-017		459027-018	
	Field Id:	North Trench-2 @ 6'		North Trench-2 S/W @ 5'		West Trech @ 2'		West Trench @ 6'		West Trench @ 10'		West Trench S/W @ 9'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-07-13 11:50		Mar-07-13 12:10		Mar-07-13 13:30		Mar-07-13 13:50		Mar-07-13 14:10		Mar-07-13 14:20	
BTEX by EPA 8021B	*Extracted:*	Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-13-13 14:40		Mar-15-13 09:40	
	Analyzed:	Mar-13-13 19:24		Mar-13-13 19:40		Mar-13-13 19:56		Mar-13-13 20:13		Mar-13-13 20:29		Mar-15-13 10:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00106	ND	0.00103	ND	0.00103	ND	0.00105	ND	0.00103	ND	0.00104
Toluene		ND	0.00211	ND	0.00206	ND	0.00206	ND	0.00209	ND	0.00206	ND	0.00207
Ethylbenzene		ND	0.00106	ND	0.00103	ND	0.00103	ND	0.00105	ND	0.00103	ND	0.00104
m_p-Xylenes		ND	0.00211	ND	0.00206	ND	0.00206	ND	0.00209	ND	0.00206	ND	0.00207
o-Xylene		ND	0.00106	ND	0.00103	ND	0.00103	ND	0.00105	ND	0.00103	ND	0.00104
Total Xylenes		ND	0.00106	ND	0.00103	ND	0.00103	ND	0.00105	ND	0.00103	ND	0.00104
Total BTEX		ND	0.00106	ND	0.00103	ND	0.00103	ND	0.00105	ND	0.00103	ND	0.00104
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00	
	Analyzed:	Mar-13-13 22:03		Mar-13-13 22:24		Mar-13-13 22:46		Mar-14-13 00:56		Mar-14-13 01:18		Mar-14-13 02:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		88.5	20.0	40.0	4.00	148	20.0	49.5	4.00	49.4	20.0	60.6	20.0
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.32	1.00	3.50	1.00	3.17	1.00	4.58	1.00	3.66	1.00	3.53	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00		Mar-13-13 09:00	
	Analyzed:	Mar-13-13 18:16		Mar-13-13 18:42		Mar-13-13 19:09		Mar-13-13 19:36		Mar-13-13 20:04		Mar-13-13 20:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16.0	ND	15.5	ND	15.5	ND	15.7	ND	15.6	ND	15.5
C12-C28 Diesel Range Hydrocarbons		ND	16.0	ND	15.5	ND	15.5	ND	15.7	ND	15.6	ND	15.5
C28-C35 Oil Range Hydrocarbons		ND	16.0	ND	15.5	ND	15.5	ND	15.7	ND	15.6	ND	15.5
Total TPH		ND	16.0	ND	15.5	ND	15.5	ND	15.7	ND	15.6	ND	15.5

Nicholas Straccione
Project Manager

XENCO Laboratories

Certificate of Analysis Summary 459027

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:
Contact: Camille Bryant
Project Location: Lea County, New Mexico

Date Received in Lab: Mon Mar-11-13 12:25 pm
Report Date: 18-MAR-13
Project Manager: Nicholas Straccione

Analysis Requested	*Lab Id:*	459027-019		459027-020		459027-021		459027-022		459027-023		459027-024	
	Field Id:	Road @ 2'		Road @ 4'		Road @ 10'		Road S/W @ 9'		South Road-1 @ 9'		South Trench-2 @ 2'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-07-13 15:00		Mar-07-13 15:10		Mar-07-13 15:30		Mar-07-13 15:50		Mar-07-13 16:00		Mar-07-13 16:50	
BTEX by EPA 8021B	*Extracted:*	Mar-15-13 09:40		Mar-15-13 09:40		Mar-15-13 09:40		Mar-15-13 09:40		Mar-15-13 09:40		Mar-15-13 09:40	
	Analyzed:	Mar-15-13 11:27		Mar-15-13 11:44		Mar-15-13 12:00		Mar-15-13 12:16		Mar-15-13 12:33		Mar-15-13 12:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00105	ND	0.00109	ND	0.00105	ND	0.00106	ND	0.00107	ND	0.00110
Toluene		ND	0.00210	ND	0.00217	ND	0.00211	ND	0.00212	ND	0.00214	ND	0.00219
Ethylbenzene		ND	0.00105	ND	0.00109	ND	0.00105	ND	0.00106	ND	0.00107	ND	0.00110
m_p-Xylenes		ND	0.00210	ND	0.00217	ND	0.00211	ND	0.00212	ND	0.00214	ND	0.00219
o-Xylene		ND	0.00105	ND	0.00109	ND	0.00105	ND	0.00106	ND	0.00107	ND	0.00110
Total Xylenes		ND	0.00105	ND	0.00109	ND	0.00105	ND	0.00106	ND	0.00107	ND	0.00110
Total BTEX		ND	0.00105	ND	0.00109	ND	0.00105	ND	0.00106	ND	0.00107	ND	0.00110
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00	
	Analyzed:	Mar-14-13 02:23		Mar-14-13 02:45		Mar-14-13 03:06		Mar-14-13 04:12		Mar-14-13 04:33		Mar-14-13 06:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		391	100	608	100	173	100	1100	100	477	100	945	100
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.76	1.00	8.91	1.00	5.05	1.00	6.19	1.00	7.37	1.00	9.04	1.00
TPH By SW8015 Mod	*Extracted:*	Mar-13-13 09:00		Mar-15-13 13:10		Mar-15-13 13:10		Mar-15-13 13:10		Mar-15-13 13:10		Mar-15-13 13:10	
	Analyzed:	Mar-13-13 21:00		Mar-16-13 01:00		Mar-16-13 01:36		Mar-16-13 02:13		Mar-16-13 02:50		Mar-16-13 03:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.7	ND	16.5	21.3	15.8	ND	16.0	ND	16.2	ND	16.5
C12-C28 Diesel Range Hydrocarbons		ND	15.7	ND	16.5	ND	15.8	ND	16.0	ND	16.2	ND	16.5
C28-C35 Oil Range Hydrocarbons		ND	15.7	ND	16.5	ND	15.8	ND	16.0	ND	16.2	ND	16.5
Total TPH		ND	15.7	ND	16.5	21.3	15.8	ND	16.0	ND	16.2	ND	16.5

Nicholas Straccione
Project Manager

Certificate of Analysis Summary 459027

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Mon Mar-11-13 12:25 pm

Report Date: 18-MAR-13

Project Manager: Nicholas Straccione

Analysis Requested												
	Lab Id:	459027-025		459027-026		459027-027						
	Field Id:	South Trench-2 @ 8'		South Trench-2 @ 16'		South Trench-2 S/W @ 15'						
	Depth:											
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	Mar-07-13 17:00		Mar-07-13 17:30		Mar-07-13 17:40						
BTEX by EPA 8021B	*Extracted:*	Mar-15-13 09:40		Mar-15-13 09:40		Mar-15-13 09:40						
	Analyzed:	Mar-15-13 13:06		Mar-15-13 13:22		Mar-15-13 13:38						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Benzene		ND	0.00108	ND	0.00102	ND	0.00104					
Toluene		ND	0.00216	ND	0.00203	ND	0.00207					
Ethylbenzene		ND	0.00108	ND	0.00102	ND	0.00104					
m_p-Xylenes		ND	0.00216	ND	0.00203	ND	0.00207					
o-Xylene		ND	0.00108	ND	0.00102	ND	0.00104					
Total Xylenes		ND	0.00108	ND	0.00102	ND	0.00104					
Total BTEX		ND	0.00108	ND	0.00102	ND	0.00104					
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-13-13 10:00		Mar-13-13 10:00		Mar-13-13 10:00						
	Analyzed:	Mar-14-13 06:22		Mar-14-13 06:44		Mar-14-13 04:55						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Chloride		437	100	50.7	4.00	482	100					
Percent Moisture	*Extracted:*											
	Analyzed:	Mar-12-13 17:15		Mar-12-13 17:15		Mar-12-13 17:15						
	Units/RL:	%	RL	%	RL	%	RL					
Percent Moisture		8.11	1.00	1.53	1.00	4.26	1.00					
TPH By SW8015 Mod	*Extracted:*	Mar-15-13 13:10		Mar-15-13 13:10		Mar-15-13 16:00						
	Analyzed:	Mar-16-13 04:01		Mar-16-13 04:35		Mar-16-13 12:10						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		ND	16.3	ND	15.2	ND	15.6					
C12-C28 Diesel Range Hydrocarbons		ND	16.3	ND	15.2	63.2	15.6					
C28-C35 Oil Range Hydrocarbons		ND	16.3	ND	15.2	ND	15.6					
Total TPH		ND	16.3	ND	15.2	63.2	15.6					

Nicholas Straccione
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908908 **Sample:** 459027-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 12:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	53.3	50.0	107	70-135	

Lab Batch #: 908908 **Sample:** 459027-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 12:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.0	50.1	104	70-135	

Lab Batch #: 908908 **Sample:** 459027-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 13:25

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 908908 **Sample:** 459027-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 13:54

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.5	99.8	99	70-135	
o-Terphenyl	49.4	49.9	99	70-135	

Lab Batch #: 908908 **Sample:** 459027-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 14:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	51.5	50.1	103	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908908 **Sample:** 459027-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 14:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.6	102	70-135	
o-Terphenyl	51.7	49.8	104	70-135	

Lab Batch #: 908908 **Sample:** 459027-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 15:14

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	51.7	50.0	103	70-135	

Lab Batch #: 908908 **Sample:** 459027-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 15:40

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 908908 **Sample:** 459027-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.9	104	70-135	
o-Terphenyl	53.3	50.0	107	70-135	

Lab Batch #: 908958 **Sample:** 459027-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:07

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908958 **Sample:** 459027-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 908958 **Sample:** 459027-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0329	0.0300	110	80-120	
4-Bromofluorobenzene	0.0280	0.0300	93	80-120	

Lab Batch #: 908958 **Sample:** 459027-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 908908 **Sample:** 459027-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 16:57

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.5	102	70-135	
o-Terphenyl	51.3	49.8	103	70-135	

Lab Batch #: 908958 **Sample:** 459027-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 17:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908908 **Sample:** 459027-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 17:24

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.1	50.0	104	70-135	

Lab Batch #: 908958 **Sample:** 459027-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 17:29

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

Lab Batch #: 908958 **Sample:** 459027-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 17:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 908908 **Sample:** 459027-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 17:49

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

Lab Batch #: 908958 **Sample:** 459027-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 18:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027,

Project ID:

Lab Batch #: 908908 **Sample:** 459027-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 18:16

SURROGATE RECOVERY STUDY TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 908958 **Sample:** 459027-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 18:18

SURROGATE RECOVERY STUDY BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 908958 **Sample:** 459027-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 18:35

SURROGATE RECOVERY STUDY BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 908908 **Sample:** 459027-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 18:42

SURROGATE RECOVERY STUDY TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.8	104	70-135	
o-Terphenyl	52.9	49.9	106	70-135	

Lab Batch #: 908958 **Sample:** 459027-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:07

SURROGATE RECOVERY STUDY BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027,

Project ID:

Lab Batch #: 908908 **Sample:** 459027-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 908958 **Sample:** 459027-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0259	0.0300	86	80-120	

Lab Batch #: 908908 **Sample:** 459027-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.6	100	70-135	
o-Terphenyl	50.6	49.8	102	70-135	

Lab Batch #: 908958 **Sample:** 459027-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0246	0.0300	82	80-120	

Lab Batch #: 908958 **Sample:** 459027-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 19:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0249	0.0300	83	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027,

Project ID:

Lab Batch #: 908908 **Sample:** 459027-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 20:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.6	99.9	98	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

Lab Batch #: 908958 **Sample:** 459027-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 20:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 908958 **Sample:** 459027-017 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 20:29

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 908908 **Sample:** 459027-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 20:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.5	99.8	98	70-135	
o-Terphenyl	49.4	49.9	99	70-135	

Lab Batch #: 908908 **Sample:** 459027-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 21:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	52.1	50.0	104	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027,

Project ID:

Lab Batch #: 908965 **Sample:** 459027-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/13 02:11

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 909159 **Sample:** 459027-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 10:54

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 909159 **Sample:** 459027-019 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 11:27

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0256	0.0300	85	80-120	

Lab Batch #: 909159 **Sample:** 459027-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 11:44

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 909159 **Sample:** 459027-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 12:00

BTEX by EPA 8021B	SURROGATE RECOVERY STUDY				
Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909159 **Sample:** 459027-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 12:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 909159 **Sample:** 459027-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 12:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0296	0.0300	99	80-120	

Lab Batch #: 909159 **Sample:** 459027-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 12:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 909159 **Sample:** 459027-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 13:06

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 909159 **Sample:** 459027-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 13:22

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909159 **Sample:** 459027-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 13:38

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	80-120	

Lab Batch #: 909178 **Sample:** 459027-020 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 01:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.5	99.9	93	70-135	
o-Terphenyl	47.4	50.0	95	70-135	

Lab Batch #: 909178 **Sample:** 459027-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 01:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.7	99	70-135	
o-Terphenyl	50.9	49.9	102	70-135	

Lab Batch #: 909178 **Sample:** 459027-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 02:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.1	100	86	70-135	
o-Terphenyl	43.6	50.0	87	70-135	

Lab Batch #: 909178 **Sample:** 459027-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 02:50

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.1	99.8	89	70-135	
o-Terphenyl	45.8	49.9	92	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909178 **Sample:** 459027-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 03:26

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	99.8	94	70-135	
o-Terphenyl	47.9	49.9	96	70-135	

Lab Batch #: 909178 **Sample:** 459027-025 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 04:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.2	100	95	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 909178 **Sample:** 459027-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 04:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	99.9	93	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

Lab Batch #: 909154 **Sample:** 459027-027 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 12:10

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.4	99.6	77	70-135	
o-Terphenyl	39.9	49.8	80	70-135	

Lab Batch #: 908908 **Sample:** 635050-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 11:39

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.8	102	70-135	
o-Terphenyl	53.5	49.9	107	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908958 **Sample:** 635071-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 15:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 908965 **Sample:** 635091-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 22:23

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 909159 **Sample:** 635213-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 11:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 909178 **Sample:** 635224-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 16:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.2	100	96	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 909154 **Sample:** 635210-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/16/13 11:42

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	70.9	99.9	71	70-135	
o-Terphenyl	42.4	50.0	85	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 908908 **Sample:** 635050-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 10:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	99.8	97	70-135	
o-Terphenyl	55.7	49.9	112	70-135	

Lab Batch #: 908958 **Sample:** 635071-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 15:19

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 908965 **Sample:** 635091-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 21:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 909159 **Sample:** 635213-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 10:38

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 909178 **Sample:** 635224-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 15:36

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	55.0	50.0	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909154 **Sample:** 635210-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/16/13 10:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.4	100	94	70-135	
o-Terphenyl	53.8	50.0	108	70-135	

Lab Batch #: 908908 **Sample:** 635050-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 11:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.7	101	70-135	
o-Terphenyl	56.9	49.9	114	70-135	

Lab Batch #: 908958 **Sample:** 635071-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 15:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 908965 **Sample:** 635091-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/13/13 22:07

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0324	0.0300	108	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 909159 **Sample:** 635213-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 10:05

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0332	0.0300	111	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909178 **Sample:** 635224-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/13 16:05

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 909154 **Sample:** 635210-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/16/13 11:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	80.4	99.9	80	70-135	
o-Terphenyl	52.9	50.0	106	70-135	

Lab Batch #: 908958 **Sample:** 459027-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 20:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 908908 **Sample:** 459027-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 21:27

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.1	100	96	70-135	
o-Terphenyl	51.8	50.1	103	70-135	

Lab Batch #: 908965 **Sample:** 459027-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/13 02:59

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0350	0.0300	117	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027, **Project ID:**

Lab Batch #: 909159 **Sample:** 459027-018 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 15:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 909178 **Sample:** 459027-020 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 05:09

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.0	99.9	93	70-135	
o-Terphenyl	54.3	50.0	109	70-135	

Lab Batch #: 909154 **Sample:** 459027-027 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 12:37

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	56.1	50.1	112	70-135	

Lab Batch #: 908958 **Sample:** 459027-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 21:01

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 908908 **Sample:** 459027-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/13/13 21:55

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	56.6	50.1	113	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 459027,

Project ID:

Lab Batch #: 908965 **Sample:** 459027-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/13 03:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 909159 **Sample:** 459027-018 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/13 15:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 909178 **Sample:** 459027-020 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/16/13 05:43

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	100	89	70-135	
o-Terphenyl	52.3	50.1	104	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.

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027 **Project ID:**

Analyst: KEB **Date Prepared:** 03/13/2013 **Date Analyzed:** 03/13/2013

Lab Batch ID: 908958 **Sample:** 635071-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.0747	75	0.100	0.0994	99	28	70-130	35	
Toluene	<0.00200	0.0998	0.0738	74	0.100	0.0981	98	28	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.0731	73	0.100	0.0999	100	31	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.141	71	0.200	0.190	95	30	70-135	35	
o-Xylene	<0.000998	0.0998	0.0729	73	0.100	0.0957	96	27	71-133	35	

Analyst: KEB **Date Prepared:** 03/13/2013 **Date Analyzed:** 03/13/2013

Lab Batch ID: 908965 **Sample:** 635091-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000992	0.0992	0.0854	86	0.0998	0.0835	84	2	70-130	35	
Toluene	<0.00198	0.0992	0.0854	86	0.0998	0.0781	78	9	70-130	35	
Ethylbenzene	<0.000992	0.0992	0.0793	80	0.0998	0.0783	78	1	71-129	35	
m_p-Xylenes	<0.00198	0.198	0.152	77	0.200	0.146	73	4	70-135	35	
o-Xylene	<0.000992	0.0992	0.0811	82	0.0998	0.0759	76	7	71-133	35	

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027 **Project ID:**

Analyst: KEB **Date Prepared:** 03/15/2013 **Date Analyzed:** 03/15/2013

Lab Batch ID: 909159 **Sample:** 635213-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0835	84	0.100	0.0890	89	6	70-130	35	
Toluene	<0.00200	0.100	0.0854	85	0.100	0.0884	88	3	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0864	86	0.100	0.0957	96	10	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.164	82	0.200	0.184	92	11	70-135	35	
o-Xylene	<0.00100	0.100	0.0890	89	0.100	0.0941	94	6	71-133	35	

Analyst: AMB **Date Prepared:** 03/13/2013 **Date Analyzed:** 03/13/2013

Lab Batch ID: 909078 **Sample:** 635159-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	51.9	104	50.0	52.1	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027 **Project ID:**

Analyst: AMB **Date Prepared:** 03/13/2013 **Date Analyzed:** 03/14/2013

Lab Batch ID: 909083 **Sample:** 635164-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	52.2	104	50.0	52.3	105	0	80-120	20	

Analyst: KEB **Date Prepared:** 03/13/2013 **Date Analyzed:** 03/13/2013

Lab Batch ID: 908908 **Sample:** 635050-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	972	97	997	971	97	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	1010	101	997	1010	101	0	70-135	35	

Analyst: KEB **Date Prepared:** 03/15/2013 **Date Analyzed:** 03/16/2013

Lab Batch ID: 909154 **Sample:** 635210-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	806	81	999	812	81	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	911	91	999	860	86	6	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027 **Project ID:**

Analyst: KEB **Date Prepared:** 03/15/2013 **Date Analyzed:** 03/15/2013

Lab Batch ID: 909178 **Sample:** 635224-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	953	95	999	931	93	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	984	98	999	992	99	1	70-135	35	

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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027
Lab Batch #: 909078
Project ID:
Date Analyzed: 03/13/2013 **Date Prepared:** 03/13/2013 **Analyst:** AMB
QC- Sample ID: 459027-001 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1130	5000	6490	107	80-120	

Lab Batch #: 909078
Date Analyzed: 03/13/2013 **Date Prepared:** 03/13/2013 **Analyst:** AMB
QC- Sample ID: 459027-011 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	687	2500	3200	101	80-120	

Lab Batch #: 909083
Date Analyzed: 03/14/2013 **Date Prepared:** 03/13/2013 **Analyst:** AMB
QC- Sample ID: 459027-017 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	49.4	500	609	112	80-120	

Lab Batch #: 909154
Date Analyzed: 03/16/2013 **Date Prepared:** 03/15/2013 **Analyst:** KEB
QC- Sample ID: 459027-027 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

TPH by SW8015 Mod	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.7	1050	1040	99	70-135	
C12-C28 Diesel Range Hydrocarbons	63.2	1050	1080	97	70-135	

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 459027 **Project ID:**

Lab Batch ID: 908958 **QC- Sample ID:** 459027-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/13/2013 **Date Prepared:** 03/13/2013 **Analyst:** KEB

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00106	0.106	0.0945	89	0.106	0.0812	77	15	70-130	35	
Toluene	<0.00213	0.106	0.0901	85	0.106	0.0804	76	11	70-130	35	
Ethylbenzene	<0.00106	0.106	0.0894	84	0.106	0.0774	73	14	71-129	35	
m_p-Xylenes	<0.00213	0.213	0.173	81	0.212	0.150	71	14	70-135	35	
o-Xylene	<0.00106	0.106	0.0907	86	0.106	0.0805	76	12	71-133	35	

Lab Batch ID: 908965 **QC- Sample ID:** 459027-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/14/2013 **Date Prepared:** 03/13/2013 **Analyst:** KEB

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00106	0.106	0.0882	83	0.106	0.0966	91	9	70-130	35	
Toluene	<0.00212	0.106	0.0797	75	0.106	0.0819	77	3	70-130	35	
Ethylbenzene	<0.00106	0.106	0.0785	74	0.106	0.0844	80	7	71-129	35	
m_p-Xylenes	<0.00212	0.212	0.149	70	0.213	0.157	74	5	70-135	35	
o-Xylene	<0.00106	0.106	0.0788	74	0.106	0.0829	78	5	71-133	35	

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

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

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 459027 **Project ID:**

Lab Batch ID: 909159 **QC- Sample ID:** 459027-018 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/15/2013 **Date Prepared:** 03/15/2013 **Analyst:** KEB

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00104	0.104	0.0818	79	0.104	0.0799	77	2	70-130	35	
Toluene	<0.00207	0.104	0.0814	78	0.104	0.0850	82	4	70-130	35	
Ethylbenzene	<0.00104	0.104	0.0813	78	0.104	0.0838	81	3	71-129	35	
m_p-Xylenes	<0.00207	0.207	0.159	77	0.207	0.160	77	1	70-135	35	
o-Xylene	<0.00104	0.104	0.0824	79	0.104	0.0839	81	2	71-133	35	

Lab Batch ID: 908908 **QC- Sample ID:** 459027-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/13/2013 **Date Prepared:** 03/13/2013 **Analyst:** KEB

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.0	1070	1010	94	1070	1050	98	4	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.0	1070	1040	97	1070	1090	102	5	70-135	35	

Lab Batch ID: 909178 **QC- Sample ID:** 459027-020 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/16/2013 **Date Prepared:** 03/15/2013 **Analyst:** KEB

Reporting Units: mg/kg

TPH By SW8015 Mod Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.5	1100	981	89	1100	926	84	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.5	1100	1140	104	1100	1090	99	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

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 459027

Lab Batch #: 908880 **Project ID:**

Date Analyzed: 03/12/2013 17:15 **Date Prepared:** 03/12/2013 **Analyst:** WRU

QC- Sample ID: 459027-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	6.04	6.05	0	20	

Lab Batch #: 908883

Date Analyzed: 03/12/2013 17:15 **Date Prepared:** 03/12/2013 **Analyst:** WRU

QC- Sample ID: 459027-021 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.05	4.79	5	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Company Name: Nova Safety and Environmental

Project #:

Company Address: 2057 Commerce

Project Loc: Lea County, New Mexico

City/State/Zip: Midland, TX 79703

PO #:

Telephone No: 432.520.7720

Fax No: 432.520.7701

Report Format: [X] Standard [ ] TRRP [ ] NPI

Sampler Signature: Camille Bryant

e-mail: cbryant@novatraining.cc
rose.slade@sug.com

(lab use only) ORDER #: 459025

Analyze For:

TCLP:

TOTAL:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	8015B: TPH: 418.1 / 8015M	TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	8021B/5030 or BTEX 8260	RCI	N.O.R.M.	PAH 8270		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	RP @ 2'			3/6/2013	14:30		1	X								Soil	X									X			X				X
02	RP @ 8'			3/6/2013	14:40		1	X								Soil	X									X			X				X
03	RP @ 12'			3/6/2013	14:50		1	X								Soil	X									X			X				X
04	RP @ 18'			3/6/2013	15:10		1	X								Soil	X									X			X				X
05	East Trench @ 2'			3/6/2013	15:20		1	X								Soil	X									X			X				X
06	East Trench @ 6'			3/6/2013	15:30		1	X								Soil	X									X			X				X
07	East Trench @ 8'			3/6/2013	15:40		1	X								Soil	X									X			X				X
08	East Trench S/W @ 7'			3/6/2013	15:50		1	X								Soil	X									X			X				X
09	North Trench-1 @ 2'			3/7/2013	10:40		1	X								Soil	X									X			X				X
10	North Trench-1 @ 6'			3/7/2013	10:50		1	X								Soil	X									X			X				X

Special Instructions:

	Date	Time		Date	Time
Relinquished by: Camille Bryant	3/11/13	11:20	Received by: Mike Green	3/11/13	1120
Relinquished by: Mike Green	3/11	1227	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Shawn Smith	3/11/13	12:25

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	Y	(N)
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	(Y)	N
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?		
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 3.0 °C

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Company Name: Nova Safety and Environmental

Project #:

Company Address: 2057 Commerce

Project Loc: Lea County, New Mexico

City/State/Zip: Midland, TX 79703

PO #:

Telephone No: 432.520.7720 Fax No: 432.520.7701

Report Format: ☒ Standard ☐ TRRP ☐ NPI

Sampler Signature: Camille Bryant e-mail: cbryant@novatraining.cc
rose.slade@sug.com

(lab use only) ORDER #: 459025

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge; GW = Groundwater S=Soil/Solid; NP=Non-Potable Specify Other	Analyze For: TPH: 418.1 / 8015M / 8015B	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	8260B or BTEX 8260	RCI	N.O.R.M.	Cl 300		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
11	North Trench-1 S/W @ 5'			3/7/2013	11:05		1	X								Soil	X									X			X			X
12	North Trench-2 @ 2'			3/7/2013	11:30		1	X								Soil	X									X			X			X
13	North Trench-2 @ 6'			3/7/2013	11:50		1	X								Soil	X									X			X			X
14	North Trench-2 S/W @ 5'			3/7/2013	12:10		1	X								Soil	X									X			X			X
15	West Trench @ 2'			3/7/2013	13:30		1	X								Soil	X									X			X			X
16	West Trench @ 6'			3/7/2013	13:50		1	X								Soil	X									X			X			X
17	West Trench @ 10'			3/7/2013	14:10		1	X								Soil	X									X			X			X
18	West Trench S/W @ 9'			3/7/2013	14:20		1	X								Soil	X									X			X			X
19	Road @ 2'			3/7/2013	15:00		1	X								Soil	X									X			X			X
20	Road @ 4'			3/7/2013	15:10		1	X								Soil	X									X			X			X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	3/11/13	11:20	Nikki Green	3/11	1120
Relinquished by: Nikki Green	3/11	1224	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Deanne Smith	3/11/13	12:25

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N/A
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 3.0 °C

Xenco Laboratories

The Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765

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

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Fax No: 432.520.7701

Sampler Signature: Camille Bryant

e-mail: cbryant@novatraining.cc rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPI

(lab use only)
ORDER #: 459025

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 (8015M) 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Cl 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
21	Road @ 10'			3/7/2013	15:30		1	X								Soil	X								X			X				X
22	Road S/W @ 9'			3/7/2013	15:50		1	X								Soil	X								X			X				X
23	South Road -1 @ 9'			3/7/2013	16:00		1	X								Soil	X								X			X				X
24	South Trench-2 @ 2'			3/7/2013	16:50		1	X								Soil	X								X			X				X
25	South Trench-2 @ 8'			3/7/2013	17:00		1	X								Soil	X								X			X				X
26	South Trench-2 @ 16'			3/7/2013	17:30		1	X								Soil	X								X			X				X
27	South Trench-2 S/W @ 15'			3/7/2013	17:40		1	X								Soil	X								X			X				X

Analyze For: TCLP: TOTAL:

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	3/11/13	11:20	Nikki Green	3/11/13	1120
Nikki Green	3/11/13	1224			
			Received by ELOT: Shannon Smith	3/11/13	12:25

Laboratory Comments:

- Sample Containers Intact? (Y) N
- VOCs Free of Headspace? Y (N/A)
- Labels on container(s) (Y) N
- Custody seals on container(s) Y (N)
- Custody seals on cooler(s) Y (N)
- Sample Hand Delivered (Y) N
  - by Sampler/Client Rep. ? (Y) N
  - by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3.0 °C

Final 1.000

02-MAY-13

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

Reference: XENCO Report No(s): **462314**
SUGS Historical Unkown Dinwiddie 1RP-1309
Project Address: Lea County, NM

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462314. 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. 462314 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 462314

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unkown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Excavation Floor @ 6'	S	04-30-13 10:25		462314-001
North Excavation Floor @ 15'	S	04-30-13 13:30		462314-002
North Excavation North SW @14'	S	04-30-13 16:00		462314-003
North Excavation North SW @ 5'	S	04-30-13 16:35		462314-004

CASE NARRATIVE

XENCO Laboratories

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *462314*

Report Date: *02-MAY-13*
Date Received: *05/01/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-912773 Inorganic Anions by EPA 300/300.1
E300

Batch 912773, Chloride recovered below QC limits in the laboratory control sample.
Samples affected are: 462314-003, -001, -002, -004.

E300

Batch 912773, Chloride RPD was outside laboratory control limits.
Samples affected are: 462314-003, -001, -002, -004

XENCO Laboratories

Certificate of Analysis Summary 462314

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, NM

Date Received in Lab: Wed May-01-13 02:20 pm

Report Date: 02-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	462314-001		462314-002		462314-003		462314-004			
	Field Id:	North Excavation Floor @ 6		North Excavation Floor @ 13		orth Excavation North SW (		orth Excavation North SW (			
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Apr-30-13 10:25		Apr-30-13 13:30		Apr-30-13 16:00		Apr-30-13 16:35			
BTEX by EPA 8021B	*Extracted:*	May-01-13 15:00		May-01-13 15:00		May-01-13 15:00		May-01-13 15:00			
	Analyzed:	May-01-13 21:07		May-01-13 20:18		May-01-13 20:51		May-01-13 20:35			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.000996	ND	0.00101	ND	0.00100	ND	0.00101		
Toluene		ND	0.00199	ND	0.00201	ND	0.00200	ND	0.00201		
Ethylbenzene		ND	0.000996	ND	0.00101	ND	0.00100	ND	0.00101		
m_p-Xylenes		ND	0.00199	ND	0.00201	ND	0.00200	ND	0.00201		
o-Xylene		ND	0.000996	ND	0.00101	ND	0.00100	ND	0.00101		
Total Xylenes		ND	0.000996	ND	0.00101	ND	0.00100	ND	0.00101		
Total BTEX		ND	0.000996	ND	0.00101	ND	0.00100	ND	0.00101		
Inorganic Anions by EPA 300/300.1	*Extracted:*										
	Analyzed:	May-02-13 13:00		May-02-13 13:44		May-02-13 14:41		May-02-13 15:03			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		129	10.0	123	10.0	88.1	10.0	100	10.0		
Percent Moisture	*Extracted:*										
	Analyzed:	May-01-13 17:15		May-01-13 17:15		May-01-13 17:15		May-01-13 17:15			
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		4.80	1.00	3.07	1.00	2.14	1.00	3.01	1.00		
TPH By SW8015 Mod	*Extracted:*	May-01-13 14:30		May-01-13 14:30		May-01-13 14:30		May-01-13 14:30			
	Analyzed:	May-01-13 18:50		May-01-13 17:16		May-01-13 18:18		May-01-13 17:47			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0		
C12-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0		
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0		
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0		

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462314, **Project ID:**

Lab Batch #: 912688 **Sample:** 462314-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 17:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	60.0	50.0	120	70-135	

Lab Batch #: 912688 **Sample:** 462314-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 17:47

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	59.3	50.1	118	70-135	

Lab Batch #: 912688 **Sample:** 462314-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 18:18

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.9	114	70-135	
o-Terphenyl	58.9	50.0	118	70-135	

Lab Batch #: 912688 **Sample:** 462314-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 18:50

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	60.7	50.0	121	70-135	

Lab Batch #: 912710 **Sample:** 462314-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 20:18

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0348	0.0300	116	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462314,

Project ID:

Lab Batch #: 912710 **Sample:** 462314-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 20:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 912710 **Sample:** 462314-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 20:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0271	0.0300	90	80-120	

Lab Batch #: 912710 **Sample:** 462314-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 21:07

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

Lab Batch #: 912688 **Sample:** 637421-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 13:32

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.5	116	70-135	
o-Terphenyl	61.4	49.8	123	70-135	

Lab Batch #: 912710 **Sample:** 637433-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 20:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0249	0.0300	83	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462314, **Project ID:**

Lab Batch #: 912688 **Sample:** 637421-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 12:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	55.8	50.2	111	70-135	

Lab Batch #: 912710 **Sample:** 637433-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 19:29

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 912688 **Sample:** 637421-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 13:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.8	128	70-135	
o-Terphenyl	55.9	49.9	112	70-135	

Lab Batch #: 912710 **Sample:** 637433-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/01/13 19:46

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	80-120	

Lab Batch #: 912688 **Sample:** 462225-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 16:13

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	50.0	50.0	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462314,

Project ID:

Lab Batch #: 912688 **Sample:** 462225-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 16:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.5	119	70-135	
o-Terphenyl	52.4	49.8	105	70-135	

Lab Batch #: 912710 **Sample:** 462314-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/01/13 21:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462314 **Project ID:**

Analyst: DYV **Date Prepared:** 05/01/2013 **Date Analyzed:** 05/01/2013

Lab Batch ID: 912710 **Sample:** 637433-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.110	109	0.0992	0.0820	83	29	70-130	35	
Toluene	<0.00201	0.101	0.111	110	0.0992	0.0819	83	30	70-130	35	
Ethylbenzene	<0.00101	0.101	0.118	117	0.0992	0.0885	89	29	71-129	35	
m_p-Xylenes	<0.00201	0.201	0.222	110	0.198	0.160	81	32	70-135	35	
o-Xylene	<0.00101	0.101	0.109	108	0.0992	0.0829	84	27	71-133	35	

Analyst: AMB **Date Prepared:** 05/02/2013 **Date Analyzed:** 05/02/2013

Lab Batch ID: 912773 **Sample:** 912773-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	50.9	102	50.0	50.9	102	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462314 **Project ID:**

Analyst: DYV **Date Prepared:** 05/01/2013 **Date Analyzed:** 05/01/2013

Lab Batch ID: 912688 **Sample:** 637421-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	957	96	998	902	90	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1070	107	998	1030	103	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462314
Lab Batch #: 912773
Date Analyzed: 05/02/2013
QC- Sample ID: 462314-001 S
Reporting Units: mg/kg

Date Prepared: 05/02/2013
Batch #: 1

Project ID:
Analyst: AMB
Matrix: Soil

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	129	250	414	114	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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order # : 462314 **Project ID:**

Lab Batch ID: 912688 **QC- Sample ID:** 462225-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/01/2013 **Date Prepared:** 05/01/2013 **Analyst:** DYV

Reporting Units: mg/kg

	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**Spiked Sample %R [D]**	**Spike Added [E]**	**Duplicate Spiked Sample Result [F]**	**Spiked Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.2	1010	828	82	1010	819	81	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	18.1	1010	989	96	1010	970	94	2	70-135	35	

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

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

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

XENCO Laboratories

Sample Duplicate Recovery

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462314

Lab Batch #: 912716 **Project ID:**

Date Analyzed: 05/01/2013 17:15 **Date Prepared:** 05/01/2013 **Analyst:** WRU

QC- Sample ID: 462276-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	9.63	9.79	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

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Fax No: 432.520.7701

Sampler Signature: [signature]

e-mail: cbryant@novatraining.cc rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPI

(lab use only)
ORDER #: 462314

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix (DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other)	TPH: 418.1 (8015M) 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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 E 300			RUSH TAT (Pre-Schedule) (24), 48, 72 hrs	Standard TAT
	North Excavation Floor @ 6'			4/30/2013	10:25		1	X								Soil	X								X			X			X	~~X~~
	North Excavation Floor @ 15'			4/30/2013	13:30		1	X								Soil	X								X			X			X	~~X~~
	North Excavation North SW @ 14'			4/30/2013	16:00		1	X								Soil	X								X			X			X	~~X~~
	North Excavation North SW @ 5'			4/30/2013	16:35		1	X								Soil	X								X			X			X	~~X~~

Analyze For: TCLP: / TOTAL:

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	5/1/13	14:20			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			[signature]	5/1/13	14:20

Laboratory Comments:

Sample Containers Intact? (Y) N

VOCs Free of Headspace? Y (N/A)

Labels on container(s) (Y) N

Custody seals on container(s) Y (N)

Custody seals on cooler(s) Y (N)

Sample Hand Delivered (Y) N
by Sampler/Client Rep. ? Y N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.0 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/01/2013 02:20:00 PM

Work Order #: 462314

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#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: Kelsey Brooks Date: 05/02/2013

Checklist reviewed by: Kelsey Brooks Date: 05/02/2013

Analytical Report 462601

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

08-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

08-MAY-13

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

Reference: XENCO Report No(s): **462601**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, NM

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462601. 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. 462601 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

XENCO Laboratories

Certificate of Analysis Summary 462601

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:
Contact: Camille Bryant
Project Location: Lea County, NM

Date Received in Lab: Tue May-07-13 10:02 am
Report Date: 08-MAY-13
Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	462601-001		462601-002		462601-003		462601-004		462601-005		462601-006	
	Field Id:	North Excavation East S/W @		North Excavation Floor-2 @		North Excavation East S/W @		Road Trench C @ 2'		Road Trench C @ 4'		Road Trench C @ 10'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-01-13 15:25		May-02-13 13:50		May-02-13 13:55		May-06-13 13:30		May-06-13 13:40		May-06-13 14:10	
BTEX by EPA 8021B	*Extracted:*	May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00	
	Analyzed:	May-07-13 20:11		May-07-13 20:27		May-07-13 20:44		May-07-13 21:00		May-07-13 21:16		May-07-13 21:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.00106	ND	0.00106	ND	0.00104	ND	0.00107	ND	0.00106	ND	0.00105
Toluene		ND	0.00212	ND	0.00212	ND	0.00208	ND	0.00214	ND	0.00212	ND	0.00210
Ethylbenzene		ND	0.00106	ND	0.00106	ND	0.00104	ND	0.00107	ND	0.00106	ND	0.00105
m_p-Xylenes		ND	0.00212	ND	0.00212	ND	0.00208	ND	0.00214	ND	0.00212	ND	0.00210
o-Xylene		ND	0.00106	ND	0.00106	ND	0.00104	ND	0.00107	ND	0.00106	ND	0.00105
Total Xylenes		ND	0.00106	ND	0.00106	ND	0.00104	ND	0.00107	ND	0.00106	ND	0.00105
Total BTEX		ND	0.00106	ND	0.00106	ND	0.00104	ND	0.00107	ND	0.00106	ND	0.00105
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-07-13 11:00		May-07-13 11:00		May-07-13 11:00		May-07-13 11:00		May-07-13 11:00		May-07-13 11:00	
	Analyzed:	May-07-13 19:36		May-07-13 20:20		May-07-13 20:41		May-07-13 21:03		May-07-13 21:25		May-07-13 21:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		161	20.0	120	10.0	160	10.0	224	10.0	75.6	10.0	90.4	10.0
Percent Moisture	*Extracted:*												
	Analyzed:	May-07-13 13:46		May-07-13 13:46		May-07-13 13:46		May-07-13 13:46		May-07-13 13:46		May-07-13 13:46	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.96	1.00	5.89	1.00	4.07	1.00	6.93	1.00	6.66	1.00	5.72	1.00
TPH By SW8015 Mod	*Extracted:*	May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00		May-07-13 14:00	
	Analyzed:	May-07-13 21:04		May-07-13 21:34		May-07-13 22:04		May-07-13 22:34		May-07-13 23:06		May-07-13 23:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C12-C28 Diesel Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
C28-C35 Oil Range Hydrocarbons		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0
Total TPH		ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0	ND	15.0

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 462601,

Project ID:

Lab Batch #: 913132 **Sample:** 462601-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 20:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 913132 **Sample:** 462601-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 20:27

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 913132 **Sample:** 462601-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 20:44

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 913132 **Sample:** 462601-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 21:00

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 913125 **Sample:** 462601-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 21:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	48.9	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 462601, **Project ID:**

Lab Batch #: 913132 **Sample:** 462601-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 21:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0270	0.0300	90	80-120	

Lab Batch #: 913132 **Sample:** 462601-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 21:33

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 913125 **Sample:** 462601-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 21:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	49.1	49.9	98	70-135	

Lab Batch #: 913125 **Sample:** 462601-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 22:04

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	49.0	50.0	98	70-135	

Lab Batch #: 913125 **Sample:** 462601-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 22:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	99.7	129	70-135	
o-Terphenyl	59.9	49.9	120	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 462601,

Project ID:

Lab Batch #: 913125 **Sample:** 462601-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 23:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	50.0	50.0	100	70-135	

Lab Batch #: 913125 **Sample:** 462601-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 23:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	50.4	49.9	101	70-135	

Lab Batch #: 913132 **Sample:** 637721-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 19:54

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0240	0.0300	80	80-120	
4-Bromofluorobenzene	0.0262	0.0300	87	80-120	

Lab Batch #: 913125 **Sample:** 637715-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 20:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	52.5	50.1	105	70-135	

Lab Batch #: 913132 **Sample:** 637721-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 19:22

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 462601, **Project ID:**

Lab Batch #: 913125 **Sample:** 637715-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 19:33

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.9	126	70-135	
o-Terphenyl	52.3	50.0	105	70-135	

Lab Batch #: 913132 **Sample:** 637721-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 19:38

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0352	0.0300	117	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

Lab Batch #: 913125 **Sample:** 637715-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/07/13 20:03

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 913125 **Sample:** 462601-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/08/13 07:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.9	123	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 913132 **Sample:** 462601-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/07/13 22:05

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0275	0.0300	92	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 462601 **Project ID:**

Analyst: DYV **Date Prepared:** 05/07/2013 **Date Analyzed:** 05/07/2013

Lab Batch ID: 913132 **Sample:** 637721-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000992	0.0992	0.102	103	0.0994	0.0856	86	17	70-130	35	
Toluene	<0.00198	0.0992	0.101	102	0.0994	0.0874	88	14	70-130	35	
Ethylbenzene	<0.000992	0.0992	0.108	109	0.0994	0.0895	90	19	71-129	35	
m_p-Xylenes	<0.00198	0.198	0.195	98	0.199	0.165	83	17	70-135	35	
o-Xylene	<0.000992	0.0992	0.102	103	0.0994	0.0878	88	15	71-133	35	

Analyst: AMB **Date Prepared:** 05/07/2013 **Date Analyzed:** 05/07/2013

Lab Batch ID: 913131 **Sample:** 637720-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	50.9	102	50.0	50.5	101	1	80-120	20	

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 462601 **Project ID:**

Analyst: DYV **Date Prepared:** 05/07/2013 **Date Analyzed:** 05/07/2013

Lab Batch ID: 913125 **Sample:** 637715-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	980	98	999	977	98	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1090	109	999	1090	109	0	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 462601
Lab Batch #: 913131
Project ID:
Date Analyzed: 05/08/2013
Date Prepared: 05/07/2013
Analyst: AMB
QC- Sample ID: 462447-005 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	64.9	105	182	112	80-120	

Lab Batch #: 913131
Date Analyzed: 05/07/2013
Date Prepared: 05/07/2013
Analyst: AMB
QC- Sample ID: 462601-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	161	500	708	109	80-120	

Lab Batch #: 913125
Date Analyzed: 05/08/2013
Date Prepared: 05/07/2013
Analyst: DYV
QC- Sample ID: 462601-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

TPH by SW8015 Mod	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	949	95	70-135	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1090	109	70-135	

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

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 462601

Lab Batch #: 913136 **Project ID:**

Date Analyzed: 05/07/2013 13:46 **Date Prepared:** 05/07/2013 **Analyst:** WRU

QC- Sample ID: 462516-003 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.87	3.70	4	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant

e-mail: cbryant@novatraining.cc
rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [x] Standard [ ] TRRP [ ] NP

Final 1.000

(lab use only) ORDER #: 462601

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge; GW=Groundwater S=Soil/Solid; NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 8015M 418.1	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Cl E 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	North Excavation East S/W @ 14'			5/1/2013	15:25		1	X								Soil	X							X			X			X	
02	North Excavation Floor-2 @ 8'			5/2/2013	13:50		1	X								Soil	X							X			X			X	
03	North Excavation East S/W @ 7'			5/2/2013	13:55		1	X								Soil	X							X			X			X	
04	Road Trench C @ 2'			5/6/2013	13:30		1	X								Soil	X							X			X			X	
05	Road Trench C @ 4'			5/6/2013	13:40		1	X								Soil	X							X			X			X	
06	Road Trench C @ 10'			5/6/2013	14:10		1	X								Soil	X							X			X			X	

Special Instructions:

Relinquished by: Camille Bryant	Date 5-7-13	Time 8:47	Received by:	Date 5/7/13	Time 8:47
Relinquished by:	Date 5/7/13	Time 10:02	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Jaime Smith	Date 5-7-13	Time 10:02

Laboratory Comments:

Sample Containers Intact?	Y N
VOCs Free of Headspace?	Y N
Labels on container(s)	Y N
Custody seals on container(s)	Y N
Custody seals on cooler(s)	Y N
Sample Hand Delivered by Sampler/Client Rep. ?	Y N
by Courier? UPS DHL FedEx Lone Star	
Temperature Upon Receipt:	1.0 °C

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/07/2013 10:02:00 AM

Work Order #: 462601

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#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: Kelsey Brooks Date: 05/07/2013

Checklist reviewed by: Kelsey Brooks Date: 05/07/2013

Analytical Report 462780

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unkown Dinwiddie 1RP-1309

10-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

10-MAY-13

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

Reference: XENCO Report No(s): **462780**
SUGS Historical Unkown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462780. 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. 462780 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 462780

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unkown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North Excavation South S/W @ 14'	S	05-07-13 14:10		462780-001
North Excavation West S/W @ 14'	S	05-07-13 15:00		462780-002
North Excavation West Floor @ 8'	S	05-08-13 13:20		462780-003
North Excavation West S/W @ 7'	S	05-08-13 13:40		462780-004

CASE NARRATIVE

XENCO Laboratories

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *462780*

Report Date: *10-MAY-13*
Date Received: *05/09/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-913372 Inorganic Anions by EPA 300/300.1
E300

Batch 913372, Chloride recovered below QC limits in the Matrix Spike.
Samples affected are: 462780-003, -004, -001, -002.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

XENCO Laboratories

Certificate of Analysis Summary 462780

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Thu May-09-13 10:02 am

Report Date: 10-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	462780-001		462780-002		462780-003		462780-004			
	Field Id:	North Excavation South S/W		North Excavation West S/W (		North Excavation West Floo		North Excavation West S/W (			
	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	May-07-13 14:10		May-07-13 15:00		May-08-13 13:20		May-08-13 13:40			
BTEX by EPA 8021B	*Extracted:*	May-09-13 10:30		May-09-13 10:30		May-09-13 10:30		** ** ** **			
	Analyzed:	May-09-13 12:32		May-09-13 13:03		May-09-13 13:20		May-09-13 13:36			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		ND	0.00105	ND	0.00104	ND	0.00103	ND	0.00106		
Toluene		ND	0.00211	ND	0.00207	ND	0.00206	ND	0.00212		
Ethylbenzene		ND	0.00105	ND	0.00104	ND	0.00103	ND	0.00106		
m_p-Xylenes		ND	0.00211	ND	0.00207	ND	0.00206	ND	0.00212		
o-Xylene		ND	0.00105	ND	0.00104	ND	0.00103	ND	0.00106		
Total Xylenes		ND	0.00105	ND	0.00104	ND	0.00103	ND	0.00106		
Total BTEX		ND	0.00105	ND	0.00104	ND	0.00103	ND	0.00106		
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-09-13 16:00		May-09-13 16:00		May-09-13 16:00		May-09-13 16:00			
	Analyzed:	May-10-13 00:08		May-10-13 00:29		May-10-13 00:51		May-10-13 01:13			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		237	10.0	139	10.0	124	4.00	141	10.0		
Percent Moisture	*Extracted:*										
	Analyzed:	May-09-13 12:39		May-09-13 12:39		May-09-13 12:39		May-09-13 12:39			
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		5.33	1.00	4.32	1.00	3.98	1.00	6.56	1.00		
TPH By SW8015 Mod	*Extracted:*	May-09-13 13:30		May-09-13 16:45		May-09-13 16:45		May-09-13 16:45			
	Analyzed:	May-10-13 02:16		May-10-13 02:46		May-10-13 03:17		May-10-13 03:48			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	15.8	ND	15.7	ND	15.6	ND	16.1		
C12-C28 Diesel Range Hydrocarbons		ND	15.8	ND	15.7	ND	15.6	ND	16.1		
C28-C35 Oil Range Hydrocarbons		ND	15.8	ND	15.7	ND	15.6	ND	16.1		
Total TPH		ND	15.8	ND	15.7	ND	15.6	ND	16.1		

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462780,

Project ID:

Lab Batch #: 913324 **Sample:** 462780-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 12:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

Lab Batch #: 913324 **Sample:** 462780-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 13:03

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 913324 **Sample:** 462780-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 13:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0243	0.0300	81	80-120	

Lab Batch #: 913324 **Sample:** 462780-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 13:36

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 913385 **Sample:** 462780-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 02:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	50.8	50.0	102	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462780, **Project ID:**

Lab Batch #: 913385 **Sample:** 462780-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 02:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 913385 **Sample:** 462780-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 03:17

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 913385 **Sample:** 462780-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 03:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	100	107	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

Lab Batch #: 913324 **Sample:** 637828-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/09/13 10:00

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 913385 **Sample:** 637860-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/10/13 01:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	50.9	50.0	102	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462780, **Project ID:**

Lab Batch #: 913324 **Sample:** 637828-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/09/13 09:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0337	0.0300	112	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 913385 **Sample:** 637860-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/10/13 00:45

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	51.2	50.0	102	70-135	

Lab Batch #: 913324 **Sample:** 637828-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/09/13 09:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 913385 **Sample:** 637860-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/10/13 01:15

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	49.7	50.0	99	70-135	

Lab Batch #: 913324 **Sample:** 462780-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 13:53

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	80-120	
4-Bromofluorobenzene	0.0255	0.0300	85	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462780,

Project ID:

Lab Batch #: 913324 **Sample:** 462780-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/09/13 14:09

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	80-120	

Lab Batch #: 913385 **Sample:** 462780-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 04:49

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	50.4	50.0	101	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.

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462780 **Project ID:**

Analyst: DYV **Date Prepared:** 05/09/2013 **Date Analyzed:** 05/09/2013

Lab Batch ID: 913324 **Sample:** 637828-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000996	0.0996	0.0845	85	0.0998	0.0830	83	2	70-130	35	
Toluene	<0.00199	0.0996	0.0903	91	0.0998	0.0844	85	7	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.0926	93	0.0998	0.0930	93	0	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.169	85	0.200	0.167	84	1	70-135	35	
o-Xylene	<0.000996	0.0996	0.0863	87	0.0998	0.0883	88	2	71-133	35	

Analyst: AMB **Date Prepared:** 05/09/2013 **Date Analyzed:** 05/09/2013

Lab Batch ID: 913372 **Sample:** 637855-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	51.6	103	50.0	51.7	103	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462780
Lab Batch #: 913372
Date Analyzed: 05/10/2013
QC- Sample ID: 462651-020 S
Reporting Units: mg/kg

Project ID:
Date Prepared: 05/09/2013
Analyst: AMB
Batch #: 1
Matrix: Soil

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	3420	1070	2240	0	80-120	X

Lab Batch #: 913372
Date Analyzed: 05/09/2013
QC- Sample ID: 462827-001 S
Reporting Units: mg/kg

Date Prepared: 05/09/2013
Analyst: AMB
Batch #: 1
Matrix: Soil

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	87.3	100	190	103	80-120	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order # : 462780 **Project ID:**

Lab Batch ID: 913324 **QC- Sample ID:** 462780-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/09/2013 **Date Prepared:** 05/09/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00107	0.107	0.0906	85	0.107	0.0873	82	4	70-130	35	
Toluene	<0.00214	0.107	0.0949	89	0.107	0.0901	84	5	70-130	35	
Ethylbenzene	<0.00107	0.107	0.0956	89	0.107	0.0965	90	1	71-129	35	
m_p-Xylenes	<0.00214	0.214	0.175	82	0.213	0.176	83	1	70-135	35	
o-Xylene	<0.00107	0.107	0.0884	83	0.107	0.0895	84	1	71-133	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462780

Lab Batch #: 913370 **Project ID:**

Date Analyzed: 05/09/2013 12:39 **Date Prepared:** 05/09/2013 **Analyst:** WRU

QC- Sample ID: 462780-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	5.33	5.54	4	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant e-mail: cbryant@novatraining.cc; rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPI

(lab use only) ORDER #: 462780

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1	8015M	8015B TOTAL: TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Cl E 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	North Excavation South S/W @ 14'			5/7/2013	14:10		1	X								Soil	X									X			X			X	
	North Excavation West S/W @ 14'			5/7/2013	15:00		1	X								Soil	X									X			X			X	
	North ExcavationWest Floor @ 8'			5/8/2013	13:20		1	X								Soil	X									X			X			X	
	North Excavation West S/W @ 7'			5/8/2013	13:40		1	X								Soil	X									X			X			X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	5/9/13	9:24	Nikki Green	5/9/13	9:24
Nikki Green	5/9/13	1002			
			Received by ELOT: Sharon Smith	5-9-13	10:02

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N/A
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 1.0 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/09/2013 10:02:00 AM

Work Order #: 462780

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#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)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 05/09/2013

Checklist reviewed by: Kelsey Brooks Date: 05/10/2013

Analytical Report 462924

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unkown Dinwiddie 1RP-1309

13-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

13-MAY-13

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

Reference: XENCO Report No(s): **462924**
SUGS Historical Unkown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 462924. 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. 462924 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 462924

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unkown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Trench E @ 2'	S	05-09-13 10:00		462924-001
Trench E @ 4'	S	05-09-13 10:10		462924-002
Trench E @ 10'	S	05-09-13 10:40		462924-003

CASE NARRATIVE

XENCO Laboratories

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *462924*

Report Date: *13-MAY-13*
Date Received: *05/10/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-913545 Inorganic Anions by EPA 300/300.1
E300

Batch 913545, Chloride recovered above QC limits in the Matrix Spike.
Samples affected are: 462924-003, -002, -001.
The Laboratory Control Sample for Chloride is within laboratory Control Limits

XENCO Laboratories

Certificate of Analysis Summary 462924

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Fri May-10-13 03:48 pm

Report Date: 13-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	462924-001		462924-002		462924-003					
	Field Id:	Trench E @ 2'		Trench E @ 4'		Trench E @ 10'					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	May-09-13 10:00		May-09-13 10:10		May-09-13 10:40					
BTEX by EPA 8021B	*Extracted:*	May-13-13 08:00		May-13-13 08:00		May-13-13 08:00					
	Analyzed:	May-13-13 12:58		May-13-13 10:16		May-13-13 10:32					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.000996	ND	0.000994	ND	0.000996				
Toluene		ND	0.00199	ND	0.00199	ND	0.00199				
Ethylbenzene		ND	0.000996	ND	0.000994	ND	0.000996				
m_p-Xylenes		ND	0.00199	ND	0.00199	ND	0.00199				
o-Xylene		ND	0.000996	ND	0.000994	ND	0.000996				
Total Xylenes		ND	0.000996	ND	0.000994	ND	0.000996				
Total BTEX		ND	0.000996	ND	0.000994	ND	0.000996				
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-13-13 10:00		May-13-13 10:00		May-13-13 10:00					
	Analyzed:	May-13-13 13:21		May-13-13 14:04		May-13-13 14:26					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		133	4.00	246	10.0	86.9	4.00				
Percent Moisture	*Extracted:*										
	Analyzed:	May-13-13 11:30		May-13-13 11:30		May-13-13 11:30					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		14.1	1.00	9.48	1.00	6.76	1.00				
TPH By SW8015 Mod	*Extracted:*	** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	May-10-13 20:34		May-13-13 12:59		May-10-13 21:34					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	17.5	ND	16.6	ND	16.1				
C12-C28 Diesel Range Hydrocarbons		ND	17.5	ND	16.6	ND	16.1				
C28-C35 Oil Range Hydrocarbons		ND	17.5	ND	16.6	ND	16.1				
Total TPH		ND	17.5	ND	16.6	ND	16.1				

Kelsey Brooks
Project Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462924,

Project ID:

Lab Batch #: 913526 **Sample:** 462924-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 20:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 913526 **Sample:** 462924-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/10/13 21:34

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	51.5	50.0	103	70-135	

Lab Batch #: 913520 **Sample:** 462924-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 10:16

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0250	0.0300	83	80-120	

Lab Batch #: 913520 **Sample:** 462924-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 10:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY 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	0.0273	0.0300	91	80-120	

Lab Batch #: 913520 **Sample:** 462924-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 12:58

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462924,

Project ID:

Lab Batch #: 913526 **Sample:** 462924-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 12:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	50.4	50.0	101	70-135	

Lab Batch #: 913520 **Sample:** 637964-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 09:44

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 913526 **Sample:** 637957-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 12:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 913520 **Sample:** 637964-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 09:11

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 913526 **Sample:** 637957-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 11:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.6	116	70-135	
o-Terphenyl	45.1	49.8	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Orders : 462924,

Project ID:

Lab Batch #: 913520 **Sample:** 637964-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 09:27

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0261	0.0300	87	80-120	

Lab Batch #: 913526 **Sample:** 637957-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/13/13 11:59

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.6	122	70-135	
o-Terphenyl	49.0	49.8	98	70-135	

Lab Batch #: 913520 **Sample:** 462924-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 10:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0258	0.0300	86	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	80-120	

Lab Batch #: 913526 **Sample:** 462924-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 13:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

Lab Batch #: 913520 **Sample:** 462924-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/13/13 11:05

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462924 **Project ID:**

Analyst: DYV **Date Prepared:** 05/13/2013 **Date Analyzed:** 05/13/2013

Lab Batch ID: 913520 **Sample:** 637964-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000996	0.0996	0.103	103	0.0992	0.0991	100	4	70-130	35	
Toluene	<0.00199	0.0996	0.110	110	0.0992	0.0898	91	20	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.116	116	0.0992	0.109	110	6	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.216	109	0.198	0.198	100	9	70-135	35	
o-Xylene	<0.000996	0.0996	0.109	109	0.0992	0.0978	99	11	71-133	35	

Analyst: AMB **Date Prepared:** 05/13/2013 **Date Analyzed:** 05/13/2013

Lab Batch ID: 913545 **Sample:** 637967-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<2.00	50.0	51.4	103	50.0	51.4	103	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462924 **Project ID:**

Analyst: DYV **Date Prepared:** 05/10/2013 **Date Analyzed:** 05/13/2013

Lab Batch ID: 913526 **Sample:** 637957-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
C6-C12 Gasoline Range Hydrocarbons	<14.9	996	891	89	996	948	95	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<14.9	996	983	99	996	1040	104	6	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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462924
Lab Batch #: 913545
Project ID:
Date Analyzed: 05/13/2013 **Date Prepared:** 05/13/2013 **Analyst:** AMB
QC- Sample ID: 462924-001 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	133	100	280	147	80-120	X

Lab Batch #: 913526
Date Analyzed: 05/13/2013 **Date Prepared:** 05/10/2013 **Analyst:** DYV
QC- Sample ID: 462924-002 S **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

TPH by SW8015 Mod	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
C6-C12 Gasoline Range Hydrocarbons	<16.6	1100	1070	97	70-135	
C12-C28 Diesel Range Hydrocarbons	<16.6	1100	1220	111	70-135	

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order # : 462924 **Project ID:**

Lab Batch ID: 913520 **QC- Sample ID:** 462924-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/13/2013 **Date Prepared:** 05/13/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000996	0.0996	0.0911	91	0.0996	0.0912	92	0	70-130	35	
Toluene	<0.00199	0.0996	0.0946	95	0.0996	0.0846	85	11	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.100	100	0.0996	0.0827	83	19	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.184	92	0.199	0.146	73	23	70-135	35	
o-Xylene	<0.000996	0.0996	0.0914	92	0.0996	0.0774	78	17	71-133	35	

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

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: SUGS Historical Unkown Dinwiddie 1RP-1309

Work Order #: 462924

Lab Batch #: 913521 **Project ID:**

Date Analyzed: 05/13/2013 11:30 **Date Prepared:** 05/13/2013 **Analyst:** WRU

QC- Sample ID: 462924-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	14.1	14.1	0	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant e-mail: cbryant@novatraining.cc
rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NP

24hr

Final 1.000

(lab use only)
ORDER #: 462924

4oz Glass

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW = Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: 8015B	TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Chloride E 300.0			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	Trench E @ 2'			5/9/2013	10:00		1	X								Soil	X								X			X			X	
02	Trench E @ 4'			5/9/2013	10:10		1	X								Soil	X								X			X			X	
03	Trench E @ 10'			5/9/2013	10:40		1	X								Soil	X								X			X			X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	5/10/13	1520	Nikki Green	5/10/13	1520
Nikki Green	5/10/13	1548			
			Received by ELOT: Maurice Brooks	5-10-13	15:48

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	NA
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.5 °C

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/10/2013 03:48:00 PM

Work Order #: 462924

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#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)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 05/13/2013

Checklist reviewed by: Kelsey Brooks Date: 05/13/2013

Analytical Report 463111

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

15-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

15-MAY-13

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

Reference: XENCO Report No(s): **463111**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 463111. 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. 463111 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 463111

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unknown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation Floor @ 12'	S	05-13-13 14:30		463111-001
South Excavation North S/W @ 11'	S	05-13-13 15:00		463111-002

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *463111*

Report Date: *15-MAY-13*
Date Received: *05/14/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

XENCO Laboratories

Certificate of Analysis Summary 463111

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:
Contact: Camille Bryant
Project Location: Lea County, New Mexico

Date Received in Lab: Tue May-14-13 04:51 pm
Report Date: 15-MAY-13
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	463111-001		463111-002									
	Field Id:	South Excavation Floor @ 1		South Excavation North S/W									
	Depth:												
	Matrix:	SOIL		SOIL									
	Sampled:	May-13-13 14:30		May-13-13 15:00									
BTEX by EPA 8021B	*Extracted:*	May-14-13 17:30		May-14-13 17:30									
	Analyzed:	May-15-13 03:51		May-15-13 04:07									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0.00104	ND	0.00106								
Toluene		ND	0.00208	ND	0.00212								
Ethylbenzene		ND	0.00104	ND	0.00106								
m_p-Xylenes		ND	0.00208	ND	0.00212								
o-Xylene		ND	0.00104	ND	0.00106								
Total Xylenes		ND	0.00104	ND	0.00106								
Total BTEX		ND	0.00104	ND	0.00106								
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-15-13 10:00		May-15-13 10:00									
	Analyzed:	May-15-13 12:47		May-15-13 13:09									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		82.1	10.0	254	10.0								
Percent Moisture	*Extracted:*												
	Analyzed:	May-14-13 17:15		May-14-13 17:15									
	Units/RL:	%	RL	%	RL								
Percent Moisture		3.68	1.00	5.85	1.00								
TPH By SW8015 Mod	*Extracted:*	May-15-13 08:00		May-15-13 08:00									
	Analyzed:	May-15-13 14:21		May-15-13 12:49									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C12 Gasoline Range Hydrocarbons		ND	15.6	ND	16.0								
C12-C28 Diesel Range Hydrocarbons		ND	15.6	ND	16.0								
C28-C35 Oil Range Hydrocarbons		ND	15.6	ND	16.0								
Total TPH		ND	15.6	ND	16.0								

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

***** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463111,

Project ID:

Lab Batch #: 913765 **Sample:** 463111-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 03:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0360	0.0300	120	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 913765 **Sample:** 463111-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 04:07

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 913793 **Sample:** 463111-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 12:49

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	47.9	50.2	95	70-135	

Lab Batch #: 913793 **Sample:** 463111-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 14:21

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	47.9	50.2	95	70-135	

Lab Batch #: 913765 **Sample:** 638104-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 03:34

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0252	0.0300	84	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463111,

Project ID:

Lab Batch #: 913793 **Sample:** 638123-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 11:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	49.7	50.1	99	70-135	

Lab Batch #: 913765 **Sample:** 638104-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 03:01

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0361	0.0300	120	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 913793 **Sample:** 638123-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 10:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.9	124	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 913765 **Sample:** 638104-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 03:18

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0339	0.0300	113	80-120	
4-Bromofluorobenzene	0.0339	0.0300	113	80-120	

Lab Batch #: 913793 **Sample:** 638123-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 10:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	55.3	50.2	110	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463111,

Project ID:

Lab Batch #: 913765 **Sample:** 463111-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 04:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 913793 **Sample:** 463111-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 17:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	43.1	50.1	86	70-135	

Lab Batch #: 913793 **Sample:** 463111-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 17:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.6	127	70-135	
o-Terphenyl	51.6	49.8	104	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.

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463111 **Project ID:**

Analyst: DYV **Date Prepared:** 05/14/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913765 **Sample:** 638104-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000998	0.0998	0.107	107	0.100	0.101	101	6	70-130	35	
Toluene	<0.00200	0.0998	0.111	111	0.100	0.0930	93	18	70-130	35	
Ethylbenzene	<0.000998	0.0998	0.115	115	0.100	0.108	108	6	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.218	109	0.201	0.199	99	9	70-135	35	
o-Xylene	<0.000998	0.0998	0.109	109	0.100	0.101	101	8	71-133	35	

Analyst: AMB **Date Prepared:** 05/15/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913792 **Sample:** 638124-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	49.5	99	50.0	49.3	99	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463111 **Project ID:**

Analyst: DYV **Date Prepared:** 05/15/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913793 **Sample:** 638123-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	1010	101	1000	990	99	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1090	109	1000	1080	108	1	70-135	35	

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

Form 3 - MS Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463111
Lab Batch #: 913765
Project ID:
Date Analyzed: 05/15/2013
Date Prepared: 05/14/2013
Analyst: DYV
QC- Sample ID: 463111-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

BTEX by EPA 8021B	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00103	0.103	0.0831	81	70-130	
Toluene	<0.00206	0.103	0.0894	87	70-130	
Ethylbenzene	<0.00103	0.103	0.0926	90	71-129	
m_p-Xylenes	<0.00206	0.206	0.170	83	70-135	
o-Xylene	<0.00103	0.103	0.0858	83	71-133	

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

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 463111 **Project ID:**

Lab Batch ID: 913793 **QC- Sample ID:** 463111-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/15/2013 **Date Prepared:** 05/15/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	980	94	1030	958	93	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1130	109	1030	1080	105	5	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463111

Lab Batch #: 913725 **Project ID:**

Date Analyzed: 05/14/2013 17:15 **Date Prepared:** 05/14/2013 **Analyst:** WRU

QC- Sample ID: 463111-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	3.68	3.47	6	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant

e-mail: cbryant@novatraining.cc
rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [x] Standard [ ] TRRP [ ] NPI

(lab use only) ORDER #: 463111

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water GW=Groundwater NP=Non-Potable SL=Sludge S=Soil/Solid Specify Other	Analyze For: TCLP: TOTAL: 8015B	8015M: TPH: 418.1	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Chloride E 300.0			RUSH TAT (Pre-Scheduled) (24, 48, 72 hrs)	Standard TAT
	South Excavation Floor @ 12'			5/13/2013	14:30		1	X								Soil	X									X			X			X	
	South Excavation North S/W @ 11'			5/13/2013	15:00		1	X								Soil	X									X			X			X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	5/14/13	16:22		5/14/13	1622
Relinquished by:	Date	Time	Received by:	Date	Time
	5/14/13	1651			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Maurice Smith	5-14-13	16:51

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N/A
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.5 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/14/2013 04:51:00 PM

Work Order #: 463111

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#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: Kelsey Brooks Date: 05/14/2013

Checklist reviewed by: Kelsey Brooks Date: 05/14/2013

Analytical Report 463156

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

16-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

16-MAY-13

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

Reference: XENCO Report No(s): **463156**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 463156. 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. 463156 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 463156

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unknown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation West S/W @ 11'	S	05-15-13 10:00		463156-001
South Excavation East S/W @ 11'	S	05-15-13 08:00		463156-002

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *463156*

Report Date: *16-MAY-13*
Date Received: *05/15/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 463156

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Wed May-15-13 10:16 am

Report Date: 16-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested	*Lab Id:*	463156-001		463156-002					
	Field Id:	outh Excavation West S/W		outh Excavation East S/W					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	May-15-13 10:00		May-15-13 08:00					
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-15-13 10:30		May-15-13 10:30					
	Analyzed:	May-15-13 22:17		May-15-13 22:39					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		113	10.0	131	40.0				
Percent Moisture	*Extracted:*								
	Analyzed:	May-15-13 15:30		May-15-13 15:30					
	Units/RL:	%	RL	%	RL				
Percent Moisture		6.11	1.00	5.02	1.00				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 463156

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Wed May-15-13 10:16 am

Report Date: 16-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	463156-001		463156-002					
	Field Id:	outh Excavation West S/W @		outh Excavation East S/W @					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	May-15-13 10:00		May-15-13 08:00					
BTEX by EPA 8021B	*Extracted:*	** ** ** **		** ** ** **					
	Analyzed:	May-15-13 20:26		May-16-13 08:55					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00105	ND	0.00104				
Toluene		ND	0.00211	ND	0.00208				
Ethylbenzene		ND	0.00105	ND	0.00104				
m_p-Xylenes		ND	0.00211	ND	0.00208				
o-Xylene		ND	0.00105	ND	0.00104				
Total Xylenes		ND	0.00105	ND	0.00104				
Total BTEX		ND	0.00105	ND	0.00104				
TPH By SW8015 Mod	*Extracted:*	May-15-13 11:00		May-15-13 11:00					
	Analyzed:	May-15-13 13:20		May-15-13 13:51					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	15.9	ND	15.7				
C12-C28 Diesel Range Hydrocarbons		ND	15.9	ND	15.7				
C28-C35 Oil Range Hydrocarbons		ND	15.9	ND	15.7				
Total TPH		ND	15.9	ND	15.7				

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463156,

Project ID:

Lab Batch #: 913793 **Sample:** 463156-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 13:20

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.7	99.8	100	70-135	
o-Terphenyl	46.7	49.9	94	70-135	

Lab Batch #: 913793 **Sample:** 463156-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 13:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.5	102	70-135	
o-Terphenyl	46.7	49.8	94	70-135	

Lab Batch #: 913828 **Sample:** 463156-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 20:26

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 913828 **Sample:** 463156-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 08:55

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0357	0.0300	119	80-120	

Lab Batch #: 913793 **Sample:** 638123-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 11:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	49.7	50.1	99	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463156,

Project ID:

Lab Batch #: 913828 **Sample:** 638132-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 15:31

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0259	0.0300	86	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 913793 **Sample:** 638123-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 10:16

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.9	124	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 913828 **Sample:** 638132-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 14:58

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0286	0.0300	95	80-120	

Lab Batch #: 913793 **Sample:** 638123-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 10:46

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	55.3	50.2	110	70-135	

Lab Batch #: 913828 **Sample:** 638132-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/15/13 15:14

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0268	0.0300	89	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463156,

Project ID:

Lab Batch #: 913793 **Sample:** 463111-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 17:02

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	43.1	50.1	86	70-135	

Lab Batch #: 913828 **Sample:** 462516-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 21:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0329	0.0300	110	80-120	

Lab Batch #: 913793 **Sample:** 463111-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 17:35

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.6	127	70-135	
o-Terphenyl	51.6	49.8	104	70-135	

Lab Batch #: 913828 **Sample:** 462516-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/15/13 21:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0352	0.0300	117	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463156 **Project ID:**

Analyst: DYV **Date Prepared:** 05/15/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913828 **Sample:** 638132-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	<0.000994	0.0994	0.0889	89	0.100	0.0868	87	2	70-130	35	
Toluene	<0.00199	0.0994	0.0894	90	0.100	0.0942	94	5	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0993	100	0.100	0.0959	96	3	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.182	91	0.200	0.177	89	3	70-135	35	
o-Xylene	<0.000994	0.0994	0.0904	91	0.100	0.0882	88	2	71-133	35	

Analyst: AMB **Date Prepared:** 05/15/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913792 **Sample:** 638124-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Chloride	<2.00	50.0	49.5	99	50.0	49.3	99	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463156 **Project ID:**

Analyst: DYV **Date Prepared:** 05/15/2013 **Date Analyzed:** 05/15/2013

Lab Batch ID: 913793 **Sample:** 638123-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
C6-C12 Gasoline Range Hydrocarbons	<15.0	999	1010	101	1000	990	99	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	999	1090	109	1000	1080	108	1	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 463156 **Project ID:**

Lab Batch ID: 913828 **QC- Sample ID:** 462516-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/15/2013 **Date Prepared:** 05/15/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00111	0.111	0.0944	85	0.110	0.0975	89	3	70-130	35	
Toluene	<0.00222	0.111	0.0943	85	0.110	0.0945	86	0	70-130	35	
Ethylbenzene	<0.00111	0.111	0.0993	89	0.110	0.0944	86	5	71-129	35	
m_p-Xylenes	<0.00222	0.222	0.192	86	0.221	0.180	81	6	70-135	35	
o-Xylene	<0.00111	0.111	0.0930	84	0.110	0.0900	82	3	71-133	35	

Lab Batch ID: 913793 **QC- Sample ID:** 463111-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/15/2013 **Date Prepared:** 05/15/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	980	94	1030	958	93	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1130	109	1030	1080	105	5	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463156

Lab Batch #: 913826 **Project ID:**

Date Analyzed: 05/15/2013 15:30 **Date Prepared:** 05/15/2013 **Analyst:** WRU

QC- Sample ID: 463156-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	6.11	6.19	1	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720

Fax No: 432.520.7701

Sampler Signature: Camille Bryant

e-mail: cbryant@novatraining.cc rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPI

(lab use only)
ORDER #: 463156

Preservation & # of Containers: Ice, HNO_3, HCl, H_2SO_4, NaOH, $Na_2S_2O_3$, None, Other (Specify)

Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other

Analyze For: TCLP: / TOTAL:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix	TPH: 418.1 (8015M) 8015B	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Cl E300			RUSH TAT (Pre-Schedule) (24), 48, 72 hrs	Standard TAT
	South Excavation West S/W @ 11'			5/14/2013	10:00		1	X								Soil	X								X			X			X	
	South Excavation East S/W @ 11'			5/14/2013	14:00		1	X								Soil	X								X			X			X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	5/15/13	9:20	[signature]	5/15/13	9:20
Jonathan Repman	5/15/13	10:16			
			Received by ELOT: [signature]	5-15-13	10:16

Laboratory Comments:

Sample Containers Intact?	(Y)	N
VOCs Free of Headspace?	Y	N (NA)
Labels on container(s)	(Y)	N
Custody seals on container(s)	Y	(N)
Custody seals on cooler(s)	Y	(N)
Sample Hand Delivered	(Y)	N
by Sampler/Client Rep. ?	(Y)	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 3.0 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/15/2013 10:16:00 AM

Work Order #: 463156

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, 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: Kelsey Brooks Date: 05/16/2013

Checklist reviewed by: Kelsey Brooks Date: 05/16/2013

Analytical Report 463289

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

17-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

17-MAY-13

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

Reference: XENCO Report No(s): **463289**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 463289. 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. 463289 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 463289

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unknown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation South Floor-2	S	05-15-13 11:00		463289-001
South Excavation SSW@11'	S	05-15-13 11:20		463289-002

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *463289*

Report Date: *17-MAY-13*
Date Received: *05/16/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 463289

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:

Contact: Camille Bryant

Project Location: Lea County, New Mexico

Date Received in Lab: Thu May-16-13 12:45 pm

Report Date: 17-MAY-13

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	463289-001				463289-002							
	Field Id:	South Excavation South Floo				South Excavation SSW@11							
	Depth:												
	Matrix:	SOIL				SOIL							
	Sampled:	May-15-13 11:00				May-15-13 11:20							
BTEX by EPA 8021B	*Extracted:*	May-16-13 13:00				May-16-13 13:00							
	Analyzed:	May-16-13 21:29				May-16-13 21:46							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Benzene		ND	0.00103			ND	0.00104						
Toluene		ND	0.00207			ND	0.00207						
Ethylbenzene		ND	0.00103			ND	0.00104						
m_p-Xylenes		ND	0.00207			ND	0.00207						
o-Xylene		ND	0.00103			ND	0.00104						
Total Xylenes		ND	0.00103			ND	0.00104						
Total BTEX		ND	0.00103			ND	0.00104						
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-16-13 14:00				May-16-13 14:00							
	Analyzed:	May-16-13 18:52				May-16-13 19:13							
	Units/RL:	mg/kg	RL			mg/kg	RL						
Chloride		233	10.0			198	20.0						
Percent Moisture	*Extracted:*												
	Analyzed:	May-16-13 16:00				May-16-13 16:00							
	Units/RL:	%	RL			%	RL						
Percent Moisture		4.21	1.00			4.26	1.00						
TPH By SW8015 Mod	*Extracted:*	May-16-13 15:30				May-16-13 15:30							
	Analyzed:	May-16-13 22:00				May-16-13 22:30							
	Units/RL:	mg/kg	RL			mg/kg	RL						
C6-C12 Gasoline Range Hydrocarbons		ND	15.6			ND	15.7						
C12-C28 Diesel Range Hydrocarbons		ND	15.6			ND	15.7						
C28-C35 Oil Range Hydrocarbons		ND	15.6			ND	15.7						
Total TPH		ND	15.6			ND	15.7						

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

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463289,

Project ID:

Lab Batch #: 913929 **Sample:** 463289-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 21:29

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 913929 **Sample:** 463289-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 21:46

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

Lab Batch #: 913934 **Sample:** 463289-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 22:00

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.8	99.9	100	70-135	
o-Terphenyl	44.0	50.0	88	70-135	

Lab Batch #: 913934 **Sample:** 463289-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 22:30

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	43.6	50.0	87	70-135	

Lab Batch #: 913929 **Sample:** 638223-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 21:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0262	0.0300	87	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463289,

Project ID:

Lab Batch #: 913934 **Sample:** 638226-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 21:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	44.8	50.1	89	70-135	

Lab Batch #: 913934 **Sample:** 638226-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.8	115	70-135	
o-Terphenyl	53.0	49.9	106	70-135	

Lab Batch #: 913929 **Sample:** 638223-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 913929 **Sample:** 638223-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:56

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	80-120	
4-Bromofluorobenzene	0.0341	0.0300	114	80-120	

Lab Batch #: 913934 **Sample:** 638226-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.6	115	70-135	
o-Terphenyl	48.9	49.8	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463289,

Project ID:

Lab Batch #: 913929 **Sample:** 463289-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 22:02

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 913934 **Sample:** 463289-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 23:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.8	128	70-135	
o-Terphenyl	59.0	49.9	118	70-135	

Lab Batch #: 913929 **Sample:** 463289-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 22:19

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	80-120	

Lab Batch #: 913934 **Sample:** 463289-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 23:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	52.5	50.2	105	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.

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463289 **Project ID:**

Analyst: DYV **Date Prepared:** 05/16/2013 **Date Analyzed:** 05/16/2013

Lab Batch ID: 913929 **Sample:** 638223-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00101	0.101	0.0870	86	0.0990	0.0898	91	3	70-130	35	
Toluene	<0.00201	0.101	0.0948	94	0.0990	0.0859	87	10	70-130	35	
Ethylbenzene	<0.00101	0.101	0.102	101	0.0990	0.103	104	1	71-129	35	
m_p-Xylenes	<0.00201	0.201	0.190	95	0.198	0.188	95	1	70-135	35	
o-Xylene	<0.00101	0.101	0.0982	97	0.0990	0.0973	98	1	71-133	35	

Analyst: AMB **Date Prepared:** 05/16/2013 **Date Analyzed:** 05/16/2013

Lab Batch ID: 913971 **Sample:** 638244-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

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	<2.00	50.0	50.9	102	50.0	50.7	101	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463289 **Project ID:**

Analyst: DYV **Date Prepared:** 05/16/2013 **Date Analyzed:** 05/16/2013

Lab Batch ID: 913934 **Sample:** 638226-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	980	98	996	1000	100	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	1040	104	996	1050	105	1	70-135	35	

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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 463289 **Project ID:**

Lab Batch ID: 913929 **QC- Sample ID:** 463289-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/16/2013 **Date Prepared:** 05/16/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00105	0.105	0.0862	82	0.104	0.0851	82	1	70-130	35	
Toluene	<0.00209	0.105	0.0976	93	0.104	0.0887	85	10	70-130	35	
Ethylbenzene	<0.00105	0.105	0.103	98	0.104	0.105	101	2	71-129	35	
m_p-Xylenes	<0.00209	0.209	0.188	90	0.207	0.193	93	3	70-135	35	
o-Xylene	<0.00105	0.105	0.0968	92	0.104	0.0991	95	2	71-133	35	

Lab Batch ID: 913934 **QC- Sample ID:** 463289-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/16/2013 **Date Prepared:** 05/16/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	1030	99	1050	1020	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1120	108	1050	1120	107	0	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 Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463289

Lab Batch #: 913968 **Project ID:**

Date Analyzed: 05/16/2013 16:20 **Date Prepared:** 05/16/2013 **Analyst:** WRU

QC- Sample ID: 463099-013 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	3.11	2.85	9	20	

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Jonathan Reyna for Rick Peña

e-mail: cbryant@novatraining.cc; rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: ☒ Standard ☐ TRRP ☐ NPI

Final 1.000

(lab use only) ORDER #: 463289

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1	8015M	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	South Excavation South Floor-2			5/15/2013	11:00		1	X								Soil	X										X			X				X	
	South Excavation SSW@ 11'			5/15/2013	11:20		1	X								Soil	X										X			X				X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Jonathan Reyna	5/16/13	12:45			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT: Shawnee Smith	5/16/13	12:45

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N

by Sampler/Client Rep. ? by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 1.5 °C

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/16/2013 12:45:00 PM

Work Order #: 463289

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

Temperature Measuring device used :

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

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

Analyst:	PH Device/Lot#:

Checklist completed by: Kelsey Brooks Date: 05/17/2013

Checklist reviewed by: Kelsey Brooks Date: 05/17/2013

Analytical Report 463332

for

Southern Union Gas Services- Monahans

Project Manager: Camille Bryant

SUGS Historical Unknown Dinwiddie 1RP-1309

20-MAY-13

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

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

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

XENCO Laboratories

20-MAY-13

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

Reference: XENCO Report No(s): **463332**
SUGS Historical Unknown Dinwiddie 1RP-1309
Project Address: Lea County, New Mexico

Camille Bryant:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 463332. 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. 463332 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 463332

Southern Union Gas Services- Monahans, Monahans, TX

SUGS Historical Unknown Dinwiddie 1RP-1309

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
South Excavation West S/W-2 @11	S	05-16-13 09:40		463332-001
South Excavation East S/W-2 @ 11'	S	05-16-13 11:46		463332-002

XENCO Laboratories

CASE NARRATIVE

Client Name: Southern Union Gas Services- Monahans
Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project ID:
Work Order Number(s): *463332*

Report Date: *20-MAY-13*
Date Received: *05/17/2013*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

XENCO Laboratories

Certificate of Analysis Summary 463332

Southern Union Gas Services- Monahans, Monahans, TX

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project Id:
Contact: Camille Bryant
Project Location: Lea County, New Mexico

Date Received in Lab: Fri May-17-13 09:38 am
Report Date: 20-MAY-13
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	463332-001		463332-002					
	Field Id:	South Excavation West S/W		South Excavation East S/W-2					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	May-16-13 09:40		May-16-13 11:46					
BTEX by EPA 8021B	*Extracted:*	May-17-13 11:00		May-17-13 11:00					
	Analyzed:	May-17-13 12:24		May-17-13 12:40					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00100	ND	0.00100				
Toluene		ND	0.00200	ND	0.00200				
Ethylbenzene		ND	0.00100	ND	0.00100				
m_p-Xylenes		ND	0.00200	ND	0.00200				
o-Xylene		ND	0.00100	ND	0.00100				
Total Xylenes		ND	0.00100	ND	0.00100				
Total BTEX		ND	0.00100	ND	0.00100				
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-17-13 11:00		May-17-13 11:00					
	Analyzed:	May-17-13 14:46		May-17-13 15:30					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		97.0	4.00	170	4.00				
Percent Moisture	*Extracted:*								
	Analyzed:	May-20-13 11:15		May-20-13 11:15					
	Units/RL:	%	RL	%	RL				
Percent Moisture		2.94	1.00	3.40	1.00				
TPH By SW8015 Mod	*Extracted:*	May-17-13 10:15		May-17-13 10:15					
	Analyzed:	May-17-13 10:48		May-17-13 11:19					
	Units/RL:	mg/kg	RL	mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons		ND	15.4	ND	15.5				
C12-C28 Diesel Range Hydrocarbons		ND	15.4	ND	15.5				
C28-C35 Oil Range Hydrocarbons		ND	15.4	ND	15.5				
Total TPH		ND	15.4	ND	15.5				

Kelsey Brooks
Project Manager

XENCO Laboratories

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463332, **Project ID:**

Lab Batch #: 913934 **Sample:** 463332-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/13 10:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.0	99.7	99	70-135	
o-Terphenyl	42.7	49.9	86	70-135	

Lab Batch #: 913934 **Sample:** 463332-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/13 11:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.2	99.9	98	70-135	
o-Terphenyl	42.5	50.0	85	70-135	

Lab Batch #: 913981 **Sample:** 463332-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/13 12:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0254	0.0300	85	80-120	
4-Bromofluorobenzene	0.0257	0.0300	86	80-120	

Lab Batch #: 913981 **Sample:** 463332-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/13 12:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 913934 **Sample:** 638226-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 21:29

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	44.8	50.1	89	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.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463332, **Project ID:**

Lab Batch #: 913981 **Sample:** 638249-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/17/13 12:08

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0342	0.0300	114	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 913934 **Sample:** 638226-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.8	115	70-135	
o-Terphenyl	53.0	49.9	106	70-135	

Lab Batch #: 913981 **Sample:** 638249-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/17/13 11:34

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 913934 **Sample:** 638226-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/16/13 20:58

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.6	115	70-135	
o-Terphenyl	48.9	49.8	98	70-135	

Lab Batch #: 913981 **Sample:** 638249-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/17/13 11:51

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Orders : 463332,

Project ID:

Lab Batch #: 913934 **Sample:** 463289-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 23:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	99.8	128	70-135	
o-Terphenyl	59.0	49.9	118	70-135	

Lab Batch #: 913934 **Sample:** 463289-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/16/13 23:31

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	52.5	50.2	105	70-135	

Lab Batch #: 913981 **Sample:** 463332-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/17/13 13:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463332 **Project ID:**

Analyst: DYV **Date Prepared:** 05/17/2013 **Date Analyzed:** 05/17/2013

Lab Batch ID: 913981 **Sample:** 638249-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000996	0.0996	0.108	108	0.0994	0.0909	91	17	70-130	35	
Toluene	<0.00199	0.0996	0.106	106	0.0994	0.0914	92	15	70-130	35	
Ethylbenzene	<0.000996	0.0996	0.107	107	0.0994	0.102	103	5	71-129	35	
m_p-Xylenes	<0.00199	0.199	0.201	101	0.199	0.193	97	4	70-135	35	
o-Xylene	<0.000996	0.0996	0.0961	96	0.0994	0.0938	94	2	71-133	35	

Analyst: AMB **Date Prepared:** 05/17/2013 **Date Analyzed:** 05/17/2013

Lab Batch ID: 914054 **Sample:** 638307-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

Inorganic Anions by EPA 300/300.1	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	18.7	50.0	51.7	103	50.0	51.6	103	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

XENCO Laboratories

BS / BSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463332 **Project ID:**

Analyst: DYV **Date Prepared:** 05/16/2013 **Date Analyzed:** 05/16/2013

Lab Batch ID: 913934 **Sample:** 638226-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod **Analytes**	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
C6-C12 Gasoline Range Hydrocarbons	<15.0	998	980	98	996	1000	100	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	1040	104	996	1050	105	1	70-135	35	

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

XENCO Laboratories

Form 3 - MS Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463332
Lab Batch #: 914054
Project ID:
Date Analyzed: 05/17/2013
Date Prepared: 05/17/2013
Analyst: AMB
QC- Sample ID: 463332-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	97.0	100	210	113	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

XENCO Laboratories

Form 3 - MS / MSD Recoveries

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order # : 463332 **Project ID:**

Lab Batch ID: 913934 **QC- Sample ID:** 463289-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/16/2013 **Date Prepared:** 05/16/2013 **Analyst:** DYV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.6	1040	1030	99	1050	1020	97	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.6	1040	1120	108	1050	1120	107	0	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

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

Relative Percent Difference RPD = 200* (C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

XENCO Laboratories

Sample Duplicate Recovery

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Work Order #: 463332

Lab Batch #: 914096 **Project ID:**

Date Analyzed: 05/20/2013 11:15 **Date Prepared:** 05/20/2013 **Analyst:** WRU

QC- Sample ID: 463332-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Percent Moisture **Analyte**	**Parent Sample Result [A]**	**Sample Duplicate Result [B]**	**RPD**	**Control Limits %RPD**	**Flag**
Percent Moisture	2.94	2.36	22	20	F

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

Xenco Laboratories

The Environmental Lab of Texas

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East
Odessa, Texas 79765

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

Project Manager: Camille Bryant

Company Name: Nova Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, TX 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant e-mail: cbryant@novatraining.cc
rose.slade@sug.com

Project Name: SUGS Historical Unknown Dinwiddie 1RP-1309

Project #:

Project Loc: Lea County, New Mexico

PO #:

Report Format: [x] Standard [ ] TRRP [ ] NPI

(lab use only) ORDER #: 463332

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: 8015B	TPH: 418.1	8015M	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, 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.	Chloride E 300.0			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
	South Excavation West S/W-2 @ 11'			5/16/2013	9:40		1	X								Soil	X										X			X				X	
	South Excavation East S/W-2 @ 11'			5/16/2013	11:46		1	X								Soil	X										X			X				X	

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	5/17/13	9:00	Nikki Green	5/17/13	900
Nikki Green	5/17/13	938			
			Received by ELOT:	5/17/13	9:38

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 3.0 °C

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Southern Union Gas Services- Monahan

Date/ Time Received: 05/17/2013 09:38:00 AM

Work Order #: 463332

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

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	Yes
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	Yes
#22 >10 for all samples preserved with NaAsO2+NaOH, 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: Kelsey Brooks Date: 05/17/2013

Checklist reviewed by: Kelsey Brooks Date: 05/17/2013