PPAC #7186465555

1466

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. 817.302.9716 or 432.940.5147 |
| Facility Name Monahans Field Office | Facility Type 12-Inch Crossover Doom #1 Line |

| | | |
|---|---|---|
| Surface Owner Gerald Doom | Mineral Owner | API No. |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| M | 27 | 24S | 37E | | | | | LEA |

**Latitude** 32 10.872 **Longitude W 103 09.345**

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Natural Gas and Crude Oil | Volume of Release 650 mcf gas and 25 bbls oil | Volume Recovered 0 bbls |
| Source of Release 12 inch pipeline | Date and Hour of Occurrence Unknown | Date and Hour of Discovery 7/8/06 @ 08:30 |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Gary Wink | |
| By Whom? | Date and Hour 7/8/06 @ 09:32 | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
NOV 14 2012
HOBBS OCD

Describe Cause of Problem and Remedial Action Taken.*
The 12" steel gathering pipeline, operating at 22psi developed a leak, the line was taken out of service and repaired. The normal operating pressure for this line is 20 psi to 30 psi, with a potential H2S content of 4,000 ppm.

Describe Area Affected and Cleanup Action Taken.*
The inferred release point was excavated, soil samples were collected from the excavation and stockpiled soil. The samples were submitted to the laboratory and analyzed for concentrations of benzene, BTEX, TPH, and chlorides. On laboratory confirmation of soil sample results less than NMOCD guidelines the excavation was backfilled with the stockpiled soil. Please reference the NOVA Safety and Environmental Soil Investigation Summary and Site Closure Request dated November 2012 for 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 L Slade | OIL CONSERVATION DIVISION<br>Environmental Specialist |
| Printed Name: Rose L Slsade | Approved by Environmental Specialist: |
| Title: Environmental Specialist | Approval Date: 11/14/12 Expiration Date: - |
| E-mail Address:rose.slade@sug.com | Conditions of Approval: — Attached ☐ |
| Date: Phone: | IRP-1466 |

* Attach Additional Sheets If Necessary

pPAC0718646555

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 | B.J. Doom | Mineral Owner | Woolworth/ Jal library | Lease No. | |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| M | 27 | 24S | 37E | | | | | Lea |

Latitude N32 10.872 Longitude W103 09.345

## NATURE OF RELEASE

| | | | |
|---|---|---|---|
| Type of Release | Natural Gas and crude oil | Volume of Release 650 mcf gas, 25 bbls oil | Volume Recovered 0 bbls |
| Source of Release | Pipeline | Date and Hour of Occurrence Not Known | Date and Hour of Discovery 7/8/06 8:30 a.m. |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | | If YES, To Whom? Gary Wink | |
| By Whom? | | Date and Hour 7/8/06 9:32 a.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 12" steel gathering pipeline, operating at 22 psi developed a leak, the line was taken out of service & repaired. The normal operating pressure for this line is 20 psi to 30 psi, with a potential H2S content of 4000 ppm.

Describe Area Affected and Cleanup Action Taken.* An area measuring approximately 150ft. by 200 ft. was affected around the immediate leak area, or approximately 30,000 sg. Ft. of pasture land was affected by the release. The site will be remediated as per NMOCD guidelines. The amount of the release is on this form under the volume of release, 650 mcf gas and 25 bbls of oil, none recovered.

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: 7/10/06 | Phone: 505-395-2116 | | |

* Attach Additional Sheets If Necessary

DEC 2 2 2015

# SOIL INVESTIGATION SUMMARY

# AND SITE

# CLOSURE REQUEST

**Southern Union Gas Services**
**12-Inch Crossover Doom #1 Historical Release Site**
**Lea County, New Mexico**
**UNIT LTR "M" (SW ¼ /SW ¼), Section 27, Township 24 South, Range 37 East**
**Latitude 32° 10.872' North, Longitude 103° 09.345' West**
**NMOCD Reference # 1RP-1466**

Prepared For:

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



Prepared By:

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

**November 2012**

Camille J. Bryant
Project Manager

Brittan K. Byerly, P.G.
President

## 1.0 INTRODUCTION

Nova Safety & Environmental (NOVA), on behalf of Southern Union Gas Services (SUGS), has prepared this Soil Investigation Summary and Site Closure Request for 12-Inch Crossover Doom #1 Historical Release Site. The legal description of the release site is Unit Letter "M" (SW ¼ SW ¼), Section 27, Township 24 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by Mr. Gerald Doom. The release site GPS coordinates are 32° 10.872' North and 103° 09.345' 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 C.

On July 8, 2006, SUGS discovered a release of crude oil and natural gas had occurred from a twelve (12) inch low pressure steel pipeline. The cause of the release was attributed to failure of a segment of the steel pipeline. The pipeline was shut in and the pipeline was 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 10, 2006. The C-141 indicated approximately twenty-five (25) barrels of crude oil and 650 mcf of natural gas were released from the pipeline, with no recovery. 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 27, Township 24 South, Range 37 East. A reference map utilized by the NMOCD indicated depth to groundwater at the release site should be encountered at approximately one hundred (100) feet below ground surface (bgs). The depth to groundwater at the 12-Inch Crossover Doom #1 Historical Release Site results in a score of ten (10) points being assigned to the site, based on the NMOCD depth to groundwater criteria.

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

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

The NMOCD guidelines indicate the 12-Inch Crossover Doom #1 Historical Release Site has ranking score of ten (10). Based on this score, the soil remediation levels for a site with a ranking score of ten (10) points are as follows:

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

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

## 3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On August 15, 2012, NOVA commenced soil investigation activities at the 12-Inch Crossover Doom #1 Historical Release Site. Based on historical documentation and stressed vegetation, two (2) trenches were excavated in the vicinity of the inferred release point. The trenches were completed to a total depth of approximately eleven (11) feet bgs. The depth of the trenches was determined on review of historical data and by field observations conducted during excavation activities. The first trench was excavated along SUGS's pipeline in a north-south direction. The north-south trench measured approximately seventy-five (75) feet in length and was approximately ten (10) feet in width. The second trench was excavated in an east-west direction and intersected the north-south trench. The east-west trench measured approximately forty (40) feet in length and was approximately ten (10) feet in width. The excavated soil was stockpiled in a cleared area west of the excavated area. Please reference Figure 2 for site details.

On August 15, 2012, a soil sample (Middle Floor @ 11') was collected from the floor of the north-south trench 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, BTEX and TPH concentrations were less than the appropriate laboratory method detection limits (MDL). The soil sample Middle Floor @ 11' exhibited a chloride concentration of 36 mg/Kg. Table 1 summarizes the Concentrations of BTEX, TPH, and Chlorides in Soil. Laboratory analytical reports are provided as Appendix A

On August 16, 2012, four (4) soil samples (South Floor @ 11', South S/W @ 9', North Floor @ 11', North S/W @ 9',) were collected from the north-south trench 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 4.38 mg/Kg for soil sample South S/W @ 9' to 196 mg/Kg for soil sample North Floor @ 11'. 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.

In addition, four (4) soil samples (East Floor @ 11', East S/W @ 9', West Floor @ 11', and West S/W @ 9') were collected from the east-west trench 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 12 mg/Kg for soil sample East Floor @ 11' to 68 mg/Kg for soil sample West Floor @ 11'. A review of analytical results indicated benzene, BTEX, TPH, and chloride concentrations were less than NMOCD regulatory guidelines.

On August 30, 2012, a composite soil sample (SP-1) was 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 soil sample SP-1. The soil sample exhibited a chloride concentration of 22 mg/Kg (Table 1).

On August 31, 2012, SUGS and NOVA representatives met with a NMOCD Hobbs District Office representative to present the results of the soil investigation, and request permission to backfill the excavated area. The NMOCD Hobbs District Office representative granted verbal approval to backfill the excavated area with the stockpiled soil represented by soil sample SP-1.

On September 21, 2012, the excavated area was backfilled with the stockpiled soil represented by soil sample SP-1. 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 Investigation Summary and Site Closure Request and request the NMOCD grant final closure to the 12-Inch Crossover Doom #1 Historical Release Site.

## 6.0 LIMITATIONS

NOVA Safety and Environmental has prepared this Soil Investigation 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.

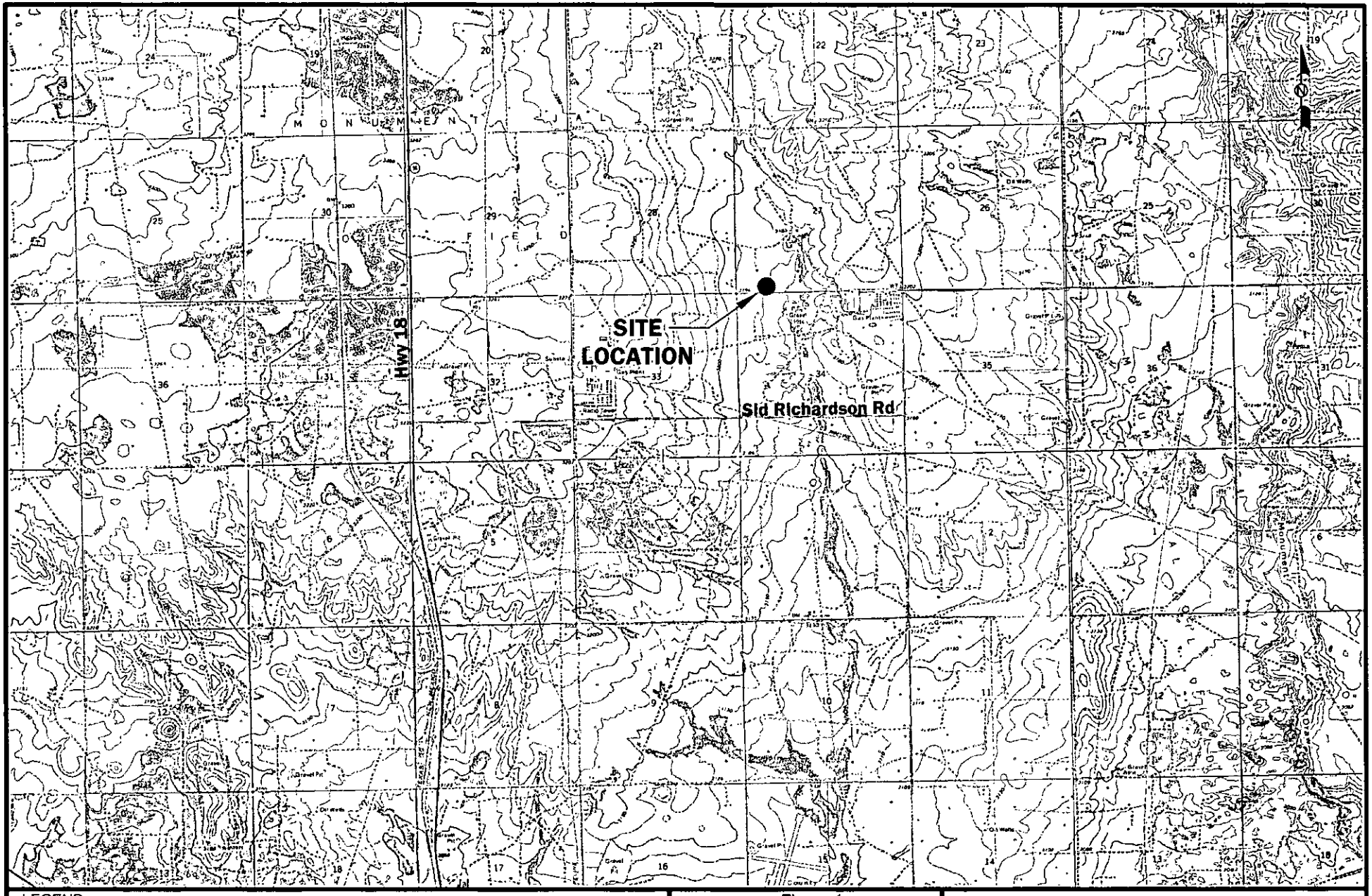
This report has been prepared for the benefit of Southern Union Gas Services. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of NOVA Safety and Environmental and/or Southern Union Gas.

## 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




LEGEND:

2000 1000 0 1000 2000

Distance in Feet

Figure 1

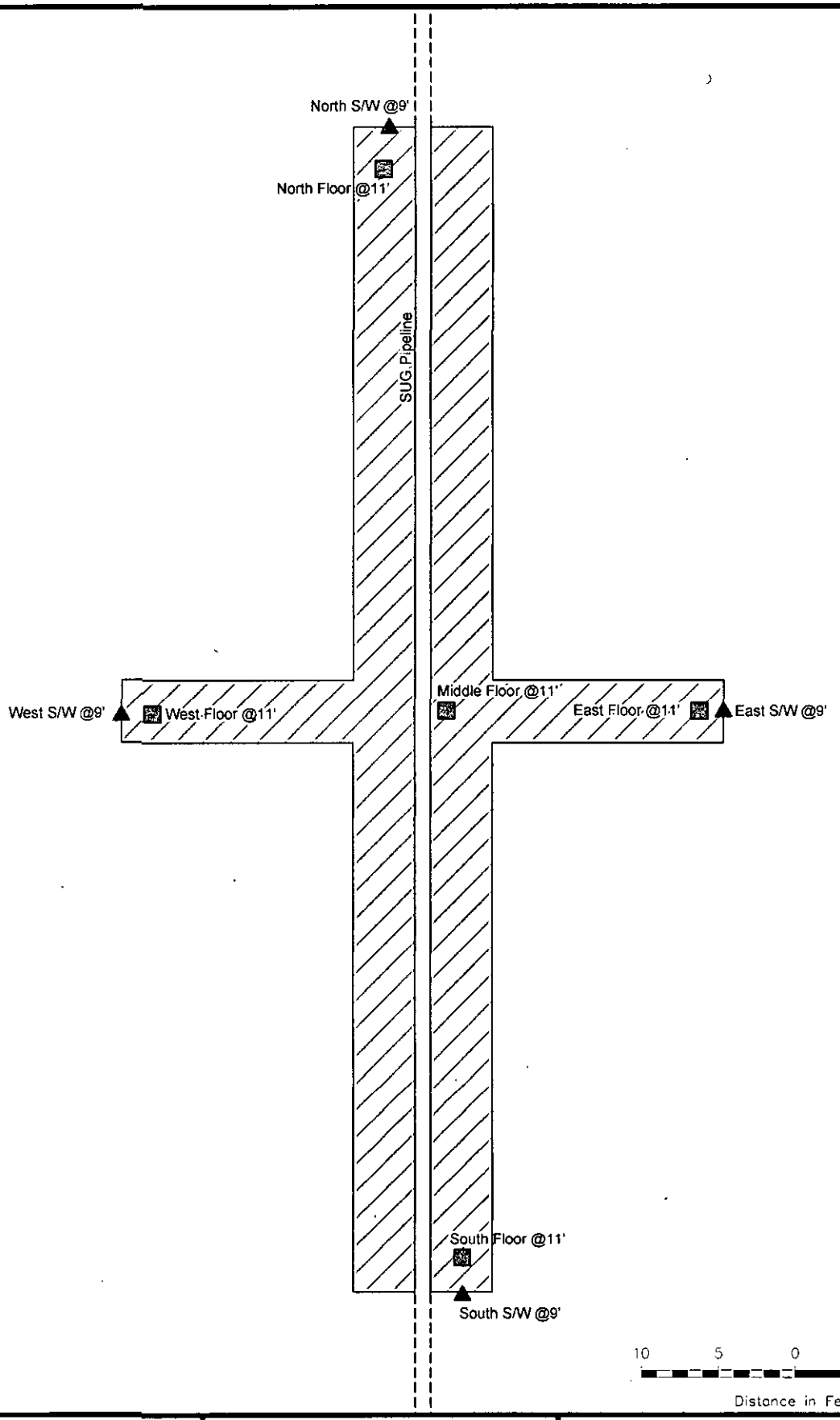
Site Location Map
Southern Union Gas Services
12" Crossover Doom # 1
Lea County, NM

NOVA safety and environmental

2057 Commerce Drive
Midland, Texas 79703
432.520.7720

www.novasafetyandenvironmental.com

| August 22, 2012 | Scale: 1" = 2000' | CAD By: TA | Checked By: CJB |
|---|---|---|---|
| Lat. N 32° 10.872' | Long. W 103° 9.345' | | 1RP-1466 |




LEGEND:

- ▲ Sidewall Soil Sample Location
- — Pipeline
- ▩ Floor Soil Sample Location

Figure 2

Site Map
Southern Union Gas Services
12" Crossover Doom #1
Lea County, NM

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

| August 22, 2012 | Scale: 1" = 10' | CAD By: TA | Checked By: CJB |
|---|---|---|---|
| Lat. N 32° 10.872' Long. W 103° 9.345' | | | 1RP-1466 |

TABLE 1

CONCENTRATIONS OF BTEX, TPH AND CHLORIDE IN SOIL

SOUTHERN UNION GAS SERVICES
12-INCH CROSSOVER DOOM #1 RELEASE SITE
LEA COUNTY, NEW MEXICO

*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 |
| Middle Floor @ 11' | 08/15/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <16.3 | <16.3 | <16.3 | <16.3 | 36 |
| South Floor @ 11' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.8 | <15.8 | <15.8 | <15.8 | 11 |
| South S/W @ 9' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.3 | <15.3 | <15.3 | <15.3 | 4.38 |
| North Floor @ 11' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <17.2 | <17.2 | <17.2 | <17.2 | 196 |
| North S/W @ 9' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.8 | <15.8 | <15.8 | <15.8 | 121 |
| East Floor @ 11' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.6 | <15.6 | <15.6 | <15.6 | 12 |
| East S/W @ 9' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.5 | <15.5 | <15.5 | <15.5 | 23 |
| West Floor @ 11' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.6 | <15.6 | <15.6 | <15.6 | 68 |
| West S/W @9' | 08/16/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.5 | <15.5 | <15.5 | <15.5 | 30 |
| | | | | | | | | | | | | |
| SP-1 | 08/30/12 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <0.00100 | <0.00200 | <15.2 | <15.2 | <15.2 | <15.2 | 22 |
| | | | | | | | | | | | | |

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

**PBELAB**

# Analytical Report

**Prepared for:**

Camille Bryant

Nova Safety & Environment

2057 Commerce

Midland, TX 79703

Project: IRP-1466

Project Number: Historical 12 Inch Crossover Doom #1

Location: Lea Co, NM

Lab Order Number: 2H17001

NELAP/TCEQ # T104704156-12-1

Report Date: 08/21/12

| | | |
|---|---|---|
| Nova Safety & Environment | Project: IRP-1466 | Fax: (432) 520-7701 |
| 2057 Commerce | Project Number: Historical 12 Inch Crossover Doom #1 | |
| Midland TX, 79703 | Project Manager: Camille Bryant | |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Middle Floor @ 11' | 2H17001-01 | Soil | 08/15/12 13:30 | 08-17-2012 10:00 |
| South Floor @ 11' | 2H17001-02 | Soil | 08/16/12 08:00 | 08-17-2012 10:00 |
| South S/W @ 9' | 2H17001-03 | Soil | 08/16/12 08:20 | 08-17-2012 10:00 |
| North Floor @ 11' | 2H17001-04 | Soil | 08/16/12 10:00 | 08-17-2012 10:00 |
| North S/W @ 9' | 2H17001-05 | Soil | 08/16/12 10:20 | 08-17-2012 10:00 |
| East Floor @ 11' | 2H17001-06 | Soil | 08/16/12 11:30 | 08-17-2012 10:00 |
| East S/W @ 9' | 2H17001-07 | Soil | 08/16/12 11:50 | 08-17-2012 10:00 |
| West Floor @ 11' | 2H17001-08 | Soil | 08/16/12 13:30 | 08-17-2012 10:00 |
| West S/W @ 9' | 2H17001-09 | Soil | 08/16/12 13:50 | 08-17-2012 10:00 |

## Organics by GC

## Permian Basin Environmental Lab

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Middle Floor @ 11' (2H17001-01) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | 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* | | *98.0 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *108 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 16.3 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| >C12-C28 | ND | 16.3 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 16.3 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 16.3 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *71.2 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *78.2 %* | *70-130* | | " | " | " | " | |
| **South Floor @ 11' (2H17001-02) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | EPA 8021B | |
| Toluene | ND | 0.00200 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00200 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *108 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 1,4-Difluorobenzene* | | *96.7 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.8 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C12-C28** | **ND** | 15.8 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.8 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.8 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *74.8 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *85.1 %* | *70-130* | | " | " | " | " | |
| **South S/W @ 9' (2H17001-03) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22102 | 08/20/12 | 08/20/12 | EPA 8021B | |
| Toluene | ND | 0.00200 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| **Xylene (p/m)** | **ND** | 0.00200 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *116 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 1,4-Difluorobenzene* | | *96.2 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.3 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: IRP-1466
Project Number: Historical 12 Inch Crossover Doom #1
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 |
|---|---|---|---|---|---|---|---|---|---|
| **South S/W @ 9' (2H17001-03) Soil** | | | | | | | | | |
| **>C12-C28** | **ND** | 15.3 | mg/kg dry | 1 | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C28-C35** | **ND** | 15.3 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.3 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *79.1 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *88.1 %* | *70-130* | | " | " | " | " | |
| **North Floor @ 11' (2H17001-04) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | EPA 8021B | |
| Toluene | ND | 0.00200 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00200 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 1,4-Difluorobenzene* | | *97.7 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 17.2 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C12-C28** | **ND** | 17.2 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 17.2 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 17.2 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *80.4 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *87.2 %* | *70-130* | | " | " | " | " | |
| **North S/W @ 9' (2H17001-05) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | 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* | | *98.5 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.8 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C12-C28** | **ND** | 15.8 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.8 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.8 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *82.5 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *88.8 %* | *70-130* | | " | " | " | " | |

## Organics by GC

## Permian Basin Environmental Lab

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **East Floor @ 11' (2H17001-06) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | 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* | | *96.8 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *110 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.6 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| >C12-C28 | ND | 15.6 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.6 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.6 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *84.8 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *92.3 %* | *70-130* | | " | " | " | " | |
| **East S/W @ 9' (2H17001-07) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | 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* | | *97.3 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *111 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.5 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| >C12-C28 | ND | 15.5 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.5 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.5 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *80.2 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *86.9 %* | *70-130* | | " | " | " | " | |
| **West Floor @ 11' (2H17001-08) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | 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* | | *96.7 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *109 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.6 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |

## Organics by GC

## Permian Basin Environmental Lab

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **West Floor @ 11' (2H17001-08) Soil** | | | | | | | | | |
| >C12-C28 | ND | 15.6 | mg/kg dry | 1 | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C28-C35** | **ND** | 15.6 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.6 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *87.2 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *93.1 %* | *70-130* | | " | " | " | " | |
| **West S/W @ 9' (2H17001-09) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EH22106 | 08/17/12 | 08/17/12 | EPA 8021B | |
| Toluene | ND | 0.00200 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00200 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *103 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 1,4-Difluorobenzene* | | *97.8 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.5 | mg/kg dry | " | EH22002 | 08/17/12 | 08/17/12 | EPA 8015M | |
| **>C12-C28** | **ND** | 15.5 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.5 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.5 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *73.0 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *80.8 %* | *70-130* | | " | " | " | " | |

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|---|---|---|
| Nova Safety & Environment | Project: IRP-1466 | Fax: (432) 520-7701 |
| 2057 Commerce | Project Number: Historical 12 Inch Crossover Doom #1 | |
| 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 |
|---|---|---|---|---|---|---|---|---|---|
| **Middle Floor @ 11' (2H17001-01) Soil** | | | | | | | | | |
| **Chloride** | **36.0** | 1.09 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **8.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **South Floor @ 11' (2H17001-02) Soil** | | | | | | | | | |
| **Chloride** | **11.0** | 1.05 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **5.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **South S/W @ 9' (2H17001-03) Soil** | | | | | | | | | |
| **Chloride** | **4.38** | 1.02 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **2.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **North Floor @ 11' (2H17001-04) Soil** | | | | | | | | | |
| **Chloride** | **196** | 1.15 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **13.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **North S/W @ 9' (2H17001-05) Soil** | | | | | | | | | |
| **Chloride** | **121** | 1.05 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **5.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **East Floor @ 11' (2H17001-06) Soil** | | | | | | | | | |
| **Chloride** | **11.6** | 1.04 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **4.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **East S/W @ 9' (2H17001-07) Soil** | | | | | | | | | |
| **Chloride** | **23.4** | 1.03 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **3.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |
| **West Floor @ 11' (2H17001-08) Soil** | | | | | | | | | |
| **Chloride** | **67.5** | 1.04 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **4.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |

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|---|---|---|
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| 2057 Commerce | Project Number: Historical 12 Inch Crossover Doom #1 | |
| 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 |
|---|---|---|---|---|---|---|---|---|---|
| **West S/W @ 9' (2H17001-09) Soil** | | | | | | | | | |
| **Chloride** | **30.1** | 1.03 | mg/kg dry wt. dry | 1 | EH22104 | 08/20/12 | 08/21/12 | EPA 300.0 | |
| **% Moisture** | **3.0** | 0.1 | % | " | EH22001 | 08/17/12 | 08/20/12 | % calculation | |

## 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 EH22002 - 8015M** | | | | | | | | | | |
| **Blank (EH22002-BLK1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| C6-C12 | ND | 15.0 | mg/kg wet | | | | | | | |
| >C12-C28 | ND | 15.0 | " | | | | | | | |
| >C28-C35 | ND | 15.0 | " | | | | | | | |
| Total Hydrocarbons | ND | 15.0 | " | | | | | | | |
| *Surrogate: 1-Chlorooctane* | *109* | | " | *100* | | *109* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *56.5* | | " | *50.0* | | *113* | *70-130* | | | |
| **LCS (EH22002-BS1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| C6-C12 | 1010 | 15.0 | mg/kg wet | 1000 | | 101 | 75-125 | | | |
| >C12-C28 | 1010 | 15.0 | " | 1000 | | 101 | 75-125 | | | |
| >C28-C35 | ND | 15.0 | " | 0.00 | | | 75-125 | | | |
| Total Hydrocarbons | ND | 15.0 | " | 0.00 | | | 75-125 | | | |
| *Surrogate: 1-Chlorooctane* | *125* | | " | *100* | | *125* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *58.6* | | " | *50.0* | | *117* | *70-130* | | | |
| **LCS Dup (EH22002-BSD1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| C6-C12 | 941 | 15.0 | mg/kg wet | 1000 | | 94.1 | 75-125 | 7.07 | 20 | |
| >C12-C28 | 935 | 15.0 | " | 1000 | | 93.5 | 75-125 | 7.71 | 20 | |
| Total Hydrocarbons | ND | 15.0 | " | 0.00 | | | 75-125 | | 20 | |
| *Surrogate: 1-Chlorooctane* | *122* | | " | *100* | | *122* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *55.3* | | " | *50.0* | | *111* | *70-130* | | | |
| **Matrix Spike (EH22002-MS1)** | **Source: 2H17001-01** | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| C6-C12 | 767 | 16.3 | mg/kg dry | 815 | ND | 94.1 | 75-125 | | | |
| >C12-C28 | 801 | 16.3 | " | 815 | ND | 98.3 | 75-125 | | | |
| >C28-C35 | ND | 16.3 | " | | ND | | 75-125 | | | |
| Total Hydrocarbons | ND | 16.3 | " | | ND | | 75-125 | | | |
| *Surrogate: 1-Chlorooctane* | *133* | | " | *109* | | *122* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *54.0* | | " | *54.3* | | *99.4* | *70-130* | | | |

## 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 EH22002 - 8015M** | | | | | | | | | | |
| **Matrix Spike Dup (EH22002-MSD1)** | **Source: 2H17001-01** | | | Prepared: 08/17/12 Analyzed: 08/18/12 | | | | | | |
| C6-C12 | 551 | 16.3 | mg/kg dry | 543 | ND | 101 | 75-125 | 7.07 | 20 | |
| >C12-C28 | 568 | 16.3 | " | 543 | ND | 105 | 75-125 | 6.59 | 20 | |
| Total Hydrocarbons | ND | 16.3 | " | | ND | | 75-125 | | 20 | |
| *Surrogate: 1-Chlorooctane* | *106* | | " | *109* | | *97.2* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *43.5* | | " | *54.3* | | *80.1* | *70-130* | | | |
| **Batch EH22102 - General Preparation (GC)** | | | | | | | | | | |
| **Blank (EH22102-BLK1)** | | | | Prepared & Analyzed: 08/20/12 | | | | | | |
| 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* | *57.6* | | *ug/kg* | *60.0* | | *96.0* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *68.5* | | " | *60.0* | | *114* | *75-125* | | | |
| **LCS (EH22102-BS1)** | | | | Prepared & Analyzed: 08/20/12 | | | | | | |
| Benzene | 0.0912 | 0.00100 | mg/kg wet | 0.100 | | 91.2 | 80-120 | | | |
| Toluene | 0.112 | 0.00200 | " | 0.100 | | 112 | 80-120 | | | |
| Ethylbenzene | 0.103 | 0.00100 | " | 0.100 | | 103 | 80-120 | | | |
| Xylene (p/m) | 0.208 | 0.00200 | " | 0.200 | | 104 | 80-120 | | | |
| Xylene (o) | 0.103 | 0.00100 | " | 0.100 | | 103 | 80-120 | | | |
| *Surrogate: 1,4-Difluorobenzene* | *56.5* | | *ug/kg* | *60.0* | | *94.2* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *70.4* | | " | *60.0* | | *117* | *75-125* | | | |
| **LCS Dup (EH22102-BSD1)** | | | | Prepared & Analyzed: 08/20/12 | | | | | | |
| Benzene | 0.0888 | 0.00100 | mg/kg wet | 0.100 | | 88.8 | 80-120 | 2.67 | 20 | |
| Toluene | 0.109 | 0.00200 | " | 0.100 | | 109 | 80-120 | 2.71 | 20 | |
| Ethylbenzene | 0.100 | 0.00100 | " | 0.100 | | 100 | 80-120 | 2.96 | 20 | |
| Xylene (p/m) | 0.201 | 0.00200 | " | 0.200 | | 100 | 80-120 | 3.92 | 20 | |
| Xylene (o) | 0.100 | 0.00100 | " | 0.100 | | 100 | 80-120 | 2.96 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *70.8* | | *ug/kg* | *60.0* | | *118* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *56.7* | | " | *60.0* | | *94.5* | *75-125* | | | |

## Organics by GC - Quality Control

## Permian Basin Environmental Lab

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EH22102 - General Preparation (GC)** | | | | | | | | | | |
| **Matrix Spike (EH22102-MS1)** | **Source: 2H20003-02** | | | Prepared & Analyzed: 08/20/12 | | | | | | |
| Benzene | 0.0732 | 0.00100 | mg/kg dry | 0.101 | ND | 72.5 | 80-120 | | | QM-05 |
| Toluene | 0.0889 | 0.00200 | " | 0.101 | ND | 88.0 | 80-120 | | | |
| Ethylbenzene | 0.0796 | 0.00100 | " | 0.101 | ND | 78.8 | 80-120 | | | QM-05 |
| Xylene (p/m) | 0.158 | 0.00200 | " | 0.202 | ND | 78.2 | 80-120 | | | QM-05 |
| Xylene (o) | 0.0809 | 0.00100 | " | 0.101 | ND | 80.1 | 80-120 | | | |
| *Surrogate: 1,4-Difluorobenzene* | *56.6* | | *ug/kg* | *60.0* | | *94.3* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *69.0* | | *"* | *60.0* | | *115* | *75-125* | | | |
| **Matrix Spike Dup (EH22102-MSD1)** | **Source: 2H20003-02** | | | Prepared & Analyzed: 08/20/12 | | | | | | |
| Benzene | 0.0703 | 0.00100 | mg/kg dry | 0.101 | ND | 69.6 | 80-120 | 4.08 | 20 | QM-05 |
| Toluene | 0.0862 | 0.00200 | " | 0.101 | ND | 85.3 | 80-120 | 3.12 | 20 | |
| Ethylbenzene | 0.0773 | 0.00100 | " | 0.101 | ND | 76.5 | 80-120 | 2.96 | 20 | QM-05 |
| Xylene (p/m) | 0.154 | 0.00200 | " | 0.202 | ND | 76.2 | 80-120 | 2.59 | 20 | QM-05 |
| Xylene (o) | 0.0791 | 0.00100 | " | 0.101 | ND | 78.3 | 80-120 | 2.27 | 20 | QM-05 |
| *Surrogate: 1,4-Difluorobenzene* | *58.2* | | *ug/kg* | *60.0* | | *97.0* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *69.7* | | *"* | *60.0* | | *116* | *75-125* | | | |
| **Batch EH22106 - General Preparation (GC)** | | | | | | | | | | |
| **Blank (EH22106-BLK1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| 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* | *57.6* | | *ug/kg* | *60.0* | | *96.0* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *64.9* | | *"* | *60.0* | | *108* | *75-125* | | | |

## Organics by GC - Quality Control

## Permian Basin Environmental Lab

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EH22106 - General Preparation (GC)** | | | | | | | | | | |
| **LCS (EH22106-BS1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| Benzene | 0.0865 | 0.00100 | mg/kg wet | 0.100 | | 86.5 | 80-120 | | | |
| Toluene | 0.105 | 0.00200 | " | 0.100 | | 105 | 80-120 | | | |
| Ethylbenzene | 0.0955 | 0.00100 | " | 0.100 | | 95.5 | 80-120 | | | |
| Xylene (p/m) | 0.188 | 0.00200 | " | 0.200 | | 94.0 | 80-120 | | | |
| Xylene (o) | 0.0948 | 0.00100 | " | 0.100 | | 94.8 | 80-120 | | | |
| *Surrogate: 1,4-Difluorobenzene* | *57.0* | | *ug/kg* | *60.0* | | *95.0* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *64.1* | | " | *60.0* | | *107* | *75-125* | | | |
| **LCS Dup (EH22106-BSD1)** | | | | Prepared & Analyzed: 08/17/12 | | | | | | |
| Benzene | 0.0811 | 0.00100 | mg/kg wet | 0.100 | | 81.1 | 80-120 | 6.44 | 20 | |
| Toluene | 0.100 | 0.00200 | " | 0.100 | | 100 | 80-120 | 4.88 | 20 | |
| Ethylbenzene | 0.0905 | 0.00100 | " | 0.100 | | 90.5 | 80-120 | 5.38 | 20 | |
| Xylene (p/m) | 0.179 | 0.00200 | " | 0.200 | | 89.5 | 80-120 | 4.90 | 20 | |
| Xylene (o) | 0.0912 | 0.00100 | " | 0.100 | | 91.2 | 80-120 | 3.87 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *66.3* | | *ug/kg* | *60.0* | | *110* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *59.7* | | " | *60.0* | | *99.5* | *75-125* | | | |
| **Matrix Spike (EH22106-MS1)** | | **Source: 2H17001-01** | | Prepared & Analyzed: 08/17/12 | | | | | | |
| Benzene | 0.0572 | 0.00100 | mg/kg dry | 0.109 | ND | 52.5 | 80-120 | | | QM-05 |
| Toluene | 0.0711 | 0.00200 | " | 0.109 | ND | 65.2 | 80-120 | | | QM-05 |
| Ethylbenzene | 0.0634 | 0.00100 | " | 0.109 | ND | 58.2 | 80-120 | | | QM-05 |
| Xylene (p/m) | 0.123 | 0.00200 | " | 0.217 | ND | 56.7 | 80-120 | | | QM-05 |
| Xylene (o) | 0.0651 | 0.00100 | " | 0.109 | ND | 59.7 | 80-120 | | | QM-05 |
| *Surrogate: 4-Bromofluorobenzene* | *67.8* | | *ug/kg* | *60.0* | | *113* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *57.4* | | " | *60.0* | | *95.7* | *75-125* | | | |
| **Matrix Spike Dup (EH22106-MSD1)** | | **Source: 2H17001-01** | | Prepared & Analyzed: 08/17/12 | | | | | | |
| Benzene | 0.0609 | 0.00100 | mg/kg dry | 0.109 | ND | 55.9 | 80-120 | 6.27 | 20 | QM-05 |
| Toluene | 0.0758 | 0.00200 | " | 0.109 | ND | 69.5 | 80-120 | 6.38 | 20 | QM-05 |
| Ethylbenzene | 0.0682 | 0.00100 | " | 0.109 | ND | 62.6 | 80-120 | 7.28 | 20 | QM-05 |
| Xylene (p/m) | 0.131 | 0.00200 | " | 0.217 | ND | 60.4 | 80-120 | 6.32 | 20 | QM-05 |
| Xylene (o) | 0.0692 | 0.00100 | " | 0.109 | ND | 63.5 | 80-120 | 6.17 | 20 | QM-05 |
| *Surrogate: 4-Bromofluorobenzene* | *67.9* | | *ug/kg* | *60.0* | | *113* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *58.1* | | " | *60.0* | | *96.8* | *75-125* | | | |

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: IRP-1466
Project Number: Historical 12 Inch Crossover Doom #1
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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EH22001 - *** DEFAULT PREP *** ** | | | | | | | | | | |
| **Blank (EH22001-BLK1)** | | | | Prepared: 08/17/12 Analyzed: 08/20/12 | | | | | | |
| % Moisture | ND | 0.1 | % | | | | | | | |
| **Duplicate (EH22001-DUP1)** | Source: 2H17001-01 | | | Prepared: 08/17/12 Analyzed: 08/20/12 | | | | | | |
| % Moisture | 9.0 | 0.1 | % | | 8.0 | | | 11.8 | 20 | |
| **Batch EH22104 - *** DEFAULT PREP *** ** | | | | | | | | | | |
| **Blank (EH22104-BLK1)** | | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | ND | 1.00 | mg/kg dry wt. wet | | | | | | | |
| **LCS (EH22104-BS1)** | | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | 10.3 | | mg/kg Wet | 10.0 | | 103 | 80-120 | | | |
| **LCS Dup (EH22104-BSD1)** | | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | 10.0 | | mg/kg Wet | 10.0 | | 100 | 80-120 | 2.96 | 20 | |
| **Duplicate (EH22104-DUP1)** | Source: 2H17001-01 | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | 34.7 | 1.09 | mg/kg dry wt. dry | | 36.0 | | | 3.68 | 20 | |
| **Matrix Spike (EH22104-MS1)** | Source: 2H17001-01 | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | 346 | 1.09 | mg/kg dry wt. dry | 272 | 36.0 | 114 | 80-120 | | | |
| **Matrix Spike (EH22104-MS2)** | Source: 2H20003-02 | | | Prepared: 08/20/12 Analyzed: 08/21/12 | | | | | | |
| Chloride | 533 | 1.01 | mg/kg dry wt. dry | 505 | 12.7 | 103 | 80-120 | | | |

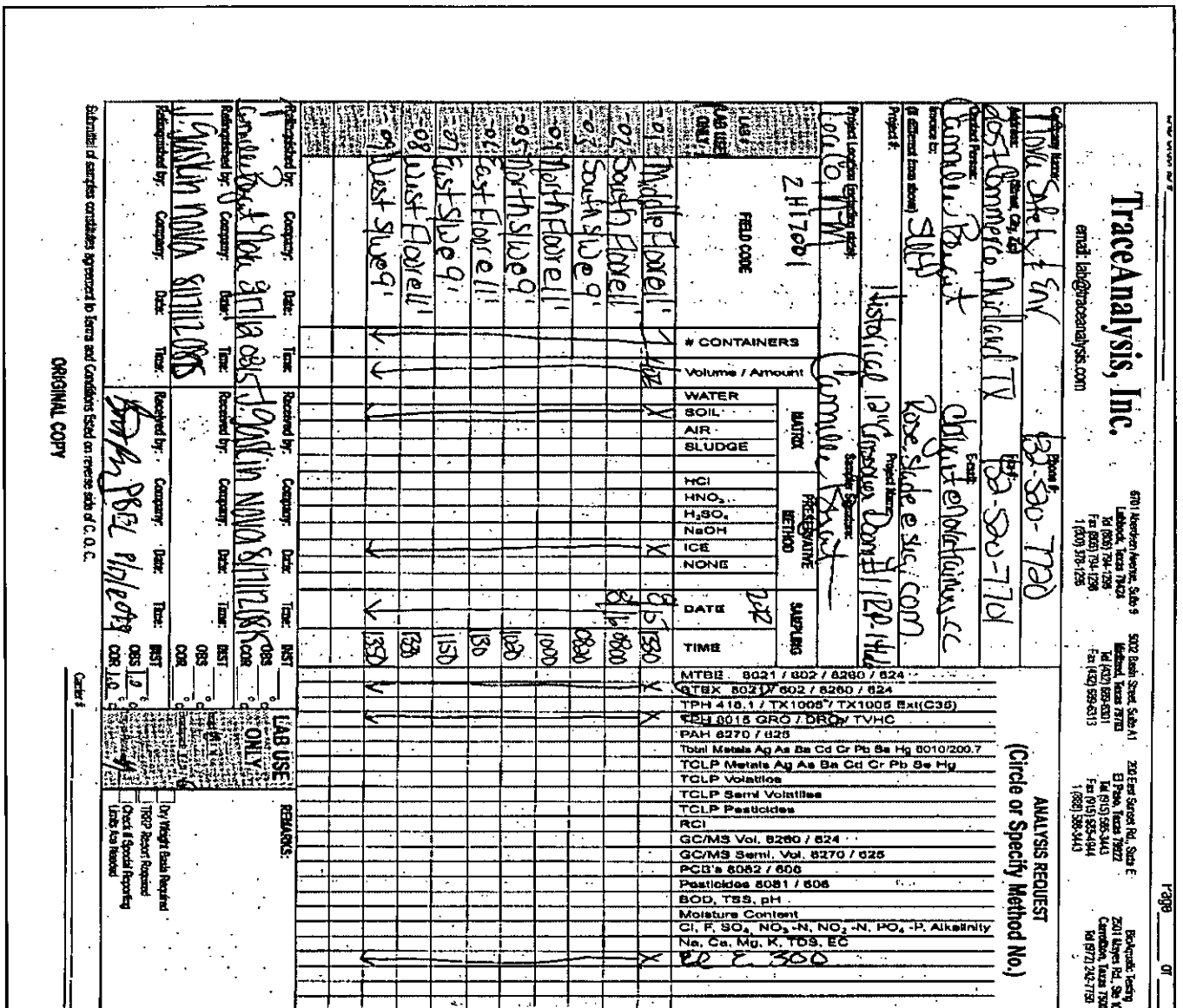
## Notes and Definitions

| | |
|---|---|
| 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: Brent Barron Date: 8/21/2012

Brent Barron, Laboratory Director/Technical Director

| | | |
|---|---|---|
| Nova Safety & Environment | Project: IRP-1466 | Fax: (432) 520-7701 |
| 2057 Commerce | Project Number: Historical 12 Inch Crossover Doom #1 | |
| Midland TX, 79703 | Project Manager: Camille Bryant | |



***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: 12 in Crossover Doom #1 1RP#1466

Project Number: 1RP #1466

Location: Lea County, New Mexico

Lab Order Number: 2H31001

NELAP/TCEQ # T104704156-12-1

Report Date: 09/04/12

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: 12 in Crossover Doom #1 1RP#1466
Project Number: 1RP #1466
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 |
|---|---|---|---|---|---|---|---|---|---|
| **SP-1 (2H31001-01) Soil** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/kg dry | 1 | EI20403 | 08/31/12 | 08/31/12 | EPA 8021B | |
| Toluene | ND | 0.00200 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00200 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *103 %* | *75-125* | | " | " | " | " | |
| *Surrogate: 1,4-Difluorobenzene* | | *94.3 %* | *75-125* | | " | " | " | " | |
| **C6-C12** | **ND** | 15.2 | mg/kg dry | " | EI20404 | " | 08/31/12 | EPA 8015M | |
| **>C12-C28** | **ND** | 15.2 | " | " | " | " | " | " | |
| **>C28-C35** | **ND** | 15.2 | " | " | " | " | " | " | |
| Total Hydrocarbons | ND | 15.2 | " | " | " | " | " | " | |
| *Surrogate: 1-Chlorooctane* | | *97.9 %* | *70-130* | | " | " | " | " | |
| *Surrogate: o-Terphenyl* | | *112 %* | *70-130* | | " | " | " | " | |

| | | |
|---|---|---|
| Nova Safety & Environment | Project: 12 in Crossover Doom #1 1RP#1466 | Fax: (432) 520-7701 |
| 2057 Commerce | Project Number: 1RP #1466 | |
| 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 |
|---|---|---|---|---|---|---|---|---|---|
| **SP-1 (2H31001-01) Soil** | | | | | | | | | |
| **Chloride** | **21.9** | 1.01 | mg/kg dry wt. dry | 1 | EI20402 | 08/31/12 | 09/04/12 | EPA 300.0 | |
| **% Moisture** | **1.0** | 0.1 | % | " | EI20401 | 08/31/12 | 09/04/12 | % calculation | |







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Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: 12 in Crossover Doom #1 1RP#1466
Project Number: 1RP #1466
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 EI20403 - General Preparation (GC)** | | | | | | | | | | |
| **Blank (EI20403-BLK1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| 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* | *56.9* | | *ug/kg* | *60.0* | | *94.8* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *60.6* | | " | *60.0* | | *101* | *75-125* | | | |
| **LCS (EI20403-BS1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| Benzene | 0.101 | 0.00100 | mg/kg wet | 0.100 | | 101 | 80-120 | | | |
| Toluene | 0.106 | 0.00200 | " | 0.100 | | 106 | 80-120 | | | |
| Ethylbenzene | 0.0976 | 0.00100 | " | 0.100 | | 97.6 | 80-120 | | | |
| Xylene (p/m) | 0.199 | 0.00200 | " | 0.200 | | 99.5 | 80-120 | | | |
| Xylene (o) | 0.0921 | 0.00100 | " | 0.100 | | 92.1 | 80-120 | | | |
| *Surrogate: 1,4-Difluorobenzene* | *60.9* | | *ug/kg* | *60.0* | | *102* | *75-125* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *62.0* | | " | *60.0* | | *103* | *75-125* | | | |
| **LCS Dup (EI20403-BSD1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| Benzene | 0.0993 | 0.00100 | mg/kg wet | 0.100 | | 99.3 | 80-120 | 1.70 | 20 | |
| Toluene | 0.104 | 0.00200 | " | 0.100 | | 104 | 80-120 | 1.90 | 20 | |
| Ethylbenzene | 0.0959 | 0.00100 | " | 0.100 | | 95.9 | 80-120 | 1.76 | 20 | |
| Xylene (p/m) | 0.195 | 0.00200 | " | 0.200 | | 97.5 | 80-120 | 2.03 | 20 | |
| Xylene (o) | 0.0909 | 0.00100 | " | 0.100 | | 90.9 | 80-120 | 1.31 | 20 | |
| *Surrogate: 4-Bromofluorobenzene* | *60.7* | | *ug/kg* | *60.0* | | *101* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *59.7* | | " | *60.0* | | *99.5* | *75-125* | | | |
| **Matrix Spike (EI20403-MS1)** | | **Source: 2H31001-01** | | Prepared & Analyzed: 08/31/12 | | | | | | |
| Benzene | 0.0701 | 0.00100 | mg/kg dry | 0.101 | ND | 69.4 | 80-120 | | | QM-05 |
| Toluene | 0.0754 | 0.00200 | " | 0.101 | ND | 74.7 | 80-120 | | | QM-05 |
| Ethylbenzene | 0.0689 | 0.00100 | " | 0.101 | ND | 68.2 | 80-120 | | | QM-05 |
| Xylene (p/m) | 0.137 | 0.00200 | " | 0.202 | ND | 67.8 | 80-120 | | | QM-05 |
| Xylene (o) | 0.0651 | 0.00100 | " | 0.101 | ND | 64.5 | 80-120 | | | QM-05 |
| *Surrogate: 4-Bromofluorobenzene* | *63.9* | | *ug/kg* | *60.0* | | *106* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *57.5* | | " | *60.0* | | *95.8* | *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 EI20403 - General Preparation (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EI20403-MSD1)** | **Source: 2H31001-01** | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| Benzene | 0.0697 | 0.00100 | mg/kg dry | 0.101 | ND | 69.0 | 80-120 | 0.578 | 20 | QM-05 |
| Toluene | 0.0757 | 0.00200 | " | 0.101 | ND | 75.0 | 80-120 | 0.401 | 20 | QM-05 |
| Ethylbenzene | 0.0700 | 0.00100 | " | 0.101 | ND | 69.3 | 80-120 | 1.60 | 20 | QM-05 |
| Xylene (p/m) | 0.140 | 0.00200 | " | 0.202 | ND | 69.3 | 80-120 | 2.19 | 20 | QM-05 |
| Xylene (o) | 0.0667 | 0.00100 | " | 0.101 | ND | 66.0 | 80-120 | 2.30 | 20 | QM-05 |
| *Surrogate: 4-Bromofluorobenzene* | *64.0* | | *ug/kg* | *60.0* | | *107* | *75-125* | | | |
| *Surrogate: 1,4-Difluorobenzene* | *56.8* | | *"* | *60.0* | | *94.7* | *75-125* | | | |
| **Batch EI20404 - 8015M** | | | | | | | | | | |
| **Blank (EI20404-BLK1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| C6-C12 | ND | 15.0 | mg/kg wet | | | | | | | |
| >C12-C28 | ND | 15.0 | " | | | | | | | |
| >C28-C35 | ND | 15.0 | " | | | | | | | |
| Total Hydrocarbons | ND | 15.0 | " | | | | | | | |
| *Surrogate: 1-Chlorooctane* | *97.2* | | *"* | *100* | | *97.2* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *56.5* | | *"* | *50.0* | | *113* | *70-130* | | | |
| **LCS (EI20404-BS1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| C6-C12 | 767 | 15.0 | mg/kg wet | 1000 | | 76.7 | 75-125 | | | |
| >C12-C28 | 798 | 15.0 | " | 1000 | | 79.8 | 75-125 | | | |
| Total Hydrocarbons | ND | 15.0 | " | 0.00 | | | 75-125 | | | |
| *Surrogate: 1-Chlorooctane* | *127* | | *"* | *100* | | *127* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *54.2* | | *"* | *50.0* | | *108* | *70-130* | | | |
| **LCS Dup (EI20404-BSD1)** | | | | Prepared & Analyzed: 08/31/12 | | | | | | |
| C6-C12 | 788 | 15.0 | mg/kg wet | 1000 | | 78.8 | 75-125 | 2.70 | 20 | |
| >C12-C28 | 904 | 15.0 | " | 1000 | | 90.4 | 75-125 | 12.5 | 20 | |
| >C28-C35 | ND | 15.0 | " | 0.00 | | | 75-125 | | 20 | |
| Total Hydrocarbons | ND | 15.0 | " | 0.00 | | | 75-125 | | 20 | |
| *Surrogate: 1-Chlorooctane* | *116* | | *"* | *100* | | *116* | *70-130* | | | |
| *Surrogate: o-Terphenyl* | *52.9* | | *"* | *50.0* | | *106* | *70-130* | | | |

Nova Safety & Environment
2057 Commerce
Midland TX, 79703

Project: 12 in Crossover Doom #1 1RP#1466
Project Number: 1RP #1466
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 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EI20401 - *** DEFAULT PREP *** ** | | | | | | | | | | |
| **Blank (EI20401-BLK1)** | | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| % Moisture | ND | 0.1 | % | | | | | | | |
| **Duplicate (EI20401-DUP1)** | **Source: 2H31001-01** | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| % Moisture | 1.0 | 0.1 | % | | 1.0 | | | 0.00 | 20 | |
| **Batch EI20402 - *** DEFAULT PREP *** ** | | | | | | | | | | |
| **Blank (EI20402-BLK1)** | | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| Chloride | ND | 1.00 | mg/kg dry wt. wet | | | | | | | |
| **LCS (EI20402-BS1)** | | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| Chloride | 10.1 | | mg/kg Wet | 10.0 | | 101 | 80-120 | | | |
| **LCS Dup (EI20402-BSD1)** | | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| Chloride | 10.1 | | mg/kg Wet | 10.0 | | 101 | 80-120 | 0.00 | 20 | |
| **Duplicate (EI20402-DUP1)** | **Source: 2H31001-01** | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| Chloride | 20.8 | 1.01 | mg/kg dry wt. dry | | 21.9 | | | 5.15 | 20 | |
| **Matrix Spike (EI20402-MS1)** | **Source: 2H31001-01** | | | Prepared: 08/31/12 Analyzed: 09/04/12 | | | | | | |
| Chloride | 160 | 1.01 | mg/kg dry wt. dry | 126 | 21.9 | 110 | 80-120 | | | |

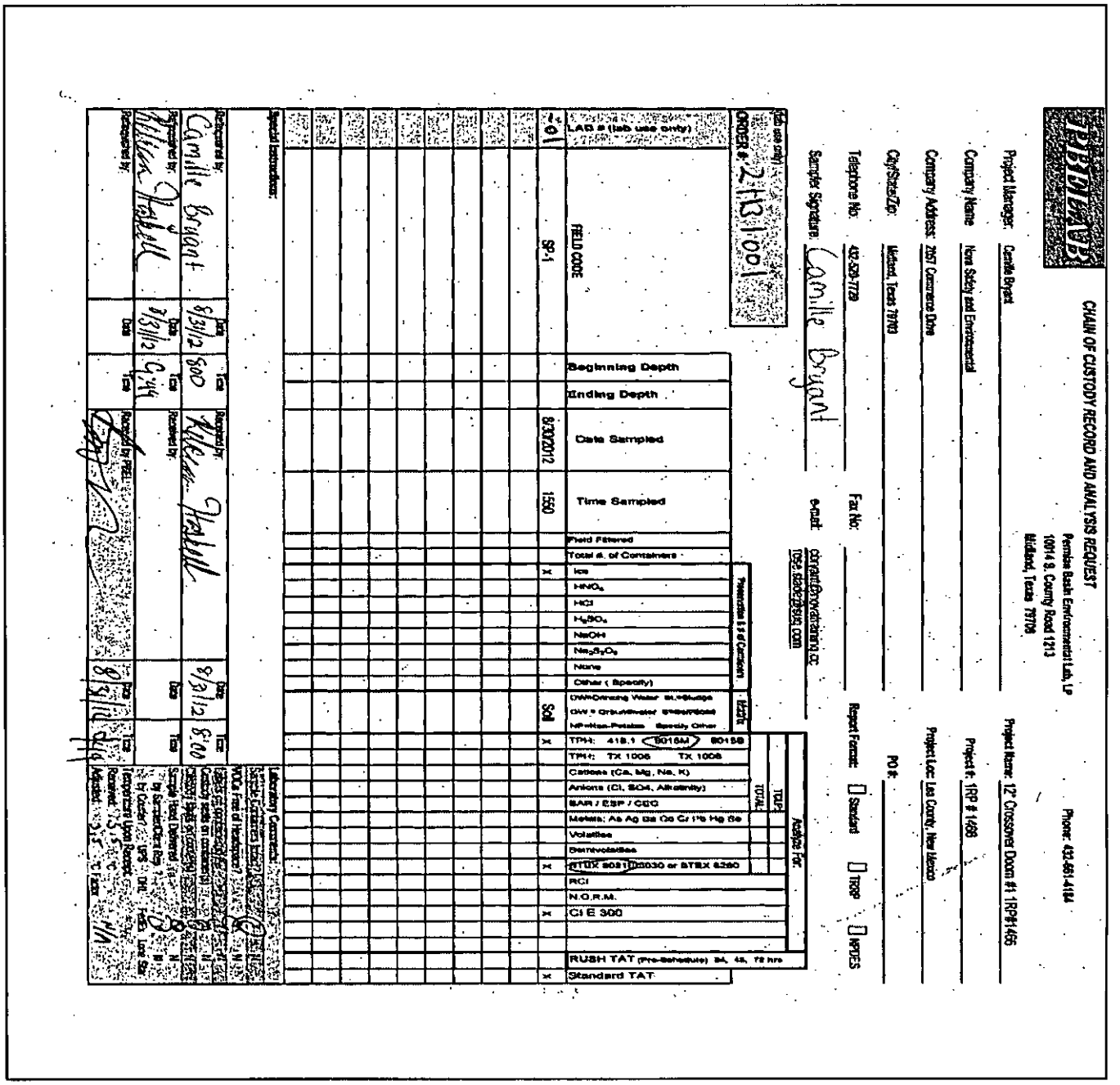
## Notes and Definitions

| | |
|---|---|
| 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: Brent Barron Date: 9/4/2012

Brent Barron, Laboratory Director/Technical Director

| | | |
|---|---|---|
| Nova Safety & Environment | Project: 12 in Crossover Doom #1 1RP#1466 | Fax: (432) 520-7701 |
| 2057 Commerce | Project Number: 1RP #1466 | |
| Midland TX, 79703 | Project Manager: Camille Bryant | |



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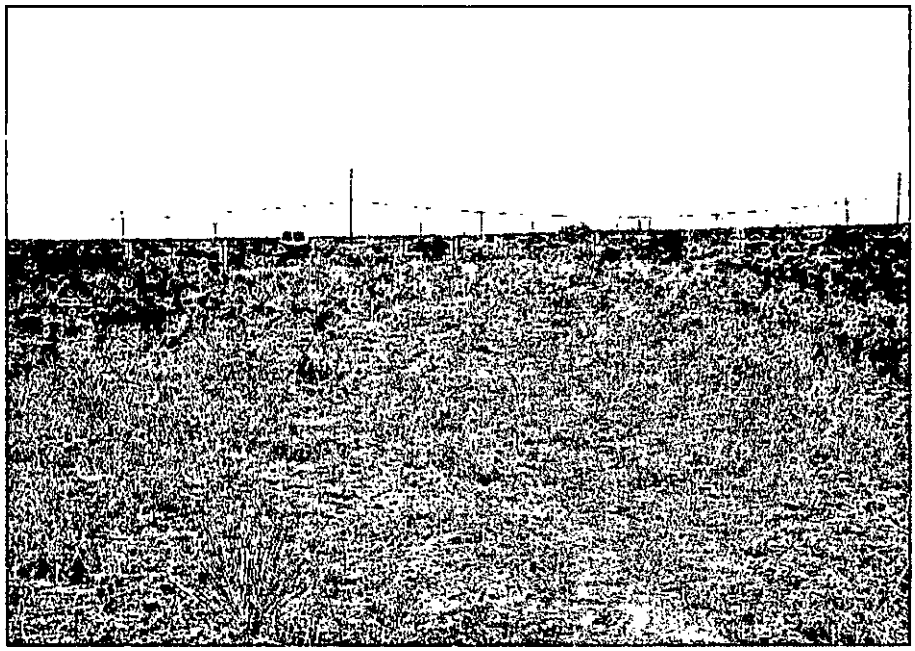
## *Photographic Documentation*

**Client:** Southern Union Gas Services
**Project Name:** 12-Inch Crossover Doom #1

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

**Photograph No. 1**

**Direction:**
Facing South



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

**Photograph No. 2**

**Direction:**
Facing South

**Description:**
View of excavation activities along the SUGS pipeline.

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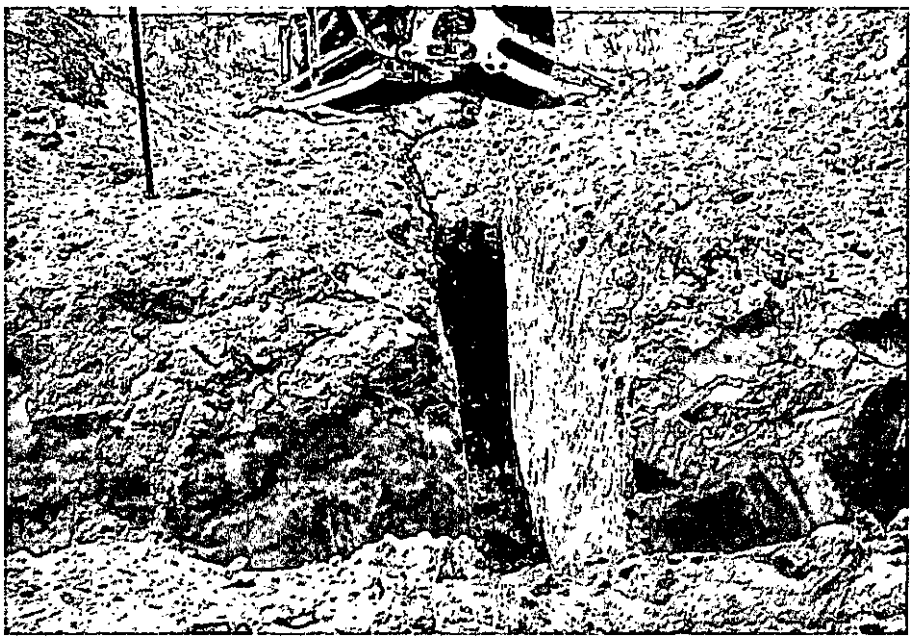
## *Photographic Documentation*

**Client:** Southern Union Gas Services
**Project Name:** 12-Inch Crossover Doom #1

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

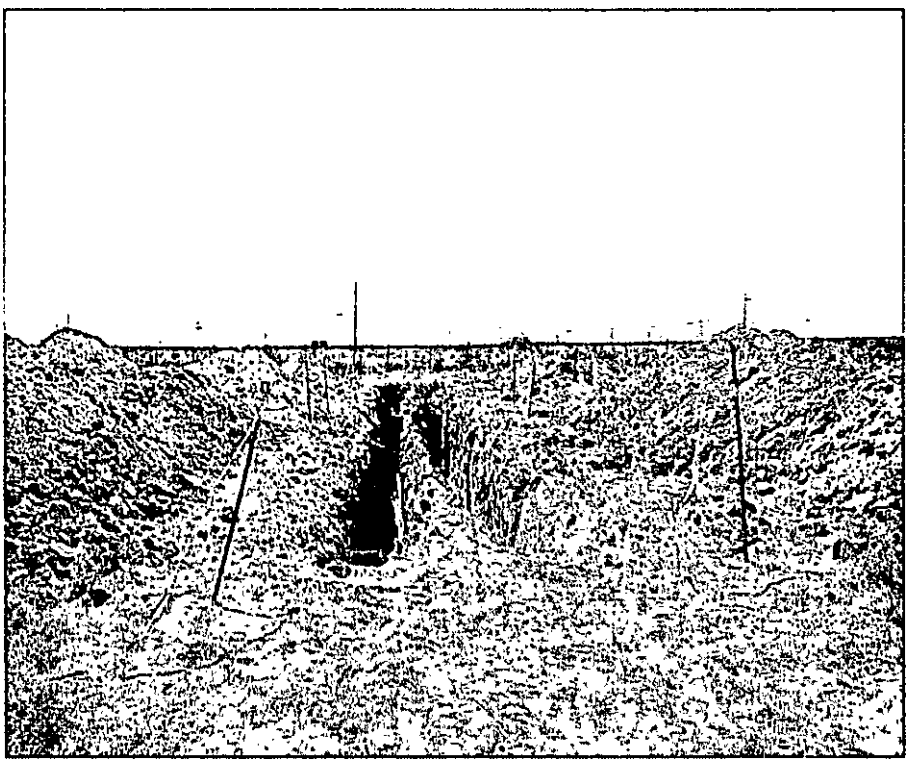
**Photograph No. 3**



**Direction:**
Facing West

**Description:**
View of excavation of the east-west trench.

**Photograph No. 4**



**Direction:**
Facing South

**Description:**
View of the trenched area.

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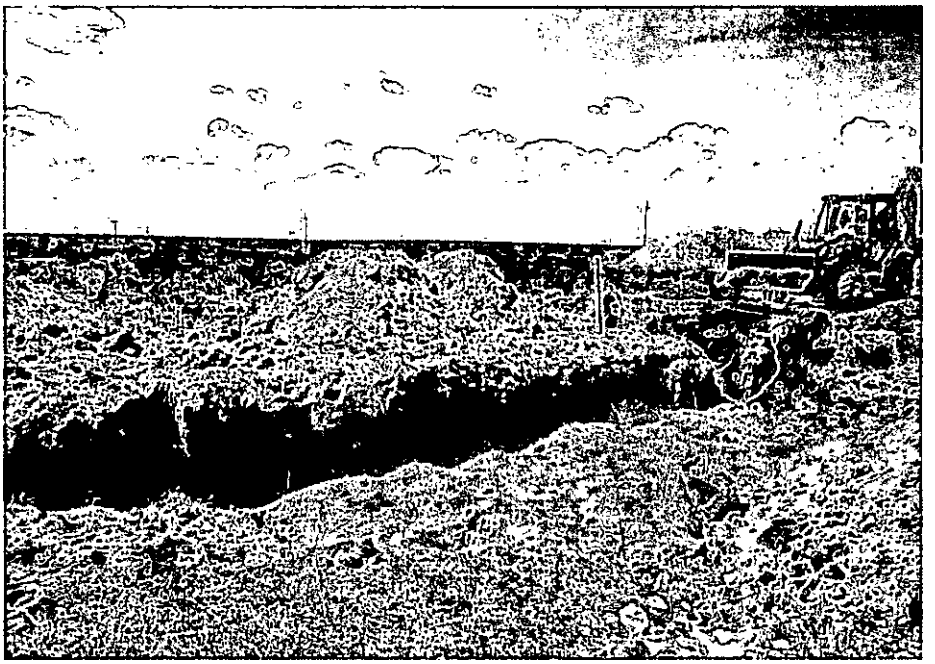
**Location:** Lea County, New Mexico

**Photograph No. 5**

**Direction:**
Facing West

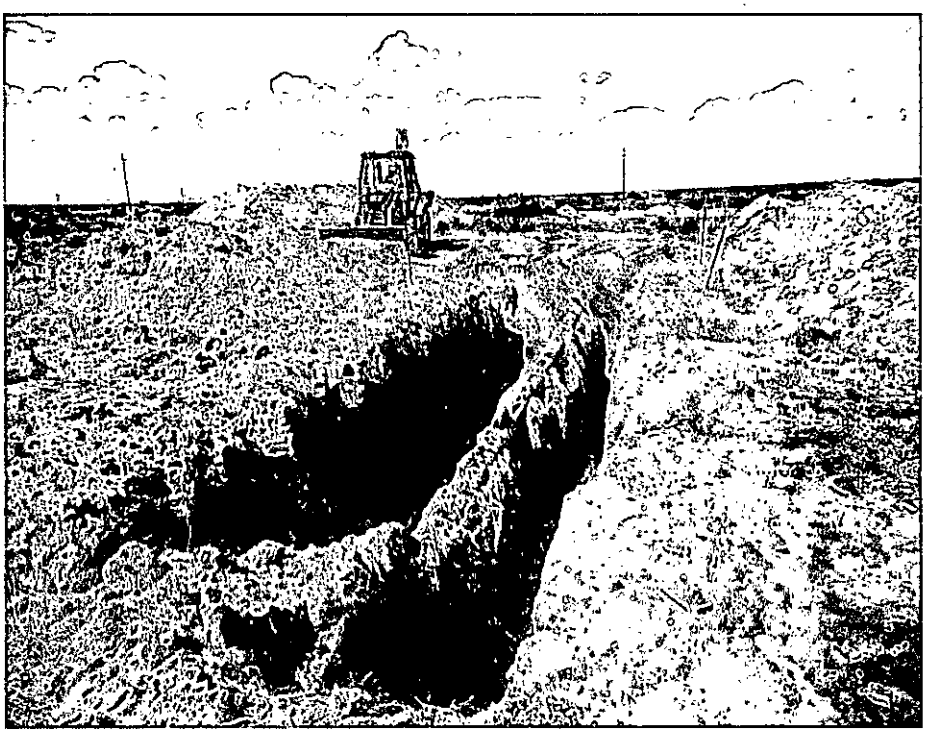
**Description:**
View of backfilling activities.



**Photograph No. 6**

**Direction:**
Facing North

**Description:**
View of backfilling activities.



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## *Photographic Documentation*

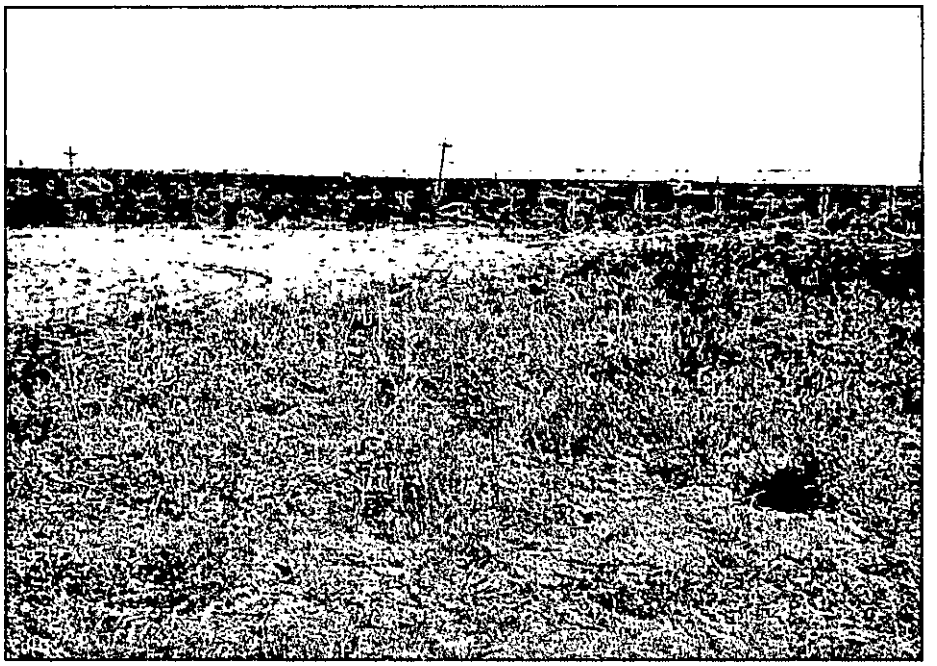
**Client:** Southern Union Gas Services
**Project Name:** 12-Inch Crossover Doom #1

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

**Photograph No. 7**

**Direction:**
Facing Southeast

**Description:**
View of restored site.



**Photograph No. 8**

**Direction:**
Facing South

**Description:**
View of restored site.