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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company Southern Union Gas Services	Contact Rose Slade
Address 801 South Loop 464, Monahans, Texas 79756	Telephone No. 432.940.5147 or 817.302.9716
Facility Name Monahans Field Office	Facility Type MB-4 Line

Surface Owner JM Owens	Mineral Owner	API No. 30-025-38822

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	15	25S	37E					Lea

Latitude 32 07.408 **Longitude** 103 08.993

NATURE OF RELEASE

Type of Release Natural Gas, gas liquids and iron	Volume of Release 80 MCF gas, 10 bbls oil	Volume Recovered 5 bbls
Source of Release pipeline	Date and Hour of Occurrence 7/25/2006 @ 5:50 pm	Date and Hour of Discovery 7/25/2006 at 5:50 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Randall Dunn, Southern Union Gas	Date and Hour 7/25/2006 @ 6:11 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

HOBBS OCD
MAR 01 2013
RECEIVED

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The 8 Inch steel gathering pipeline, operating at 20 psi developed a leak, the line was blocked in an allowed blow down by 7:00. Repair crews replaced the affected area of pipe by inserting approximately 200 feet of poly line on 7/26/2006. Normal operating pressure on the line is 20 psi to 30 psi, with a potential H2S content of 4000 ppm.

Describe Area Affected and Cleanup Action Taken.* The site was excavated, soil samples were collected from the excavation and remediated stockpiled soil and submitted to the laboratory for benzene, BTEX, TPH and chloride analysis. Laboratory results indicated benzene, BTEX, TPH, and chloride concentrations were less than the NMOCD Regulatory Guidelines. The excavation was backfilled with the remediated soil and water compacted. Please reference the NOVA Safety and Environmental Soil Remediation Summary and Site Closure Request dated February 2013for further details.

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

Signature: Rose Slade	OIL CONSERVATION DIVISION	
Printed Name: Rose Slade	Approved by Environmental Specialist:	
Title: EH&S Specialist	Approval Date: 3/1/13	Expiration Date: —
E-mail Address: rose.slade@sug.com	Conditions of Approval: —	Attached ☐
Date: 3/1/2013 Phone: 432.940.5147		1RP-983

* Attach Additional Sheets If Necessary

MAR 04 2013

SOIL REMEDIATION SUMMARY

AND SITE

CLOSURE REQUEST

Southern Union Gas Services
MB-4 Line Historical Release Site
Lea County, New Mexico
UNIT LTR "O" (SW ¼ /SE ¼), Section 15, Township 25 South, Range 37 East
Latitude 32° 07.408' North, Longitude 103° 08.993' West
NMOCD Reference # 1RP-983

NOVA
safety and environmental

Prepared For:

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

Prepared By:

NOVA Safety & Environmental
2057 Commerce
Midland, Texas 79703

February 2013

Camille J. Bryant
Project Manager

Brittan K. Byerly, P.G
President

TABLE OF CONTENTS

1.0 INTRODUCTION

Nova Safety & Environmental (NOVA), on behalf of Southern Union Gas Services (SUGS), has prepared this Soil Remediation Summary and Site Closure Request for MB-4 Line Historical Release Site. The legal description of the release site is Unit Letter "O" (SW ¼ SE ¼), Section 15, Township 25 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by Mr. J.M. Owens. The release site GPS coordinates are 32° 07.408' North and 103° 08.993' West. Please reference Figure 1 for a Site Location Map and Figure 2 for a Site Details Schematic and Confirmation Soil Sample Locations Map. The Release Notification and Corrective Action (Form C-141) is provided as Appendix D.

On July 25, 2006, SUGS discovered a release of crude oil and natural gas had occurred from an eight (8) inch steel pipeline. The cause of the release was attributed to failure of a segment of the steel pipeline. The pipeline was shut in and repaired. SUGS submitted the Release Notification and Corrective Action (Form C-141) to the New Mexico Oil Conservation Division (NMOCD) Hobbs District Office on July 26, 2006. The C-141 indicated approximately ten (10) barrels of crude oil and 80 MCF's of natural gas were released from the pipeline, with approximately five (5) barrels of crude oil recovered. General photographs of the site are provided as Appendix B.

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

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Office of the State Engineer (NMOSE) database did not identify the average depth to groundwater information for Section 15, Township 25 South, Range 37 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately fifty (50) feet below ground surface (bgs). The depth to groundwater at the MB-4 Line Historical Release Site results in a score of twenty (20) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

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

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

The NMOCD guidelines indicate the MB-4 Line Historical Release Site has ranking score of twenty (20). Based on this score, the soil remediation levels for a site with a ranking score of twenty (20) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- BTEX – 50 mg/Kg (ppm)
- TPH – 100 mg/Kg (ppm)

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

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On October 4, 2012, NOVA, at the request of SUGS, commenced soil investigation activities at the MB-4 Line Historical Release Site. Based on historical documentation and stressed vegetation, two (2) trenches were excavated in the vicinity of the inferred release point along the SUGS pipeline. The trench located on the north side of the pipeline was completed to a total depth of approximately eighteen (18) feet bgs. The trench located on the south side of the SUGS pipeline was completed to a total depth of approximately thirteen (13) feet bgs. In addition, four (4) trenches (N Trench @ 11', EW-3 @ 5', S/E Trench @ 5', and S/W Trench @ 5') were installed to the north, south, and east of the inferred release point. The south and east trenches were installed to a total depth of approximately five (5) feet bgs and the north trench was installed to a total depth of approximately eleven (11) feet bgs. The depth of the trenches were determined on review of historical data and by field observations conducted during excavation activities. Based on laboratory analytical results of the soil samples collected from the trenches, additional excavation was conducted at the site. Approximately six hundred (600) cubic yards of soil was excavated and stockpiled on-site, pending final disposition. The final dimensions of the resulting excavation were approximately twenty-five (25) feet in width, ranged from thirty-five (35) feet to fifty (50) feet in length and varied in depth from approximately thirteen (13) feet to eighteen (18) feet bgs. Please reference Figure 2 for site details.

On October 4, 2012, three (3) soil samples (MB4 RP South 13', MB4 WW @ 12', and MB4 RP North @ 18') were collected from the trenches and submitted to the laboratory for determination of concentrations of benzene, toluene, ethyl-benzene, and xylene (BTEX), total petroleum hydrocarbons (TPH), and chlorides using EPA SW-846 8012b, 8015M, and E 300, respectively. The analytical results indicated benzene and BTEX concentrations were less than the appropriate laboratory method detection limits (MDL) for all submitted soil samples. TPH concentrations ranged from 51.2 mg/Kg for soil sample MB4 RP North @ 18' to 286 mg/Kg for soil sample MB4 RP South @ 13'. Chloride concentrations ranged from 80.8 mg/Kg for soil sample MB4 WW @ 12' to 224 mg/Kg for soil sample MB4 RP North @ 18'. A review of analytical results indicated additional excavation would be required in the areas represented by soil samples MB 4 RP South @ 13' and MB4 WW @ 12'. Table 1 summarizes the Concentrations of Benzene, BTEX, TPH, and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A

On October 5, 2012, seven (7) soil samples (EW-1 @ 12', EW-2 @ 12', S/W trench @ 5', WW 2 @ 16', S/E trench @ 5', N trench @ 11', and EW-3 @ 5') were collected from the trenches and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all the submitted soil samples. Chloride concentrations ranged from 11.2 mg/Kg for soil sample EW 3 @ 5' to 152 mg/Kg for soil sample EW-2 @ 12'. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines. Please reference Figure 2 for soil sample locations.

On November 19, 2012, three (3) soil samples (MB4 RP South @ 15', South wall @ 14', and MB4 WWA @ 12') were collected from the excavation and submitted to the laboratory for

analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all the submitted soil samples. Chloride concentrations ranged from 122 mg/Kg for soil sample MB4 WWA @ 12' to 138 mg/Kg for soil sample MB4 RP South @ 15'. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines (Table 1).

On November 28, 2012, one (1) soil sample (North S/W @ 14') was collected from the excavation and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL. The soil sample (North S/W @ 14') exhibited a chloride concentration of 112 mg/Kg. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines. Please reference Figure 2 for soil sample locations.

The stockpiled soil was divided into two (2) discreet stockpiles. Each stockpile represented approximately three hundred (300) cubic yards of soil. On November 28, 2012, two (2) composite soil samples (SP-1 and SP-2) were collected from the stockpiled soil and submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for both soil samples. Chloride concentrations ranged from 98.1 mg/Kg for soil sample SP-1 to 115 mg/Kg for soil sample SP-2 (Table 1).

In an e-mail dated December 3, 2012, the NMOCD Hobbs District Office granted approval to backfill the excavation with the stockpiled soil represented by soil samples SP-1 and SP-2. The NMOCD letter is provided as Appendix C.

On December 4, 2012, the excavation was backfilled and water compacted with the stockpiled soil represented by soil samples SP-1 and SP-2. On completion of backfilling activities the impacted area was contoured to fit the surrounding area.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil Samples were delivered to Permian Basin Environmental Lab, LP, of Midland, Texas for BTEX and/or TPH and/or chloride analyses using the methods described below. Soil samples were analyzed for BTEX and/or TPH and/or chloride concentrations within fourteen (14) days following the sampling event.

The soil samples were analyzed as follows:

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

4.2 Decontamination of Equipment

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

4.3 Laboratory Protocol

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

5.0 SITE CLOSURE REQUEST

Based on the analytical results of confirmation soil samples, NOVA recommends SUGS provide the NMOCD a copy of this Soil Remediation Summary and Site Closure Request and request the NMOCD grant final closure to the MB-4 Line Historical Release Site.

6.0 LIMITATIONS

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

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

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

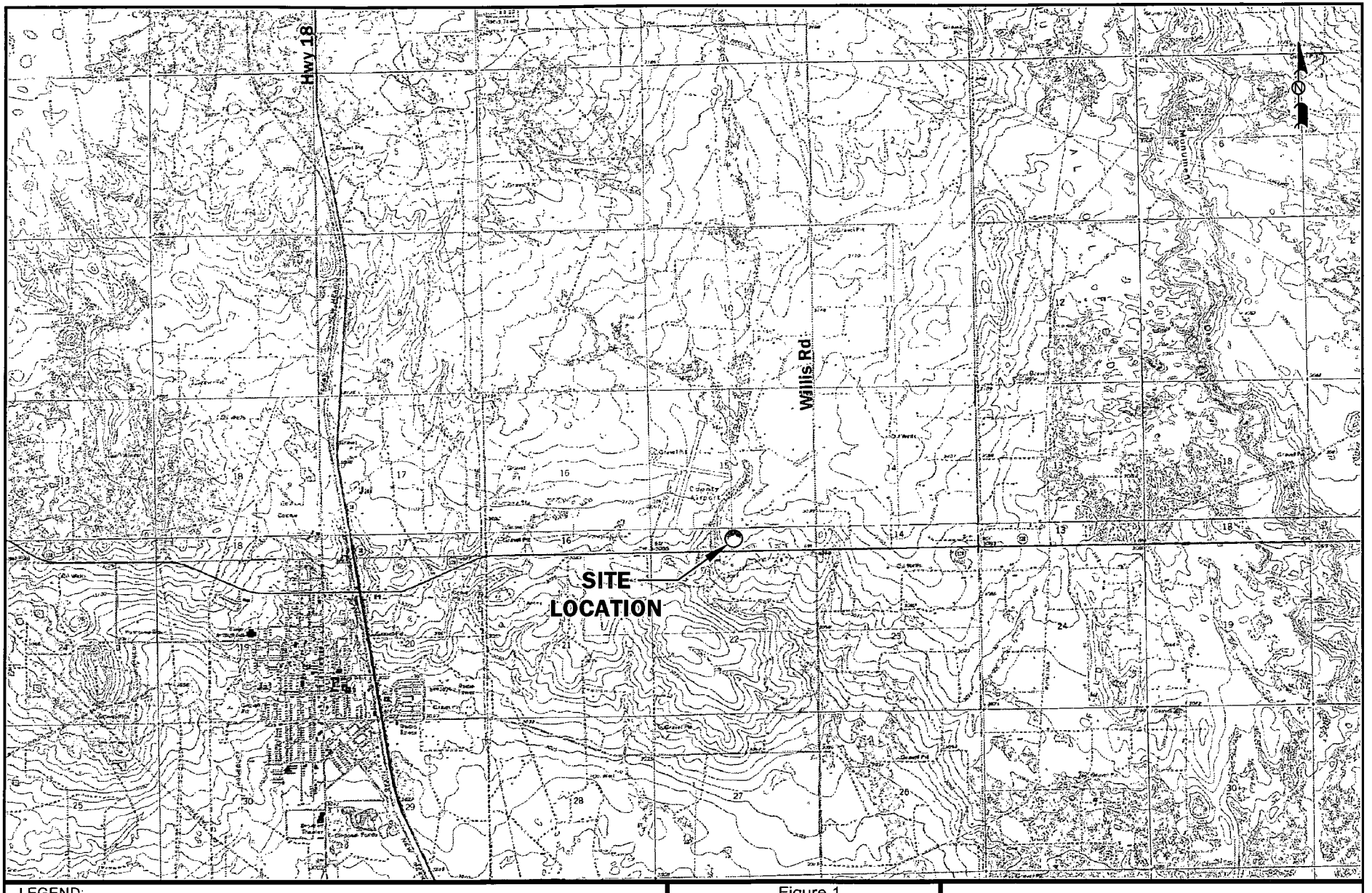
7.0 DISTRIBUTION:

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

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

Copy 3: Nova Safety & Environmental
2057 Commerce Street
Midland, Texas 79703

FIGURES



LEGEND:

2000 1000 0 1000 2000

Distance in Feet

Figure 1

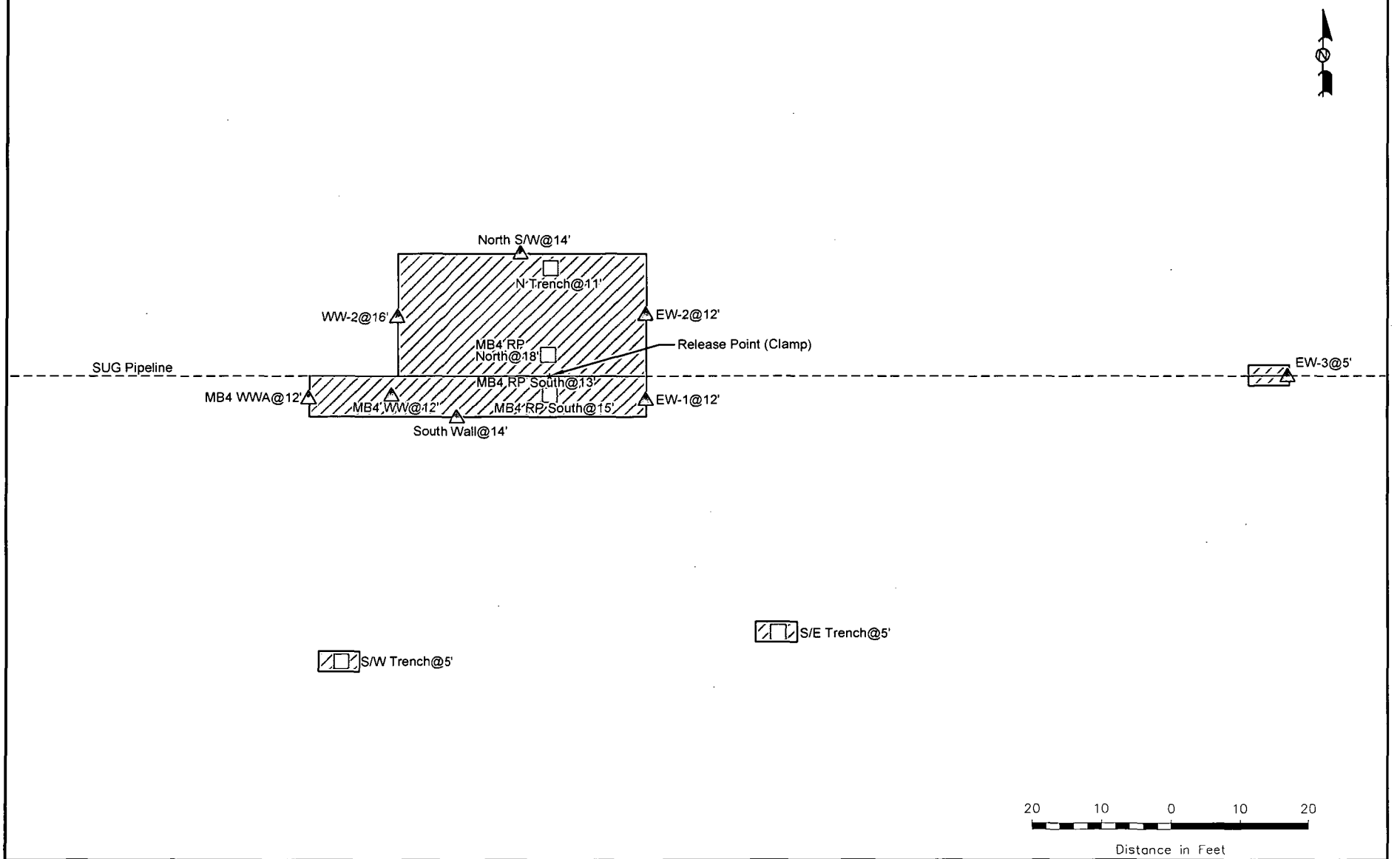
Site Location Map
Southern Union Gas Services
MB-4 Line
Lea County, NM

NOVA safety and environmental

2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

October 17, 2012	Scale: 1" = 2000'	CAD By: CS	Checked By: CJB
Lat. N 32° 7.408' Long. W 103°8.993'			1RP-983



LEGEND:

- Sidewall Soil Sample Location
- Pipeline
- Floor Soil Sample Location

Figure 2

Site Map
Southern Union Gas Services
MB-4 Line
Lea County, NM

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

October 11, 2012	Scale: 1" = 20'	CAD By: CS	Checked By: CJB
Lat. N 32° 7.408' Long. W 103° 8.993'			1RP-983

TABLES

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES
MB-4 LINE HISTORICAL RELEASE
LEA COUNTY, NEW MEXICO
NMOCD # 1RP-983

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1
		BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{12}	TPH DRO C_{12}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
NMOCD Regulatory Limit		**10**	**-**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**100**	
MB4 RP South @ 13'	10/04/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	220	66.4	**286**	138
MB4 WW @ 12'	10/04/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.8	86.6	34.8	**121**	80.8
MB4 RP North @ 18'	10/04/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	51.2	<26.0	51.2	224
EW-1 @ 12'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.8	<25.8	<25.8	<25.0	51.1
EW-2 @ 12'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.5	<25.5	<25.5	<25.0	152
S/W trench @ 5'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	<26.0	<26.0	<25.0	136
WW2 @ 16'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	<26.0	<26.0	<25.0	13.6
S/E trench @ 5'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	<26.0	<26.0	<25.0	82.7
N trench @ 11'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.3	<25.3	<25.3	<25.0	91.1
EW 3 @ 5'	10/05/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.8	<25.8	<25.8	<25.0	11.2
MB4 RP South @ 15'	11/19/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<26.0	<26.0	<26.0	<26.0	138
South wall @14'	11/19/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.5	<25.5	<25.5	<25.5	129
MB4 WWA @ 12'	11/19/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.5	<25.5	<25.5	<25.5	122
North S/W @ 14'	11/28/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.8	<25.8	<25.8	<25.8	112
SP-1	11/28/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.3	<25.3	<25.3	<25.3	98.1
SP-2	11/28/12	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<25.5	<25.5	<25.5	<25.5	115

APPENDICES

APPENDIX A:
Analytical Reports

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

PBELAB

Analytical Report

Prepared for:

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

Project: MB-4
Project Number: IRP-983
Location: Lea County New Mexico

Lab Order Number: 2J05002

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-12-1

Report Date: 10/09/12

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MB4 RP South @ 13'	2J05002-01	Soil	10/04/12 13:55	10-05-2012 12:24
MB4 WW @ 12'	2J05002-02	Soil	10/04/12 16:15	10-05-2012 12:24
MB4 RP North @18'	2J05002-03	Soil	10/04/12 15:50	10-05-2012 12:24

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MB4 RP South @ 13' (2J05002-01) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20704	10/05/12	10/05/12	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 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.9 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	26.0	mg/kg dry	"	EJ20703	10/05/12	10/05/12	8015M	
>C12-C28	**220**	26.0	"	"	"	"	"	"	
>C28-C35	**66.4**	26.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*77.0 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*83.2 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	**286**	25.0	"	"	[CALC]	"	"	(CALC)	
MB4 WW @ 12' (2J05002-02) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20704	10/05/12	10/05/12	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		*108 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*83.4 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	25.8	mg/kg dry	"	EJ20703	10/05/12	10/05/12	8015M	
>C12-C28	**86.6**	25.8	"	"	"	"	"	"	
>C28-C35	**34.8**	25.8	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*72.2 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*77.5 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	**121**	25.0	"	"	[CALC]	"	"	(CALC)	
MB4 RP North @18' (2J05002-03) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20704	10/05/12	10/05/12	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		*109 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*82.8 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	26.0	mg/kg dry	"	EJ20703	10/05/12	10/05/12	8015M	

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MB4 RP North @18' (2J05002-03) Soil									
>C12-C28	**51.2**	26.0	mg/kg dry	1	EJ20703	10/05/12	10/05/12	8015M	
>C28-C35	ND	26.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*66.3 %*	*70-130*		"	"	"	"	*S-GC*
Surrogate: o-Terphenyl		*83.7 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	**51.2**	25.0	"	"	[CALC]	"	"	(CALC)	

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

General Chemistry Parameters by EPA / Standard Methods

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MB4 RP South @ 13' (2J05002-01) Soil									
Chloride	**138**	5.21	mg/kg dry wt. dry	5	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	EJ20701	10/07/12	10/07/12	% calculation	
MB4 WW @ 12' (2J05002-02) Soil									
Chloride	**80.8**	2.58	mg/kg dry wt. dry	2.5	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	EJ20701	10/07/12	10/07/12	% calculation	
MB4 RP North @18' (2J05002-03) Soil									
Chloride	**224**	1.04	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	"	EJ20701	10/07/12	10/07/12	% calculation	

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Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20703 - 8015M										
Blank (EJ20703-BLK1)				Prepared & Analyzed: 10/05/12						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*86.1*		"	*100*		*86.1*	*70-130*			
Surrogate: o-Terphenyl	*46.0*		"	*50.0*		*91.9*	*70-130*			
LCS (EJ20703-BS1)				Prepared & Analyzed: 10/05/12						
C6-C12	833	25.0	mg/kg wet	1000		83.3	75-125			
>C12-C28	820	25.0	"	1000		82.0	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	*101*		"	*100*		*101*	*70-130*			
Surrogate: o-Terphenyl	*44.7*		"	*50.0*		*89.4*	*70-130*			
LCS Dup (EJ20703-BSD1)				Prepared & Analyzed: 10/05/12						
C6-C12	780	25.0	mg/kg wet	1000		78.0	75-125	6.55	20	
>C12-C28	753	25.0	"	1000		75.3	75-125	8.44	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	*73.9*		"	*100*		*73.9*	*70-130*			
Surrogate: o-Terphenyl	*33.4*		"	*50.0*		*66.8*	*70-130*			*S-GC*
Matrix Spike (EJ20703-MS1)	**Source: 2J05001-01**			Prepared & Analyzed: 10/05/12						
C6-C12	954	27.5	mg/kg dry	1100	ND	86.8	75-125			
>C12-C28	908	27.5	"	1100	ND	82.6	75-125			
>C28-C35	ND	27.5	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	*93.5*		"	*110*		*85.1*	*70-130*			
Surrogate: o-Terphenyl	*42.4*		"	*54.9*		*77.2*	*70-130*			
Matrix Spike Dup (EJ20703-MSD1)	**Source: 2J05001-01**			Prepared: 10/05/12 Analyzed: 10/06/12						
C6-C12	956	27.5	mg/kg dry	1100	ND	87.0	75-125	0.171	20	
>C12-C28	886	27.5	"	1100	ND	80.6	75-125	2.43	20	
>C28-C35	ND	27.5	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	*87.7*		"	*110*		*79.8*	*70-130*			
Surrogate: o-Terphenyl	*40.3*		"	*54.9*		*73.4*	*70-130*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20704 - General Preparation (GC)										
Blank (EJ20704-BLK1)				Prepared & Analyzed: 10/05/12						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*63.9*		*ug/kg*	*60.0*		*107*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*51.9*		*"*	*60.0*		*86.6*	*75-125*			
LCS (EJ20704-BS1)				Prepared & Analyzed: 10/05/12						
Benzene	0.0808	0.00100	mg/kg wet	0.100		80.8	80-120			
Toluene	0.0956	0.00200	"	0.100		95.6	80-120			
Ethylbenzene	0.0894	0.00100	"	0.100		89.4	80-120			
Xylene (p/m)	0.177	0.00200	"	0.200		88.6	80-120			
Xylene (o)	0.0843	0.00100	"	0.100		84.3	80-120			
Surrogate: 1,4-Difluorobenzene	*63.3*		*ug/kg*	*60.0*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*54.2*		*"*	*60.0*		*90.2*	*75-125*			
LCS Dup (EJ20704-BSD1)				Prepared & Analyzed: 10/05/12						
Benzene	0.0806	0.00100	mg/kg wet	0.100		80.6	80-120	0.223	20	
Toluene	0.0962	0.00200	"	0.100		96.2	80-120	0.594	20	
Ethylbenzene	0.0886	0.00100	"	0.100		88.6	80-120	0.843	20	
Xylene (p/m)	0.175	0.00200	"	0.200		87.6	80-120	1.17	20	
Xylene (o)	0.0826	0.00100	"	0.100		82.6	80-120	1.98	20	
Surrogate: 1,4-Difluorobenzene	*62.4*		*ug/kg*	*60.0*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*51.9*		*"*	*60.0*		*86.4*	*75-125*			
Matrix Spike (EJ20704-MS1)		**Source: 2J05001-01**		Prepared & Analyzed: 10/05/12						
Benzene	0.0637	0.00100	mg/kg dry	0.110	ND	58.0	80-120			QM-05
Toluene	0.0761	0.00200	"	0.110	ND	69.3	80-120			QM-05
Ethylbenzene	0.0707	0.00100	"	0.110	ND	64.4	80-120			QM-05
Xylene (p/m)	0.143	0.00200	"	0.220	ND	65.1	80-120			QM-05
Xylene (o)	0.0708	0.00100	"	0.110	ND	64.4	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*63.7*		*ug/kg*	*60.0*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*53.7*		*"*	*60.0*		*89.4*	*75-125*			

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Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20704 - General Preparation (GC)										
Matrix Spike Dup (EJ20704-MSD1)	**Source: 2J05001-01**			Prepared & Analyzed: 10/05/12						
Benzene	0.0684	0.00100	mg/kg dry	0.110	ND	62.2	80-120	7.05	20	QM-05
Toluene	0.0809	0.00200	"	0.110	ND	73.6	80-120	6.05	20	QM-05
Ethylbenzene	0.0749	0.00100	"	0.110	ND	68.2	80-120	5.73	20	QM-05
Xylene (p/m)	0.148	0.00200	"	0.220	ND	67.4	80-120	3.44	20	QM-05
Xylene (o)	0.0736	0.00100	"	0.110	ND	67.0	80-120	3.90	20	QM-05
Surrogate: 1,4-Difluorobenzene	*64.7*		*ug/kg*	*60.0*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*52.4*		*"*	*60.0*		*87.4*	*75-125*			

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20701 - * DEFAULT PREP *****										
Blank (EJ20701-BLK1)				Prepared & Analyzed: 10/07/12						
% Moisture	ND	0.1	%							
Duplicate (EJ20701-DUP1)	**Source: 2J05001-01**			Prepared & Analyzed: 10/07/12						
% Moisture	10.0	0.1	%		9.0			10.5	20	
Batch EJ20801 - * DEFAULT PREP *****										
Blank (EJ20801-BLK1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	ND	1.00	mg/kg dry wt. wet							
LCS (EJ20801-BS1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	9.98		mg/kg Wet	10.0		99.8	80-120			
LCS Dup (EJ20801-BSD1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	9.98		mg/kg Wet	10.0		99.8	80-120	0.0100	20	
Duplicate (EJ20801-DUP1)	**Source: 2J05002-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	141	5.21	mg/kg dry wt. dry		138			1.98	20	
Matrix Spike (EJ20801-MS1)	**Source: 2J05002-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	770	5.21	mg/kg dry wt. dry	521	138	121	80-120			QM-05
Matrix Spike (EJ20801-MS2)	**Source: 2J08001-05**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	190	1.04	mg/kg dry wt. dry	91.1	82.7	118	80-120			

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Notes and Definitions

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

Report Approved By: Brent Barron Date: 10/9/2012

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-661-4184

Project Manager: Camille Bryant

Company Name: NOVA Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, Texas 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Brittan K Bryant

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

Project Name: MB-4

Project #: IRP-983

Project Loc: Lea County New Mexico

PO #:

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

(lab use only)
ORDER #: 2J05002

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TPH: 418.1	TPH: 8015M	TPH: TX 1005	TPH: TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se (TCLP)	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
01	MB4 RP South @ 13'			10-4-12	13:55		1	X								So: 1	X										X			X		X
02	MB4 WW @ 12'			10-4-12	16:15		1	X								So: 1	X										X			X		X
03	MB4 RP North @ 18'			10-4-12	15:50		1	X								So: 1	X										X			X		X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Brittan K Bryant	10-5-12	800	Miles Green	10-5-12	800
Miles Green	10-5-12	1224			
			Received by PBEL: Calandra Luna	10-5-12	1224

Laboratory Comments:

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

Temperature Upon Receipt:
Received: 2.4 °C
Adjusted: 2.4 °C Factor NCF

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

PBELAB

Analytical Report

Prepared for:

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

Project: MB-4
Project Number: IRP-983
Location: Lea County New Mexico

Lab Order Number: 2J08001

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-12-1

Report Date: 10/09/12

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
EW - 1 @ 12'	2J08001-01	Soil	10/05/12 10:30	10-08-2012 16:35
EW 2 @ 12'	2J08001-02	Soil	10/05/12 11:45	10-08-2012 16:35
S/W trench @ 5'	2J08001-03	Soil	10/05/12 13:25	10-08-2012 16:35
WW2 @ 16'	2J08001-04	Soil	10/05/12 13:10	10-08-2012 16:35
S/E trench @ 5'	2J08001-05	Soil	10/05/12 13:30	10-08-2012 16:35
N trench @ 11'	2J08001-06	Soil	10/05/12 14:15	10-08-2012 16:35
EW 3 @ 5'	2J08001-07	Soil	10/05/12 14:00	10-08-2012 16:35

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Organics by GC

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EW - 1 @ 12' (2J08001-01) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*108 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.4 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	25.8	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	25.8	"	"	"	"	"	"	
>C28-C35	**ND**	25.8	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*79.9 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*85.1 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	
EW 2 @ 12' (2J08001-02) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*108 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.4 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	25.5	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	25.5	"	"	"	"	"	"	
>C28-C35	**ND**	25.5	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*73.8 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*79.2 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	
S/W trench @ 5' (2J08001-03) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*109 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.8 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	26.0	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	

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Organics by GC

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S/W trench @ 5' (2J08001-03) Soil									
>C12-C28	**ND**	26.0	mg/kg dry	1	EJ20902	10/08/12	10/08/12	8015M	
>C28-C35	**ND**	26.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*77.0 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*84.4 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	
WW2 @ 16' (2J08001-04) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*109 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.8 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	26.0	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	26.0	"	"	"	"	"	"	
>C28-C35	**ND**	26.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*97.7 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*106 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	
S/E trench @ 5' (2J08001-05) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*107 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.8 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	26.0	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	26.0	"	"	"	"	"	"	
>C28-C35	**ND**	26.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*100 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*110 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	

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2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
N trench @ 11' (2J08001-06) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*106 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.1 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	25.3	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	25.3	"	"	"	"	"	"	
>C28-C35	**ND**	25.3	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*70.2 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*74.2 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	
EW 3 @ 5' (2J08001-07) Soil									
Benzene	ND	0.00100	mg/kg dry	1	EJ20903	10/08/12	10/08/12	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		*107 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*86.6 %*	*75-125*		"	"	"	"	
C6-C12	**ND**	25.8	mg/kg dry	"	EJ20902	10/08/12	10/08/12	8015M	
>C12-C28	**ND**	25.8	"	"	"	"	"	"	
>C28-C35	**ND**	25.8	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*93.1 %*	*70-130*		"	"	"	"	
Surrogate: o-Terphenyl		*101 %*	*70-130*		"	"	"	"	
Total Hydrocarbon nC6-nC35	ND	25.0	"	"	[CALC]	"	"	(CALC)	

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

General Chemistry Parameters by EPA / Standard Methods

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EW - 1 @ 12' (2J08001-01) Soil									
Chloride	**51.1**	1.03	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**3.0**	0.1	%	"	EJ20901	10/08/12	10/09/12	% calculation	
EW 2 @ 12' (2J08001-02) Soil									
Chloride	**152**	5.10	mg/kg dry wt. dry	5	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	EJ20901	10/08/12	10/09/12	% calculation	
S/W trench @ 5' (2J08001-03) Soil									
Chloride	**136**	1.04	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	"	EJ20901	10/08/12	10/09/12	% calculation	
WW2 @ 16' (2J08001-04) Soil									
Chloride	**13.6**	1.04	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	"	EJ20901	10/08/12	10/09/12	% calculation	
S/E trench @ 5' (2J08001-05) Soil									
Chloride	**82.7**	1.04	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	"	EJ20901	10/08/12	10/09/12	% calculation	
N trench @ 11' (2J08001-06) Soil									
Chloride	**91.1**	2.53	mg/kg dry wt. dry	2.5	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**1.0**	0.1	%	1	EJ20901	10/08/12	10/09/12	% calculation	
EW 3 @ 5' (2J08001-07) Soil									
Chloride	**11.2**	1.03	mg/kg dry wt. dry	1	EJ20801	10/08/12	10/09/12	EPA 300.0	
% Moisture	**3.0**	0.1	%	"	EJ20901	10/08/12	10/09/12	% calculation	

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20902 - 8015M										
Blank (EJ20902-BLK1)				Prepared & Analyzed: 10/08/12						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*86.7*		"	*100*		*86.7*	*70-130*			
Surrogate: o-Terphenyl	*47.5*		"	*50.0*		*95.0*	*70-130*			
LCS (EJ20902-BS1)				Prepared & Analyzed: 10/08/12						
C6-C12	534	25.0	mg/kg wet	500		107	75-125			
>C12-C28	542	25.0	"	500		108	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	*75.4*		"	*100*		*75.4*	*70-130*			
Surrogate: o-Terphenyl	*35.1*		"	*50.0*		*70.2*	*70-130*			
LCS Dup (EJ20902-BSD1)				Prepared & Analyzed: 10/08/12						
C6-C12	591	25.0	mg/kg wet	500		118	75-125	10.1	20	
>C12-C28	590	25.0	"	500		118	75-125	8.49	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	*93.0*		"	*100*		*93.0*	*70-130*			
Surrogate: o-Terphenyl	*43.1*		"	*50.0*		*86.2*	*70-130*			
Matrix Spike (EJ20902-MS1)	**Source: 2J08001-01**			Prepared & Analyzed: 10/08/12						
C6-C12	787	25.8	mg/kg dry	1030	ND	76.3	75-125			
>C12-C28	792	25.8	"	1030	ND	76.8	75-125			
>C28-C35	ND	25.8	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	*106*		"	*103*		*103*	*70-130*			
Surrogate: o-Terphenyl	*49.0*		"	*51.5*		*95.0*	*70-130*			
Matrix Spike Dup (EJ20902-MSD1)	**Source: 2J08001-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
C6-C12	818	25.8	mg/kg dry	1030	ND	79.4	75-125	3.91	20	
>C12-C28	799	25.8	"	1030	ND	77.5	75-125	0.933	20	
>C28-C35	ND	25.8	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	*101*		"	*103*		*98.0*	*70-130*			
Surrogate: o-Terphenyl	*47.5*		"	*51.5*		*92.1*	*70-130*			

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20903 - General Preparation (GC)										
Blank (EJ20903-BLK1)				Prepared & Analyzed: 10/08/12						
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	*65.1*		*ug/kg*	*60.0*		*109*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*54.1*		"	*60.0*		*90.2*	*75-125*			
LCS (EJ20903-BS1)				Prepared & Analyzed: 10/08/12						
Benzene	0.0848	0.00100	mg/kg wet	0.100		84.8	80-120			
Toluene	0.100	0.00200	"	0.100		100	80-120			
Ethylbenzene	0.0934	0.00100	"	0.100		93.4	80-120			
Xylene (p/m)	0.186	0.00200	"	0.200		92.8	80-120			
Xylene (o)	0.0878	0.00100	"	0.100		87.8	80-120			
Surrogate: 1,4-Difluorobenzene	*64.9*		*ug/kg*	*60.0*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*53.7*		"	*60.0*		*89.6*	*75-125*			
LCS Dup (EJ20903-BSD1)				Prepared & Analyzed: 10/08/12						
Benzene	0.0845	0.00100	mg/kg wet	0.100		84.5	80-120	0.295	20	
Toluene	0.101	0.00200	"	0.100		101	80-120	0.328	20	
Ethylbenzene	0.0943	0.00100	"	0.100		94.3	80-120	0.991	20	
Xylene (p/m)	0.189	0.00200	"	0.200		94.3	80-120	1.57	20	
Xylene (o)	0.0894	0.00100	"	0.100		89.4	80-120	1.78	20	
Surrogate: 1,4-Difluorobenzene	*64.6*		*ug/kg*	*60.0*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*54.9*		"	*60.0*		*91.5*	*75-125*			
Matrix Spike (EJ20903-MS1)		**Source: 2J08001-01**		Prepared & Analyzed: 10/08/12						
Benzene	0.0397	0.00100	mg/kg dry	0.103	ND	38.5	80-120			QM-05
Toluene	0.0516	0.00200	"	0.103	ND	50.0	80-120			QM-05
Ethylbenzene	0.0524	0.00100	"	0.103	ND	50.8	80-120			QM-05
Xylene (p/m)	0.101	0.00200	"	0.206	ND	48.8	80-120			QM-05
Xylene (o)	0.0503	0.00100	"	0.103	ND	48.8	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*63.8*		*ug/kg*	*60.0*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*54.8*		"	*60.0*		*91.4*	*75-125*			

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20903 - General Preparation (GC)										
Matrix Spike Dup (EJ20903-MSD1)	**Source: 2J08001-01**			Prepared & Analyzed: 10/08/12						
Benzene	0.0395	0.00100	mg/kg dry	0.103	ND	38.3	80-120	0.364	20	QM-05
Toluene	0.0512	0.00200	"	0.103	ND	49.7	80-120	0.662	20	QM-05
Ethylbenzene	0.0519	0.00100	"	0.103	ND	50.4	80-120	0.811	20	QM-05
Xylene (p/m)	0.0999	0.00200	"	0.206	ND	48.5	80-120	0.658	20	QM-05
Xylene (o)	0.0496	0.00100	"	0.103	ND	48.1	80-120	1.42	20	QM-05
Surrogate: 1,4-Difluorobenzene	*63.5*		*ug/kg*	*60.0*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*54.4*		*"*	*60.0*		*90.6*	*75-125*			

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

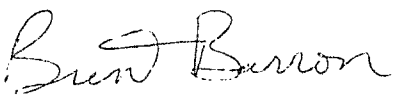
Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ20801 - * DEFAULT PREP *****										
Blank (EJ20801-BLK1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	ND	1.00	mg/kg dry wt. wet							
LCS (EJ20801-BS1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	9.98		mg/kg Wet	10.0		99.8	80-120			
LCS Dup (EJ20801-BSD1)				Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	9.98		mg/kg Wet	10.0		99.8	80-120	0.0100	20	
Duplicate (EJ20801-DUP1)	**Source: 2J05002-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	141	5.21	mg/kg dry wt. dry		138			1.98	20	
Matrix Spike (EJ20801-MS1)	**Source: 2J05002-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	770	5.21	mg/kg dry wt. dry	521	138	121	80-120			QM-05
Matrix Spike (EJ20801-MS2)	**Source: 2J08001-05**			Prepared: 10/08/12 Analyzed: 10/09/12						
Chloride	190	1.04	mg/kg dry wt. dry	91.1	82.7	118	80-120			
Batch EJ20901 - * DEFAULT PREP *****										
Blank (EJ20901-BLK1)				Prepared: 10/08/12 Analyzed: 10/09/12						
% Moisture	ND	0.1	%							
Duplicate (EJ20901-DUP1)	**Source: 2J08001-01**			Prepared: 10/08/12 Analyzed: 10/09/12						
% Moisture	3.0	0.1	%		3.0			0.00	20	

Nova Safety & Environment	Project: MB-4	Fax: (432) 520-7701
2057 Commerce	Project Number: IRP-983	
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

Report Approved By:  Date: 10/9/2012

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-661-4184

Project Manager: Camille Bryant

Company Name: NOVA Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, Texas 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Brittan K Bryant

e-mail: cbryant@novatraining.cc

rose.slade@sug.com

Project Name: MB-4

Project #: IRP-983

Project Loc: Lea County New Mexico

PO #:

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

(lab use only) ORDER #: 2J08001

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1	8015B	8015M	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides 300	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-01	EW-1 @ 12			10/5/12	10:30		1	X								So.1	X										X			X			X
-02	EW2 @ 12			10/5/12	11:45		1									So.1																	
-03	S/W trench 5'			10/5/12	13:25		1																										
-04	WW2 @ 16'			10/5/12	13:10		1																										
-05	S/E trench @ 5'			10/5/12	13:30		1																										
-06	N trench 11'			10/5/12	14:15																												
-07	EW3 @ 5'			10/5/12	14:00																												

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Brittan K Bryant	10/5/12	4:35			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by PBEL: Kalandra	Date 10-5-12	Time 1035

Laboratory Comments:

Sample Containers Intact?	Y N
VOCs Free of Headspace?	Y N
Labels on container(s)	Y N
Custody seals on container(s)	Y N
Custody seals on cooler(s)	Y N
Sample Hand Delivered	Y N
by Sampler/Client Rep. ?	Y N
by Courier? UPS DHL FedEx Lone Star	
Temperature Upon Receipt:	
Received: 2.4 °C	
Adjusted: °C Factor	

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

PBELAB

Analytical Report

Prepared for:

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

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Location: Lea County New Mexico

Lab Order Number: 2K26001

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-12-1

Report Date: 11/29/12

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MB4 RP South @ 15'	2K26001-01	Soil	11/19/12 14:00	11-26-2012 12:39
South wall @ 14'	2K26001-02	Soil	11/19/12 15:00	11-26-2012 12:39
MB4 WWA @ 12'	2K26001-03	Soil	11/20/12 10:35	11-26-2012 12:39

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

MB4 RP South @ 15'

2K26001-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab									
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*110 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*66.7 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	*S-GC*
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**138**	1.04	mg/kg dry	1	EK22902	11/29/12	11/29/12	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	EK22901	11/28/12	11/29/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	26.0	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C12-C28	ND	26.0	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C28-C35	ND	26.0	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
Surrogate: 1-Chlorooctane		*107 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Surrogate: o-Terphenyl		*113 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/28/12	11/28/12	8015M	

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

South wall @ 14'

2K26001-02 (Soil)

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*106 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*100 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**129**	5.10	mg/kg dry	5	EK22902	11/29/12	11/29/12	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	EK22901	11/28/12	11/29/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C12-C28	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C28-C35	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
Surrogate: 1-Chlorooctane		*82.5 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Surrogate: o-Terphenyl		*88.2 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/28/12	11/28/12	8015M	

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

MB4 WWA @ 12'

2K26001-03 (Soil)

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK22807	11/28/12	11/28/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*107 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*108 %*	*75-125*		*EK22807*	*11/28/12*	*11/28/12*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**122**	2.55	mg/kg dry	2.5	EK22902	11/29/12	11/29/12	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	EK22901	11/28/12	11/29/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C12-C28	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
>C28-C35	ND	25.5	mg/kg dry	1	EK22806	11/28/12	11/28/12	8015M	
Surrogate: 1-Chlorooctane		*79.7 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Surrogate: o-Terphenyl		*84.5 %*	*70-130*		*EK22806*	*11/28/12*	*11/28/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/28/12	11/28/12	8015M	

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Project Manager: Camille Bryant

Fax: (432) 520-7701

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK22807 - General Preparation (GC)										
Blank (EK22807-BLK1)				Prepared & Analyzed: 11/28/12						
Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	*64.0*		*ug/kg*	*60.0*		*107*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*61.5*		"	*60.0*		*103*	*75-125*			
LCS (EK22807-BS1)				Prepared & Analyzed: 11/28/12						
Benzene	0.0807	0.00100	mg/kg wet	0.100		80.7	80-120			
Toluene	0.110	0.00200	"	0.100		110	80-120			
Ethylbenzene	0.114	0.00100	"	0.100		114	80-120			
Xylene (p/m)	0.237	0.00200	"	0.200		118	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 1,4-Difluorobenzene	*67.4*		*ug/kg*	*60.0*		*112*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*70.5*		"	*60.0*		*117*	*75-125*			
LCS Dup (EK22807-BSD1)				Prepared & Analyzed: 11/28/12						
Benzene	0.0937	0.00100	mg/kg wet	0.100		93.7	80-120	15.0	20	
Toluene	0.120	0.00200	"	0.100		120	80-120	9.37	20	
Ethylbenzene	0.112	0.00100	"	0.100		112	80-120	1.57	20	
Xylene (p/m)	0.239	0.00200	"	0.200		120	80-120	1.06	20	
Xylene (o)	0.116	0.00100	"	0.100		116	80-120	4.26	20	
Surrogate: 1,4-Difluorobenzene	*63.6*		*ug/kg*	*60.0*		*106*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*67.3*		"	*60.0*		*112*	*75-125*			
Matrix Spike (EK22807-MS1)	**Source: 2K28001-01**			Prepared & Analyzed: 11/28/12						
Benzene	4.29	0.0500	mg/kg dry	0.106	0.0177	NR	80-120			QM-05
Toluene	4.39	0.100	"	0.106	0.242	NR	80-120			QM-05
Ethylbenzene	4.62	0.0500	"	0.106	0.0587	NR	80-120			QM-05
Xylene (p/m)	14.7	0.100	"	0.213	6.03	NR	80-120			QM-05
Xylene (o)	5.99	0.0500	"	0.106	1.48	NR	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*57.7*		*ug/kg*	*60.0*		*96.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*67.3*		"	*60.0*		*112*	*75-125*			

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Project Manager: Camille Bryant

Fax: (432) 520-7701

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK22807 - General Preparation (GC)										
Matrix Spike (EK22807-MS2)	**Source: 2K26001-01**			Prepared & Analyzed: 11/28/12						
Benzene	0.0700	0.00100	mg/kg dry	0.104	ND	67.2	80-120			QM-05
Toluene	0.0975	0.00200	"	0.104	ND	93.6	80-120			
Ethylbenzene	0.0981	0.00100	"	0.104	ND	94.2	80-120			
Xylene (p/m)	0.197	0.00200	"	0.208	ND	94.6	80-120			
Xylene (o)	0.0906	0.00100	"	0.104	ND	87.0	80-120			
Surrogate: 1,4-Difluorobenzene	*63.2*		*ug/kg*	*60.0*		*105*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*64.6*		*"*	*60.0*		*108*	*75-125*			
Matrix Spike Dup (EK22807-MSD2)	**Source: 2K26001-01**			Prepared & Analyzed: 11/28/12						
Benzene	0.0660	0.00100	mg/kg dry	0.104	ND	63.3	80-120	5.87	20	QM-05
Toluene	0.0901	0.00200	"	0.104	ND	86.5	80-120	7.89	20	
Ethylbenzene	0.0929	0.00100	"	0.104	ND	89.1	80-120	5.50	20	
Xylene (p/m)	0.188	0.00200	"	0.208	ND	90.2	80-120	4.78	20	
Xylene (o)	0.0871	0.00100	"	0.104	ND	83.6	80-120	4.01	20	
Surrogate: 1,4-Difluorobenzene	*63.3*		*ug/kg*	*60.0*		*105*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*66.9*		*"*	*60.0*		*112*	*75-125*			

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Project Manager: Camille Bryant

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General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK22901 - * DEFAULT PREP *** **										
Blank (EK22901-BLK1)				Prepared: 11/28/12 Analyzed: 11/29/12						
% Moisture	ND	0.1	%							
Duplicate (EK22901-DUP1)		**Source: 2K26001-01**		Prepared: 11/28/12 Analyzed: 11/29/12						
% Moisture	4.0	0.1	%		4.0			0.00	20	
Duplicate (EK22901-DUP2)		**Source: 2K28002-07**		Prepared: 11/28/12 Analyzed: 11/29/12						
% Moisture	7.0	0.1	%		7.0			0.00	20	
Batch EK22902 - * DEFAULT PREP *** **										
Blank (EK22902-BLK1)				Prepared & Analyzed: 11/29/12						
Chloride	ND	1.00	mg/kg wet							
LCS (EK22902-BS1)				Prepared & Analyzed: 11/29/12						
Chloride	11.5		mg/kg Wet	10.0		115	80-120			
LCS Dup (EK22902-BSD1)				Prepared & Analyzed: 11/29/12						
Chloride	11.5		mg/kg Wet	10.0		115	80-120	0.156	20	
Duplicate (EK22902-DUP1)		**Source: 2K26001-01**		Prepared & Analyzed: 11/29/12						
Chloride	138	1.04	mg/kg dry		138			0.00760	20	
Matrix Spike (EK22902-MS1)		**Source: 2K26001-01**		Prepared & Analyzed: 11/29/12						
Chloride	245	1.04	mg/kg dry	130	138	82.3	80-120			

Notes and Definitions

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

Report Approved By: Brent Barron Date: 11/29/2012

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-661-4184

Project Manager: Camille Bryant
Company Name: NOVA Safety and Environmental
Company Address: 2057 Commerce
City/State/Zip: Midland, Texas 79703
Telephone No: 432.520.7720 Fax No: 432.520.7701
Sampler Signature: Camille Bryant e-mail: cbryant@novatraining.cc
rose.slade@sug.com

Project Name: SUG Historical MB-4 1RP-983
Project #:
Project Loc: Lea County New Mexico
PO #:
Report Format: [x] Standard [ ] TRRP [ ] NPDES

(lab use only) ORDER #: 2K260001

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 (8015M) 8015B TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Cl 300			RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-01	MB4 RP South @ 15'			11/19/2012	14:00		1	X								Soil	X							X			X				X
-02	South wall @ 14'			11/19/2012	15:00		1	X								Soil	X							X			X				X
-03	MB4 WWA @ 12'			11/20/2012	10:35		1	X								Soil	X							X			X				X

Special Instructions:

Laboratory Comments:

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

Temperature Upon Receipt:
Received 3.0 °C
Adjusted °C Factor NCP

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	11/26/12	11:19			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by PBEL	Date	Time
				11/26/12	11:19

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

PBELAB

Analytical Report

Prepared for:

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

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Location: Lea County, New Mexico

Lab Order Number: 2K29001

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704156-12-1

Report Date: 11/30/12

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North S/W @ 14'	2K29001-01	Soil	11/28/12 10:30	11-29-2012 09:51
SP-1	2K29001-02	Soil	11/28/12 15:00	11-29-2012 09:51
SP-2	2K29001-03	Soil	11/28/12 15:10	11-29-2012 09:51

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

North S/W @ 14'

2K29001-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab									
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*104 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*97.4 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**112**	2.58	mg/kg dry	2.5	EK23004	11/30/12	11/30/12	EPA 300.0	
% Moisture	**3.0**	0.1	%	1	EK23001	11/29/12	11/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.8	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C12-C28	ND	25.8	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C28-C35	ND	25.8	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
Surrogate: 1-Chlorooctane		*98.6 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Surrogate: o-Terphenyl		*109 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/29/12	11/29/12	8015M	

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

SP-1

2K29001-02 (Soil)

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*107 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*99.0 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**98.1**	2.53	mg/kg dry	2.5	EK23004	11/30/12	11/30/12	EPA 300.0	
% Moisture	**1.0**	0.1	%	1	EK23001	11/29/12	11/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.3	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C12-C28	ND	25.3	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C28-C35	ND	25.3	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Surrogate: o-Terphenyl		*120 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/29/12	11/29/12	8015M	

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

SP-2

2K29001-03 (Soil)

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organics by GC									
Benzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	EK23003	11/29/12	11/29/12	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		*109 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*103 %*	*75-125*		*EK23003*	*11/29/12*	*11/29/12*	*EPA 8021B*	
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**115**	2.55	mg/kg dry	2.5	EK23004	11/30/12	11/30/12	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	EK23001	11/29/12	11/30/12	% calculation	
Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M									
C6-C12	ND	25.5	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C12-C28	ND	25.5	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
>C28-C35	ND	25.5	mg/kg dry	1	EK23002	11/29/12	11/29/12	8015M	
Surrogate: 1-Chlorooctane		*89.6 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Surrogate: o-Terphenyl		*101 %*	*70-130*		*EK23002*	*11/29/12*	*11/29/12*	*8015M*	
Total Hydrocarbon nC6-nC35	ND	25.0	mg/kg dry	1	[CALC]	11/29/12	11/29/12	8015M	

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: SUG Historical MB-4 1RP-983
Project Number: 1RP-983
Project Manager: Camille Bryant

Fax: (432) 520-7701

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK23003 - General Preparation (GC)										
Blank (EK23003-BLK1)				Prepared & Analyzed: 11/29/12						
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	*65.1*		*ug/kg*	*60.0*		*108*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*61.8*		"	*60.0*		*103*	*75-125*			
LCS (EK23003-BS1)				Prepared & Analyzed: 11/29/12						
Benzene	0.0914	0.00100	mg/kg wet	0.100		91.4	80-120			
Toluene	0.114	0.00200	"	0.100		114	80-120			
Ethylbenzene	0.110	0.00100	"	0.100		110	80-120			
Xylene (p/m)	0.231	0.00200	"	0.200		115	80-120			
Xylene (o)	0.111	0.00100	"	0.100		111	80-120			
Surrogate: 1,4-Difluorobenzene	*62.0*		*ug/kg*	*60.0*		*103*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*65.9*		"	*60.0*		*110*	*75-125*			
LCS Dup (EK23003-BSD1)				Prepared & Analyzed: 11/29/12						
Benzene	0.0949	0.00100	mg/kg wet	0.100		94.9	80-120	3.74	20	
Toluene	0.119	0.00200	"	0.100		119	80-120	3.97	20	
Ethylbenzene	0.118	0.00100	"	0.100		118	80-120	7.62	20	
Xylene (p/m)	0.237	0.00200	"	0.200		119	80-120	2.61	20	
Xylene (o)	0.114	0.00100	"	0.100		114	80-120	3.14	20	
Surrogate: 1,4-Difluorobenzene	*65.9*		*ug/kg*	*60.0*		*110*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*67.7*		"	*60.0*		*113*	*75-125*			
Matrix Spike (EK23003-MS1)		**Source: 2K29001-03**		Prepared & Analyzed: 11/29/12						
Benzene	0.0551	0.00100	mg/kg dry	0.102	ND	54.0	80-120			QM-05
Toluene	0.0772	0.00200	"	0.102	ND	75.6	80-120			QM-05
Ethylbenzene	0.0753	0.00100	"	0.102	ND	73.8	80-120			QM-05
Xylene (p/m)	0.151	0.00200	"	0.204	ND	73.9	80-120			QM-05
Xylene (o)	0.0715	0.00100	"	0.102	ND	70.1	80-120			QM-05
Surrogate: 1,4-Difluorobenzene	*61.4*		*ug/kg*	*60.0*		*102*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*62.5*		"	*60.0*		*104*	*75-125*			

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Organics by GC - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK23003 - General Preparation (GC)										
Matrix Spike Dup (EK23003-MSD1)	**Source: 2K29001-03**			Prepared & Analyzed: 11/29/12						
Benzene	0.0527	0.00100	mg/kg dry	0.102	ND	51.6	80-120	4.45	20	QM-05
Toluene	0.0655	0.00200	"	0.102	ND	64.2	80-120	16.4	20	QM-05
Ethylbenzene	0.0642	0.00100	"	0.102	ND	62.9	80-120	15.9	20	QM-05
Xylene (p/m)	0.129	0.00200	"	0.204	ND	63.1	80-120	15.8	20	QM-05
Xylene (o)	0.0630	0.00100	"	0.102	ND	61.8	80-120	12.7	20	QM-05
Surrogate: 1,4-Difluorobenzene	*62.6*		*ug/kg*	*60.0*		*104*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*59.7*		*"*	*60.0*		*99.4*	*75-125*			

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project 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 EK23001 - * DEFAULT PREP *** **										
Blank (EK23001-BLK1)				Prepared: 11/29/12 Analyzed: 11/30/12						
% Moisture	ND	0.1	%							
Duplicate (EK23001-DUP1)	**Source: 2K29001-01**			Prepared: 11/29/12 Analyzed: 11/30/12						
% Moisture	3.0	0.1	%		3.0			0.00	20	
Batch EK23004 - * DEFAULT PREP *** **										
Blank (EK23004-BLK1)				Prepared & Analyzed: 11/30/12						
Chloride	ND	1.00	mg/kg wet							
LCS (EK23004-BS1)				Prepared & Analyzed: 11/30/12						
Chloride	10.6		mg/kg Wet	10.0		106	80-120			
LCS Dup (EK23004-BSD1)				Prepared & Analyzed: 11/30/12						
Chloride	10.5		mg/kg Wet	10.0		105	80-120	0.0474	20	
Duplicate (EK23004-DUP1)	**Source: 2K29001-01**			Prepared & Analyzed: 11/30/12						
Chloride	73.0	2.58	mg/kg dry		112			42.5	20	QR-03
Matrix Spike (EK23004-MS1)	**Source: 2K29001-01**			Prepared & Analyzed: 11/30/12						
Chloride	387	2.58	mg/kg dry	245	112	112	80-120			

Nova Safety & Environment	Project: SUG Historical MB-4 1RP-983	Fax: (432) 520-7701
2057 Commerce	Project Number: 1RP-983	
Midland TX, 79703	Project Manager: Camille Bryant	

Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control

Permian Basin Environmental Lab

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK23002 - 8015M										
Blank (EK23002-BLK1)				Prepared & Analyzed: 11/29/12						
C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	*93.7*		"	*100*		*93.7*	*70-130*			
Surrogate: o-Terphenyl	*51.4*		"	*50.0*		*103*	*70-130*			
LCS (EK23002-BS1)				Prepared & Analyzed: 11/29/12						
C6-C12	763	25.0	mg/kg wet	1000		76.3	75-125			
>C12-C28	809	25.0	"	1000		80.9	75-125			
>C28-C35	ND	25.0	"	0.00			75-125			
Surrogate: 1-Chlorooctane	*93.0*		"	*100*		*93.0*	*70-130*			
Surrogate: o-Terphenyl	*41.0*		"	*50.0*		*82.1*	*70-130*			
LCS Dup (EK23002-BSD1)				Prepared & Analyzed: 11/29/12						
C6-C12	879	25.0	mg/kg wet	1000		87.9	75-125	14.1	20	
>C12-C28	849	25.0	"	1000		84.9	75-125	4.90	20	
>C28-C35	ND	25.0	"	0.00			75-125		20	
Surrogate: 1-Chlorooctane	*105*		"	*100*		*105*	*70-130*			
Surrogate: o-Terphenyl	*50.2*		"	*50.0*		*100*	*70-130*			
Matrix Spike (EK23002-MS1)	**Source: 2K29001-03**			Prepared & Analyzed: 11/29/12						
C6-C12	904	25.5	mg/kg dry	1020	ND	88.6	75-125			
>C12-C28	808	25.5	"	1020	ND	79.1	75-125			
>C28-C35	ND	25.5	"	0.00	ND		75-125			
Surrogate: 1-Chlorooctane	*90.9*		"	*102*		*89.1*	*70-130*			
Surrogate: o-Terphenyl	*42.6*		"	*51.0*		*83.5*	*70-130*			
Matrix Spike Dup (EK23002-MSD1)	**Source: 2K29001-03**			Prepared & Analyzed: 11/29/12						
C6-C12	904	25.5	mg/kg dry	1020	ND	88.6	75-125	0.0745	20	
>C12-C28	821	25.5	"	1020	ND	80.4	75-125	1.62	20	
>C28-C35	ND	25.5	"	0.00	ND		75-125		20	
Surrogate: 1-Chlorooctane	*89.5*		"	*102*		*87.7*	*70-130*			
Surrogate: o-Terphenyl	*40.5*		"	*51.0*		*79.4*	*70-130*			

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 11/30/2012

Brent Barron, Laboratory Director/Technical Director

PBELAB

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

Phone: 432-661-4184

Project Manager: Camille Bryant

Company Name: NOVA Safety and Environmental

Company Address: 2057 Commerce

City/State/Zip: Midland, Texas 79703

Telephone No: 432.520.7720 Fax No: 432.520.7701

Sampler Signature: Camille Bryant

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

Project Name: SUG Historical MB-4 1RP-983

Project #:

Project Loc: Lea County New Mexico

PO #:

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

(lab use only)
ORDER #: 2K29001

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 / 8015M	TOTAL: TPH: 8015B	TPH: TX 1005	TPH: TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Cl BCC		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
-01	North S/W @ 14'			11/28/2012	10:30		1	X								Soil	X										X			X			X	X
-02	SP-1			11/28/2012	15:00		1	X								Soil	X										X			X			X	X
-03	SP-2			11/28/2012	15:10		1	X								Soil	X										X			X			X	X

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Camille Bryant	11/29/12	9:50			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by PBEL:	Date	Time
				11/29/12	952

Laboratory Comments:

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

Temperature Upon Receipt:
Received: °C
Adjusted: °C Factor

APPENDIX B:
Photographs

NOVA
safety and environmental

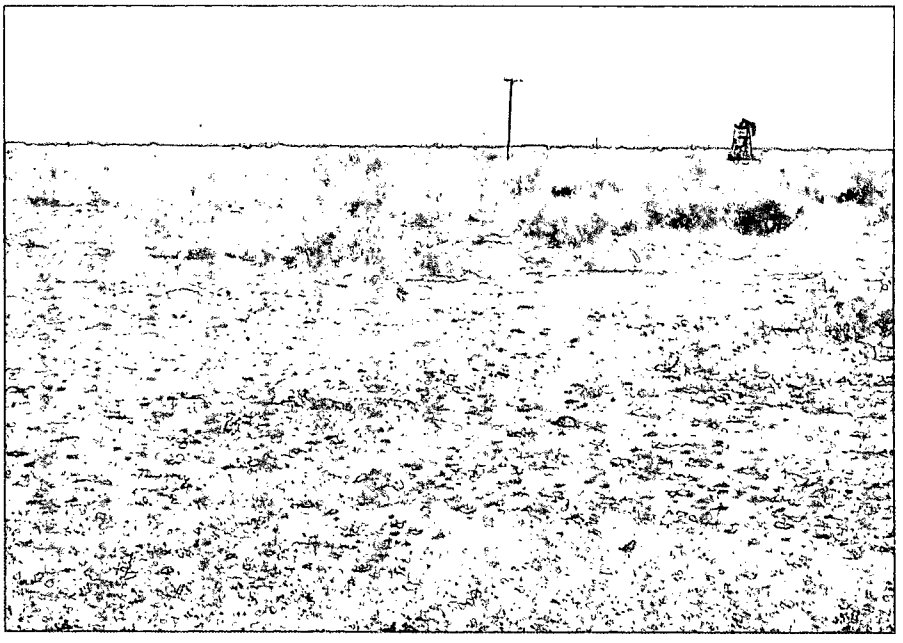
Photographic Documentation

Client: Southern Union Gas Services
Project Name: MB-4 Line

Prepared by: NOVA
Location: Lea County, New Mexico

Photograph No. 1

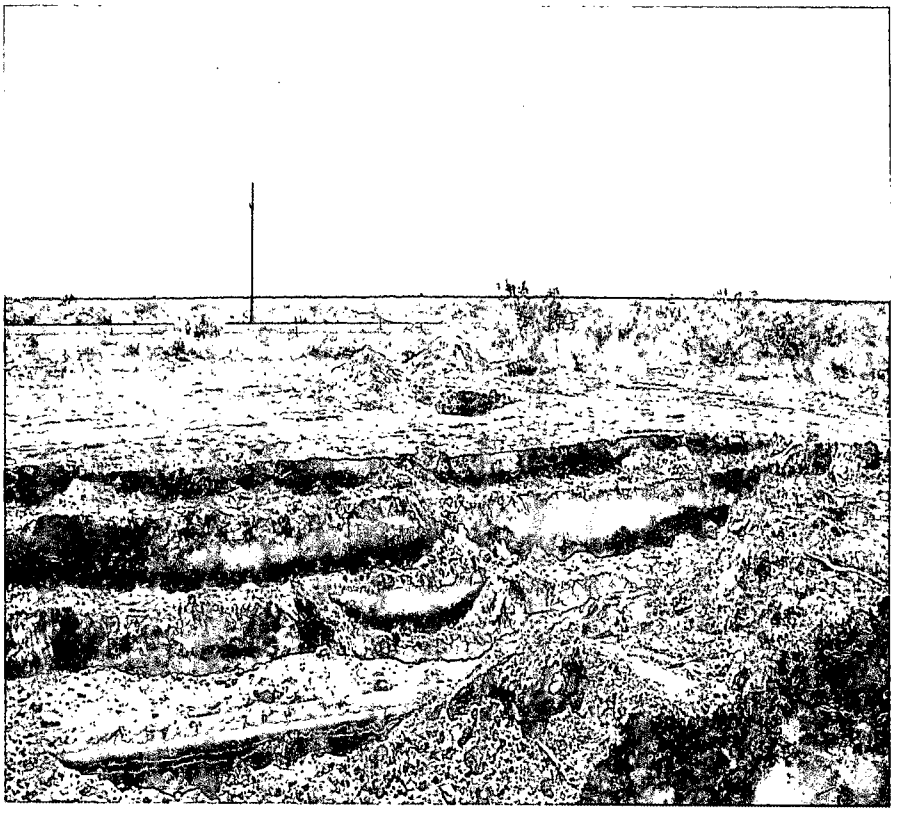
Direction:
Facing Northeast



Description:
View of the initial release area.

Photograph No. 2

Direction:
Facing South



Description:
View of excavation activities.

NOVA
safety and environmental

Photographic Documentation

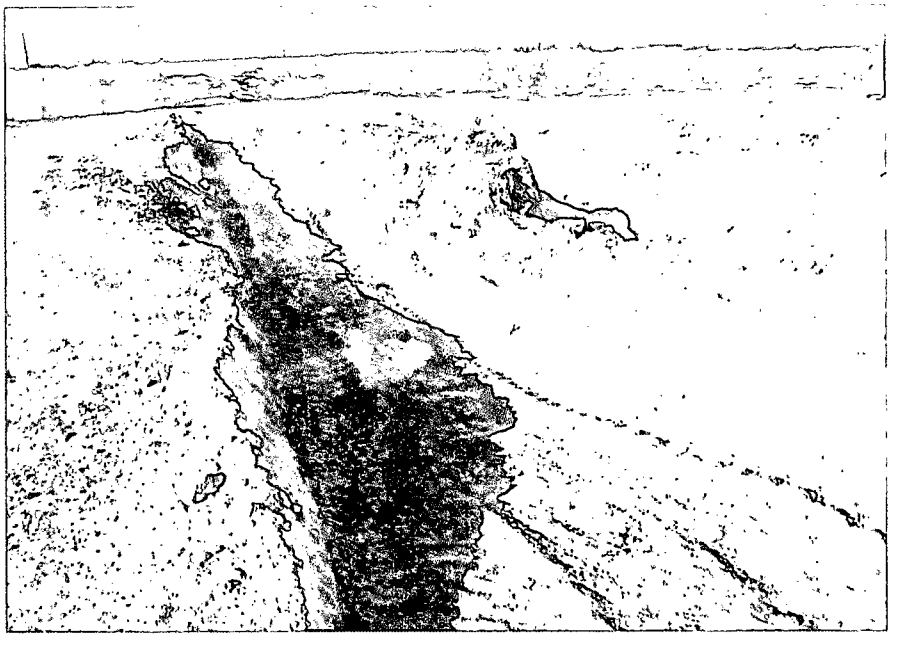
Client: Southern Union Gas Services
Project Name: MB-4 Line

Prepared by: NOVA
Location: Lea County, New Mexico

Photograph No. 3

Direction:
Facing Northwest

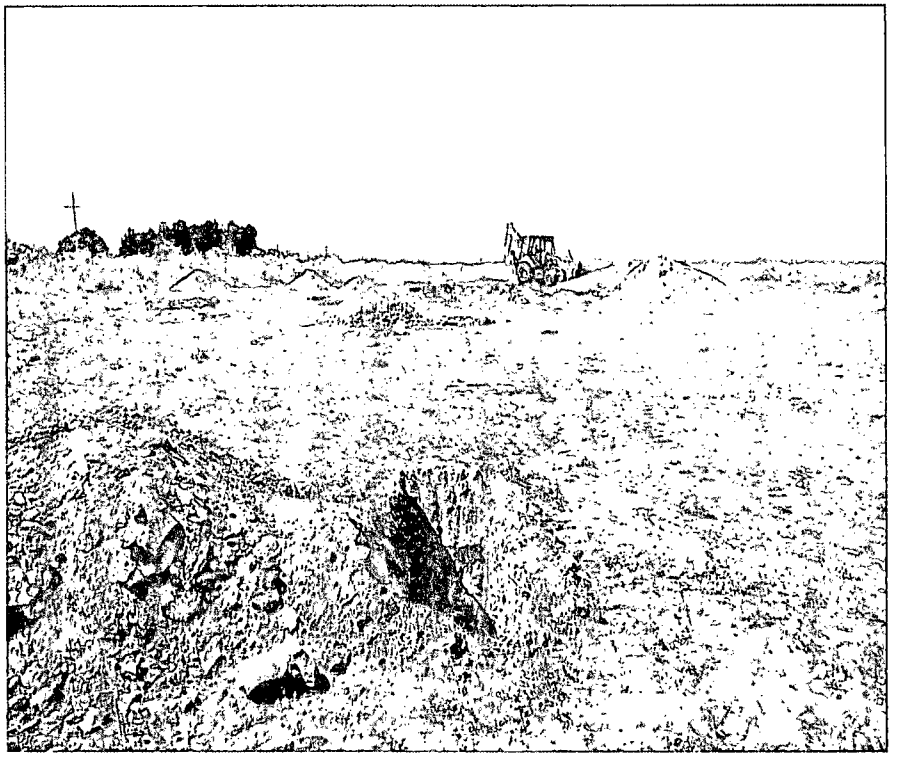
Description:
View of the excavation.



Photograph No. 4

Direction:
Facing Southwest

Description:
View of the excavation and trenches.



NOVA
safety and environmental

Photographic Documentation

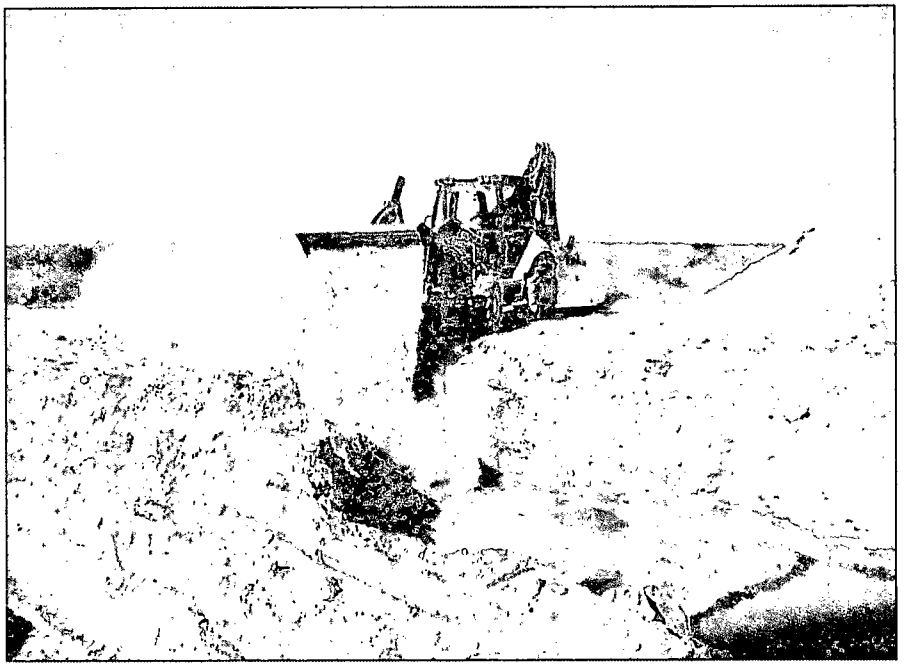
Client: Southern Union Gas Services
Project Name: MB-4 Line

Prepared by: NOVA
Location: Lea County, New Mexico

Photograph No. 5

Direction:
Facing Northwest

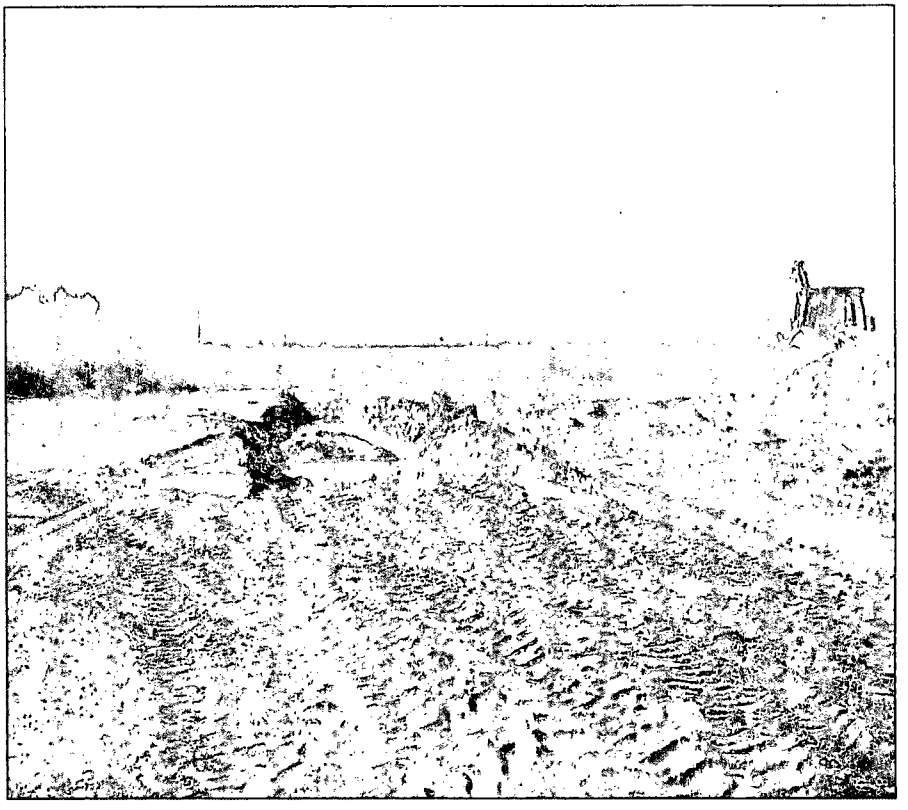
Description:
View of backfilling activities.



Photograph No. 6

Direction:
Facing West

Description:
View of backfilling activities.



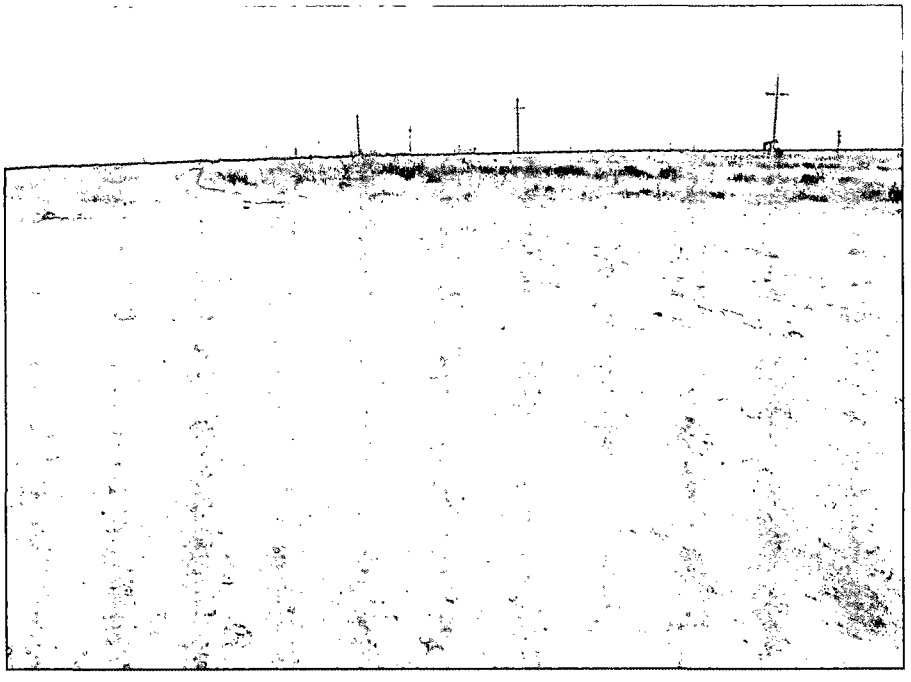
NOVA
safety and environmental

Photographic Documentation

Client: Southern Union Gas Services
Project Name: MB-4 Line

Prepared by: NOVA
Location: Lea County, New Mexico

Photograph No. 7



Direction:
Facing East

Description:
View of restored site.

APPENDIX C:
NMOCD Letter

Becky Haskell

From: Leking, Geoffrey R, EMNRD <GeoffreyR.Leking@state.nm.us>
Sent: Monday, December 03, 2012 4:37 PM
To: Camille Bryant
Cc: Rose.slade@sug.com
Subject: RE: SUGS MB-4 Line backfill request

Camille

The narrative, sampling diagram and data table included in your email of 12/03/2012 indicate that SUG has adequately delineated and remediated the contamination at the above referenced site. The site is approved for backfilling with remediated stockpiled soil. Thank you.

Geoffrey Leking
Environmental Specialist
NMOCD-Hobbs
1625 N. French Drive
Hobbs, NM 88240
Office: (575) 393-6161 Ext. 113
Cell: (575) 399-2990
email: geoffreyr.leking@state.nm.us

From: Camille Bryant [mailto:cbryant@novatraining.cc]
Sent: Monday, December 03, 2012 10:12 AM
To: Leking, Geoffrey R, EMNRD
Cc: Rose.slade@sug.com
Subject: SUGS MB-4 Line backfill request

Mr. Leking,

Please find attached the Soil Chemistry Table (Table 1) and the Site Map (Figure 2) for the Southern Union Gas Services Historical MB-4 Line Release Site 1RP-983. Laboratory analytical results indicate the areas on the floor and the west wall of the excavation that exceeded NMOCD regulatory guidelines (soil samples MB4 RP South @ 13' and MB4 WW @ 12') have been excavated to less than NMOCD regulatory guidelines (soil samples MB4 RP South @ 15' and MB4 WWA @ 12'). In addition, two (2) soil samples (SP-1 and SP-2) were collected from the approximately 600 cubic yards of remediated stockpiled soil and submitted to the laboratory for BTEX, TPH and chloride analysis. Laboratory analytical results indicated benzene, BTEX, TPH and chloride concentrations were less than NMOCD regulatory guidelines for both soil samples. Please reference Table 1 for Concentrations of Benzene, BTEX, TPH and Chlorides in Soil and Figure 2 for soil sample locations.

Based on laboratory analytical results NOVA, on behalf of Southern Union Gas Services, is requesting NMOCD approval to backfill the excavation with the remediated stockpiled soil. NOVA, on behalf of SUGS will prepared a Remediation Summary and Site Closure Request for the MB 4 Line Release Site.

Please contact me with any questions.

Thank you,

Camille Bryant

Nova Safety & Environmental
2057 Commerce
Midland, Texas
432.520.7720 (Office)
432.520.7701 (Fax)
575.605.7210 (Cell)

APPENDIX D:
Release Notification and Corrective Action (Form-C-141)

IRP - 405

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

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

Surface Owner	J.M. Owen	Mineral Owner	Fee	Lease No.	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	15	25S	37E					Lea

Latitude N32 07.408 Longitude W103 08.993

NATURE OF RELEASE

Type of Release Natural Gas, gas liquids and iron sulfide.	Volume of Release 80 mcf gas, 10 bbls oil	Volume Recovered 5 bbls
Source of Release Pipeline	Date and Hour of Occurrence 7/25/06 5:50 p.m.	Date and Hour of Discovery 7/25/06 5:50 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Randall Dunn, Southern Union Gas Services	Date and Hour 7/25/06 6:11 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The 8" steel gathering pipeline, operating at 20 psi developed a leak, the line was blocked in an allowed to blow down by 7:00 pm 7/25/06. Repair crews replaced the affected area of pipe by inserting approximately 200 ft. of poly pipe on 7/26/06. Normal operating pressure on the line is 26 psi to 30 psi, with a potential H2S content of 4000 ppm.

Received Hobbs OCD

Describe Area Affected and Cleanup Action Taken.* An area measuring approximately 90ft. by 40ft. was affected around the immediate leak area with a mist of iron sulfide and crude oil. Approximately 1180 sq.ft. was affected by crude oil and iron sulfide that ran out of the pipe and pooled up on the ground. All of the free- standing liquid was removed with a vacuum truck and the heavily stained soil was removed on 7/26/06 and transported to SUGS Landfarm. The remaining affected area will be sampled and remediated according the NMOCD remediation guidelines. The New Mexico State Highway patrol responded to the incident and issued the response number of H060307

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

Signature: *Tony Savoie*	OIL CONSERVATION DIVISION		
Printed Name: John A. Savoie	Approved by District Supervisor:		
Title: EH&S Comp. Coord.	Approval Date:	Expiration Date:	
E-mail Address: jasavoie@sidrichgas.com	Conditions of Approval:	Attached ☐	
Date: 7/26/06 Phone: 505-395-2116			

* Attach Additional Sheets If Necessary

RP # 983 incident - nPAC0621533019
application - pPAC0621533206