



# AE Order Number Banner

## Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



**App Number: pPAC0627638110**

**1RP - 1063**

**SOUTHERN UNION GAS COMPANY**

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	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: D.K. Boyd	Mineral Owner: Federal	Lease No.	

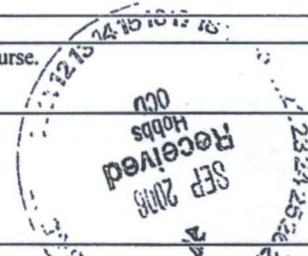
**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	35	26S	37E					Lea

Latitude N32 00.208 Longitude W103 08.208

**NATURE OF RELEASE**

Type of Release : Crude oil, water and natural gas	Volume of Release: 83 mcf gas, 50 bbls water and crude oil	Volume Recovered 40 bbls
Source of Release Pipeline	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 9/26/06 Time: 11:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD on call Rep. Gary Wink	
By Whom? Tony Savoie, Southern Union Gas Services	Date and Hour: 9/26/06 11:57 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* The 8" steel gathering pipeline, operating at 25 psi developed a leak, the line was excavated and the affected area was replaced with approximately 45 ft. of 8" poly pipe. Approximately 40 bbls of pipeline liquids were recovered at the time of the response and repair operations. Normal operating pressure on the line is 20-psi to 30-psi, with a potential H2S content of 4000-ppm.		
Describe Area Affected and Cleanup Action Taken. The affected area is pasture. An area covering approximately 800 sq. ft. was affected by the release and response activities. Remediation activities will start after the landowner has approved the remediation plan. All remediation activities will follow the NMOCD Recommended Guidelines For The Remediation of Leaks and Spills.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		



Signature: Tony Savoie		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: John A. Savoie		Approved by District Supervisor: <i>[Signature]</i>	
Title: EH&S Comp. Coord.	Approval Date: 6-27-07	Expiration Date: 8-30-07	
E-mail Address: tony.savoie@sug.com	Conditions of Approval: Submit Final C-141 w/ DOCUMENTATION OF FINAL SOIL DESTINATION		Attached <input type="checkbox"/>
Date: 9/29/06	Phone: 505-395-2116		

\* Attach Additional Sheets If Necessary

incident - n PAC0627637960  
application - p PAC0627638110

RP# 1063



**SOIL REMEDIATION SUMMARY  
AND SITE  
CLOSURE REQUEST**

**Southern Union Gas Services  
2C 8-Inch Line Historical Release Site  
Lea County, New Mexico  
UNIT LTR "C" (NE ¼ /NW ¼), Section 35, Township 26 South, Range 37 East  
Latitude 32° 00.298' North, Longitude 103° 08.208' West  
NMOCD Reference # 1RP-1063**



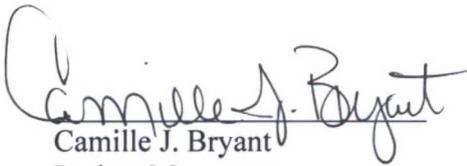
Prepared For:

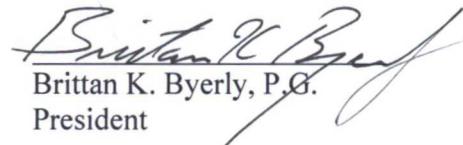
**Southern Union Gas Services  
801 South Loop 464  
Monahans, Texas 79756**

Prepared By:

**NOVA Safety & Environmental  
2057 Commerce  
Midland, Texas 79703**

**March 2013**

  
Camille J. Bryant  
Project Manager

  
Brittan K. Byerly, P.G.  
President

## 1.0 INTRODUCTION

Nova Safety & Environmental (NOVA), on behalf of Southern Union Gas Services (SUGS), has prepared this Soil Remediation Summary and Site Closure Request for the 2C 8-Inch Line Historical Release Site. The legal description of the release site is Unit Letter "C" (NE ¼ NW ¼), Section 35, Township 26 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by Mr. D.K. Boyd. The release site GPS coordinates are 32° 00.208' North and 103°08.208' 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 C.

On September 26, 2006, SUGS discovered a release of crude oil, produced water and natural gas had occurred from an 8-inch steel pipeline. The cause of the release was attributed to failure of a segment of the 8-inch steel pipeline. The steel pipeline was replaced with approximately forty-five (45) feet of poly pipe. SUGS submitted the Release Notification and Corrective Action (Form C-141) to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on September 29, 2006. The C-141 indicated approximately fifty (50) barrels of crude oil/produced water and approximately 83 mcf's of natural gas were released from the pipeline, with approximately forty (40) barrels of fluids recovered. General photographs of the site are provided as Appendix B.

SUGS has researched and identified various historical release sites located in New Mexico. At the request of SUGS, 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 did not identify the average depth to groundwater information for Section 35, Township 26 South, Range 37 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately seventy (75) feet below ground surface (bgs). The depth to groundwater at the 2C 8-Inch Line Historical Release Site results in a score of ten (10) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

There is one (1) water well located less than 1,000 feet from the release site, resulting in twenty (20) points being assigned to the 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 2C 8-Inch Line Historical Release Site has a ranking score of thirty (30) points. Based on this score, the soil remediation levels for a site with a ranking score of thirty (30) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)

- TPH – 100 mg/Kg (ppm)

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

As indicated in the Landowner Agreement, TPH and chloride remediation levels for the site are 100 ppm above background levels.

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

On December 11, 2012, NOVA commenced soil investigation activities at the 2C 8-Inch Line Historical Release Site. Based on historical documentation and stressed vegetation, a trench was installed in the vicinity of the inferred release point. The trench was completed to a total depth of approximately fifteen (15) feet bgs at the inferred release point and to approximately ten (10) feet bgs on the northern end of the trench. The depth of the trench was determined by historical documentation and field observations conducted during excavation activities. The trench was excavated along SUG's eight (8) inch pipeline in a north-south direction. The trench measured approximately forty-seven (47) feet in length and twenty (20) feet in width. Approximately 440 cubic yards of soil was stockpiled on-site, pending final disposition. The excavated soil was placed on a plastic liner to mitigate the potential leaching of contaminants into the vadose zone. The Site and Sample Location Map is provided as Figure 2.

On December 11, 2012, one (1) soil sample (Background) was collected from a non-impacted area located northwest of the visually stressed area. The soil sample was submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), and chlorides using EPA SW-846 8021b, 8015M, and E 300, respectively. Laboratory results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory method detection limit (MDL). The soil sample exhibited a chloride concentration of 39.6 mg/Kg. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A.

On December 12, 2012, four (4) soil samples (RP @ 15', S S/W @ 14', S S/W-1 @ 14', and RP-1 @ 15') were collected from the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX and TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 70.9 mg/Kg for soil sample S S/W-1 @ 14' to 135 mg/Kg for soil sample S S/W @ 14'. Review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than the NMOCD regulatory guidelines and the Landowner Agreement requirements.

On December 19, 2012, two (2) soil samples (N S/W-1 @ 14' and N S/W @ 14') were collected from the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for both soil samples. Chloride concentrations ranged from 21.3 mg/Kg for soil sample N S/W @ 14' to 100 mg/Kg for soil sample N S/W-1 @ 14'. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines and the Landowner Agreement requirements (Table 1).

On December 20, 2012, six (6) soil samples (F1 @ 10', F2 @ 10', N S/W 3 @ 9', N S/W 2 @ 9', E S/W @ 14', and W S/W @ 14') were collected from the excavated area and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for soil samples N S/W 3 @ 9', E S/W @ 14' and W S/W @ 14' to 0.00181 mg/Kg for soil sample F2 @ 10'. BTEX concentrations ranged from less than the appropriate laboratory MDL for soil samples N S/W 3 @ 9', E S/W @ 14' and W S/W @ 14' to 0.00181 mg/Kg for soil sample F2 @ 10'. TPH concentrations were less than the appropriate laboratory MDL for all submitted soil samples. Chloride concentrations ranged from 2.59 mg/Kg for soil sample N S/W 3 @ 9' to 36.1 mg/Kg for soil sample W S/W @ 14'. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines and the Landowner Agreement requirements. Please reference Figure 2 for soil sample locations.

On December 26, 2012, one (1) composite soil sample (SP) was collected from the stockpiled soil and submitted to the laboratory for analysis. The stockpile represented approximately four hundred forty (440) cubic yards of soil. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL. The soil sample exhibited a chloride concentration of 59.1 mg/Kg. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines and the Landowner Agreement requirements (Table 1).

On March 1, 2013, SUGS and NOVA representatives met with a NMOCD Hobbs District Office representative to present the analytical results of the soil remediation activities, and request permission to backfill the excavation. The NMOCD Hobbs District Office representative granted verbal approval to backfill the excavation with the remediated soil represented by soil sample SP.

In an e-mail dated March 11, 2013, the landowner granted approval to commence backfilling activities at the site.

On March 18, 2013, the excavation was backfilled and compacted with the remediated soil. On completion of backfilling activities the impacted area was contoured to fit the surrounding topography.

## **4.0 QA/QC PROCEDURES**

### **4.1 Soil Sampling**

Soil samples were delivered to Permian Basin Environmental Lab, LP, of Midland, 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 SUGS provide the NMOCD a copy of this Soil Remediation Summary and Site Closure Request and request the NMOCD grant final closure to the 2C 8-Inch Line Historical Release Site.

### **6.0 LIMITATIONS**

NOVA Safety and Environmental has prepared this Soil Remediation Summary and Site Closure Request to the best of its ability. No other warranty, expressed or implied, is made or intended.

NOVA Safety and Environmental has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. NOVA Safety and Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. NOVA Safety and Environmental has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. NOVA Safety and Environmental also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

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

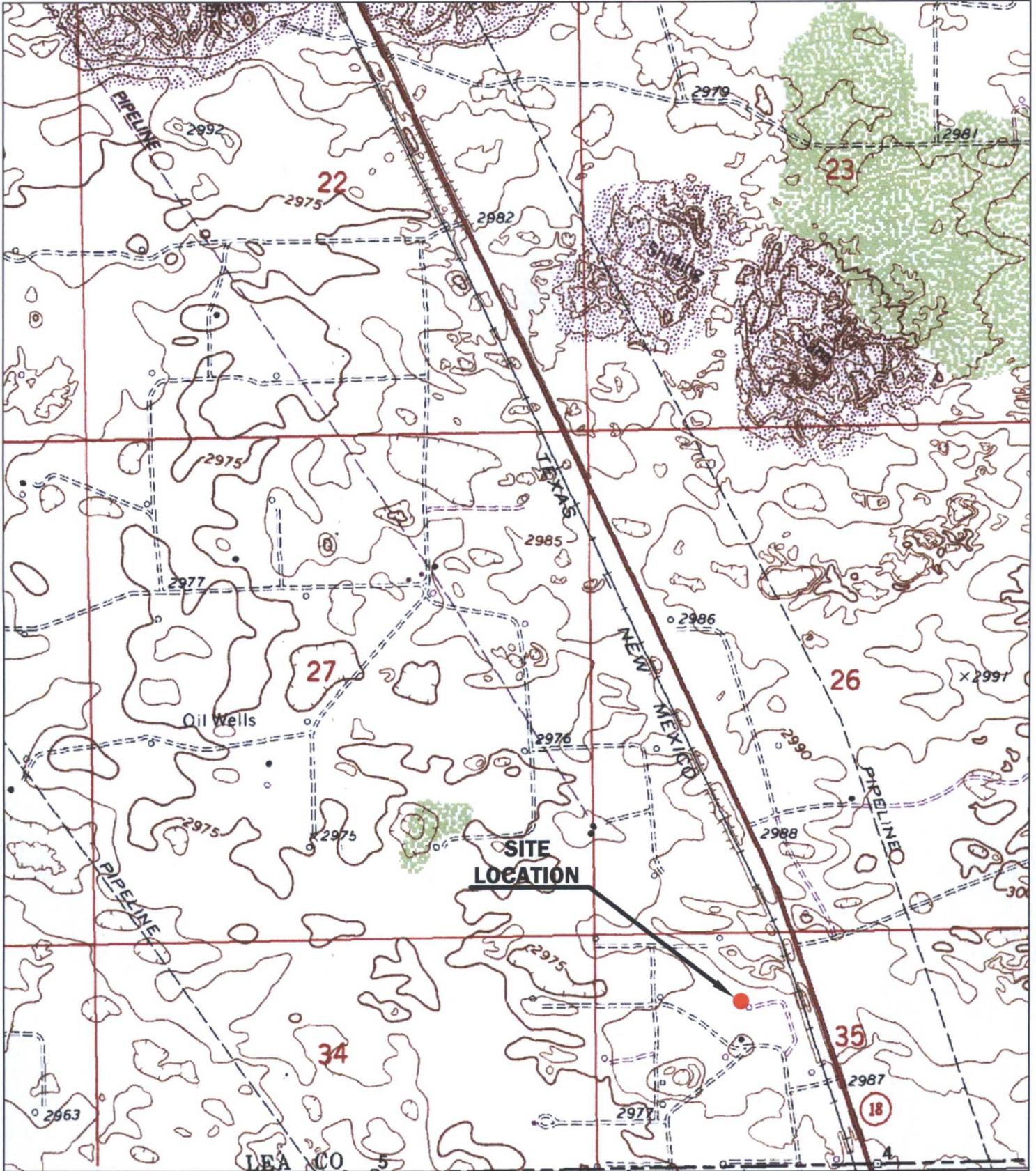
**7.0 DISTRIBUTION:**

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

Copy 2: Rose Slade  
Southern Union Gas Services  
801 South Loop 464  
Monahans, Texas 79756

Copy 3: D.K. Boyd  
Midland, Texas

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



Legend:

2000 1000 0 1000 2000



Distance in Feet

Figure 1

Site Location Map  
 Southern Union Gas Services  
 2 "C" 8" Line  
 Lea County, NM



[www.novasafetyandenvironmental.com](http://www.novasafetyandenvironmental.com)

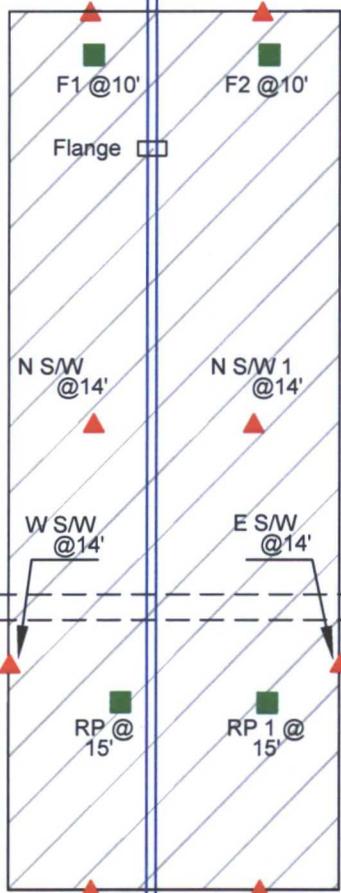
February 5, 2013 Scale: 1" = 2000' CAD By: CS Checked By: CJB

Lat. N 32° 0' 17.48" Long. W 130° 8' 12.47"

BackGround Sample

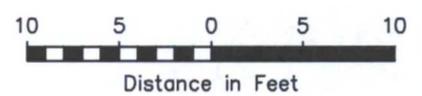


N S/W 2 @9'      N S/W 3 @9'



Power lines  
(Overhead)

SUG Pipeline



Legend:	
	Sidewall Soil Sample Location
	Floor Soil Sample Location
	BackGround Sample
	Pipeline

Figure 2  
Site Detail & Soil Sample  
Location Map  
Southern Union Gas Services  
2 "C" 8" Line  
Lea County, NM



www.novasafetyandenvironmental.com

March 26, 2013	Scale: 1" = 10'	CAD By: CAS	Checked By: CJB
Lat. N 32 0' 17.48"		Long. W 103 8' 12.47"	

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES  
 2C 8-INCH LINE HISTORICAL RELEASE SITE  
 LEA COUNTY, NEW MEXICO  
 NMOC REFERENCE # IRP-1063

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHODS: SW 8015M				E 300.1 CHLORIDE
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C <sub>6</sub> -C <sub>12</sub>	TPH DRO C <sub>12</sub> -C <sub>28</sub>	TPH ORO C <sub>28</sub> -C <sub>35</sub>	TOTAL TPH C <sub>6</sub> -C <sub>35</sub>	
Background	12/11/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.0	<25.0	<25.0	<25.0	39.6
RP @ 15'	12/12/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<28.1	<28.1	<28.1	<28.1	118
S S/W @ 14'	12/12/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<28.1	<28.1	<28.1	<28.1	135
S S/W-1 @ 14'	12/12/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.5	<27.5	<27.5	<27.5	70.9
RP-1 @ 15'	12/12/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.8	<27.8	<27.8	<27.8	113
NS/W-1 @ 14'	12/19/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.2	<27.2	<27.2	<27.2	100
NS/W @ 14'	12/19/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.5	<27.5	<27.5	<27.5	21.3
F1 @ 10'	12/20/12	0.00103	<0.00200	<0.00100	<0.00200	<0.00100	0.00103	<27.5	<27.5	<27.5	<27.5	33.3
F2 @ 10'	12/20/12	0.00181	<0.00200	<0.00100	<0.00200	<0.00100	0.00181	<27.8	<27.8	<27.8	<27.8	25
NS/W 3 @ 9'	12/20/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.9	<26.9	<26.9	<26.9	2.59
NS/W 2 @ 9'	12/20/12	0.00158	<0.00200	<0.00100	<0.00200	<0.00100	0.00158	<27.2	<27.2	<27.2	<27.2	8.14
ES/W @ 14'	12/20/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.2	<27.2	<27.2	<27.2	12.5
WS/W @ 14'	12/20/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<27.2	<27.2	<27.2	<27.2	36.1
SP	12/26/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.5	<25.5	<25.5	<25.5	59.1

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**

***PBELAB***

## Analytical Report

**Prepared for:**

Camille Bryant  
Nova Safety & Environment  
2057 Commerce  
Midland, TX 79703

Project: SUG 2C 8 in Line  
Project Number: IRP-1063  
Location: Lea Co., New Mexico  
Lab Order Number: 2L12001



NELAP/TCEQ # T104704156-12-1

Report Date: 12/14/12

Nova Safety & Environment  
2057 Commerce  
Midland TX, 79703

Project: SUG 2C 8 in Line  
Project Number: 1RP-1063  
Project Manager: Camille Bryant

Fax: (432) 520-7701

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Background	2L12001-01	Soil	12/11/12 12:00	12-12-2012 10:10

**Background**  
**2L12001-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL21301	12/12/12	12/12/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL21301	12/12/12	12/12/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL21301	12/12/12	12/12/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL21301	12/12/12	12/12/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL21301	12/12/12	12/12/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		109 %	75-125		EL21301	12/12/12	12/12/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		129 %	75-125		EL21301	12/12/12	12/12/12	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	39.6	1.00	mg/kg dry	1	EL21306	12/13/12	12/13/12	EPA 300.0	
% Moisture	ND	0.1	%	1	EL21302	12/12/12	12/13/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.0	mg/kg dry	1	EL21305	12/12/12	12/13/12	8015M	
>C12-C28	ND	25.0	mg/kg dry	1	EL21305	12/12/12	12/13/12	8015M	
>C28-C35	ND	25.0	mg/kg dry	1	EL21305	12/12/12	12/13/12	8015M	
Surrogate: 1-Chlorooctane		65.5 %	70-130		EL21305	12/12/12	12/13/12	8015M	S-GC
Surrogate: o-Terphenyl		82.6 %	70-130		EL21305	12/12/12	12/13/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/12/12	12/13/12	8015M	

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21301 - General Preparation (GC)</b>										
<b>Blank (EL21301-BLK1)</b> Prepared & Analyzed: 12/12/12										
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	67.3		ug/kg	60.0		112	75-125			
Surrogate: 4-Bromofluorobenzene	78.2		"	60.0		130	75-125			S-GC
<b>LCS (EL21301-BS1)</b> Prepared & Analyzed: 12/12/12										
Benzene	0.0810	0.00100	mg/kg wet	0.100		81.0	80-120			
Toluene	0.0898	0.00200	"	0.100		89.8	80-120			
Ethylbenzene	0.0925	0.00100	"	0.100		92.5	80-120			
Xylene (p/m)	0.192	0.00200	"	0.200		96.0	80-120			
Xylene (o)	0.0929	0.00100	"	0.100		92.9	80-120			
Surrogate: 1,4-Difluorobenzene	66.6		ug/kg	60.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	72.9		"	60.0		121	75-125			
<b>LCS Dup (EL21301-BSD1)</b> Prepared & Analyzed: 12/12/12										
Benzene	0.0812	0.00100	mg/kg wet	0.100		81.2	80-120	0.222	20	
Toluene	0.0899	0.00200	"	0.100		89.9	80-120	0.100	20	
Ethylbenzene	0.0932	0.00100	"	0.100		93.2	80-120	0.808	20	
Xylene (p/m)	0.192	0.00200	"	0.200		96.2	80-120	0.193	20	
Xylene (o)	0.0930	0.00100	"	0.100		93.0	80-120	0.0861	20	
Surrogate: 1,4-Difluorobenzene	66.1		ug/kg	60.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	72.4		"	60.0		121	75-125			
<b>Matrix Spike (EL21301-MS1)</b> Source: 2L12001-01 Prepared & Analyzed: 12/12/12										
Benzene	0.0682	0.00100	mg/kg dry	0.100	ND	68.2	80-120			QM-05
Toluene	0.0754	0.00200	"	0.100	ND	75.4	80-120			QM-05
Ethylbenzene	0.0751	0.00100	"	0.100	ND	75.1	80-120			QM-05
Xylene (p/m)	0.154	0.00200	"	0.200	ND	77.0	80-120			QM-05
Xylene (o)	0.0735	0.00100	"	0.100	ND	73.5	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	64.2		ug/kg	60.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	71.8		"	60.0		120	75-125			

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: IRP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL21301 - General Preparation (GC)**

**Matrix Spike Dup (EL21301-MSD1)**

Source: 2L12001-01

Prepared & Analyzed: 12/12/12

Benzene	0.0623	0.00100	mg/kg dry	0.100	ND	62.3	80-120	9.08	20	QM-05
Toluene	0.0719	0.00200	"	0.100	ND	71.9	80-120	4.70	20	QM-05
Ethylbenzene	0.0743	0.00100	"	0.100	ND	74.3	80-120	1.14	20	QM-05
Xylene (p/m)	0.153	0.00200	"	0.200	ND	76.5	80-120	0.645	20	QM-05
Xylene (o)	0.0736	0.00100	"	0.100	ND	73.6	80-120	0.109	20	QM-05
Surrogate: 1,4-Difluorobenzene	64.8		ug/kg	60.0		108	75-125			
Surrogate: 4-Bromofluorobenzene	71.7		"	60.0		119	75-125			S-GC

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21302 - *** DEFAULT PREP ***</b>										
<b>Blank (EL21302-BLK1)</b>				Prepared: 12/12/12 Analyzed: 12/13/12						
% Moisture	ND	0.1	%							
<b>Duplicate (EL21302-DUP1)</b>				Source: 2L11001-01 Prepared: 12/12/12 Analyzed: 12/13/12						
% Moisture	ND	0.1	%		0.0				20	
<b>Batch EL21306 - *** DEFAULT PREP ***</b>										
<b>Blank (EL21306-BLK1)</b>				Prepared & Analyzed: 12/13/12						
Chloride	ND	1.00	mg/kg wet							
<b>LCS (EL21306-BS1)</b>				Prepared & Analyzed: 12/13/12						
Chloride	9.93		mg/kg Wet	10.0		99.3	80-120			
<b>LCS Dup (EL21306-BSD1)</b>				Prepared & Analyzed: 12/13/12						
Chloride	9.94		mg/kg Wet	10.0		99.4	80-120	0.101	20	
<b>Duplicate (EL21306-DUP1)</b>				Source: 2L12001-01 Prepared & Analyzed: 12/13/12						
Chloride	37.9	1.00	mg/kg dry		39.6			4.52	20	
<b>Matrix Spike (EL21306-MS1)</b>				Source: 2L12001-01 Prepared & Analyzed: 12/13/12						
Chloride	129	1.00	mg/kg dry	75.0	39.6	119	80-120			

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21305 - TX 1005</b>										
<b>Blank (EL21305-BLK1)</b>										
Prepared & Analyzed: 12/12/12										
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	70.7		"	100		70.7	70-130			
Surrogate: o-Terphenyl	48.2		"	50.0		96.3	70-130			
<b>LCS (EL21305-BS1)</b>										
Prepared & Analyzed: 12/12/12										
C6-C12	810	25.0	mg/kg wet	1000		81.0	75-125			
>C12-C28	782	25.0	"	1000		78.2	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	98.0		"	100		98.0	70-130			
Surrogate: o-Terphenyl	56.9		"	50.0		114	70-130			
<b>LCS Dup (EL21305-BSD1)</b>										
Prepared & Analyzed: 12/12/12										
C6-C12	889	25.0	mg/kg wet	1000		88.9	75-125	9.34	20	
>C12-C28	860	25.0	"	1000		86.0	75-125	9.56	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	82.3		"	100		82.3	70-130			
Surrogate: o-Terphenyl	45.3		"	50.0		90.7	70-130			
<b>Matrix Spike (EL21305-MS1)</b>										
Source: 2L12001-01 Prepared & Analyzed: 12/12/12										
C6-C12	818	25.0	mg/kg dry	1000	ND	81.8	75-125			
>C12-C28	843	25.0	"	1000	ND	84.3	75-125			
>C28-C35	ND	25.0	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	80.2		"	100		80.2	70-130			
Surrogate: o-Terphenyl	45.6		"	50.0		91.3	70-130			
<b>Matrix Spike Dup (EL21305-MSD1)</b>										
Source: 2L12001-01 Prepared & Analyzed: 12/12/12										
C6-C12	822	25.0	mg/kg dry	1000	ND	82.2	75-125	0.563	20	
>C12-C28	815	25.0	"	1000	ND	81.5	75-125	3.36	20	
>C28-C35	ND	25.0	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	76.6		"	100		76.6	70-130			
Surrogate: o-Terphenyl	42.0		"	50.0		83.9	70-130			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By:



Date:

12/14/2012

Brent Barron, Laboratory Director/Technical Director

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If you have received this material in error, please notify us immediately at 432-686-7235.



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**

***PBELAB***

## Analytical Report

**Prepared for:**

Camille Bryant  
Nova Safety & Environment  
2057 Commerce  
Midland, TX 79703

Project: SUG 2C 8 in Line  
Project Number: IRP-1063  
Location: Lea Co., New Mexico  
Lab Order Number: 2L13001



**NELAP/TCEQ # T104704156-12-1**

Report Date: 12/17/12

Nova Safety & Environment  
2057 Commerce  
Midland TX, 79703

Project: SUG 2C 8 in Line  
Project Number: 1RP-1063  
Project Manager: Camille Bryant

Fax: (432) 520-7701

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RP @ 15 ft	2L13001-01	Soil	12/12/12 08:45	12-13-2012 09:33
S S/W @ 14 ft	2L13001-02	Soil	12/12/12 09:00	12-13-2012 09:33
S S/W-1@ 14 ft	2L13001-03	Soil	12/12/12 09:45	12-13-2012 09:33
RP-1 @ 15 ft	2L13001-04	Soil	12/12/12 14:00	12-13-2012 09:33

**RP @ 15 ft**  
**2L13001-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		106 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		127 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	118	1.12	mg/kg dry	1	EL21704	12/17/12	12/17/12	EPA 300.0	
% Moisture	11.0	0.1	%	1	EL21701	12/14/12	12/17/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C12-C28	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C28-C35	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
Surrogate: 1-Chlorooctane		66.3 %	70-130		EL21702	12/14/12	12/14/12	8015M	S-GC
Surrogate: o-Terphenyl		95.6 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/14/12	12/14/12	8015M	

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**S S/W @ 14 ft**  
**2L13001-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		106 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		132 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	135	1.12	mg/kg dry	1	EL21704	12/17/12	12/17/12	EPA 300.0	
% Moisture	11.0	0.1	%	1	EL21701	12/14/12	12/17/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C12-C28	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C28-C35	ND	28.1	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
Surrogate: 1-Chlorooctane		70.1 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Surrogate: o-Terphenyl		97.8 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/14/12	12/14/12	8015M	

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**S S/W-1@ 14 ft  
2L13001-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		118 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	70.9	1.10	mg/kg dry	1	EL21704	12/17/12	12/17/12	EPA 300.0	
% Moisture	9.0	0.1	%	1	EL21701	12/14/12	12/17/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C12-C28	ND	27.5	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C28-C35	ND	27.5	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
Surrogate: 1-Chlorooctane		71.3 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Surrogate: o-Terphenyl		100 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/14/12	12/14/12	8015M	

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**RP-1 @ 15 ft**  
**2L13001-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL21703	12/14/12	12/14/12	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		105 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %	75-125		EL21703	12/14/12	12/14/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>113</b>	1.11	mg/kg dry	1	EL21704	12/17/12	12/17/12	EPA 300.0	
<b>% Moisture</b>	<b>10.0</b>	0.1	%	1	EL21701	12/14/12	12/17/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.8	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C12-C28	ND	27.8	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
>C28-C35	ND	27.8	mg/kg dry	1	EL21702	12/14/12	12/14/12	8015M	
<i>Surrogate: 1-Chlorooctane</i>		73.5 %	70-130		EL21702	12/14/12	12/14/12	8015M	
<i>Surrogate: o-Terphenyl</i>		102 %	70-130		EL21702	12/14/12	12/14/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/14/12	12/14/12	8015M	

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21703 - General Preparation (GC)</b>										
<b>Blank (EL21703-BLK1)</b> <span style="float:right">Prepared &amp; Analyzed: 12/14/12</span>										
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	63.5		ug/kg	60.0		106	75-125			
Surrogate: 4-Bromofluorobenzene	76.6		"	60.0		128	75-125			S-09
<b>LCS (EL21703-BS1)</b> <span style="float:right">Prepared &amp; Analyzed: 12/14/12</span>										
Benzene	0.0946	0.00100	mg/kg wet	0.100		94.6	80-120			
Toluene	0.0994	0.00200	"	0.100		99.4	80-120			
Ethylbenzene	0.0974	0.00100	"	0.100		97.4	80-120			
Xylene (p/m)	0.201	0.00200	"	0.200		100	80-120			
Xylene (o)	0.0920	0.00100	"	0.100		92.0	80-120			
Surrogate: 1,4-Difluorobenzene	64.9		ug/kg	60.0		108	75-125			
Surrogate: 4-Bromofluorobenzene	63.2		"	60.0		105	75-125			
<b>LCS Dup (EL21703-BSD1)</b> <span style="float:right">Prepared &amp; Analyzed: 12/14/12</span>										
Benzene	0.0962	0.00100	mg/kg wet	0.100		96.2	80-120	1.67	20	
Toluene	0.102	0.00200	"	0.100		102	80-120	2.72	20	
Ethylbenzene	0.0999	0.00100	"	0.100		99.9	80-120	2.59	20	
Xylene (p/m)	0.207	0.00200	"	0.200		103	80-120	2.90	20	
Xylene (o)	0.0949	0.00100	"	0.100		94.9	80-120	3.03	20	
Surrogate: 1,4-Difluorobenzene	65.4		ug/kg	60.0		109	75-125			
Surrogate: 4-Bromofluorobenzene	65.9		"	60.0		110	75-125			
<b>Matrix Spike (EL21703-MS1)</b> <span style="float:right">Source: 2L14001-01</span> <span style="float:right">Prepared &amp; Analyzed: 12/14/12</span>										
Benzene	0.0405	0.00100	mg/kg dry	0.102	ND	39.7	80-120			QM-05
Toluene	0.0533	0.00200	"	0.102	ND	52.3	80-120			QM-05
Ethylbenzene	0.0598	0.00100	"	0.102	ND	58.6	80-120			QM-05
Xylene (p/m)	0.122	0.00200	"	0.204	ND	59.7	80-120			QM-05
Xylene (o)	0.0596	0.00100	"	0.102	ND	58.4	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	62.4		ug/kg	60.0		104	75-125			
Surrogate: 4-Bromofluorobenzene	69.1		"	60.0		115	75-125			

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
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 Project Manager: Camille Bryant

Fax: (432) 520-7701

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL21703 - General Preparation (GC)**

**Matrix Spike Dup (EL21703-MSD1)**

Source: 2L14001-01

Prepared & Analyzed: 12/14/12

Benzene	0.0351	0.00100	mg/kg dry	0.102	ND	34.4	80-120	14.2	20	QM-05
Toluene	0.0466	0.00200	"	0.102	ND	45.7	80-120	13.5	20	QM-05
Ethylbenzene	0.0534	0.00100	"	0.102	ND	52.3	80-120	11.3	20	QM-05
Xylene (p/m)	0.108	0.00200	"	0.204	ND	53.0	80-120	11.9	20	QM-05
Xylene (o)	0.0538	0.00100	"	0.102	ND	52.7	80-120	10.3	20	QM-05
Surrogate: 1,4-Difluorobenzene	62.6		ug/kg	60.0		104	75-125			
Surrogate: 4-Bromofluorobenzene	68.8		"	60.0		115	75-125			

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21701 - *** DEFAULT PREP ***</b>										
<b>Blank (EL21701-BLK1)</b> Prepared: 12/14/12 Analyzed: 12/17/12										
% Moisture	ND	0.1	%							
<b>Duplicate (EL21701-DUP1)</b> Source: 2L13001-01 Prepared: 12/14/12 Analyzed: 12/17/12										
% Moisture	10.0	0.1	%		11.0			9.52	20	
<b>Batch EL21704 - *** DEFAULT PREP ***</b>										
<b>Blank (EL21704-BLK1)</b> Prepared & Analyzed: 12/17/12										
Chloride	ND	1.00	mg/kg wet							
<b>LCS (EL21704-BS1)</b> Prepared & Analyzed: 12/17/12										
Chloride	10.1		mg/kg Wet	10.0		101	80-120			
<b>LCS Dup (EL21704-BSD1)</b> Prepared & Analyzed: 12/17/12										
Chloride	10.1		mg/kg Wet	10.0		101	80-120	0.0593	20	
<b>Duplicate (EL21704-DUP1)</b> Source: 2L14001-01 Prepared & Analyzed: 12/17/12										
Chloride	325	1.02	mg/kg dry		324			0.0723	20	
<b>Matrix Spike (EL21704-MS1)</b> Source: 2L14001-01 Prepared & Analyzed: 12/17/12										
Chloride	436	1.02	mg/kg dry	115	324	97.6	80-120			

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL21702 - 8015M</b>										
<b>Blank (EL21702-BLK1)</b>										
Prepared & Analyzed: 12/14/12										
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	67.1		"	100		67.1	70-130			S-GC
Surrogate: o-Terphenyl	43.5		"	50.0		87.1	70-130			
<b>LCS (EL21702-BS1)</b>										
Prepared & Analyzed: 12/14/12										
C6-C12	842	25.0	mg/kg wet	1000		84.2	75-125			
>C12-C28	824	25.0	"	1000		82.4	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	70.8		"	100		70.8	70-130			
Surrogate: o-Terphenyl	40.2		"	50.0		80.3	70-130			
<b>LCS Dup (EL21702-BSD1)</b>										
Prepared & Analyzed: 12/14/12										
C6-C12	853	25.0	mg/kg wet	1000		85.3	75-125	1.38	20	
>C12-C28	823	25.0	"	1000		82.3	75-125	0.128	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	72.0		"	100		72.0	70-130			
Surrogate: o-Terphenyl	39.9		"	50.0		79.8	70-130			
<b>Matrix Spike (EL21702-MS1)</b>										
Source: 2L14001-01 Prepared & Analyzed: 12/14/12										
C6-C12	874	25.5	mg/kg dry	1020	ND	85.7	75-125			
>C12-C28	844	25.5	"	1020	ND	82.7	75-125			
>C28-C35	ND	25.5	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	61.4		"	51.0		120	70-130			
Surrogate: o-Terphenyl	34.9		"	25.5		137	70-130			S-GC
<b>Matrix Spike Dup (EL21702-MSD1)</b>										
Source: 2L14001-01 Prepared & Analyzed: 12/14/12										
C6-C12	853	25.5	mg/kg dry	1020	ND	83.6	75-125	2.50	20	
>C12-C28	884	25.5	"	1020	ND	86.6	75-125	4.62	20	
>C28-C35	ND	25.5	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	83.5		"	102		81.8	70-130			
Surrogate: o-Terphenyl	48.2		"	51.0		94.4	70-130			

### Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- S-09 Surrogate recovery limits have been exceeded.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By:



Date:

12/17/2012

Brent Barron, Laboratory Director/Technical Director

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

If you have received this material in error, please notify us immediately at 432-686-7235.



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Camille Bryant

Project Name: SUG 2C 8" Line

Company Name: Nova Environmental

Project #: 1RP-1063

Company Address: 2057 Commerce Dr.

Project Loc: Lea, Co., New Mexico

City/State/Zip: Midland/TX/79703

PO #:

Telephone No: (432)5207720

Fax No:

Report Format:

Standard  TRRP  NPDES

Sampler Signature: \_\_\_\_\_

e-mail: cbryant@novatraining.cc

(lab use only)

ORDER #: 2L13001

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers								Matrix	Analyze For:		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT			
								Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)		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
-01	RP @ 15'			12/12/2012	8:45		1	X								S	X						X
-02	S SW @ 14'			12/12/2012	9:00		1	X								S	X						X
-03	S SW-1 @ 14'			12/12/2012	9:45		1	X								S	X						X
-04	RP-1 @ 15'			12/12/2012	14:00		1	X								S	X						X

Special Instructions:

Relinquished by: Will Breen

Date: 12/13 Time: 9:33

Received by:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by:

Date: 12/13/12 Time: 9:33

Relinquished by:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by:

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: [Signature]

Received by: [Signature]

Received by: [Signature]

Date: 12/13/12 Time: 9:33

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on containers?

Custody seals on containers?

Seals on coolers?

Sample Hand Delivered by Sampler/Client Rep.?  
by Courier? UPS DHL FedEx Lone Star  
Temperature Upon Receipt: 5.5 °C Factor: NCP

**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**

***PBELAB***

## Analytical Report

**Prepared for:**

Camille Bryant  
Nova Safety & Environment  
2057 Commerce  
Midland, TX 79703

Project: SUG 2C 8 in Line  
Project Number: 1RP-1063  
Location: Lea County, New Mexico  
Lab Order Number: 2L21002



NELAP/TCEQ # T104704156-12-1

Report Date: 12/28/12

Nova Safety & Environment  
2057 Commerce  
Midland TX, 79703

Project: SUG 2C 8 in Line  
Project Number: 1RP-1063  
Project Manager: Camille Bryant

Fax: (432) 520-7701

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N S/W 1 @ 14 ft	2L21002-01	Soil	12/19/12 09:00	12-21-2012 08:07
N S/W @ 14 ft	2L21002-02	Soil	12/19/12 09:50	12-21-2012 08:07
F1 @ 10 ft	2L21002-03	Soil	12/20/12 09:30	12-21-2012 08:07
F2 @ 10 ft	2L21002-04	Soil	12/20/12 09:40	12-21-2012 08:07
N S/W 3 @ 9 ft	2L21002-05	Soil	12/20/12 09:50	12-21-2012 08:07
N S/W 2 @ 9 ft	2L21002-06	Soil	12/20/12 10:00	12-21-2012 08:07
ES/W @ 14 ft	2L21002-07	Soil	12/20/12 11:30	12-21-2012 08:07
W S/W @ 14 ft	2L21002-08	Soil	12/20/12 14:00	12-21-2012 08:07

**N S/W 1 @ 14 ft**  
**2L21002-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		104 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		117 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	100	1.09	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	8.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		56.8 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		78.6 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**N S/W @ 14 ft  
 2L21002-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	21.3	1.10	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	9.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		64.0 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		90.2 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**F1 @ 10 ft**  
**2L21002-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	0.00103	0.00100	mg/kg dry	1	EL22807	12/27/12	12/27/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22807	12/27/12	12/27/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22807	12/27/12	12/27/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22807	12/27/12	12/27/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22807	12/27/12	12/27/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		107 %		75-125	EL22807	12/27/12	12/27/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		118 %		75-125	EL22807	12/27/12	12/27/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	33.3	1.10	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	9.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.5	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		63.9 %		70-130	EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		91.7 %		70-130	EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**F2 @ 10 ft**  
**2L21002-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	0.00181	0.00100	mg/kg dry	1	EL22808	12/21/12	12/22/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/22/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/22/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/22/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/22/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		108 %	75-125		EL22808	12/21/12	12/22/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		124 %	75-125		EL22808	12/21/12	12/22/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	25.0	1.11	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	10.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.8	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.8	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.8	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		57.4 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		80.8 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**N S/W 3 @ 9 ft**  
**2L21002-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		107 %		75-125	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		124 %		75-125	EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	2.59	1.08	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	7.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	26.9	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	26.9	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	26.9	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		61.7 %		70-130	EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		86.4 %		70-130	EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Permian Basin Environmental Lab

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

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**N S/W 2 @ 9 ft  
 2L21002-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	0.00158	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		108 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		123 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	8.14	1.09	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	8.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		61.2 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		82.9 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: IRP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**ES/W @ 14 ft**  
**2L21002-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		108 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		123 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	12.5	1.09	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
% Moisture	8.0	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
Surrogate: 1-Chlorooctane		63.1 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
Surrogate: o-Terphenyl		88.4 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**W S/W @ 14 ft  
 2L21002-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EL22808	12/21/12	12/21/12	EPA 8021B	
<i>Surrogate: 1,4-Difluorobenzene</i>		107 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %	75-125		EL22808	12/21/12	12/21/12	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

<b>Chloride</b>	<b>36.1</b>	1.09	mg/kg dry	1	EL22803	12/28/12	12/28/12	EPA 300.0	
<b>% Moisture</b>	<b>8.0</b>	0.1	%	1	EL22701	12/21/12	12/26/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C12-C28	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
>C28-C35	ND	27.2	mg/kg dry	1	EL22703	12/21/12	12/21/12	8015M	
<i>Surrogate: 1-Chlorooctane</i>		63.6 %	70-130		EL22703	12/21/12	12/21/12	8015M	S-GC
<i>Surrogate: o-Terphenyl</i>		91.0 %	70-130		EL22703	12/21/12	12/21/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	12/21/12	12/21/12	8015M	

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL22807 - General Preparation (GC)**

**Blank (EL22807-BLK1)**

Prepared & Analyzed: 12/27/12

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	64.4		ug/kg	60.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	72.2		"	60.0		120	75-125			

**LCS (EL22807-BS1)**

Prepared & Analyzed: 12/27/12

Benzene	0.0857	0.00100	mg/kg wet	0.100		85.7	80-120			
Toluene	0.0936	0.00200	"	0.100		93.6	80-120			
Ethylbenzene	0.0977	0.00100	"	0.100		97.7	80-120			
Xylene (p/m)	0.201	0.00200	"	0.200		100	80-120			
Xylene (o)	0.0933	0.00100	"	0.100		93.3	80-120			
Surrogate: 1,4-Difluorobenzene	62.9		ug/kg	60.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	61.8		"	60.0		103	75-125			

**LCS Dup (EL22807-BSD1)**

Prepared & Analyzed: 12/27/12

Benzene	0.0814	0.00100	mg/kg wet	0.100	0.00103	81.4	80-120	5.17	20	
Toluene	0.0919	0.00200	"	0.100		91.9	80-120	1.89	20	
Ethylbenzene	0.0968	0.00100	"	0.100		96.8	80-120	0.864	20	
Xylene (p/m)	0.199	0.00200	"	0.200		99.5	80-120	0.826	20	
Xylene (o)	0.0920	0.00100	"	0.100		92.0	80-120	1.46	20	
Surrogate: 1,4-Difluorobenzene	62.8		ug/kg	60.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	63.0		"	60.0		105	75-125			

**Matrix Spike (EL22807-MS1)**

Source: 2L21002-03

Prepared & Analyzed: 12/27/12

Benzene	0.0792	0.00100	mg/kg dry	0.110	0.00103	71.2	80-120			QM-05
Toluene	0.0871	0.00200	"	0.110	ND	79.2	80-120			QM-05
Ethylbenzene	0.0923	0.00100	"	0.110	ND	84.0	80-120			
Xylene (p/m)	0.190	0.00200	"	0.220	ND	86.4	80-120			
Xylene (o)	0.0876	0.00100	"	0.110	ND	79.7	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	64.8		ug/kg	60.0		108	75-125			
Surrogate: 4-Bromofluorobenzene	65.5		"	60.0		109	75-125			

**Organics by GC - Quality Control  
 Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL22808 - General Preparation (GC)**

**Blank (EL22808-BLK1)**

Prepared & Analyzed: 12/21/12

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	63.3		ug/kg	60.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	70.3		"	60.0		117	75-125			

**LCS (EL22808-BS1)**

Prepared & Analyzed: 12/21/12

Benzene	0.104	0.00100	mg/kg wet	0.100		104	80-120			
Toluene	0.113	0.00200	"	0.100		113	80-120			
Ethylbenzene	0.110	0.00100	"	0.100		110	80-120			
Xylene (p/m)	0.226	0.00200	"	0.200		113	80-120			
Xylene (o)	0.104	0.00100	"	0.100		104	80-120			
Surrogate: 1,4-Difluorobenzene	63.9		ug/kg	60.0		107	75-125			
Surrogate: 4-Bromofluorobenzene	65.9		"	60.0		110	75-125			

**LCS Dup (EL22808-BSD1)**

Prepared & Analyzed: 12/21/12

Benzene	0.105	0.00100	mg/kg wet	0.100		105	80-120	1.10	20	
Toluene	0.110	0.00200	"	0.100		110	80-120	2.19	20	
Ethylbenzene	0.107	0.00100	"	0.100		107	80-120	2.19	20	
Xylene (p/m)	0.221	0.00200	"	0.200		110	80-120	2.53	20	
Xylene (o)	0.102	0.00100	"	0.100		102	80-120	1.75	20	
Surrogate: 1,4-Difluorobenzene	65.0		ug/kg	60.0		108	75-125			
Surrogate: 4-Bromofluorobenzene	64.4		"	60.0		107	75-125			

**Matrix Spike (EL22808-MS1)**

Source: 2L21003-02

Prepared & Analyzed: 12/21/12

Benzene	0.0665	0.00100	mg/kg dry	0.102	ND	65.2	80-120			QM-05
Toluene	0.0748	0.00200	"	0.102	ND	73.3	80-120			QM-05
Ethylbenzene	0.0733	0.00100	"	0.102	ND	71.9	80-120			QM-05
Xylene (p/m)	0.151	0.00200	"	0.204	ND	73.8	80-120			QM-05
Xylene (o)	0.0699	0.00100	"	0.102	ND	68.5	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	66.0		ug/kg	60.0		110	75-125			
Surrogate: 4-Bromofluorobenzene	73.4		"	60.0		122	75-125			

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EL22808 - General Preparation (GC)**

Matrix Spike Dup (EL22808-MSD1)	Source: 2L21003-02			Prepared & Analyzed: 12/21/12						
Benzene	0.0802	0.00100	mg/kg dry	0.102	ND	78.6	80-120	18.7	20	QM-05
Toluene	0.0914	0.00200	"	0.102	ND	89.6	80-120	20.1	20	QM-05
Ethylbenzene	0.0886	0.00100	"	0.102	ND	86.8	80-120	18.8	20	
Xylene (p/m)	0.182	0.00200	"	0.204	ND	89.2	80-120	18.9	20	
Xylene (o)	0.0837	0.00100	"	0.102	ND	82.0	80-120	17.9	20	
Surrogate: 1,4-Difluorobenzene	65.7		ug/kg	60.0		109	75-125			
Surrogate: 4-Bromofluorobenzene	72.0		"	60.0		120	75-125			

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL22701 - *** DEFAULT PREP ***</b>										
<b>Blank (EL22701-BLK1)</b> Prepared: 12/21/12 Analyzed: 12/26/12										
% Moisture	ND	0.1	%							
<b>Duplicate (EL22701-DUP1)</b> Source: 2L21002-01 Prepared: 12/21/12 Analyzed: 12/26/12										
% Moisture	8.0	0.1	%		8.0			0.00	20	
<b>Batch EL22803 - *** DEFAULT PREP ***</b>										
<b>Blank (EL22803-BLK1)</b> Prepared & Analyzed: 12/28/12										
Chloride	ND	1.00	mg/kg wet							
<b>LCS (EL22803-BS1)</b> Prepared & Analyzed: 12/28/12										
Chloride	10.5		mg/kg Wet	10.0		105	80-120			
<b>LCS Dup (EL22803-BSD1)</b> Prepared & Analyzed: 12/28/12										
Chloride	10.3		mg/kg Wet	10.0		103	80-120	2.51	20	
<b>Duplicate (EL22803-DUP1)</b> Source: 2L21002-01 Prepared & Analyzed: 12/28/12										
Chloride	100	1.09	mg/kg dry		100			0.0217	20	
<b>Matrix Spike (EL22803-MS1)</b> Source: 2L21002-01 Prepared & Analyzed: 12/28/12										
Chloride	185	1.09	mg/kg dry	95.1	100	88.9	80-120			
<b>Matrix Spike (EL22803-MS2)</b> Source: 2L21003-03 Prepared & Analyzed: 12/28/12										
Chloride	760	2.60	mg/kg dry	221	500	117	80-120			

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL22703 - 8015M</b>										
<b>Blank (EL22703-BLK1)</b>										
Prepared: 12/21/12 Analyzed: 12/22/12										
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	70.6		"	100		70.6	70-130			
Surrogate: o-Terphenyl	47.0		"	50.0		94.1	70-130			
<b>LCS (EL22703-BS1)</b>										
Prepared & Analyzed: 12/21/12										
C6-C12	752	25.0	mg/kg wet	1000		75.2	75-125			
>C12-C28	770	25.0	"	1000		77.0	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	71.9		"	100		71.9	70-130			
Surrogate: o-Terphenyl	39.6		"	50.0		79.1	70-130			
<b>LCS Dup (EL22703-BSD1)</b>										
Prepared: 12/21/12 Analyzed: 12/22/12										
C6-C12	757	25.0	mg/kg wet	1000		75.7	75-125	0.628	20	
>C12-C28	768	25.0	"	1000		76.8	75-125	0.143	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	76.4		"	100		76.4	70-130			
Surrogate: o-Terphenyl	40.2		"	50.0		80.3	70-130			
<b>Matrix Spike (EL22703-MS1)</b>										
Source: 2L21003-02 Prepared & Analyzed: 12/21/12										
C6-C12	578	25.5	mg/kg dry	510	ND	113	75-125			
>C12-C28	537	25.5	"	510	ND	105	75-125			
>C28-C35	ND	25.5	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	64.3		"	51.0		126	70-130			
Surrogate: o-Terphenyl	33.5		"	25.5		131	70-130			S-GC
<b>Matrix Spike Dup (EL22703-MSD1)</b>										
Source: 2L21003-02 Prepared & Analyzed: 12/21/12										
C6-C12	587	25.5	mg/kg dry	510	ND	115	75-125	1.55	20	
>C12-C28	551	25.5	"	510	ND	108	75-125	2.68	20	
>C28-C35	ND	25.5	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	63.4		"	51.0		124	70-130			
Surrogate: o-Terphenyl	33.5		"	25.5		131	70-130			S-GC

### Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By:



Date:

12/28/2012

Brent Barron, Laboratory Director/Technical Director

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**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**

***PBELAB***

## Analytical Report

**Prepared for:**

Camille Bryant  
Nova Safety & Environment  
2057 Commerce  
Midland, TX 79703

Project: SUG 2C 8 in Line  
Project Number: 1RP-1063  
Location: Lea County, New Mexico  
Lab Order Number: 2L27001



**NELAP/TCEQ # T104704156-12-1**

Report Date: 01/03/13

Nova Safety & Environment  
2057 Commerce  
Midland TX, 79703

Project: SUG 2C 8 in Line  
Project Number: IRP-1063  
Project Manager: Camille Bryant

Fax: (432) 520-7701

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP	2L27001-01	Soil	12/26/12 12:00	12-27-2012 15:32

SP  
 2L27001-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Permian Basin Environmental Lab

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	EA30305	01/03/13	01/03/13	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EA30305	01/03/13	01/03/13	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EA30305	01/03/13	01/03/13	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EA30305	01/03/13	01/03/13	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EA30305	01/03/13	01/03/13	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		90.6 %	75-125		EA30305	01/03/13	01/03/13	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		135 %	75-125		EA30305	01/03/13	01/03/13	EPA 8021B	S-GC

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	59.1	1.02	mg/kg dry	1	EA30303	01/03/13	01/03/13	EPA 300.0	
% Moisture	2.0	0.1	%	1	EL22801	12/27/12	12/28/12	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	EA30304	01/02/13	01/02/13	8015M	
>C12-C28	ND	25.5	mg/kg dry	1	EA30304	01/02/13	01/02/13	8015M	
>C28-C35	ND	25.5	mg/kg dry	1	EA30304	01/02/13	01/02/13	8015M	
Surrogate: 1-Chlorooctane		78.5 %	70-130		EA30304	01/02/13	01/02/13	8015M	
Surrogate: o-Terphenyl		86.0 %	70-130		EA30304	01/02/13	01/02/13	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	01/02/13	01/02/13	8015M	

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EA30305 - General Preparation (GC)**

**Blank (EA30305-BLK1)**

Prepared & Analyzed: 01/03/13

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	61.0		ug/kg	60.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	77.0		"	60.0		128	75-125			S-GC

**LCS (EA30305-BS1)**

Prepared & Analyzed: 01/03/13

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120			
Toluene	0.103	0.00200	"	0.100		103	80-120			
Ethylbenzene	0.0977	0.00100	"	0.100		97.7	80-120			
Xylene (p/m)	0.203	0.00200	"	0.200		101	80-120			
Xylene (o)	0.0918	0.00100	"	0.100		91.8	80-120			
Surrogate: 1,4-Difluorobenzene	58.8		ug/kg	60.0		98.0	75-125			
Surrogate: 4-Bromofluorobenzene	64.3		"	60.0		107	75-125			

**LCS Dup (EA30305-BSD1)**

Prepared & Analyzed: 01/03/13

Benzene	0.108	0.00100	mg/kg wet	0.100		108	80-120	0.241	20	
Toluene	0.106	0.00200	"	0.100		106	80-120	2.70	20	
Ethylbenzene	0.100	0.00100	"	0.100		100	80-120	2.79	20	
Xylene (p/m)	0.209	0.00200	"	0.200		104	80-120	2.89	20	
Xylene (o)	0.0946	0.00100	"	0.100		94.6	80-120	3.00	20	
Surrogate: 1,4-Difluorobenzene	60.6		ug/kg	60.0		101	75-125			
Surrogate: 4-Bromofluorobenzene	66.8		"	60.0		111	75-125			

**Matrix Spike (EA30305-MS1)**

Source: 2L31003-03

Prepared & Analyzed: 01/03/13

Benzene	0.0572	0.00100	mg/kg dry	0.102	ND	56.0	80-120			QM-05
Toluene	0.0622	0.00200	"	0.102	ND	61.0	80-120			QM-05
Ethylbenzene	0.0673	0.00100	"	0.102	ND	66.0	80-120			QM-05
Xylene (p/m)	0.140	0.00200	"	0.204	ND	68.5	80-120			QM-05
Xylene (o)	0.0657	0.00100	"	0.102	ND	64.4	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	60.1		ug/kg	60.0		100	75-125			
Surrogate: 4-Bromofluorobenzene	88.9		"	60.0		148	75-125			S-GC

Nova Safety & Environment  
 2057 Commerce  
 Midland TX, 79703

Project: SUG 2C 8 in Line  
 Project Number: 1RP-1063  
 Project Manager: Camille Bryant

Fax: (432) 520-7701

**Organics by GC - Quality Control  
 Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EA30305 - General Preparation (GC)**

Matrix Spike Dup (EA30305-MSD1)	Source: 2L31003-03			Prepared & Analyzed: 01/03/13						
Benzene	0.0552	0.00100	mg/kg dry	0.102	ND	54.1	80-120	3.56	20	QM-05
Toluene	0.0660	0.00200	"	0.102	ND	64.7	80-120	5.84	20	QM-05
Ethylbenzene	0.0711	0.00100	"	0.102	ND	69.7	80-120	5.48	20	QM-05
Xylene (p/m)	0.144	0.00200	"	0.204	ND	70.5	80-120	2.92	20	QM-05
Xylene (o)	0.0677	0.00100	"	0.102	ND	66.4	80-120	2.97	20	QM-05
Surrogate: 1,4-Difluorobenzene	62.9		ug/kg	60.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	89.7		"	60.0		150	75-125			S-GC

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 2057 Commerce  
 Midland TX, 79703

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 Project Manager: Camille Bryant

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control  
 Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EA30303 - *** DEFAULT PREP ***</b>										
<b>Blank (EA30303-BLK1)</b> Prepared & Analyzed: 01/03/13										
Chloride	ND	1.00	mg/kg wet							
<b>LCS (EA30303-BS1)</b> Prepared & Analyzed: 01/03/13										
Chloride	10.1		mg/kg Wet	10.0		101	80-120			
<b>LCS Dup (EA30303-BSD1)</b> Prepared & Analyzed: 01/03/13										
Chloride	10.1		mg/kg Wet	10.0		101	80-120	0.0296	20	
<b>Duplicate (EA30303-DUP1)</b> Source: 2L27001-01 Prepared & Analyzed: 01/03/13										
Chloride	61.2	1.02	mg/kg dry		59.1			3.48	20	
<b>Matrix Spike (EA30303-MS1)</b> Source: 2L27001-01 Prepared & Analyzed: 01/03/13										
Chloride	160	1.02	mg/kg dry	89.3	59.1	113	80-120			
<b>Batch EL22801 - *** DEFAULT PREP ***</b>										
<b>Blank (EL22801-BLK1)</b> Prepared: 12/27/12 Analyzed: 12/28/12										
% Moisture	ND	0.1	%							
<b>Duplicate (EL22801-DUP1)</b> Source: 2L26006-01 Prepared: 12/27/12 Analyzed: 12/28/12										
% Moisture	6.0	0.1	%		6.0			0.00	20	
<b>Duplicate (EL22801-DUP2)</b> Source: 2L26005-07 Prepared: 12/27/12 Analyzed: 12/28/12										
% Moisture	14.0	0.1	%		16.0			13.3	20	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EA30304 - 8015M</b>										
<b>Blank (EA30304-BLK1)</b>										
Prepared & Analyzed: 01/02/13										
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	76.6		"	100		76.6	70-130			
Surrogate: o-Terphenyl	40.3		"	50.0		80.5	70-130			
<b>LCS (EA30304-BS1)</b>										
Prepared & Analyzed: 01/02/13										
C6-C12	1240	25.0	mg/kg wet	1050		118	75-125			
>C12-C28	1250	25.0	"	1050		119	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	105		"	100		105	70-130			
Surrogate: o-Terphenyl	46.5		"	50.0		92.9	70-130			
<b>LCS Dup (EA30304-BSD1)</b>										
Prepared & Analyzed: 01/02/13										
C6-C12	1290	25.0	mg/kg wet	1050		123	75-125	3.73	20	
>C12-C28	1290	25.0	"	1050		123	75-125	3.54	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	110		"	100		110	70-130			
Surrogate: o-Terphenyl	48.4		"	50.0		96.8	70-130			
<b>Matrix Spike (EA30304-MS1)</b>										
Source: 2L31003-03										
Prepared & Analyzed: 01/02/13										
C6-C12	1300	25.5	mg/kg dry	1070	ND	122	75-125			
>C12-C28	1240	25.5	"	1070	ND	116	75-125			
>C28-C35	ND	25.5	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	111		"	102		108	70-130			
Surrogate: o-Terphenyl	43.1		"	51.0		84.6	70-130			
<b>Matrix Spike Dup (EA30304-MSD1)</b>										
Source: 2L31003-03										
Prepared & Analyzed: 01/02/13										
C6-C12	1290	25.5	mg/kg dry	1070	ND	120	75-125	1.01	20	
>C12-C28	1310	25.5	"	1070	ND	122	75-125	5.21	20	
>C28-C35	ND	25.5	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	127		"	102		124	70-130			
Surrogate: o-Terphenyl	54.2		"	51.0		106	70-130			

### Notes and Definitions

- S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- LCS Laboratory Control Spike
- MS Matrix Spike
- Dup Duplicate

Report Approved By:



Date:

1/3/2013

Brent Barron, Laboratory Director/Technical Director

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

If you have received this material in error, please notify us immediately at 432-686-7235.



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706

Phone: 432-661-4184

Project Manager: Camille Bryant

Company Name: Nova Environmental

Company Address: 2057 Commerce Dr.

City/State/Zip: Midland/TX/79703

Telephone No: (432)520-7720

Sampler Signature: *Rubina Farhrell*

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

Fax No:

Report Format:

- Standard
- TRRP
- NPDES

Project Name: SUG 2C 8" Line

Project #: 1RP-1063

Project Loc: Lea, Co., New Mexico

PO #:

ORDER # 2127001  
(lab use only)

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water GW = Groundwater NP=Non-Potable	SL=Sludge S=Sol/Solid Specify Other	TPH: 418.1	TPH: TX 1005	Cations (Ca, Mg, Na, K)	Anions (Cl, SO <sub>4</sub> , Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8280	RCI	N.O.R.M.	Chlorides E 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	SP			12/26/2012	12:00		1	X								S		X								X					X

Preservation & # of Containers

Matrix

Analyze For:	TCLP:	TOTAL:
8015B		
8015A		
8015C		
8015D		
8015E		
8015F		
8015G		
8015H		
8015I		
8015J		
8015K		
8015L		
8015M		
8015N		
8015O		
8015P		
8015Q		
8015R		
8015S		
8015T		
8015U		
8015V		
8015W		
8015X		
8015Y		
8015Z		

Special Instructions:

Relinquished by: *Rubina Farhrell* Date: 12/27/12 Time: Received by: Date: Time: Received by: Date: Time: *Colleen Dickey* 12-27-12 15:52

Relinquished by: Date: Time: Received by: Date: Time: *Colleen Dickey* 12-27-12 15:52

Relinquished by: Date: Time: Received by: Date: Time: *Colleen Dickey* 12-27-12 15:52

Laboratory Comments:  
 Sample Containers Invert?   
 VOCs Free of Headspaces?   
 Labels on Container(s)   
 Custody seals on container(s)   
 Custody seals on cooler(s)   
 Sample Hand Delivered by Sampler/Client Rep.?   
 by Courier?  UPS  DHL  FedEx  Lone Star   
 Temperature Upon Receipt:  C  F  
 Adjusted:  C Factor

---

**Client:** Southern Union Gas Services  
**Project Name:** 2C 8-Inch Line

**Prepared by:** NOVA  
**Location:** Lea County, New Mexico

**Photograph No. 1**

**Direction:**  
Facing North

**Description:**  
View of the initial release area.



**Photograph No. 2**

**Direction:**  
Facing North

**Description:**  
View of excavation activities.



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**Client:** Southern Union Gas Services  
**Project Name:** 2C 8-Inch Line

**Prepared by:** NOVA  
**Location:** Lea County, New Mexico

**Photograph No. 3**

**Direction:**  
Facing North

**Description:**  
View of the restored site.

