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REMEDIATION SUMMARY & SOIL CLOSURE REQUEST

Property:

REGENCY FIELD SERVICES LLC.

Carlson 4"
Historical Release Site
Lea County, New Mexico
Unit Letter "I", Section 26, Township 25 South, Range 37 East
Latitude 32.09855, Longitude -103.12644
1RP-1462

February 2015 Apex Project No. 7250715007

Prepared for:

Regency Field Services LLC
421 West 3rd Street, Suite 250
Fort Worth, TX 76102

Attn: Ms. Crystal Callaway, BSN, RN, CHMM

Prepared by:

Thomas Franklin Project Manager

Liz Scaggs, P.G. Senior Technical Review



TABLE OF CONTENTS	
1.0 INTRODUCTION	l
1.1 Site Description & Background1	
1.2 Project Objective1	
1.3 Standard of Care	
1.4 Reliance	2
2.0 SITE RANKING & PROPOSED REMEDIAL ACTION GOALS	2
3.0 INITIAL RESPONSE, EXCAVATION & DRILLING ACTIVITIES	
3.1 Initial Response	
3.2 Excavation Activities	
3.3 Excavation Confirmation Soil Sampling Program	
3.4 Trenching Activities	
3.5 Trenching Confirmation Soil Sampling Program	
3.6 Drilling Activities	
3.7 Drilling Confirmation Soil Sampling Program4	ļ
4.0 LABORATORY ANALYTICAL METHODS4	ļ
	_
5.0 SITE RESTORATION/CLOSURE REQUEST4	ŀ
APPENDICES	
Appendix A	
Figure 1 - Site Location	
Figure 2 - Site Map (Trenches)	
Figure 3 - Site Map (Soil Boring)	
ga	
Appendix B	
Table 1 - Soil Analytical Summary Table (SUG)	
Table 2 - Soil Analytical Summary Table (NOVA)	
the state of the s	
Appendix C	
Photos	
Appendix D	
Appendix D Laboratory Analysis and Chain-of-Custody	
Laboratory Analysis and Chain-of-Custody	

Appendix F Initial and Final C-141



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REGENCY FIELD SERVICES LLC.

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Unit Letter "I", Section 26, Township 25 South, Range 37 East
Latitude 32.09855, Longitude -103.12644

February 2015 Apex Project No. 7250715007

1.0 INTRODUCTION

1.1 Site Description & Background

Apex TITAN, Inc. (Apex) has prepared this Remediation Summary and Soil Closure Request for the Regency Field Services, LLC (Regency) Carlson 4" leak (referred to hereinafter as the "Site" or "subject Site"). Remedial actions were reportedly conducted in accordance with New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (NMOCD) rules (NMAC 19.15.29 Release Notification) and the NMOCD Guidelines for Remediation of Leaks, Spills and Releases as guidance.

The Carlson 4" leak is located south of NM128, 4 miles east of Jal, New Mexico (GPS 32.09855, -103.12644). According to documentation provided by Southern Union Gas Services, (SUG), the operator at the time, the Initial C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) in June of 2007. Regency Field Services, LLC. has subsequently acquired this site.

The previous remedial activities were reportedly conducted by Ocotillo Environmental, LLC. (Ocotillo) and NOVA Safety and Environmental (NOVA). This Closure Request is solely based upon the interpretation of the data provided by Ocotillo and NOVA.

1.2 Project Objective

The objective of the Remediation Summary and Soil Closure Request is to present documentation of the activities that were performed to date and to request closure of the site.

1.3 Standard of Care

Apex's services are performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, express or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in

the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services will be performed in accordance with the scope of work agreed with the client.

1.4 Reliance

This report has been prepared for the exclusive use of Regency, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Regency and Apex. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.

2.0 SITE RANKING & PROPOSED REMEDIAL ACTION GOALS

The Site is subject to regulatory oversight by the NMOCD. To address activities related to releases, the NMOCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the NMOCD rules, specifically NMAC 19.15.29 *Release Notification*. These documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

In accordance with the NMOCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex utilized the general site characteristics to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the table below:

Rankin	g Criteria		Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	10
	>100 feet	0	
Wellhead Protection Area,	Yes	20	
<1,000 feet from a water source, or; <200 feet from private domestic water source.	No	0	0
Distance to Surface	<200 feet	20	
Water Body	200 to 1,000 feet	10	0
Water Body	>1,000 feet	0	
Total Rar	nking Score		10

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 10. This ranking is based on the following:

- The depth to the initial groundwater-bearing zone is less than 100 feet but greater than 50 feet at the Site.
- The impacted area is greater than 200 feet from a private domestic water source.

Distance to the nearest surface water body is greater than 1,000 ft.

Based on a Total Ranking Score of 10, cleanup goals for soils remaining in place include: 10 milligrams per kilogram (mg/Kg) for benzene, 50 mg/Kg for total benzene, toluene, ethlybenzene and xylene (BTEX), 1,000 mg/Kg for total petroleum hydrocarbons (TPH) and 500 mg/Kg for chloride.

3.0 INITIAL RESPONSE, EXCAVATION & TRENCHING ACTIVITIES

3.1 Initial Response

In June of 2007, SUG conducted an initial investigation at the Site. A ranking analysis was completed which ranked the site as a ten (10) and stated that ground water was an average of seventy (70) feet deep. During the investigation, samples were collected from the surface and field screened for hydrocarbons.

3.2 Excavation Activities

Excavation remediation activities were conducted by Ocotillo and began in February of 2008. The excavation activities included removing impacted material from the release area, field screening for hydrocarbons and transporting material that exceeded regulatory levels offsite to an approved disposal facility. The final dimensions of the excavation were approximately two hundred twenty five (225) feet in length, five (5) feet to thirty five (35) feet in width and fourteen (14) feet in depth. Approximately five hundred twenty eight (528) cubic yards (yd³) of impacted soil was transported to the Pitch Fork Land Farm for proper disposal, the Bill of Ladings are included in Appendix E.

3.3 Excavation Confirmation Soil Sampling Program

Composite soil samples were collected by SUG personnel and were analyzed for TPH. The results of the confirmation samples were compared to the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* (Section VI A. Contaminated Soils). None of the composite samples exhibited concentration above the regulatory levels.

3.4 Trenching Activities

NOVA personnel supervised trenching activities in the area that was not vertically delineated for BTEX and chlorides. In October of 2012; NOVA personnel were present to observe on-Site activities and to collect soil samples. Thirteen (13) trenches were installed and sampled as shown in Figure 2, Appendix A.

3.5 Trenching Confirmation Soil Sampling Program

Soil samples were collected by NOVA personnel and analyzed for BTEX, TPH and chlorides as shown in Appendix B, Table 2. The analytical sample results were below the NMOCD regulatory levels for BTEX and TPH. Elevated chloride concentrations were found in WW-2 and WW-3. WW-2 showed elevated chloride concentrations of 726 mg/Kg at eight (8) feet declining to 335 mg/Kg at sixteen (16) feet bgs. WW-3 showed elevated chloride concentrations of 2,200 mg/Kg at eight (8) foot declining to 1,040 mg/Kg at sixteen

(16) feet bgs. The chloride concentrations in the trenches were not fully vertically delineated; however, the chlorides were declining with depth.

3.6 Drilling Activities

NOVA personnel supervised soil boring activities in the areas that were not vertically delineated. On February 20, 2014, one (1) soil boring (SB-1) as shown in Figure 3, was installed to a depth of thirty (30) feet bgs.

3.7 Drilling Confirmation Soil Sampling Program

Three (3) soil samples were collected from SB-1 by NOVA personnel and analyzed for BTEX, TPH and chlorides. All three (3) samples were below the regulatory levels, vertically delineating the constituents of concern.

4.0 LABORATORY ANALYTICAL METHODS

Soil samples collected were analyzed for TPH GRO/DRO utilizing EPA method SW-846 8015, BTEX using EPA method SW-846 8021B and chlorides utilizing EPA method SW-846 300.1. Copies of the laboratory analytical reports are provided in Appendix D.

Soil samples were collected and placed in laboratory prepared glassware, placed on ice in a cooler. The sample coolers and completed chain-of-custody forms were relinquished to an approved laboratory for normal turn-around time.

Figure 2 and Figure 3 are Site plans that indicate the approximate location of the confirmation soil samples, test trench locations and the soil boring in relation to pertinent land features and general Site boundaries.

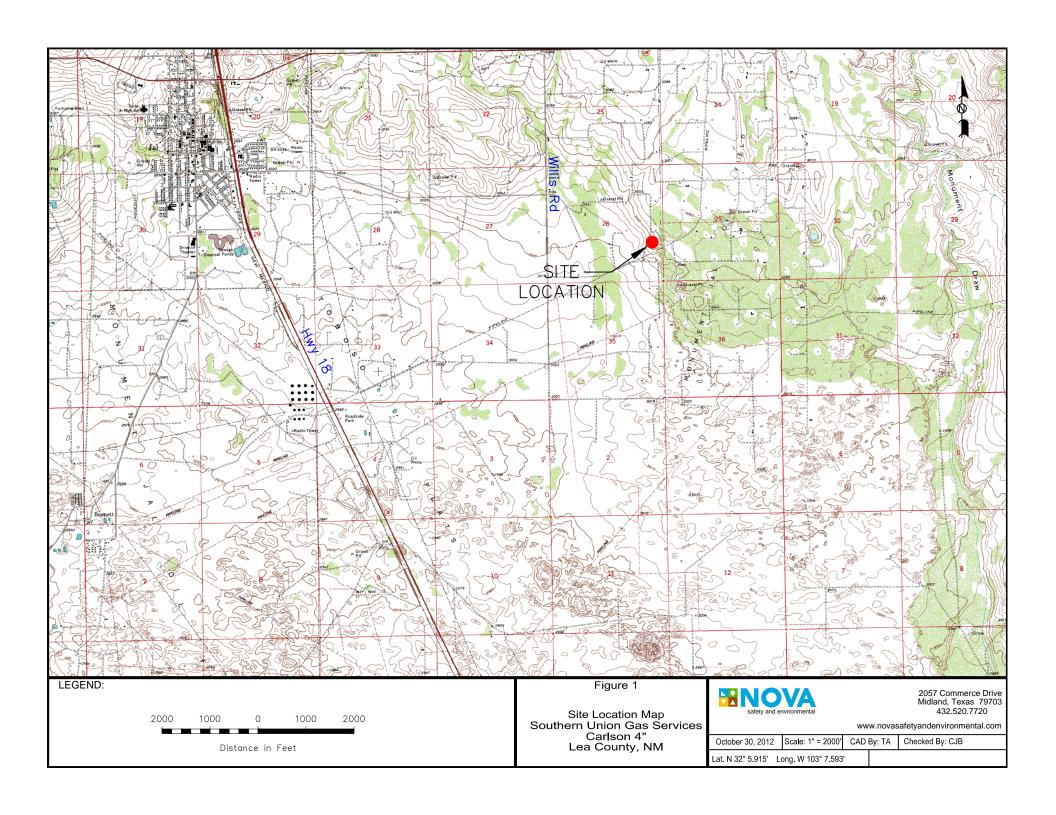
5.0 CLOSURE

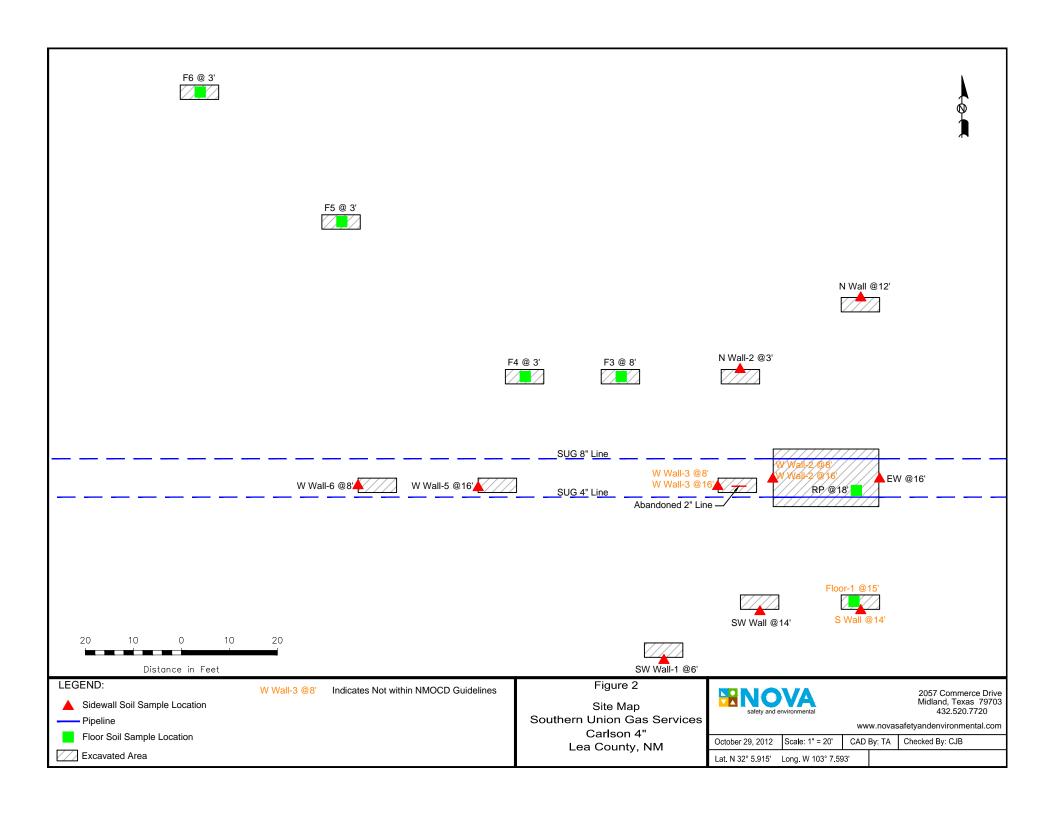
Based upon the data provided by Ocotillo and NOVA with the photos shown in Appendix C, the constituents of concern were horizontally and vertically delineated. The excavation was backfilled and brought to grade. Based upon the response actions and laboratory analytical results, no additional investigation and/or remediation appears warranted at this time. Regency respectfully requests closure of this Site. Copies of the Initial and Final C-141 are provided in Appendix F.

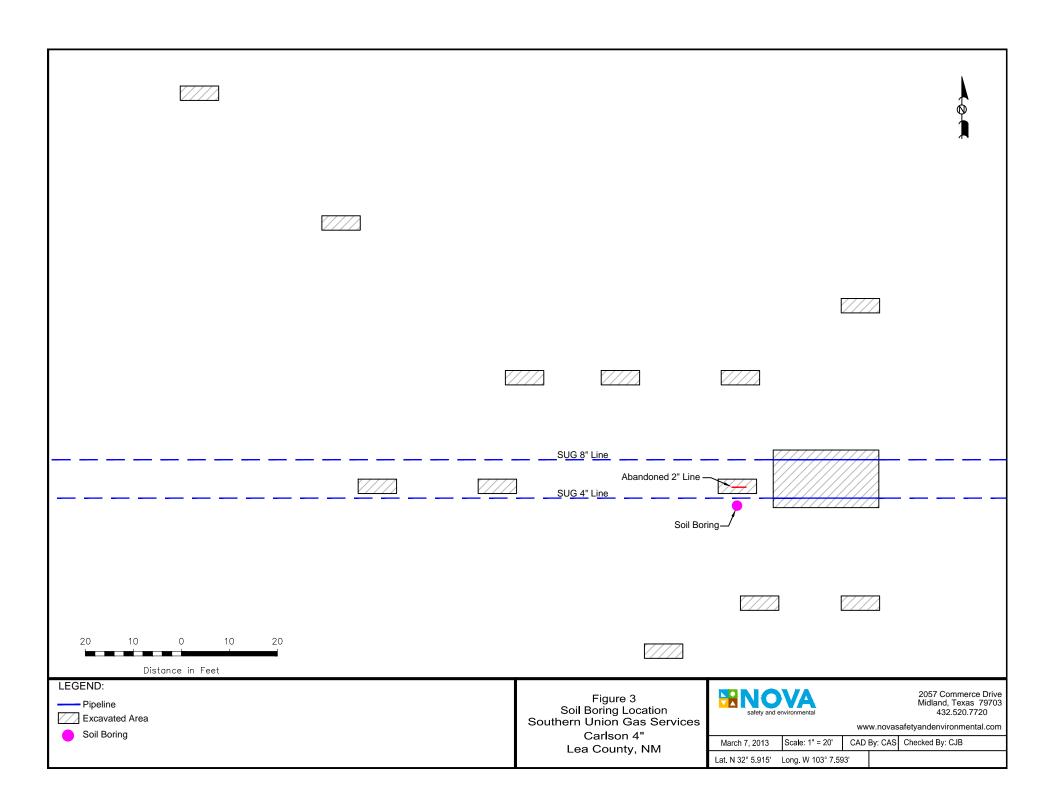


APPENDIX A

Figures









APPENDIX B

Soil Analytical Results

		SUG -	TABLE 1 SUG - Carlson 4" ANALYTICAL RES	SULTS						
Sample ID	Date	Sample Depth (feet)	TPH (GRO C6-C12) (mg/Kg)	TPH (DRO C12-C28) (mg/Kg)	TPH (DRO C28-C35) (mg/Kg)	Total TPH (mg/Kg)				
NMOCD - Reco	mmended Remediati	on Action Levels		NE		1,000				
	CONFIRMATION SAMPLES									
PR @ 11'	2/29/2008	11'	<18.4	<18.4	<18.4	<18.4				
B-Comp	2/29/2008	8'-14'	<17.1	149	28.5	177.5				
EW-Comp	2/29/2008	0-14'	<17.3	45.3	<17.3	45.3				
SW-Comp	2/29/2008	0-14'	<16.8	1250	296	1546				
WW-Comp	2/29/2008	0-14'	<16.8	204	84.2	288.2				
NW-Comp	2/29/2008	0-14'	<17.0	237	80.5	317.5				
S-1-Comp	2/29/2008	4"-10"	<15.6	140	36	176				
S-2-Comp	2/29/2008	6"-16"	<15.4	80.1	29.1	109.2				
S-2-Comp	2/29/2008	6"-24"	17.9	566	132	715.9				

mg/Kg- milligrams per Kilograms

NE - Not Established

Concentrations in Bold and Highlighted exceed the NMOCD Guidelines

This analytical data was collected by SUG personnel.

TABLE 2

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES CARLSON 4-INCH HISTORICAL RELEASE LEA COUNTY, NEW MEXICO NMOCD # 1RP-1462

All concentrations are reported in mg/Kg

				METHODS:	SW 846-8021b				METHOD:	SW 8015M		E 300.1
SAMPLE LOCATION	SAMPLE DATE	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 Limit		10	-	-	-	-	50	-	-	-	1,000	500
RP @ 18'	10/12/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.8	<27.8	<27.8	<27.8	33.0
EW @ 16'	10/12/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<28.1	<28.1	<28.1	<28.1	18.5
Floor 1 @ 15'	10/16/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.2	164	53.7	218	58.8
S Wall @ 14'	10/16/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.8	123	33.6	157	92.6
SW Wall @ 14'	10/16/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<29.4	<29.4	<29.4	<29.4	6.38
SW Wall 1 @ 6'	10/16/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.0	<26.0	<26.0	<26.0	34.9
N Wall @ 12'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.9	<26.9	<26.9	<25.0	51.5
N Wall 2 @ 3'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.0	<26.0	<26.0	<25.0	160
F4 @ 3'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.0	<26.0	<26.0	<25.0	39.6
F3 @ 8'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.3	<26.3	<26.3	<25.0	173
F5 @ 3'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.3	<26.3	<26.3	<25.0	164
F6 @ 3'	10/22/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.6	<26.6	<26.6	<25.0	8.11
WW-2 @ 8'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<28.1	<28.1	<28.1	<28.1	726
WW-2 @ 16'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.8	<27.8	<27.8	<25.0	335
WW-3 @ 8'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.8	<27.8	<27.8	<25.0	2,200
WW-3 @ 16'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<28.1	<28.1	<28.1	<25.0	1,040
WW-5 @ 16'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<27.5	<27.5	<27.5	<25.0	175
WW-6 @ 8'	10/23/12	< 0.00100	< 0.00200	< 0.00100	< 0.00200	< 0.00100	< 0.00200	<26.6	<26.6	<26.6	<25.0	94.5
SB-1 @ 15'	02/20/14	< 0.00105	< 0.00211	< 0.00105	< 0.00211	< 0.00105	< 0.00211	<26.3	36.9	<26.3	36.9	42.1
SB-1 @ 20'	02/20/14	< 0.00105	< 0.00211	< 0.00105	< 0.00211	< 0.00105	< 0.00211	<26.3	45.8	<26.3	45.8	26.1
SB-1 @ 30'	02/20/14	< 0.00104	< 0.00208	< 0.00104	< 0.00208	< 0.00104	< 0.00208	<26.0	<26.0	<26.0	<26.0	19.0



APPENDIX C

Photos





Southern Union Gas Services Site: Carlson 4"
Job #2007-024
Before Remediation 6/18/07





Southern Union Gas Services Site: Carlson 4"
Job #2007-024
Before Remediation 6/18/07



Photo 5



Photo 6

Southern Union Gas Services Site: Carlson 4"
Job #2007-024
Before Remediation 6/18/07





Photo 8

Southern Union Gas Services Site: Carlson 4"
Job #2007-024
Before Remediation 6/18/07



Photo 9



Photo 10

Southern Union Gas Services Site: Carlson 4"
Job #2007-024
Before Remediation 6/18/07



NOVA – Trenching Activities



NOVA – Trenching Activities



NOVA – Trenching Activities



NOVA – Trenching Activities



View West – Photo taken 01/21/2015



View North – Photo taken 01/21/2015



View South – Photo taken 01/21/2015



View North – Photo taken 01/21/2015



APPENDIX D

Laboratory Data Reports & Chain-of-Custody Documents

Analytical Report 298691

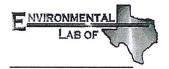
for

Southern Union Gas Services-Jal

Project Manager: Tony Savoie

Carlson 4" 2007-024

05-MAR-08



12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215

Florida certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675
Norcross(Atlanta), GA E87429

South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta





05-MAR-08

Project Manager: Tony Savoie Southern Union Gas Services-Jal 610 Commerce

Jal, NM 88252

Reference: XENCO Report No: 298691

Carlson 4"

Project Address: Willis Ranch

Tony Savoie:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 298691. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 298691 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brent Barron, II

Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 298691



Southern Union Gas Services-Jal, Jal, NM Carlson 4"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PR@ 11'	S	Feb-29-08 13:00	11 ft	298691-001
B-Comp.	S	Feb-29-08 13:00	8 - 14 ft	298691-002
EW-Comp.	S	Feb-29-08 13:00	0 - 14 ft	298691-003
SW-Comp.	S	Feb-29-08 13:00	0 - 14 ft	298691-004
WW-Comp.	S	Feb-29-08 13:00	0 - 14 ft	298691-005
NW-Comp.	S	Feb-29-08 13:00	0 - 14 ft	298691-006
S-1-Comp.	S	Feb-29-08 13:00	4 - 10 In	298691-007
S-2-Comp.	S	Feb-29-08 13:00	6 - 16 In	298691-008
S-2-Comp.	S	Feb-29-08 13:00	6 - 24 In	298691-009



Project Location: Willis Ranch Contact: Tony Savoie Project Id: 2007-024

Certificate of Analysis Summary 298691 Southern Union Gas Services-Jal, Jal, NM

Project Name: Carlson 4"

Date Received in Lab: Fri Feb-29-08 04:11 pm

Report Date: 05-MAR-08

Project Manager: Brent Barron, II

							in functional account	
1	Lab Id:	298691-001		298691-002	298691-003	298691-004	298691-005	298691-006
Analysis Requested	Field Id:	PR@ 11'		B-Comp.	EW-Comp.	SW-Comp.	WW-Comp.	NW-Comp.
manathan and inner	Depth:	11 ft		8-14 ft	0-14 ft	0-14 ft	0-14 ft	0-14 ft
	Matrix:	SOIL		SOIL	NOIL .	SOIL	SOIL	SOIL
	Sampled:	Feb-29-08 13:00	00	Feb-29-08 13:00	Feb-29-08 13:00	Feb-29-08 13:00	Feb-29-08 13:00	Feb-29-08 13:00
Percent Moisture	Extracted:							
	Analyzed:	Mar-04-08 08:06	90	Mar-04-08 08:07	Mar-04-08 08:08	Mar-04-08 08:09	Mar-04-08 08:10	Mar-04-08 08:11
	Units/RL:	%	RL	% RL	% RL	% RL	% RL	% RL
Percent Moisture		18.3	1.00	12.5 1.00	13.3 1.00	10.5 1.00	10.6 1.00	11.7 1.00
TPH By SW8015 Mod	Extracted:	Mar-03-08 15:30	30	Mar-03-08 15:30	Mar-03-08 15:30	Mar-03-08 15:30	Mar-03-08 15:30	Mar-03-08 15:30
	Analyzed:	Mar-03-08 18:50	20	Mar-03-08 19:16	Mar-03-08 19:42	Mar-03-08 20:07	Mar-03-08 20:33	Mar-03-08 20:59
	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		QN	18.4	ND 17.1	ND 17.3	ND 16.8	8.91 DN	ND 17.0
C12-C28 Diesel Range Hydrocarbons		QN	18.4	149 17.1	45.3 17.3	1250 16.8	204 16.8	237 17.0
C28-C35 Oil Range Hydrocarbons		Ð.	18.4	28.5 17.1	ND 17.3	296 16.8	84.2 16.8	80.5 17.0
Total TPH		QN		177.5	45.3	1546	288.2	317.5

Odessa Laboratory Director

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interperations and results expressed throughout this analytical report represent the best judgment or XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Since 1990



Certificate of Analysis Summary 298691 Southern Union Gas Services-Jal, Jal, NM

Project Name: Carlson 4"

Project 1d: 2007-024

Contact: Tony Savoie Project Location: Willis Ranch

Date Received in Lab: Fri Feb-29-08 04:11 pm

Report Date: 05-MAR-08 Project Manager: Brent Barron, II

	Lab Id:	298691-007	298691-008	298691-009	
Aualisis Donnacted	Field Id:	S-1-Comp.	S-2-Comp.	S-2-Comp.	
naisan wednesien	Depth:	4-10 In	6-16 In	6-24 In	
	Matrix:	SOIL	SOIL	SOIL	
	Sampled:	Feb-29-08 13:00	Feb-29-08 13:00	Feb-29-08 13:00	
Percent Moisture	Extracted:				
	Analyzed:	Mar-04-08 08:12	Mar-04-08 08:13	Mar-04-08 08:14	
	Units/RL:	% RL	% RL	% RL	
Percent Moisture		3.63 1.00	2.58 1.00	3.53 1.00	
TPH Bv SW8015 Mod	Extracted:	Mar-03-08 15:30	Mar-03-08 15:30	Mar-03-08 15:30	
	Analyzed:	Mar-03-08 21:24	Mar-03-08 21:49	Mar-03-08 22:15	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	
C6-C12 Gasoline Range Hydrocarbons		ND 15.6	ND 15.4	17.9 15.5	
C12-C28 Diesel Range Hydrocarbons		140 15.6	80.1 15.4	566 15.5	
C28-C35 Oil Range Hydrocarbons		36.0 15.6	29.1 15.4	132 15.5	
Total TPH		176	109.2	715.9	

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

Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

Brent Barron Odessa Laboratory Director

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 effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- 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.
- * Outside XENCO'S scope of NELAC Accreditation

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
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2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477



Form 2 - Surrogate Recoveries

Project Name: Carlson 4"



Work Order #: 298691

Lab Batch #: 716205

Sample: 298691-001 / SMP

Batch:

Project ID: 2007-024 Matrix: Soil

Units: mg/kg

SU	RROGATE R	ECOVERY	STUDY	
Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
87.8	100	88	70-135	
 49.5	50.0	99	70-135	

Lab Batch #: 716205

1-Chlorooctane o-Terphenyl

Sample: 298691-001 S / MS

Batch:

Matrix: Soil

Ilmita mallea

Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes	[-5	(-1	[D]	7021	
1-Chlorooctane	94.1	100	94	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 716205

TPH By SW8015 Mod

Analytes

Sample: 298691-001 SD / MSD

Batch: 1

Matrix: Soil

Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	8
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	99.1	100	99	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 716205

Sample: 298691-002 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	91.4	100	91	70-135	
o-Terphenyl	50.5	50.0	101	70-135	

Lab Batch #: 716205

Sample: 298691-003 / SMP

Batch: 1

Matrix: Soil

Units: mg/kg	SU	RROGATE RI	COVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	50.3	50.0	101	70-135	

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

Surrogate Recovery [D] = 100 * A / B

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

^{***} Poor recoveries due to dilution



Form 2 - Surrogate Recoveries

Project Name: Carlson 4"



Work Order #: 298691

Lab Batch #: 716205

Sample: 298691-004 / SMP

Project ID: 2007-024

50.0

Batch:

Units: mg/kg SURROGATE RECOVERY STUDY Amount True TPH By SW8015 Mod Control Found Amount Recovery Limits Flags [A] [B] %R %R [D] Analytes 1-Chlorooctane 92.1 100 92 70-135

58.6

Lab Batch #: 716205

o-Terphenyl

Sample: 298691-005 / SMP

Batch: 1 Matrix: Soil

117

70-135

Matrix: Soil

Units: mg/kg SURROGATE RECOVERY STUDY Amount TPH By SW8015 Mod True Control Recovery Found Amount Flags Limits [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 87.7 100 88 70-135 o-Terphenyl 48.6 50.0 70-135

Lab Batch #: 716205

Sample: 298691-006 / SMP

Batch:

1

1

Matrix: Soil

Units: mg/kg SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount True Control Found Amount Recovery Limits Flags [A] [B] %R %R [D] Analytes 1-Chlorooctane 91.5 92 100 70-135 o-Terphenyl 51.4 50.0 103 70-135

Lab Batch #: 716205

Sample: 298691-007 / SMP

Batch:

Matrix: Soil

Units: mg/kg SURROGATE RECOVERY STUDY Amount True Control TPH By SW8015 Mod Found Amount Recovery Limits Flags [A] [B] %R %R [D] **Analytes** 1-Chlorooctane 93.5 100 94 70-135 o-Terphenyl 102 50.9 50.0 70-135

Lab Batch #: 716205

Sample: 298691-008 / SMP

Batch:

Matrix: Soil

Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY	
TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.6	100	88	70-135	_
o-Terphenyl	47.4	50.0	95	70-135	

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

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

^{***} Poor recoveries due to dilution Surrogate Recovery [D] = 100 * A / B



Form 2 - Surrogate Recoveries

Project Name: Carlson 4"



Work Order #: 298691

Lab Batch #: 716205

Sample: 298691-009 / SMP

Batch:

Project ID: 2007-024 Matrix: Soil

Units: mg/kg SURROGATE RECOVERY STUDY TPH By SW8015 Mod Amount Found Amount Recovery Limits Flags [B] %R %R [A] **Analytes** [D] 1-Chlorooctane 91.3 91 100 70-135 o-Terphenyl 52.3 50.0 105 70-135

Lab Batch #: 716205

Sample: 505444-1-BKS/BKS

Batch:

1

Matrix: Solid

Units: mg/kg	SU	RROGATE RI	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	92.5	100	93	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 716205

Sample: 505444-1-BLK / BLK

Batch: 1

Matrix: Solid

Units: mg/kg	SU	RROGATE R	ECOVERY	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
Analytes			[D]		
1-Chlorooctane	86.3	100	86	70-135	
o-Terphenyl	47.3	50.0	95	70-135	

Lab Batch #: 716205

Sample: 505444-1-BSD / BSD

Batch: 1

Matrix: Solid

Units: mg/kg	SU	RROGATE RI	ECOVERY S	STUDY	
TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes			[2]		
1-Chlorooctane	94.4	100	94	70-135	
o-Terphenyl	50.7	50.0	101	70-135	

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

^{**} Surrogates outside limits; data and surrogates confirmed by reanalysis

^{***} Poor recoveries due to dilution Surrogate Recovery [D] = 100 * A / B



BS / BSD Recoveries



Project Name: Carlson 4"

Work Order #: 298691

Analyst: SHE

Lab Batch ID: 716205

Sample: 505444-1-BKS

Date Prepared: 03/03/2008

Batch #: 1

Project ID: 2007-024 **Date Analyzed:** 03/03/2008

Matrix: Solid

Units: mg/kg		BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	PIKE / B	LANKS	PIKE DUPL	ICATE I	RECOVE	RY STUD	\	
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike	Spike Added	Blank Spike Dunlicate	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
Analytes		[B]	[C]	اما	[3]	Result [F]	<u>ច</u>	2	No.	A INOV	
C6-C12 Gasoline Range Hydrocarbons	QN	1000	841	84	1000	998	87	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1000	830	83	1000	859	98	3	70-135	35	



Form 3 - MS / MSD Recoveries

Project Name: Carlson 4"



Work Order #: 298691

Lab Batch ID: 716205

Date Analyzed: 03/04/2008

QC-Sample ID: 298691-001 S Date Prepared: 03/03/2008

Batch #:

Matrix: Soil

Project ID: 2007-024

SHE Analyst:

Reporting Units: mg/kg		Σ	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	[/MAT]	RIX SPII	KE DUPLICA'	re rec	VERY S	STUDY		
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	le Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	<u>[C</u>	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	D
C6-C12 Gasoline Range Hydrocarbons	ND	1220	1030	84	1220	1080	68	9	70-135	35	
C12-C28 Diesel Range Hydrocarbons	QN	1220	1010	83	1220	1070	88	9	70-135	35	

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E Matrix Spike Percent Recovery [D] = 100*(C-A)/BRelative Percent Difference RPD = 200*(D-G)/(D+G)

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: Carlson 4"



Work Order #: 298691

Lab Batch #: 716073

Date Analyzed: 03/04/2008

Date Prepared:

03/04/2008

1

Project ID: 2007-024 Analyst: IRO

QC-Sample ID: 298737-001 D

Batch #:

Matrix: Soil

Reporting Units: %	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[B]			
Percent Moisture	4.58	1.86	6	20	

Environmental Lab of Texas	Геха	S				2 5	7 000	CHAIN OF 12600 West I-20 East Odessa Texas 79765	HAII -20 E	V OP	ກິວ	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST PRIOR: 142-26 Best PRIOR: 422-262-4740 Prior: Angles	Y RE	COR	Ø.	ð	NAL Ph	YS/S	RE(ALYSIS REQUEST Phone: 432-563-1800 Fav. 439-553-1414	F 85				
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Environmental Lab of Texas
Variance/ Corrective Action Report- Sample Log-In

	Validation Contestive Action Net	Juli- Gampi	e Log-II	1	
Client:	3.U.G.S.				024
Date/ Time:	2 79.08 16:11				
Lab ID#:	<u> </u>				
Initials:	<u>a</u> L				
	Sample Receipt	Chacklist			
	. Cample Receipt	CHECKHSI		CI	lent Initials
#1 Tempe	rature of container/ cooler?	Yes)	No	1 4.5 °C	lent initials
	ng container in good condition?	Yes	No	7.5	
	y Seals intact on shipping container/ cooler?	Yes	No	Not Present	
	y Seals intact on sample bottles/ container?	Yes	No	Not Present	
	of Custody present?	Yes	No	Horriesen	
#6 Sample	e instructions complete of Chain of Custody?	Yes	No		
	of Custody signed when relinquished/ received?	Yes	No		
	of Custody agrees with sample label(s)?	Yes'	No	ID written on Cont./ Lid	
	ner label(s) legible and intact?	Yes	No	Not Applicable	
#10 Sampl	e matrix/ properties agree with Chain of Custody?	Yes	No	1 vot / tppilodbic	
#11 Contai	iners supplied by ELOT?	Yes	No		
#12 Sampl	es in proper container/ bottle?	Yes.	No	See Below	
	les properly preserved?	Yes)	No	See Below	
	e bottles intact?	Yes	No	- CCC DCIOW	
	rvations documented on Chain of Custody?	Yes	No		
	iners documented on Chain of Custody?	Yès'	No		
	ent sample amount for indicated test(s)?	Yes	No	See Below	
	nples received within sufficient hold time?	Yes	No	See Below	
	ntract of sample(s)?	Yeş	No	Not Applicable	
	samples have zero headspace?	Yes)	No	Not Applicable	
Contact: Regarding:	Variance Docun Contacted by:	nentation		Date/ Time: _	
Corrective A	Action Taken:				
Check all th	at Apply: See attached e-mail/ fax Client understands and would Cooling process had begun s				

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



Analytical Report

Prepared for:

Camille Bryant

Nova Safety & Environment

2057 Commerce

Midland, TX 79703

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Location: Lea County, New Mexico

Lab Order Number: 2J15001



NELAP/TCEQ # T104704156-12-1

Report Date: 10/25/12

Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RP @ 18'	2J15001-01	Soil	10/12/12 11:15	10-15-2012 13:15
EW @ 16'	2J15001-02	Soil	10/12/12 11:45	10-15-2012 13:15

Fax: (432) 520-7701

Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

Organics by GC Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RP @ 18' (2J15001-01) Soil						•			
Benzene	ND	0.00100	mg/kg dry	1	EJ21701	10/16/12	10/16/12	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: 1,4-Difluorobenzene		111 %	75-12	?5	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	75-12	?5	"	"	"	"	
C6-C12	ND	27.8	mg/kg dry	"	EJ21703	10/16/12	10/16/12	8015M	
>C12-C28	ND	27.8	"	"	"	"	"	"	
>C28-C35	ND	27.8	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		109 %	70-13	80	"	"	"	"	
Surrogate: o-Terphenyl		122 %	70-13	80	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	"	
EW @ 16' (2J15001-02) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ21701	10/16/12	10/16/12	EPA 8021B	
Toluene	ND	0.00200	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00200	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: 1,4-Difluorobenzene		112 %	75-12	?5	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	75-12	?5	"	"	"	"	
C6-C12	ND	28.1	mg/kg dry	"	EJ21703	10/16/12	10/16/12	8015M	
>C12-C28	ND	28.1	"	"	"	"	"	"	
>C28-C35	ND	28.1	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		119 %	70-13	80	"	"	"	"	
Surrogate: o-Terphenyl		125 %	70-13	80	"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	"	

Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

General Chemistry Parameters by EPA / Standard Methods Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RP @ 18' (2J15001-01) Soil									,
Chloride	33.0	1.11	mg/kg dry wt. dry	1	EJ21802	10/18/12	10/18/12	EPA 300.0	
% Moisture	10.0	0.1	%	"	EJ21702	10/17/12	10/17/12	% calculation	
EW @ 16' (2J15001-02) Soil									
Chloride	18.5	1.12	mg/kg dry wt. dry	1	EJ21802	10/18/12	10/18/12	EPA 300.0	
% Moisture	11.0	0.1	%	"	EJ21702	10/17/12	10/17/12	% calculation	

2057 Commerce Midland TX, 79703 Project. SOO Historical Carlson 4 High TRF-140

Fax: (432) 520-7701

Project Number: 1RP-1462 Project Manager: Camille Bryant

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ21701 - General Preparation (GC)	ı									
Dll. (F131701 D1 1/1)				Dramarad 6	. A malvæadi	10/16/12				

Blank (EJ21701-BLK1)				Prepared &	Analyzed:	10/16/12				
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	66.6		ug/kg	60.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	64.4		"	60.0		107	75-125			
LCS (EJ21701-BS1)				Prepared &	Analyzed:	10/16/12				
Benzene	0.0872	0.00100	mg/kg wet	0.100		87.2	80-120			
Toluene	0.116	0.00200	"	0.100		116	80-120			
Ethylbenzene	0.115	0.00100	"	0.100		115	80-120			
Xylene (p/m)	0.237	0.00200	"	0.200		118	80-120			
Xylene (o)	0.108	0.00100	"	0.100		108	80-120			
Surrogate: 1,4-Difluorobenzene	61.1		ug/kg	60.0		102	75-125			
Surrogate: 4-Bromofluorobenzene	61.5		"	60.0		102	75-125			
LCS Dup (EJ21701-BSD1)				Prepared &	Analyzed:	10/16/12				
Benzene	0.0877	0.00100	mg/kg wet	0.100		87.7	80-120	0.526	20	
Toluene	0.114	0.00200	"	0.100		114	80-120	1.41	20	
Ethylbenzene	0.113	0.00100	"	0.100		113	80-120	2.32	20	
Xylene (p/m)	0.235	0.00200	"	0.200		117	80-120	0.951	20	
Xylene (o)	0.107	0.00100	"	0.100		107	80-120	0.316	20	
Surrogate: 1,4-Difluorobenzene	69.9		ug/kg	60.0		116	75-125			
Surrogate: 4-Bromofluorobenzene	66.8		"	60.0		111	75-125			
Matrix Spike (EJ21701-MS1)	Sour	ce: 2J15001	-02	Prepared &	Analyzed	10/16/12				
Benzene	0.0452	0.00100	mg/kg dry	0.112	ND	40.2	80-120			QM-05
Toluene	0.0618	0.00200	"	0.112	ND	55.0	80-120			QM-05
Ethylbenzene	0.0689	0.00100	"	0.112	ND	61.3	80-120			QM-05
Xylene (p/m)	0.139	0.00200	"	0.225	ND	62.1	80-120			QM-05
Xylene (o)	0.0665	0.00100	"	0.112	ND	59.2	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	66.7		ug/kg	60.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	67.6		"	60.0		113	75-125			

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

Analyta	D can't	Reporting	I Init-	Spike	Source	%REC	%REC	RPD	RPD Limit	Nata-
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	KPD	Limit	Notes
Batch EJ21701 - General Preparation (GC)										
Matrix Spike Dup (EJ21701-MSD1)	Sou	rce: 2J15001	-02	Prepared &	ኔ Analyzed:	10/16/12				
Benzene	0.0471	0.00100	mg/kg dry	0.112	ND	41.9	80-120	4.19	20	QM-0
Toluene	0.0642	0.00200	"	0.112	ND	57.2	80-120	3.94	20	QM-0
Ethylbenzene	0.0717	0.00100	"	0.112	ND	63.8	80-120	3.98	20	QM-0
Xylene (p/m)	0.145	0.00200	"	0.225	ND	64.7	80-120	4.18	20	QM-0
Xylene (o)	0.0695	0.00100	"	0.112	ND	61.8	80-120	4.43	20	QM-0
Surrogate: 1,4-Difluorobenzene	66.6		ug/kg	60.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	67.3		"	60.0		112	75-125			
Batch EJ21703 - 8015M										
Blank (EJ21703-BLK1)				Prepared &	ኔ Analyzed:	10/16/12				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	61.7		"	50.0		123	70-130			
LCS (EJ21703-BS1)				Prepared &	ኔ Analyzed:	10/16/12				
C6-C12	874	25.0	mg/kg wet	1000		87.4	75-125			
>C12-C28	795	25.0	"	1000		79.5	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	55.5		"	50.0		111	70-130			
LCS Dup (EJ21703-BSD1)				Prepared &	ኔ Analyzed:	10/16/12				
C6-C12	912	25.0	mg/kg wet	1000		91.2	75-125	4.21	20	
>C12-C28	806	25.0	"	1000		80.6	75-125	1.42	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	117		"	100		117	70-130			
Surrogate: o-Terphenyl	57.5		"	50.0		115	70-130			

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

Fax: (432) 520-7701

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
,	Result	Liiiit	Onits	Level	Result	/UKEC	Lillits	KfD	Lillit	110105
Batch EJ21703 - 8015M										
Matrix Spike (EJ21703-MS1)	Sourc	e: 2J15001	-02	Prepared &	Analyzed	: 10/16/12				
C6-C12	932	28.1	mg/kg dry	1120	ND	82.9	75-125			
>C12-C28	928	28.1	"	1120	ND	82.6	75-125			
>C28-C35	ND	28.1	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	120		"	112		107	70-130			
Surrogate: o-Terphenyl	56.3		"	56.2		100	70-130			
Matrix Spike Dup (EJ21703-MSD1)	Sourc	e: 2J15001	-02	Prepared &	Analyzed	: 10/16/12				
C6-C12	926	28.1	mg/kg dry	1120	ND	82.4	75-125	0.640	20	
>C12-C28	955	28.1	"	1120	ND	85.0	75-125	2.87	20	
>C28-C35	ND	28.1	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	119		"	112		106	70-130			
Surrogate: o-Terphenyl	54.4		"	56.2		96.8	70-130			

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

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
Batch EJ21702 - *** DEFAULT PREP ***										
Blank (EJ21702-BLK1)				Prepared &	Analyzed:	10/17/12				
% Moisture	ND	0.1	%							
Duplicate (EJ21702-DUP1)	Sour	ce: 2J15001-	01	Prepared &	Analyzed:	10/17/12				
% Moisture	10.0	0.1	%		10.0			0.00	20	
Batch EJ21802 - *** DEFAULT PREP ***										
Blank (EJ21802-BLK1)				Prepared &	: Analyzed:	10/18/12				
Chloride	ND	1.00	mg/kg dry wt. wet							
LCS (EJ21802-BS1)				Prepared &	: Analyzed:	10/18/12				
Chloride	10.3		mg/kg Wet	10.0		103	80-120			
LCS Dup (EJ21802-BSD1)				Prepared &	Analyzed:	10/18/12				
Chloride	10.6		mg/kg Wet	10.0		106	80-120	3.47	20	
Duplicate (EJ21802-DUP1)	Sour	ce: 2J15001-	01	Prepared &	: Analyzed:	10/18/12				
Chloride	33.0	1.11	mg/kg dry wt. dry		33.0			0.168	20	
Matrix Spike (EJ21802-MS1)	Sour	ce: 2J15001-	01	Prepared &	Analyzed:	10/18/12				
Chloride	139	1.11	mg/kg dry wt. dry	97.2	33.0	109	80-120			

Fax: (432) 520-7701

2057 Commerce Project Number: 1RP-1462
Midland TX, 79703 Project Manager: Camille Bryant

Notes and Definitions

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

	Drew	Davior C			
Report Approved By:			Date:	10/25/2012	

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 432-661-4184.

Telephone No:

City/State/Zip:

Midland, Texas 79703

Fax No:

432.520.7701

Report Format:

Standard

☐ TRRP

☐ NPDES

e-mail:

cbryant@novatraining.cc

rose.slade@sug.com

8015B

TX 1006

Sampler Signature:

-0 ይ

FIELD CODE

EW @ 16' RP @ 18'

10/12/2012 10/12/2012

11:45 11:15

× \times

Soi Soil LAB # (lab use only)

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid NP≕Non-Potable Specify Other 418.1 (8015M)

TX 1005

Cations (Ca, Mg, Na, K)

Anions (CI, SO4, Alkalinity) SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

BTEX 8021B/5030 or BTEX 8260

300

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

TPH:

Volatiles Semivolatiles

RCI N.O.R.M.

Standard TAT

×

Field Filtered Total #. of Containers

HNO₃ HCI H₂SO₄ NaOH $Na_2S_2O_3$ None Other (Specify)

Relinquished by:

Date

Time

7

Received by:

Laboratory Comments:
Sample Containers Infact?
VOCs Free of Headspace?
Labels on container(s)
Custody seals on container(s)
Custody seals on cooler(s)
Sample Hand Delivered

Special Instructions:

	TiOject#.	NOVA dalety allo cilvilosillesida	COMPANY NAME
	D****	POCA Colot and Engineering	Company Namo
SUG Historical Carlson 4 Inch 1RP-1462	Project Name:	Camille Bryant	Project Manager:
		Midland, Texas 79706	
		10014 S. County Road 1213	
Phone: 432-661-4184		Permian Basin Environmental Lab, LP	
		CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST	

Page 10 of 10

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



Analytical Report

Prepared for:

Camille Bryant

Nova Safety & Environment

2057 Commerce

Midland, TX 79703

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Location: None Given

Lab Order Number: 2J17002



NELAP/TCEQ # T104704156-12-1

Report Date: 10/25/12

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor 1 @ 15'	2J17002-01	Soil	10/16/12 09:00	10-17-2012 11:54
S Wall @ 14'	2J17002-02	Soil	10/16/12 09:30	10-17-2012 11:54
SW Wall @ 14'	2J17002-03	Soil	10/16/12 10:45	10-17-2012 11:54
SW Wall 1 @ 6'	2J17002-04	Soil	10/16/12 11:20	10-17-2012 11:54

Fax: (432) 520-7701

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

Floor 1 @ 15' 2J17002-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environn	nental Lal	b				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		116 %	75-1	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-1	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
C6-C12	ND	27.2	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
>C12-C28	164	27.2	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
>C28-C35	53.7	27.2	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
Surrogate: 1-Chlorooctane		125 %	70-1	30	EJ21901	10/17/12	10/17/12	8015M	
Surrogate: o-Terphenyl		129 %	70-1	30	EJ21901	10/17/12	10/17/12	8015M	
Total Hydrocarbon nC6-nC35	218	25.0	mg/kg dry	1	[CALC]	10/17/12	10/17/12	8015M	
General Chemistry Parameters by EPA	A / Standard Method	s							
Chloride	58.8	1.09n	g/kg dry wt. dı	1	EJ21902	10/19/12	10/19/12	EPA 300.0	
% Moisture	8.0	0.1	%	1	EJ21801	10/17/12	10/18/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

S Wall @ 14' 2J17002-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basii	n Environn	nental Lal	o				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		117 %	75-1	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		103 %	75-1	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
C6-C12	ND	27.8	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
>C12-C28	123	27.8	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
>C28-C35	33.6	27.8	mg/kg dry	1	EJ21901	10/17/12	10/17/12	8015M	
Surrogate: 1-Chlorooctane		113 %	70-1	30	EJ21901	10/17/12	10/17/12	8015M	
Surrogate: o-Terphenyl		128 %	70-1	30	EJ21901	10/17/12	10/17/12	8015M	
Total Hydrocarbon nC6-nC35	157	25.0	mg/kg dry	1	[CALC]	10/17/12	10/17/12	8015M	
General Chemistry Parameters by EP	A / Standard Method	ls							
Chloride	92.6	1.11n	g/kg dry wt. dı	r 1	EJ21902	10/19/12	10/19/12	EPA 300.0	
% Moisture	10.0	0.1	%	1	EJ21801	10/17/12	10/18/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

SW Wall @ 14' 2J17002-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	P	ermian Basii	ı Environm	iental Lak)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		117 %	75-1.	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-1.	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
C6-C12	ND	29.4	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
>C12-C28	ND	29.4	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
>C28-C35	ND	29.4	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
Surrogate: 1-Chlorooctane		111 %	70-1.	30	EJ21901	10/17/12	10/18/12	8015M	
Surrogate: o-Terphenyl		128 %	70-1.	30	EJ21901	10/17/12	10/18/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/17/12	10/18/12	8015M	
General Chemistry Parameters by EPA / S	tandard Metho	ds							
Chloride	6.38	1.18ng	g/kg dry wt. dr	1	EJ21902	10/19/12	10/19/12	EPA 300.0	
% Moisture	15.0	0.1	%	1	EJ21801	10/17/12	10/18/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

SW Wall 1 @ 6' 2J17002-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environm	iental Lak)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-1.	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.5 %	75-1.	25	EJ21804	10/17/12	10/18/12	EPA 8021B	
C6-C12	ND	26.0	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
>C12-C28	ND	26.0	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
>C28-C35	ND	26.0	mg/kg dry	1	EJ21901	10/17/12	10/18/12	8015M	
Surrogate: 1-Chlorooctane		112 %	70-1.	30	EJ21901	10/17/12	10/18/12	8015M	
Surrogate: o-Terphenyl		129 %	70-1.	30	EJ21901	10/17/12	10/18/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/17/12	10/18/12	8015M	
General Chemistry Parameters by EF	PA / Standard Method	s							
Chloride	34.9	1.041	g/kg dry wt. dr	1	EJ21902	10/19/12	10/19/12	EPA 300.0	
% Moisture	4.0	0.1	%	1	EJ21801	10/17/12	10/18/12	% calculation	

2057 Commerce Midland TX, 79703

Toluene

Ethylbenzene

Xylene (p/m)

Surrogate: 1,4-Difluorobenzene

Surrogate: 4-Bromofluorobenzene

Xylene (o)

Toject: SOG Historical Carison 4 inch TRP-140.

Source

%REC

Spike

Fax: (432) 520-7701

RPD

Project Number: 1RP-1462
Project Manager: Camille Bryant

Organics by GC - Quality Control Permian Basin Environmental Lab

Reporting

		Reporting		Spike	Bource		/orche		KID	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ21804 - General Preparation	(GC)									
Blank (EJ21804-BLK1)				Prepared: 1	0/17/12 A	nalyzed: 10	/18/12			
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	69.5		ug/kg	60.0		116	75-125			
Surrogate: 4-Bromofluorobenzene	63.1		"	60.0		105	75-125			
LCS (EJ21804-BS1)				Prepared: 1	0/17/12 A	nalyzed: 10	/18/12			
Benzene	0.0807	0.00100	mg/kg wet	0.100		80.7	80-120			
Toluene	0.108	0.00200	"	0.100		108	80-120			
Ethylbenzene	0.105	0.00100	"	0.100		105	80-120			
Xylene (p/m)	0.218	0.00200	"	0.200		109	80-120			
Xylene (o)	0.104	0.00100	"	0.100		104	80-120			
Surrogate: 1,4-Difluorobenzene	69.6		ug/kg	60.0		116	75-125			
Surrogate: 4-Bromofluorobenzene	67.3		"	60.0		112	75-125			
LCS Dup (EJ21804-BSD1)				Prepared: 1	0/17/12 A	nalyzed: 10	/18/12			
Benzene	0.0805	0.00100	mg/kg wet	0.100		80.5	80-120	0.248	20	
Toluene	0.105	0.00200	"	0.100		105	80-120	2.16	20	
Ethylbenzene	0.103	0.00100	"	0.100		103	80-120	1.76	20	
Xylene (p/m)	0.215	0.00200	"	0.200		108	80-120	1.55	20	
Xylene (o)	0.103	0.00100	"	0.100		103	80-120	1.23	20	
Surrogate: 1,4-Difluorobenzene	66.9		ug/kg	60.0		111	75-125			
Surrogate: 4-Bromofluorobenzene	67.4		"	60.0		112	75-125			
Matrix Spike (EJ21804-MS1)	Sou	rce: 2J17002	-04	Prepared: 1	0/17/12 A	nalyzed: 10	/18/12			
Benzene	0.0236	0.00100	mg/kg dry	0.104	ND	22.6	80-120			QM-0

0.104

0.104

0.208

0.104

60.0

60.0

ND

ND

ND

ND

27.7

31.1

32.4

33.3

115

105

80-120

80-120

80-120

80-120

75-125

75-125

0.00200

0.00100

0.00200

0.00100

ug/kg

0.0289

0.0324

0.0674

0.0347

69.2

63.2

QM-05

QM-05

QM-05

QM-05

2057 Commerce Project Number: 1RP-1462
Midland TX, 79703 Project Manager: Camille Bryant

Fax: (432) 520-7701

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
		- Limit		20,01	1100011	,,,,,	2		2,1111	1.000
Batch EJ21804 - General Preparation (GC) Matrix Spike Dup (EJ21804-MSD1)		rce: 2J17002	M	Drangrad: 1	10/17/12 A	nalwad: 10	1/19/12			
Benzene	0.0215	0.00100	mg/kg dry	0.104	ND	20.7	80-120	9.09	20	OM-0
Toluene	0.0213	0.00100	mg/kg ury	0.104	ND	24.4	80-120	12.7	20	QM-0
Ethylbenzene	0.0296	0.00200	,,	0.104	ND	28.4	80-120	9.21	20	OM-0
Xylene (p/m)	0.0611	0.00200	,,	0.208	ND	29.3	80-120	9.87	20	QM-0
Xylene (o)	0.0323	0.00200	"	0.104	ND	31.0	80-120	7.21	20	QM-0
Surrogate: 1,4-Difluorobenzene	68.9	0.00100	ua/ka	60.0	TID	115	75-125	7.21		Q.m 0
Surrogate: 4-Bromofluorobenzene	62.9		ug/kg "	60.0		105	75-125 75-125			
Surroguie. 4-Bromojiuorobenzene	02.9			00.0		103	75-125			
Batch EJ21901 - TX 1005										
Blank (EJ21901-BLK1)				Prepared &	Analyzed:	10/17/12				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	123		"	100		123	70-130			
Surrogate: o-Terphenyl	62.1		"	50.0		124	70-130			
LCS (EJ21901-BS1)				Prepared &	Analyzed:	10/17/12				
C6-C12	904	25.0	mg/kg wet	1000		90.4	75-125			
>C12-C28	843	25.0	"	1000		84.3	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	127		"	100		127	70-130			
Surrogate: o-Terphenyl	61.1		"	50.0		122	70-130			
LCS Dup (EJ21901-BSD1)				Prepared &	Analyzed:	10/17/12				
C6-C12	894	25.0	mg/kg wet	1000		89.4	75-125	1.07	20	
>C12-C28	801	25.0	"	1000		80.1	75-125	5.14	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	121		"	100		121	70-130			
Surrogate: o-Terphenyl	58.7		"	50.0		117	70-130			

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ21901 - TX 1005										
Matrix Spike (EJ21901-MS1)	Sour	ce: 2J17002	-01	Prepared &	Analyzed	10/17/12				
C6-C12	970	27.2	mg/kg dry	1090	ND	89.2	75-125			
>C12-C28	995	27.2	"	1090	164	76.4	75-125			
>C28-C35	ND	27.2	"	0.00	53.7		75-125			
Surrogate: 1-Chlorooctane	132		"	109		122	70-130			
Surrogate: o-Terphenyl	63.8		"	54.3		117	70-130			
Matrix Spike Dup (EJ21901-MSD1)	Sour	ce: 2J17002	-01	Prepared &	Analyzed	10/17/12				
C6-C12	1010	27.2	mg/kg dry	1090	ND	92.5	75-125	3.60	20	
>C12-C28	1020	27.2	"	1090	164	78.6	75-125	2.76	20	
>C28-C35	ND	27.2	"	0.00	53.7		75-125		20	
Surrogate: 1-Chlorooctane	133		"	109		122	70-130			
Surrogate: o-Terphenyl	65.8		"	54.3		121	70-130			

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

Fax: (432) 520-7701

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
Analyte	Result	Liiiit	Omis	Level	Result	70KEC	Lillits	KFD	Lillit	Notes
Batch EJ21801 - *** DEFAULT PREP ***										
Blank (EJ21801-BLK1)				Prepared &	Analyzed:	10/18/12				
% Moisture	ND	0.1	%							
Duplicate (EJ21801-DUP1)	Sou	rce: 2J17001-	01	Prepared &	Analyzed:	10/18/12				
% Moisture	9.0	0.1	%		9.0			0.00	20	
Duplicate (EJ21801-DUP2)	Sou	rce: 2J17001-	21	Prepared &	Analyzed:	10/18/12				
% Moisture	4.0	0.1	%		5.0			22.2	20	R3
Batch EJ21902 - *** DEFAULT PREP ***										
Blank (EJ21902-BLK1)				Prepared &	Analyzed:	10/19/12				
Chloride	ND	1.00	mg/kg dry wt. wet							
LCS (EJ21902-BS1)				Prepared &	Analyzed:	10/19/12				
Chloride	9.27		mg/kg Wet	10.0		92.7	80-120			
LCS Dup (EJ21902-BSD1)				Prepared &	Analyzed:	10/19/12				
Chloride	9.48		mg/kg Wet	10.0	-	94.8	80-120	2.23	20	
Duplicate (EJ21902-DUP1)	Sou	rce: 2J17002-	01	Prepared &	Analyzed:	10/19/12				
Chloride	58.7	1.09	mg/kg dry wt. dry		58.8			0.111	20	
Matrix Spike (EJ21902-MS1)	Sou	rce: 2J17002-	01	Prepared &	Analyzed:	10/19/12				
Chloride	189	1.09	mg/kg dry wt. dry	122	58.8	107	80-120			

2057 Commerce Project Number: 1RP-1462
Midland TX, 79703 Project Manager: Camille Bryant

Notes and Definitions

R3 The RPD exceeded the acceptance limit due to sample matrix effects.

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

	Drew	Darlor			
Report Approved By:			Date:	10/25/2012	

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 432-661-4184.

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Page 12 of 12

Company Comp	by Courier? UPS DHL Fed Temperature Upon Receipt: Received: 3 · S ° C Adjusted: 3 · J ° C Factor	Time Ter) 17(n	70			$ \lambda $		Receipt by PBEL	Time		Date		shed by:	Relinquished by:
	nple Hand Delivered by Sampler/Client Rep. ?								Received by:	ime		Date 1	C	shed by:	Relinquis
Field Preservation Preservatio	els on c tody se tody se								Received by:	.00	ي = _		Mount	med by:	Remodule Remodule
SW Wall @ 14	oratory nple Go Os Free	∑												Instructions:	Special
SW Wall @ 14															
File														3 30 00 0	
File Coope File															
Floor 1 @ 15 Beginning Depth															
SW Wall 0 15															
FIELD CODE FIE															
Field Filtered		×						11:20	10/16/2012				SW Wall 1 @ 6'		2
Field Filtered	-	×				<u> </u>		10:45	10/16/2012				SW Wall @ 14'		500
Field Depth Ending Depth		×				×		9:30	10/16/2012				S Wall @ 14'		-02
Beginning Depth Ending Depth Date Sampled Time Sampled Field Filtered Total #. of Containers Ice HNO ₃ HCI H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃ None Other (Specify) DW=Drinking Water SL=Sludge GW = Groundwater S=soil/Soild 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		×				×		9:00	10/16/2012				Floor 1 @ 15'		10
2) 1 760 2 rose, slade@sug.com roth. Preservation & # of Containers Matrix & Total:		TPH: TX 1005 TX 1006	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Na ₂ S ₂ O ₃	HCI	Ice		Time Sampled	Date Sampled	Ending Depth	Beginning Depth		FIELD CODE		LAB # (lab use only)
		5B	Matrix	# of Container	Se. Slade	S S]]		17002	N	ORDE
					nt@nova	cbrya	I	e-mail	Ex	Sy.	0	3000	(Sampler Si	
Sampler Signature: Com Osa Manual e-mail: cbryant@novatraining.cc	√ Sta	Format:	Report		7701	32.520.		Fax No.	•		.520.77	432	No.	Telephone	
432.520.7720 Fax No: 432.520.7701 Report Format:		PO #								79703	, Texas	Midland	Zip:	City/State/	
Midland, Texas 79703 Po #: 432.520.7720 Fax No: 432.520.7701 Report Format:		oject Loc:	 							егсе	Comm	2057	Address:	Company /	
## Project Loc: Midland, Texas 79703		Project #:							ental	vironme	and Er	NOVA Safety	Vame	Company I	
NOVA Safety and Environmental 2057 Commerce Midland, Texas 79703 432.520.7720 Fax No: 432.520.7701 Report Format: St. Stryant@novatraining.cc		ect Name:	Proj	6		and, Te	Midi			ant	iille Bry	Can	nager:	Project Ma	
Camille Bryant NOVA Safety and Environmental NOVA Safety and Environmental 2057 Commerce Midland, Texas 79703 Midland, Texas 79703 Fax No: 432.520.7701 Fax No: 432.520.7701 Report Format: cbryant@novatraining.cc	Phone: 432-661-4184		b, LP	Permian Basin Environmental Lab, LP 10014 S. County Road 1213	Basin Environ County Road	Permian Bas 10014 S. Co	Perm 1001			·					1

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



Analytical Report

Prepared for:

Camille Bryant

Nova Safety & Environment

2057 Commerce

Midland, TX 79703

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Location: Lea County, New Mexico

Lab Order Number: 2J23012



NELAP/TCEQ # T104704156-12-1

Report Date: 10/25/12

Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N Wall @ 12'	2J23012-01	Soil	10/22/12 11:00	10-23-2012 08:29
N Wall 2 @ 3'	2J23012-02	Soil	10/22/12 11:45	10-23-2012 08:29
F4 @ 3'	2J23012-03	Soil	10/22/12 14:00	10-23-2012 08:29
F3 @ 8'	2J23012-04	Soil	10/22/12 15:00	10-23-2012 08:29
F5 @ 3'	2J23012-05	Soil	10/22/12 15:10	10-23-2012 08:29
F6 @ 3'	2J23012-06	Soil	10/22/12 15:25	10-23-2012 08:29

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

N Wall @ 12' 2J23012-01 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		106 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
C6-C12	ND	26.9	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C12-C28	ND	26.9	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C28-C35	ND	26.9	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: 1-Chlorooctane		121 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: o-Terphenyl		146 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	S-GC
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
General Chemistry Parameters by El	PA / Standard Method	ls							
Chloride	51.5	1.08n	g/kg dry wt. dı	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
% Moisture	7.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

N Wall 2 @ 3' 2J23012-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		108 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
C6-C12	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C12-C28	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C28-C35	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: 1-Chlorooctane		122 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: o-Terphenyl		146 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	S-GC
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
General Chemistry Parameters by El	PA / Standard Method	S							
Chloride	160	1.041	g/kg dry wt. dı	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
% Moisture	4.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

F4 @ 3' 2J23012-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Po	ermian Basii	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		107 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
C6-C12	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C12-C28	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C28-C35	ND	26.0	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: 1-Chlorooctane		128 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: o-Terphenyl		154 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	S-GC
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
General Chemistry Parameters by El	PA / Standard Method	ds							
Chloride	39.6	1.04n	g/kg dry wt. dr	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
% Moisture	4.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

F3 @ 8' 2J23012-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Po	ermian Basi	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		106 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
C6-C12	ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C12-C28	ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C28-C35	ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: 1-Chlorooctane		117 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: o-Terphenyl		140 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	S-GC
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
General Chemistry Parameters by EPA /	Standard Method	ds							
Chloride	173	1.05n	g/kg dry wt. dı	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
% Moisture	5.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

F5 @ 3' 2J23012-05 (Soil)

Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Pe	ermian Basi	n Environn	nental Lal)				
ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
	114 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
	108 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
ND	26.3	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
	118 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
	142 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	S-GC
ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
tandard Metho	ds							
164	1.05n	g/kg dry wt. dr	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
5.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	
	ND	ND 0.00100 ND 0.00200 ND 0.00200 ND 0.00200 ND 0.00100 114 % 108 % ND 26.3 ND 26.3 ND 26.3 ND 26.3 ND 25.0 118 % 142 % ND 25.0	ND	ND	ND	ND	ND	ND

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

F6 @ 3' 2J23012-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		104 %	75-1	25	EJ22403	10/23/12	10/23/12	EPA 8021B	
C6-C12	ND	26.6	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C12-C28	ND	26.6	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
>C28-C35	ND	26.6	mg/kg dry	1	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: 1-Chlorooctane		106 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Surrogate: o-Terphenyl		127 %	70-1	30	EJ22402	10/23/12	10/23/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/23/12	10/23/12	8015M	
General Chemistry Parameters by EI	PA / Standard Method	S							
Chloride	8.11	1.061	g/kg dry wt. dr	1	EJ22502	10/25/12	10/25/12	EPA 300.0	
% Moisture	6.0	0.1	%	1	EJ22401	10/23/12	10/24/12	% calculation	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

Fax: (432) 520-7701

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ22402 - TX 1005										
Blank (EJ22402-BLK1)				Prepared &	Analyzed	10/23/12				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	129		"	100		129	70-130			
Surrogate: o-Terphenyl	82.3		"	50.0		165	70-130			S-GC
LCS (EJ22402-BS1)				Prepared &	Analyzed	10/23/12				
C6-C12	984	25.0	mg/kg wet	1000		98.4	75-125			
>C12-C28	874	25.0	"	1000		87.4	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	125		"	100		125	70-130			
Surrogate: o-Terphenyl	64.3		"	50.0		129	70-130			
LCS Dup (EJ22402-BSD1)				Prepared &	Analyzed	10/23/12				
C6-C12	988	25.0	mg/kg wet	1000		98.8	75-125	0.442	20	
>C12-C28	844	25.0	"	1000		84.4	75-125	3.53	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	116		"	100		116	70-130			
Surrogate: o-Terphenyl	64.5		"	50.0		129	70-130			
Matrix Spike (EJ22402-MS1)	Sour	ce: 2J23012	-06	Prepared &	Analyzed	10/23/12				
C6-C12	967	26.6	mg/kg dry	1060	ND	90.9	75-125			
>C12-C28	910	26.6	"	1060	ND	85.6	75-125			
>C28-C35	ND	26.6	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	124		"	106		116	70-130			
Surrogate: o-Terphenyl	67.9		"	53.2		128	70-130			
Matrix Spike Dup (EJ22402-MSD1)	Sour	ce: 2J23012	-06	Prepared &	Analyzed	10/23/12				
C6-C12	977	26.6	mg/kg dry	1060	ND	91.8	75-125	0.994	20	
>C12-C28	989	26.6	"	1060	ND	92.9	75-125	8.27	20	
>C28-C35	ND	26.6	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	132		"	106		124	70-130			
Surrogate: o-Terphenyl	69.5		"	53.2		131	70-130			S-GC

0.109

0.227

0.105

69.5

68.2

0.00100

0.00200

0.00100

2057 Commerce Midland TX, 79703

Ethylbenzene

Xylene (p/m)

Surrogate: 1,4-Difluorobenzene

Surrogate: 4-Bromofluorobenzene

Xylene (o)

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Project Manager: Camille Bryant

Spike

Source

Fax: (432) 520-7701

RPD

%REC

Organics by GC - Quality Control Permian Basin Environmental Lab

Reporting

		reporting		Spike	Bource		/orch		ICI D	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ22403 - General Preparation (GC)										
Blank (EJ22403-BLK1)				Prepared &	t Analyzed:	10/23/12				
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	67.4		ug/kg	60.0		112	75-125			
Surrogate: 4-Bromofluorobenzene	63.2		"	60.0		105	75-125			
LCS (EJ22403-BS1)				Prepared &	አ Analyzed:	10/23/12				
Benzene	0.0853	0.00100	mg/kg wet	0.100		85.3	80-120			
Toluene	0.112	0.00200	"	0.100		112	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.233	0.00200	"	0.200		117	80-120			
Xylene (o)	0.109	0.00100	"	0.100		109	80-120			
Surrogate: 1,4-Difluorobenzene	68.8		ug/kg	60.0		115	75-125			
Surrogate: 4-Bromofluorobenzene	67.9		"	60.0		113	75-125			
LCS Dup (EJ22403-BSD1)				Prepared &	λ Analyzed:	10/23/12				
Benzene	0.0832	0.00100	mg/kg wet	0.100		83.2	80-120	2.41	20	
Toluene	0.109	0.00200	"	0.100		109	80-120	2.52	20	

Matrix Spike (EJ22403-MS1)	Sour	Source: 2J23012-06			Analyzed:	10/23/12		
Benzene	0.0645	0.00100	mg/kg dry	0.106	ND	60.6	80-120	QM-05
Toluene	0.0855	0.00200	"	0.106	ND	80.4	80-120	
Ethylbenzene	0.0852	0.00100	"	0.106	ND	80.0	80-120	
Xylene (p/m)	0.173	0.00200	"	0.213	ND	81.1	80-120	
Xylene (o)	0.0801	0.00100	"	0.106	ND	75.3	80-120	QM-05
Surrogate: 1,4-Difluorobenzene	66.9		ug/kg	60.0		112	75-125	
Surrogate: 4-Bromofluorobenzene	68.5		"	60.0		114	75-125	

ug/kg

0.100

0.200

0.100

60.0

60.0

109

113

105

116

114

80-120

80-120

80-120

75-125

75-125

2.50

2.87

3.25

20

20

20

2057 Commerce Midland TX, 79703

Fax: (432) 520-7701

Project Number: 1RP-1462 Project Manager: Camille Bryant

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

Batch EJ22403 - General Preparation (GC)
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Matrix Spike Dup (EJ22403-MSD1)	Sour	Source: 2J23012-06			Analyzed:	10/23/12				
Benzene	0.0647	0.00100	mg/kg dry	0.106	ND	60.8	80-120	0.395	20	QM-05
Toluene	0.0856	0.00200	"	0.106	ND	80.4	80-120	0.0249	20	
Ethylbenzene	0.0847	0.00100	"	0.106	ND	79.6	80-120	0.513	20	QM-05
Xylene (p/m)	0.172	0.00200	"	0.213	ND	81.0	80-120	0.130	20	
Xylene (o)	0.0794	0.00100	"	0.106	ND	74.7	80-120	0.880	20	QM-05
Surrogate: 1,4-Difluorobenzene	68.8		ug/kg	60.0		115	75-125			
Surrogate: 4-Bromofluorobenzene	70.0		"	60.0		117	75-125			

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

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
- maryte	resure			20101	resure	747626			2,,,,,,	110105
Batch EJ22401 - *** DEFAULT PREP ***										
Blank (EJ22401-BLK1)				Prepared:						
% Moisture	ND	0.1	%							
Duplicate (EJ22401-DUP1)	Source: 2J23001-01			Prepared: 10/23/12 Analyzed: 10/24/12						
% Moisture	4.0	0.1	%		4.0			0.00	20	
Batch EJ22502 - *** DEFAULT PREP ***										
Blank (EJ22502-BLK1)				Prepared &	Analyzed:	10/25/12				
Chloride	ND	1.00	mg/kg dry							
			wt. wet							
LCS (EJ22502-BS1)				Prepared &	& Analyzed:	10/25/12				
Chloride	9.66		mg/kg Wet	10.0		96.6	80-120			
LCS Dup (EJ22502-BSD1)				Prepared &	& Analyzed:	10/25/12				
Chloride	10.3		mg/kg Wet	10.0		103	80-120	6.86	20	
Duplicate (EJ22502-DUP1)	Source: 2J23003-01			Prepared & Analyzed: 10/25/12						
Chloride	3420	5.00	mg/kg dry		3420			0.178	20	
			wt. dry							
Matrix Spike (EJ22502-MS1)	Source: 2J23003-01			Prepared & Analyzed: 10/25/12						
Chloride	4640	5.00	mg/kg dry	1120	3420	108	80-120			
			wt. dry							

Fax: (432) 520-7701 Nova Safety & Environment Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Project Number: 1RP-1462 Midland TX, 79703 Project Manager: Camille Bryant

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.

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike Duplicate

Dup

	Drew	Darlor			
Report Approved By:			Date:	10/25/2012	

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 432-661-4184.

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



Analytical Report

Prepared for:

Camille Bryant

Nova Safety & Environment

2057 Commerce

Midland, TX 79703

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Location: Lea County New Mexico

Lab Order Number: 2J29008



NELAP/TCEQ # T104704156-12-1

Report Date: 11/02/12

Nova Safety & Environment

Project: SUG Historical Carlson 4 Inch 1RP-1462

Project Number: 1RP-1462 Project Manager: Camille Bryant

2057 Commerce Midland TX, 79703

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WW-2 @ 8'	2J29008-01	Soil	10/23/12 11:30	10-29-2012 13:31
WW-2 @ 16'	2J29008-02	Soil	10/23/12 13:25	10-29-2012 13:31
WW-3 @ 8'	2J29008-03	Soil	10/23/12 14:30	10-29-2012 13:31
WW-3 @ 16'	2J29008-04	Soil	10/23/12 15:00	10-29-2012 13:31
WW-5 @ 16'	2J29008-05	Soil	10/24/12 14:20	10-29-2012 13:31
WW-6 @ 8'	2J29008-06	Soil	10/26/12 14:00	10-29-2012 13:31

Fax: (432) 520-7701

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-2 @ 8' 2J29008-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environn	nental Lal	b				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		100 %	75-1	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by E	PA / Standard Method	s							
Chloride	726	5.62n	g/kg dry wt. dr	5	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	11.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C	235 by EPA Method 80	15M							
C6-C12	ND	28.1	mg/kg dry	1	EK20102	10/31/12	10/31/12	8015M	
>C12-C28	ND	28.1	mg/kg dry	1	EK20102	10/31/12	10/31/12	8015M	
>C28-C35	ND	28.1	mg/kg dry	1	EK20102	10/31/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		91.1 %	70-1	30	EK20102	10/31/12	10/31/12	8015M	
Surrogate: o-Terphenyl		102 %	70-1	30	EK20102	10/31/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/31/12	10/31/12	8015M	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-2 @ 16' 2J29008-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	P	Permian Basi	n Environn	iental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		96.2 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by EPA / St	andard Metho	ods							
Chloride	335	2.78n	g/kg dry wt. dr	2.5	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	10.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by	EPA Method 8	8015M							
C6-C12	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C12-C28	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C28-C35	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		82.1 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: o-Terphenyl		90.8 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/30/12	10/31/12	8015M	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-3 @ 8' 2J29008-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	1	Permian Basii	n Environm	iental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-12	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		105 %	75-12	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by EPA / Sta	ındard Meth	ods							
Chloride	2200	5.56 ⁿ	g/kg dry wt. dr	5	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	10.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method	8015M							
C6-C12	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C12-C28	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C28-C35	ND	27.8	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		85.7 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: o-Terphenyl		95.2 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/30/12	10/31/12	8015M	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-3 @ 16' 2J29008-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
]	Permian Basii	n Environn	nental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-1	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		99.0 %	75-1	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by EPA / Stan	dard Meth	ods							
Chloride	1040	2.81ns	g/kg dry wt. dr	2.5	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	11.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EP	A Method	8015M							
C6-C12	ND	28.1	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C12-C28	ND	28.1	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C28-C35	ND	28.1	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		87.6 %	70-1	30	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: o-Terphenyl		97.3 %	70-1	30	EJ23102	10/30/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/30/12	10/31/12	8015M	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-5 @ 16' 2J29008-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Pe	rmian Basi	n Environm	iental Lal)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		114 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		102 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by EPA	/ Standard Method	s							
Chloride	175	1.10 ⁿ	g/kg dry wt. dr	1	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	9.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	15M							
C6-C12	ND	27.5	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C12-C28	ND	27.5	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C28-C35	ND	27.5	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		86.0 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: o-Terphenyl		94.5 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/30/12	10/31/12	8015M	

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

WW-6 @ 8' 2J29008-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	F	Permian Basii	n Environn	iental Lab)				
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		113 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		101 %	75-1.	25	EJ23103	10/30/12	10/30/12	EPA 8021B	
General Chemistry Parameters by EPA / Sta	ndard Metho	ods							
Chloride	94.5	1.069	g/kg dry wt. dr	1	EK20101	11/01/12	11/01/12	EPA 300.0	
% Moisture	6.0	0.1	%	1	EJ23004	10/29/12	10/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	8015M							
C6-C12	ND	26.6	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C12-C28	ND	26.6	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
>C28-C35	ND	26.6	mg/kg dry	1	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: 1-Chlorooctane		84.0 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Surrogate: o-Terphenyl		95.2 %	70-1.	30	EJ23102	10/30/12	10/31/12	8015M	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	10/30/12	10/31/12	8015M	

Nova Safety & Environment Project: SUG Historica

Project: SUG Historical Carlson 4 Inch 1RP-1462

Spike

Source

2057 Commerce Project Number: 1RP-1462
Midland TX, 79703 Project Manager: Camille Bryant

0.0840

0.0844

0.175

0.0823

68.1

68.0

0.00200

0.00100

0.00200

0.00100

ug/kg

0.106

0.106

0.213

0.106

60.0

60.0

ND

ND

ND

ND

78.9

79.3

82.2

77.4

114

113

80-120

80-120

80-120

80-120

75-125

75-125

Organics by GC - Quality Control Permian Basin Environmental Lab

Reporting

		reporting		Брікс	Bource		/orche		KI D	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ23103 - General Preparation ((GC)									
Blank (EJ23103-BLK1)				Prepared &	Analyzed:	10/30/12				
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	68.8		ug/kg	60.0		115	75-125			
Surrogate: 4-Bromofluorobenzene	58.0		"	60.0		96.6	75-125			
LCS (EJ23103-BS1)				Prepared &	Analyzed:	10/30/12				
Benzene	0.0836	0.00100	mg/kg wet	0.100		83.6	80-120			
Toluene	0.112	0.00200	"	0.100		112	80-120			
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120			
Xylene (p/m)	0.234	0.00200	"	0.200		117	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 1,4-Difluorobenzene	67.6		ug/kg	60.0		113	75-125			
Surrogate: 4-Bromofluorobenzene	70.7		"	60.0		118	75-125			
LCS Dup (EJ23103-BSD1)				Prepared &	Analyzed:	10/30/12				
Benzene	0.0838	0.00100	mg/kg wet	0.100		83.8	80-120	0.251	20	
Toluene	0.112	0.00200	"	0.100		112	80-120	0.651	20	
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120	0.366	20	
Xylene (p/m)	0.233	0.00200	"	0.200		116	80-120	0.514	20	
Xylene (o)	0.110	0.00100	"	0.100		110	80-120	1.34	20	
Surrogate: 1,4-Difluorobenzene	67.9		ug/kg	60.0		113	75-125			
Surrogate: 4-Bromofluorobenzene	70.0		"	60.0		117	75-125			
Matrix Spike (EJ23103-MS1)	Sou	rce: 2J29008	-06	Prepared &	: Analyzed:	10/30/12				
Benzene	0.0627	0.00100	mg/kg dry	0.106	ND	59.0	80-120			QM-0

Toluene

Ethylbenzene

Xylene (p/m)

Surrogate: 1,4-Difluorobenzene

Surrogate: 4-Bromofluorobenzene

Xylene (o)

QM-05

QM-05

QM-05

Fax: (432) 520-7701

RPD

%REC

Nova Safety & Environment Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703

Fax: (432) 520-7701

Project Number: 1RP-1462 Project Manager: Camille Bryant

Organics by GC - Quality Control Permian Basin Environmental Lab

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

Batch EJ23103 - General Preparation (GC)
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Matrix Spike Dup (EJ23103-MSD1)	Sour	Prepared &	Analyzed:	10/30/12						
Benzene	0.0498	0.00100	mg/kg dry	0.106	ND	46.8	80-120	23.1	20	QM-05
Toluene	0.0640	0.00200	"	0.106	ND	60.2	80-120	27.0	20	QM-05
Ethylbenzene	0.0663	0.00100	"	0.106	ND	62.3	80-120	24.0	20	QM-05
Xylene (p/m)	0.137	0.00200	"	0.213	ND	64.4	80-120	24.3	20	QM-05
Xylene (o)	0.0669	0.00100	"	0.106	ND	62.9	80-120	20.7	20	QM-05
Surrogate: 1,4-Difluorobenzene	70.4		ug/kg	60.0		117	75-125			
Surrogate: 4-Bromofluorobenzene	67.2		"	60.0		112	75-125			

Nova Safety & Environment Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Midland TX, 79703 Project Number: 1RP-1462 Project Manager: Camille Bryant Fax: (432) 520-7701

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

		Reporting		Spike	Source	NAPE C	%REC		RPD	27.
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ23004 - *** DEFAULT PREP ***										
Blank (EJ23004-BLK1)				Prepared:	10/29/12 A	nalyzed: 10	/30/12			
% Moisture	ND	0.1	%							
Duplicate (EJ23004-DUP1)	Sou	rce: 2J29002-	-01	Prepared:	10/29/12 A	nalyzed: 10	/30/12			
% Moisture	7.0	0.1	%		7.0			0.00	20	
Batch EK20101 - *** DEFAULT PREP ***										
Blank (EK20101-BLK1)				Prepared &	Analyzed:	11/01/12				
Chloride	ND	1.00	mg/kg dry wt. wet							
LCS (EK20101-BS1)				Prepared &	Analyzed:	11/01/12				
Chloride	11.1		mg/kg Wet	10.0		111	80-120			
LCS Dup (EK20101-BSD1)				Prepared &	Analyzed:	11/01/12				
Chloride	11.2		mg/kg Wet	10.0		112	80-120	1.22	20	
Duplicate (EK20101-DUP1)	Sou	rce: 2J29007-	-01	Prepared &	Analyzed:	11/01/12				
Chloride	209	1.05	mg/kg dry wt. dry		209			0.0805	20	
Matrix Spike (EK20101-MS1)	Sou	rce: 2J29007-	-01	Prepared &	Analyzed:	11/01/12				
Chloride	323	1.05	mg/kg dry wt. dry	105	209	108	80-120			

Nova Safety & Environment

Project: SUG Historical Carlson 4 Inch 1RP-1462

Fax: (432) 520-7701

2057 Commerce Midland TX, 79703

Project Number: 1RP-1462 Project Manager: Camille Bryant

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EJ23102 - 8015M										
Blank (EJ23102-BLK1)				Prepared &	Analyzed:	10/30/12				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	101		"	100		101	70-130			
Surrogate: o-Terphenyl	55.2		"	50.0		110	70-130			
LCS (EJ23102-BS1)				Prepared &	Analyzed:	10/30/12				
C6-C12	846	25.0	mg/kg wet	1000		84.6	75-125			
>C12-C28	821	25.0	"	1000		82.1	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	98.2		"	100		98.2	70-130			
Surrogate: o-Terphenyl	46.6		"	50.0		93.2	70-130			
LCS Dup (EJ23102-BSD1)				Prepared &	Analyzed:	10/30/12				
C6-C12	937	25.0	mg/kg wet	1000		93.7	75-125	10.1	20	
>C12-C28	835	25.0	"	1000		83.5	75-125	1.66	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	53.2		"	50.0		106	70-130			
Matrix Spike (EJ23102-MS1)	Sou	rce: 2J30010	-01	Prepared &	Analyzed:	10/30/12				
C6-C12	938	25.3	mg/kg dry	1010	ND	92.9	75-125			
>C12-C28	1430	25.3	"	1010	1380	5.10	75-125			QM-03
>C28-C35	ND	25.3	"	0.00	290		75-125			
Surrogate: 1-Chlorooctane	76.8		"	101		76.0	70-130			
Surrogate: o-Terphenyl	45.8		"	50.5		90.6	70-130			
Matrix Spike Dup (EJ23102-MSD1)	Sou	rce: 2J30010	-01	Prepared &	Analyzed:	10/30/12				
C6-C12	961	25.3	mg/kg dry	1010	ND	95.1	75-125	2.38	20	
>C12-C28	1280	25.3	"	1010	1380	NR	75-125	NR	20	QM-03
>C28-C35	ND	25.3	"	0.00	290		75-125		20	
Surrogate: 1-Chlorooctane	73.6		"	101		72.8	70-130			
Surrogate: o-Terphenyl	37.5		"	50.5		74.2	70-130			

Nova Safety & Environment

Project: SUG Historical Carlson 4 Inch 1RP-1462

2057 Commerce Project Number: 1RP-1462 Midland TX, 79703

Fax: (432) 520-7701

Project Manager: Camille Bryant

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

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK20102 - 8015M										
Blank (EK20102-BLK1)				Prepared &	Analyzed:	10/31/12				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	88.6		"	100		88.6	70-130			
Surrogate: o-Terphenyl	48.6		"	50.0		97.2	70-130			
LCS (EK20102-BS1)				Prepared &	Analyzed:	10/31/12				
C6-C12	876	25.0	mg/kg wet	1000		87.6	75-125			
>C12-C28	830	25.0	"	1000		83.0	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	98.2		"	100		98.2	70-130			
Surrogate: o-Terphenyl	47.0		"	50.0		94.0	70-130			
LCS Dup (EK20102-BSD1)				Prepared &	Analyzed:	10/31/12				
C6-C12	815	25.0	mg/kg wet	1000		81.5	75-125	7.20	20	
>C12-C28	818	25.0	"	1000		81.8	75-125	1.42	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	98.5		"	100		98.5	70-130			
Surrogate: o-Terphenyl	45.5		"	50.0		91.1	70-130			
Matrix Spike (EK20102-MS1)	Sou	rce: 2J29007	-01	Prepared &	Analyzed:	10/31/12				
C6-C12	996	26.3	mg/kg dry	1050	ND	94.7	75-125			
>C12-C28	887	26.3	"	1050	ND	84.2	75-125			
>C28-C35	ND	26.3	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	115		"	105		110	70-130			
Surrogate: o-Terphenyl	55.3		"	52.6		105	70-130			
Matrix Spike Dup (EK20102-MSD1)	Sou	rce: 2J29007	-01	Prepared &	Analyzed:	10/31/12				
C6-C12	950	26.3	mg/kg dry	1050	ND	90.2	75-125	4.81	20	
>C12-C28	907	26.3	"	1050	ND	86.2	75-125	2.29	20	
>C28-C35	ND	26.3	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	107		"	105		102	70-130			
Surrogate: o-Terphenyl	50.4		"	52.6		95.7	70-130			

2057 CommerceProject Number:1RP-1462Midland TX, 79703Project Manager:Camille Bryant

Notes and Definitions

QM-05	The spike recovery w	as outside acceptance	limits for the MS	and/or MSD due to	matrix interference.	The LCS and/or LCSD were
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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

	Bren Durror	1		
Report Approved By:		Date:	11/2/2012	

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

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	Ö	June 1								WW-6 @ 8'	WW-5 @ 16'	WW-3 @ 16'	WW-3 @ 8'	WW-2 @ 16'	WW-2 @ 8'	FIELD CODE	1000	ル う ぐ		ture:			ess:		er:			
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PERMIAN BASIN ENVIRONMENTAL LAB, LP 10014 SCR 1213 Midland, TX 79706



Analytical Report

Prepared for:

Curt Stanley
Nova Safety & Environmental
2057 Commerce Street
Midland, TX 79703

Project: Regency

Project Number: 4 Inch Carlson Location: Lea County, NM

Lab Order Number: 4B21003



NELAP/TCEQ # T104704156-13-3

Report Date: 02/26/14

Nova Safety & Environmental

Project: Regency

2057 Commerce Street Midland TX, 79703 Project Number: 4 Inch Carlson Project Manager: Curt Stanley

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 @ 15'	4B21003-01	Soil	02/20/14 10:20	02-21-2014 14:25
SB-1 @ 20'	4B21003-02	Soil	02/20/14 10:40	02-21-2014 14:25
SB-1 @ 30'	4B21003-03	Soil	02/20/14 11:10	02-21-2014 14:25

Fax: (432) 520-7701

2057 Commerce StreetProject Number: 4 Inch CarlsonMidland TX, 79703Project Manager: Curt Stanley

SB-1 @ 15' 4B21003-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
,		nian Basin E	Environmen	tal Lab, l		•			
Organics by GC									
Benzene	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		86.8 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		103 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
General Chemistry Parameters by EPA	/ Standard Method	ds							
Chloride	42.1	1.05	mg/kg dry	1	P4B2607	02/25/14	02/26/14	EPA 300.0	
% Moisture	5.0	0.1	%	1	P4B2404	02/21/14	02/24/14	% calculation	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	015M							
C6-C12	ND	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C12-C28	36.9	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: 1-Chlorooctane		78.5 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: o-Terphenyl		81.4 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	78.9	mg/kg dry	1	[CALC]	02/21/14	02/22/14	calc	

2057 Commerce StreetProject Number:4 Inch CarlsonMidland TX, 79703Project Manager:Curt Stanley

SB-1 @ 20' 4B21003-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<u> </u>	Pern	nian Basin E	nvironmer	ıtal Lab, l	P.				
Organics by GC									
Benzene	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Toluene	ND	0.00211	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Ethylbenzene	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (p/m)	ND	0.00211	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (o)	ND	0.00105	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		105 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		81.8 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
General Chemistry Parameters by EPA	Standard Method	ds							
Chloride	26.1	1.05	mg/kg dry	1	P4B2607	02/25/14	02/26/14	EPA 300.0	
% Moisture	5.0	0.1	%	1	P4B2404	02/21/14	02/24/14	% calculation	
Total Petroleum Hydrocarbons C6-C35	by EPA Method 80	015M							
C6-C12	ND	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C12-C28	45.8	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C28-C35	ND	26.3	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: 1-Chlorooctane		83.3 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: o-Terphenyl		84.1 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	78.9	mg/kg dry	1	[CALC]	02/21/14	02/22/14	calc	

2057 Commerce StreetProject Number:4 Inch CarlsonMidland TX, 79703Project Manager:Curt Stanley

SB-1 @ 30' 4B21003-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Peri	nian Basin E	Environmer	ıtal Lab, I	л.Р.				
Organics by GC									
Benzene	ND	0.00104	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Toluene	ND	0.00208	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Ethylbenzene	ND	0.00104	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (p/m)	ND	0.00208	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Xylene (o)	ND	0.00104	mg/kg dry	1	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		77.5 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		102 %	75-1	25	P4B2602	02/24/14	02/24/14	EPA 8021B	
General Chemistry Parameters by EPA / Sta	ndard Metho	ds							
Chloride	19.0	1.04	mg/kg dry	1	P4B2607	02/25/14	02/26/14	EPA 300.0	
% Moisture	4.0	0.1	%	1	P4B2404	02/21/14	02/24/14	% calculation	
Total Petroleum Hydrocarbons C6-C35 by E	PA Method 8	015M							
C6-C12	ND	26.0	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C12-C28	ND	26.0	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
>C28-C35	ND	26.0	mg/kg dry	1	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: 1-Chlorooctane		91.0 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Surrogate: o-Terphenyl		98.6 %	70-1	30	P4B2403	02/21/14	02/22/14	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	78.1	mg/kg dry	1	[CALC]	02/21/14	02/22/14	calc	

Fax: (432) 520-7701 Nova Safety & Environmental Project: Regency

2057 Commerce Street Project Number: 4 Inch Carlson Midland TX, 79703 Project Manager: Curt Stanley

Organics by GC - Quality Control Permian Basin Environmental Lab, L.P.

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

Blank (P4B2602-BLK1)				Prepared & Anal	yzed: 02/24/14				
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: 4-Bromofluorobenzene	45.0		ug/kg	60.0	74.9	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	59.8		"	60.0	99.6	75-125			
LCS (P4B2602-BS1)				Prepared & Anal	yzed: 02/24/14				
Benzene	0.0948	0.00100	mg/kg wet	0.100	94.8	70-130			
Toluene	0.102	0.00200	"	0.100	102	70-130			
Ethylbenzene	0.111	0.00100	"	0.100	111	70-130			
Xylene (p/m)	0.220	0.00200	"	0.200	110	70-130			
Xylene (o)	0.104	0.00100	"	0.100	104	70-130			
Surrogate: 1,4-Difluorobenzene	61.1		ug/kg	60.0	102	75-125			
Surrogate: 4-Bromofluorobenzene	62.8		"	60.0	105	75-125			
LCS Dup (P4B2602-BSD1)				Prepared & Anal	yzed: 02/24/14				
Benzene	0.0925	0.00100	mg/kg wet	0.100	92.5	70-130	2.44	20	
Toluene	0.103	0.00200	"	0.100	103	70-130	0.428	20	
Ethylbenzene	0.117	0.00100	"	0.100	117	70-130	5.10	20	
Xylene (p/m)	0.232	0.00200	"	0.200	116	70-130	5.12	20	
Xylene (o)	0.110	0.00100	"	0.100	110	70-130	6.28	20	
Surrogate: 1,4-Difluorobenzene	58.8		ug/kg	60.0	98.1	75-125			
Surrogate: 4-Bromofluorobenzene	67.5		"	60.0	113	75-125			

2057 Commerce StreetProject Number: 4 Inch CarlsonMidland TX, 79703Project Manager: Curt Stanley

General Chemistry Parameters by EPA / Standard Methods - Quality Control Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P4B2404 - *** DEFAULT PREP ***										
Blank (P4B2404-BLK1)				Prepared: ()2/21/14 A	nalyzed: 02	2/24/14			
% Moisture	ND	0.1	%							
Duplicate (P4B2404-DUP1)	Sou	rce: 4B21001	-01	Prepared: ()2/21/14 A	nalyzed: 02	2/24/14			
% Moisture	22.0	0.1	%		13.0			51.4	20	R2
Batch P4B2607 - *** DEFAULT PREP ***										
Blank (P4B2607-BLK1)				Prepared: ()2/25/14 A	nalyzed: 02	2/26/14			
Chloride	ND	1.00	mg/kg wet							
LCS (P4B2607-BS1)				Prepared: ()2/25/14 A	nalyzed: 02	2/26/14			
Chloride	98.5	1.00	mg/kg wet	100		98.5	80-120			
LCS Dup (P4B2607-BSD1)				Prepared: ()2/25/14 A	nalyzed: 02	2/26/14			
Chloride	107	1.00	mg/kg wet	100		107	80-120	8.20	20	
Duplicate (P4B2607-DUP1)	Sou	rce: 4B21003	-01	Prepared: ()2/25/14 A	analyzed: 02	2/26/14			
Chloride	50.2	1.05	mg/kg dry		42.1			17.6	20	

2057 Commerce StreetProject Number: 4 Inch CarlsonMidland TX, 79703Project Manager: Curt Stanley

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control Permian Basin Environmental Lab, L.P.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch P4B2403 - TX 1005										
Blank (P4B2403-BLK1)				Prepared &	Analyzed:	02/21/14				
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	111		"	100		111	70-130			
Surrogate: o-Terphenyl	53.9		"	50.0		108	70-130			
LCS (P4B2403-BS1)				Prepared &	Analyzed:	02/21/14				
C6-C12	1070	25.0	mg/kg wet	1000	-	107	75-125			
>C12-C28	1210	25.0	"	1000		121	75-125			
Surrogate: I-Chlorooctane	107		"	100		107	70-130			
Surrogate: o-Terphenyl	47.3		"	50.0		94.5	70-130			
LCS Dup (P4B2403-BSD1)				Prepared &	: Analyzed:	02/21/14				
C6-C12	1150	25.0	mg/kg wet	1000	-	115	75-125	6.75	20	
>C12-C28	1240	25.0	"	1000		124	75-125	3.06	20	
Surrogate: 1-Chlorooctane	114		"	100		114	70-130			
Surrogate: o-Terphenyl	49.9		"	50.0		99.8	70-130			
Matrix Spike (P4B2403-MS1)	Sou	rce: 4B21001	-01	Prepared: 0)2/21/14 Aı	nalyzed: 02	/22/14			
C6-C12	1160	28.7	mg/kg dry	1150	ND	101	75-125			
>C12-C28	1310	28.7	"	1150	ND	114	75-125			
Surrogate: 1-Chlorooctane	114		"	115		99.2	70-130			
Surrogate: o-Terphenyl	55.2		"	57.5		96.1	70-130			
Matrix Spike Dup (P4B2403-MSD1)	Sou	rce: 4B21001	-01	Prepared: 0)2/21/14 Aı	nalyzed: 02	/22/14			
C6-C12	1180	28.7	mg/kg dry	1150	ND	103	75-125	1.44	20	
>C12-C28	1390	28.7	"	1150	ND	121	75-125	5.95	20	
Surrogate: 1-Chlorooctane	119		"	115		103	70-130			

2057 Commerce Street Project Number: 4 Inch Carlson Midland TX, 79703 Project Manager: Curt Stanley

Notes and Definitions

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

R2 The RPD exceeded the acceptance limit.

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

	Drew	Darlor			
Report Approved By:			Date:	2/26/2014	

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.

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	I by:				tructions: Bill to Regency								SB-1 @ 30'	SB-1 @ 20'	SB-1 @ 15'	FIELD CODE		" エア とこの ロ	Sampler Signature:	Telephone No: (432)5207720	City/State/Zip: Midland/TX/79703	Company Address: 2057 Commerce Dr.	Company Name Nova Safet	Project Manager: Curt Stanley		PBBBAB
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APPENDIX E

Bill of Ladings

CARLSON 4" 2007-024 2-26-08

5-Logds to CELL #9

OCOTILLO ENVIRONMENTAL I
HOURS WORKED 10 as PES28 From wills Pit to Site
TRUCKER O- TIPTON YD. DUMP TRU
ADDRESS
COMPANY 5465.
PIT OWNER TO SUGS LAND FARM TOTAL YDS 60
ADDRESS DATE PAID
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

CARLSON 4" 2007-024 2-26-08 5-LOAds To CELL#9

HOURS WORKED 10 g S	PER HOUR S
TRUCKER L. Combs 1:	2YD. DUMP TRUCK #102 DATE 02-26-08
ADDRESS	
COMPANY 5.46.5.	
PIT OWNER TO SUGS. LAND FARM T	TOTAL YDS RATE TOTAL
20 - 22 (1992 1992 19	DATE PAIDCK. NO
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
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CBALSON 4" 2007-024 2-27-08 6-LOAds To CELL #9

HOURS WORKED 10 ä S	PER HOUR S
TRUCKER O. Tytow 12YD. DUM	PTRUCK 1/09 DATE 2-27-08
ADDRESS	
COMPANY SUCS.	
PIT OWNER TO SUGS LAND FORM TOTAL YDS	72 RATE TOTAL
ADDRESS DATE PAID	Ck. NO
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CARLSON 4" 2007-024 2-27-03 6-LOADS TO CELL #9

HOURS WORKED 10 ä 5	PER HOUR S
TRUCKER L. Comba 12YD. DUM	PTRUCK 1/02 DATE 2-27-08
ADDRESS	,
COMPANY S.4.6.S.	
PIT OWNER To SUES LAND FAAM TOTAL YDS	72 RATETOTAL
ADDRESS DATE PAID	Ck. NO
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	2 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
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CARTEON 4" 2007-024 2-28-08

7-LOADS TO CELLAG

HOURS WORKED 10	<u>a</u> s PER HOUR s
TRUCKER O Tiptou	12 YD. DUMP TRUCK 1105 DATE 9-28-08
ADDRESS	
COMPANYSUG. S	
PIT OWNER TO SUGS. LANDE	ARM TOTAL YDS. 84 RATE TOTAL
	DATE PAID Ck. NO
1 2 3 4 5 6 7 8 9 10 11 12 13	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
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CARLSON 4"
2007-024
2-28-08
6-LOBDS TO CELL #9

HOURS WORKED <u>10</u> <u>a</u> s	PER HOUR S
TRUCKER L. Combs	/2YD DUMP TRUCK 102 DATE 3-28-05
ADDRESS	
COMPANY SUGS.	
PIT OWNER TO SUGS. LAND FARM	TOTAL YDS. ZZ RATE TOTAL
ADDRESS	DATE PAID Ck. NO
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
YYXXX	6

CARLSON 4"
2007-024
2-24-08
4-LOBES TO CELL #9

HOURS WORKED_	10	_ @ S		PER HOUR S_	*
TRUCKERO_	Tip Tois	12)	D. DUMP 1	TRUCK #105	_DATE_2-29-08
ADDRESS			-		
COMPANY	5.46.5	,			
PIT OWNER 5465	LAND F.	PRM TO	TAL YDS	48 RATE	TOTAL
ADDRESS		DA	TE PAID _		Ck. NO
1 2 3 4 5 6	7 8 9 10 11 12 1	3 14 15 16 17 18	19 20 21 22 23	24 25 26 27 28 29 30	RATE LOADS TOTAL
XXXX					4
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CARLSON 4"
2007-024
2-29-08
5-LOADS TO CELL#9

HOURS WORKED @ SPER HOUR S
TRUCKER L. COMPS /ZYD. DUMP TRUCK 1102 DATE 2-29-08
ADDRESS
COMPANY SU.G.S
PIT OWNER TO SUES, LAND FARM TOTAL YDS. 60 RATE TOTAL
ADDRESS DATE PAID Ck. NO
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
XXXXXX

7- LOADS CALICHE FROM WILLIS PIT

HOURS WORKED 4 g S PER HOUR S
TRUCKER L-COMBS 124D. DUMPTRUCK 1102 DATE 3-6-08
ADDRESS
COMPANY 5.4.6.S.
PIT OWNER G. WILLIS TOTAL YDS 84 RATE TOTAL
ADDRESS DATE PAID Ch. NO
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CARLBON 4" 2007-024 3-6-08 7-LORDS CALICHE FROM WILLIS PIT

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CARLSON 4"
2007-024
3-7-03
6-Londs CALICHE & FROM WILLISPIT
9-CONDS TOPSOIL

HOURS WORKED	<u>a</u> s PER HOUR S
TRUCKER L. COM	
ADDRESS	
COMPANY 5U.G.S.	
PIT OWNER G. WILLIS	TOTAL YDSRATETOTAL
ADDRESS	DATE PAID Ck. NO.
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PSOIL XXXXXXXX	9 108 yd

CARLSON 4"
2007-024
3-7-08
6-LOADS CALICHES FROM WILLIS pit

HOURS WORKED	@ S PER HOUR S
TRUCKER O. Tipton	12 YD. DUMP TRUCK 105 DATE 3-2-08
ADDRESS	DATE3-7-08
COMPANY 5465.	
PII OWNER G. WILLIS	TOTAL YDSRATETOTAL
ADDRESS	DATE PAID Ch. NO
1 2 3 4 5 6 7 8 9 10 11 12 13	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 RATE LOADS TOTAL
	180



APPENDIX F

Initial and Final C-141

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

Name of Company

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

Final Report

Tony Savoie

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

Release Notification and Corrective Action-

Contact

Southern Union Gas Services, Ltd.

OPERATOR

Address P.O. Box 1226 Jal, N.M. 88252 Telephone No. 505-395-2														
Facility Name Lea County Field Dept. Facility Type Natural Gas Gather														
Surface Owner: Joyce Marie Willis 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 Letter Letter Section 26 25S 37E Section Township Range Feet from the East/West Line County Letter County Letter County C														
	Latitude N32 5.915 Longitude W103 7.593 NATURE OF RELEASE													
Type of Release : Crude Oil and Natural Gas Volume of Release: 20 Bbls Crude Oil and 80MCF Nat. Gas Volume Recovered 0 Bbls crude														
Source of Re	lease: 4" N	atural Gas Pip	peline				Iour of Occurrence		Date and Time: 8:1		covery 6/15/07			
Was Immedia	ate Notice (Yes [] No □ Not Re	muired	If YES, To Gary Wink								
By Whom? T	Conv Savoie						lour: 6/15/07 8:30) o m	3/48/1	3202122	3.			
Was a Water							olume Impacting t		ercourse.		<u> </u>			
				No		, , , , ,				7 =	127			
If a Watercou	If a Watercourse was Impacted, Describe Fully.*													
Describe Cause of Problem and Remedial Action Taken.* A 4" Natural Gas Pipeline operating at approximately 30 p.s.i. developed a leak releasing approximately 20 bit officinde oil and approximately 80mcf natural gas. The damaged area of pipe was excavated and replaced with approximately 200 ft. of 4"poly-pipe. Describe Area Affected and Cleanup Action Taken. The area affected by the release was pasture land, the area was approximately 3580 sq.ft. of oil soaked soil and replacement damage.														
The final remediation will follow the NMOCD guidelines for the remediation of leaks and spills. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other														
federal, state,					·	· · · · · · · · · · · · · · · · · · ·								
Signature:	/ m	n Da	ull			OIL CONSERVATION DIVISION Approved by District Supervisor:								
Printed Name	: John A. S	Savoie					}							
Title: Remed	liation Supe	ervisor				Approval Dat	70.0							
E-mail Addre	ess: tony.sa	avoie@sug.co	m			Conditions of								
Date: 6/19/07 Attach Addit		ta If Nones		one: 505-395-21	16		T FINAL			\perp				
Attach Addit	nonai Snec	ts ii inecessi	ai y			6º(Too	THE WESTA	ت ع	B Y		1 110			

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., 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

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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

Form C-141 Revised August 8, 2011

			Rele	ease Notifi	catio	n and Co	orrective A	ction	71- 310-32					
N CO						OPERA			Initia	al Report	\boxtimes	Final Repo		
Address: 4'	ompany: R	Regency Field	d Services	s LLC. Vorth, TX 7610		Contact: Crystal Callaway Telephone No.: 817-302-9407								
Facility Na	me: Carlso	on 4" (#1RP-	1462)	vorui, 177 /610			No.: 817-302-94 De: Natural Gas		α					
		Marie Will		Mineral (or retain Gus	Gathering						
Surface Ov	riici. Joyce	viane win	15						API No	•				
Unit Letter	Section	Township	Range	Feet from the		OF REI								
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		(accuracy)	2 - 23 2 1	Latitude 32	2.09855	Longitud	e -103.12644							
A service and a				NAT	TURE	OF RELI	EASE							
Type of Rele	ase: Crude	Oil and Natur	al Gas				Release: 80 mcf	gas, V	Volume R	ecovered: 0 bl	ols	2.00		
Source of Re	lease: 4" N	atural Gas Pip	eline			20 bbls oil Date and H	lour of Occurrenc	e. I	Date and	Hour of Discov		06/15/2007		
Was Immedi	ata Nation (· · · · · · · · · · · · · · · · · · ·				Unknown			Fime: 8:1		very.	00/13/2007		
was illinedi	ale Notice (Yes	No Not R	equired	If YES, To Gary Wink								
		, Southern Ur	nion Gas S	ervices		Date and H	lour: 06/15/2007 (08:30 a.m.	•					
Was a Water	course Reac		Yes 🛛	No		If YES, Volume Impacting the Watercourse.								
If a Watercon	ırse was Im	pacted, Descr												
		em and Reme												
Describe Are The site was transported to been determine	a Affected a reportedly r the Pitchford to meet	emediated by ork Land farm	Osq.ft. of o Action Tak Ocotillo E for proper ulatory sta	en.* environmental in disposal. Based ndards.	d replace 2008 and on the in	proximately 2 ment damage I by NOVA Enformation pr	ng approximately 200 ft. of 4" poly- c. The final remedent of the final remedent of the final remedent of the final remedent of the final revised by both O	pipe. The diation wi	acted mat	erial was exca	ease guidel vated l, the	was pasture lines for the		
public health should their of or the enviror federal, state,	or the envir operations had oment. In a	onment. The ave failed to a ddition, NMO	acceptance dequately CD accept	d/or file certain re e of a C-141 repo investigate and re	elease no ort by the emediate	NMOCD ma	knowledge and ur d perform correct urked as "Final Re on that pose a thre e the operator of re	tive action eport" does at to ground esponsibil	s for release s not relieand water, lity for co	ases which ma eve the operato surface water, mpliance with	y end r of l hum any o	langer iability		
Signature: Printed Name	MAG	AND C	Klis	MARI		Approved by Environmental Specialist:								
Title: S	Cemed	leation	Meio	let	A	approval Date):	Exp	Expiration Date:					
E-mail Addre Date: Attach Addit	131	ts If Necessa	Phone:	9/2076	SIL	Conditions of	Approval:			Attached]			