Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

December 6 , 2016

#5B24624-BG24

Heather Patterson
Environmental Specialist
NMOCD District II
1301 W Grand Ave
Artesia, NM 88210

SUBJECT: WORK PLAN FOR INCIDENT 2RP-4008, Paul 25 24S 28E RB #221H, UNIT D SECTION 25-T24S-R28E NMPM, API# 30-015-43018, EDDY COUNTY, NEW MEXICO

Dear Ms. Patterson:

On behalf of Matador Resources Company (Matador), Souder Miller & Associates (SMA) is pleased to submit a work plan summarizing the planned soil remediation for the release site located at the Paul 25 24S 28E RB #221H in Eddy County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for the remediation of the release that occurred on private property on November 22, 2016.

SMA responded at the request of Matador Resources Company, to assess and delineate the release of production fluids associated with Paul 25 24S 28E RB #221H well location. The release was initially reported to NMOCD by Matador Resources Company, on November 22, 2016 and was a result of an equipment failure. The table below summarizes information regarding the release. Results of the assessment, delineation are described in the following report.

Table 1: Release information and Site Ranking

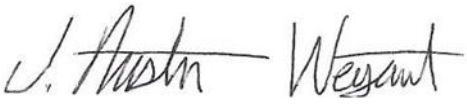
| Name | Paul 25 24S 28E RB #221H | | | | |
|---|---|---|---|---|---|
| Location | Incident Number | API Number | Section, Township, Range | | |
| | 2RP-4008 | 30-015-43018 | NW/NE (Unit D) | Section 25 | T24S, R28E NMPM |
| Estimated Date of Release | November 22, 2016 | | | | |
| Date Reported to NMOCD | November 22, 2016 | | | | |
| Reported by | Catherine Green | | | | |
| Land Owner | Private | | | | |
| Reported To | NM Oil Conservation Division (NMOCD) | | | | |
| Source of Release | Equipment Failure | | | | |
| Released Material | Produced Water | | | | |
| Released Volume | ~560 bbls Produced Water | | | | |
| Recovered Volume | 240 bbls Produced Water | | | | |
| Net Release | 320 bbls Produced Water | | | | |

| | |
|---|---|
| Nearest Waterway | 1.4 miles north of the location |
| Depth to Groundwater | Estimated to be 49 feet |
| Nearest Domestic Water Source | Greater than 1,000 feet |
| NMOCD Ranking | 20 |
| SMA Response Dates | Initial: 11/23/16 |
| Subcontractors | |
| Disposal Facility | |
| Estimated Yd3 Contaminated Soil Excavated and Disposed | 5,800 |

A copy of the C-141 Initial is attached in Appendix B. For questions or comments pertaining to the release or the attached work plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

# SOIL REMEDIATION WORK PLAN FOR INCIDENT 2RP-4008

## MATADOR RESOURCES COMPANY

PAUL 25 24S 28E RB #221H
UL D, SECTION 25, T24S R28E, NMPM
API #30-015-43018
EDDY COUNTY, NM

Prepared for:
Matador Resources Company
PO Box 1933,
Roswell, NM 88202

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

December 6, 2016
SMA Reference
5B24624 BG24

# Table of Contents



**Figures:**



**Tables:**



**Appendices:**

## 1.0 Introduction

On behalf of Matador Resources Company, Souder, Miller & Associates (SMA) has prepared this report that describes the assessment, initial delineation and proposed remediation for a release associated with the Paul 25 24S 28E RB #221H location API# 30-015-43018. The site is in Section 25, Township 24S, Range 28E NMPM, Eddy County, New Mexico, on private property. Figure 1 illustrates the vicinity and location of the site.

## 2.0 Site Ranking, Land Status, and Jurisdiction

The release site is located approximately 1.3 miles east of the Willow Lake, with an elevation of approximately 2,934 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be 49 feet below ground surface (bgs).

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. Two wells are located within a one mile radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is on private property and is within the jurisdiction of NMOCD.

Based on the NMOCD Guidelines Ranking Criteria, this release location has been assigned an NMOCD ranking of 20 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 100 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates the site ranking rationale.

## 3.0 Assessment and Initial Results

On November 23, 2016, SMA field personnel were on site to assess the release area using a Photo Ionization Detector (PID), and a mobile chlorides titration kit EPA method 9045D meter. The potentially affected area was found to be approximately 580 feet long and 50 feet wide. The site delineation samples were taken to depths of four feet bgs initially. On November 30, 2016, further delineation occurred, proceeding to 12' bgs at the request of NMOCD. Specific sample locations for all samples are depicted on Figure 2 (Site and Sample Location Map). Field screening sample results are detailed in Table 2. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Total Chlorides using EPA Method 300.0.

## 4.0 Soil Remediation Work Plan

SMA will begin the excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA will continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Excavation will occur to depths of up to six feet bgs sufficient to remove the impacted materials to NMOCD requirements as indicated by the sample results in Table 2. Affected soils will be removed from these areas before closure samples are collected at the final depth of excavation and from the sidewalls. Approximately 5,800 cubic yards of contaminated soil are projected to be removed and replaced with clean backfill material to return the surface to previous contours. The contaminated soil will be transported for proper disposal at Lea Land, near Carlsbad, NM, an NMOCD permitted disposal facility.

## 5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 20: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 100 ppm TPH.

When the soil remediation work plan is approved by NMOCD, SMA will begin soil remediation activities on site.

Soil contaminant concentrations found during the initial delineation are illustrated in Figure 2. A summary of the laboratory analyses is included in Table 2. Laboratory reports are included in Appendix A.

Photo documentation is available by request.

## 6.0 Closure and Limitations

The scope of our services consisted of the performance of release assessment, initial delineation sampling and field screening, verification of release stabilization, regulatory liaison, and preparation of this work plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

**Figures:**

Figure 1: Vicinity Map
Figure 2: Detailed Site and Sample Location Map

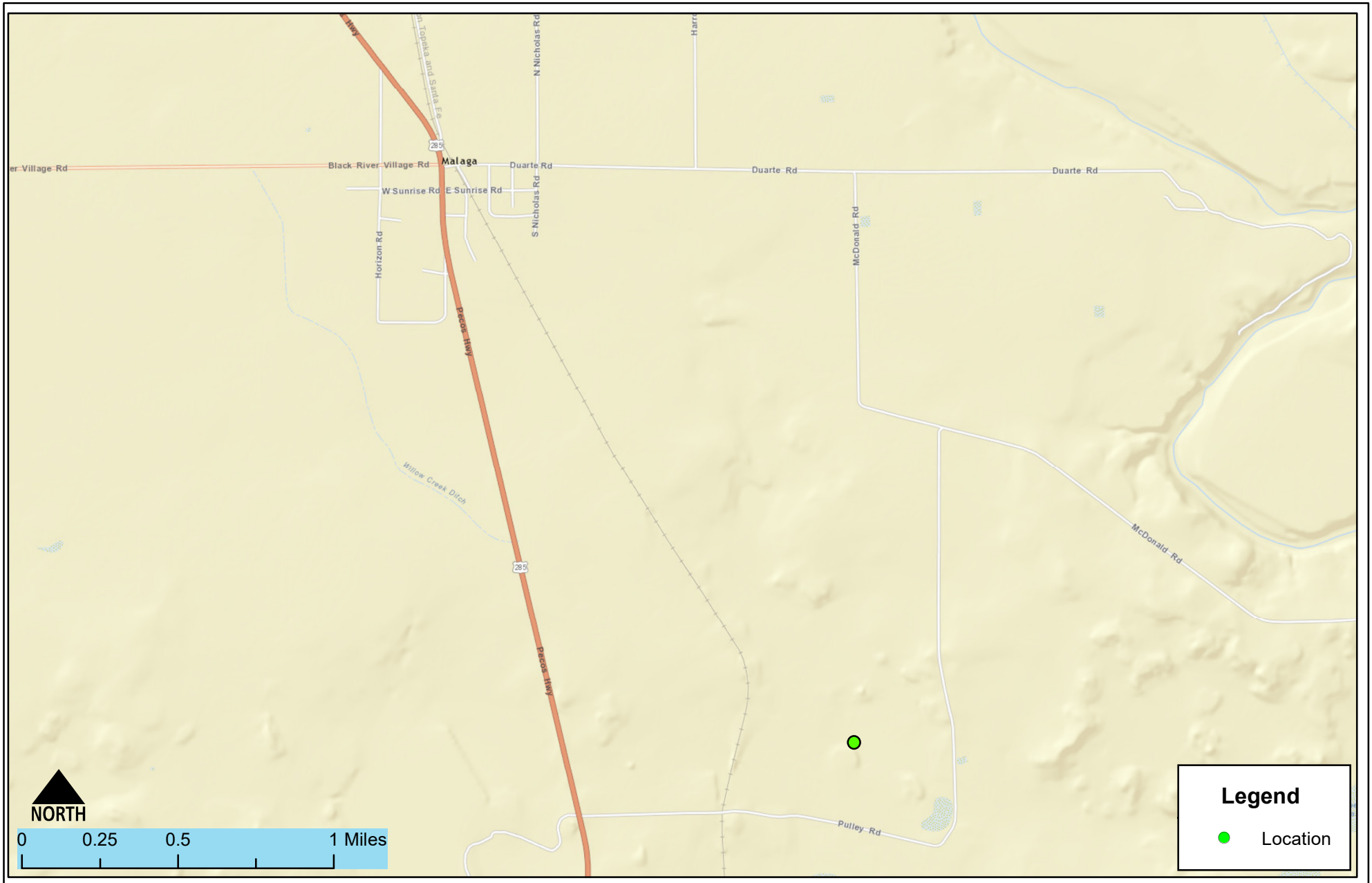
**Tables:**

Table 1: Release Information and Site Ranking
Table 2: Summary of Chloride Field Screening Results
Table 3: Summary of Laboratory Analyses

**Appendices:**

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 Initial

# FIGURE 1
# VICINITY MAP




*Detailed Site and Sample Map*
*Paul 221H- Matador*
*Malaga, New Mexico*

Figure 1

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

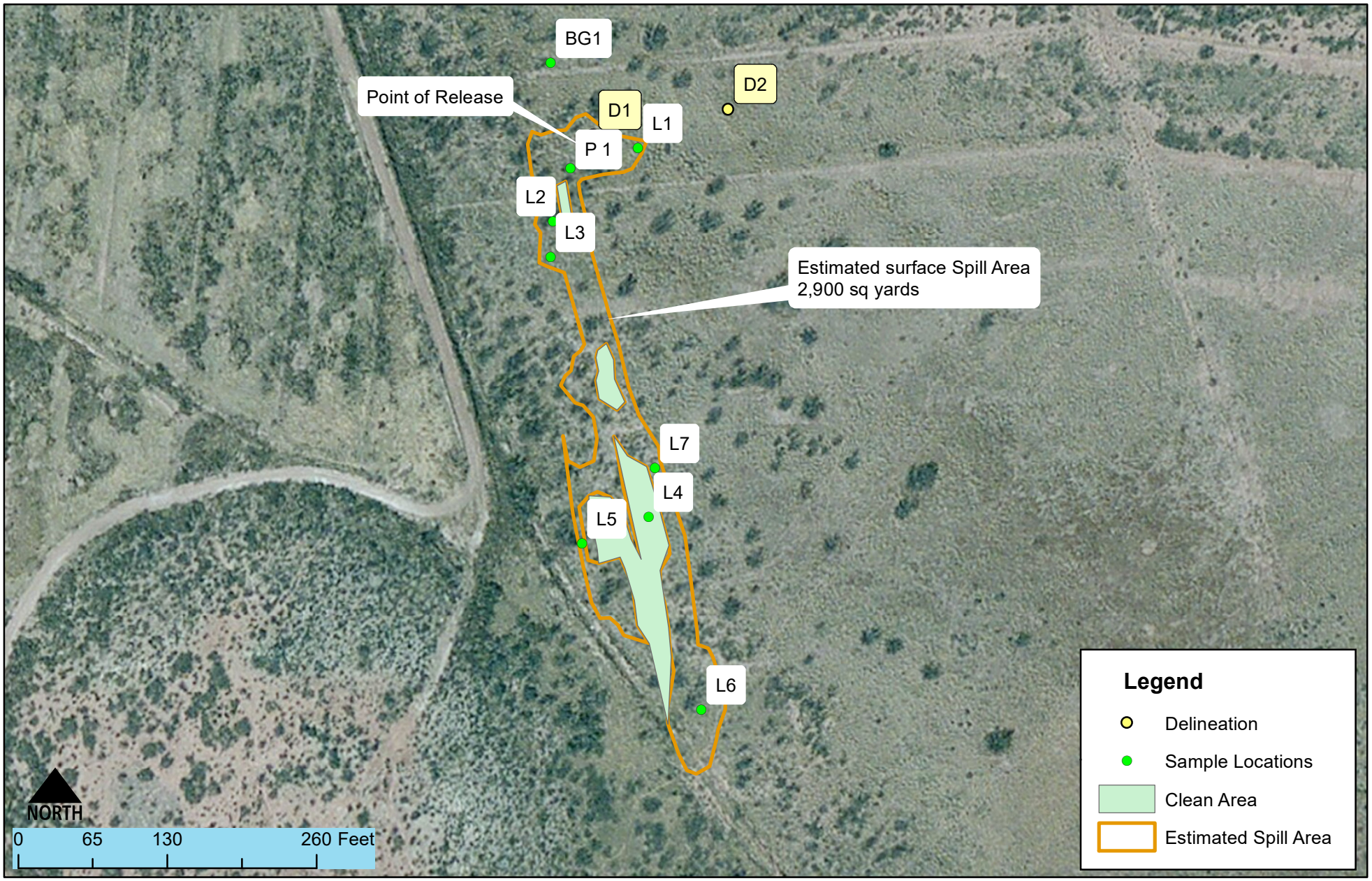


Date Saved: 12/5/2016

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\paul figure 1.mxd

# FIGURE 2

# DETAILED SITE AND SAMPLE LOCATION MAP




*Detailed Site and Sample Map*
*Paul 25 24S 28E RB #221H- Matador Resources*
*Malaja , New Mexico*

Figure 2

Document: C:\Users\lcm.CBO\Documents\GIS DATA\MAPS\PAUL Figure 2.mxd

Date Saved: 12/5/2016

Revisions
By: Date: Descr:
By: Date: Descr:



Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halagueña Street
Carlsbad, New Mexico 88221
(575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

# TABLE 1

# RELEASE INFORMATION AND SITE RANKING

| Table 1: Release information and Site Ranking | | | | | |
|---|---|---|---|---|---|
| Name | Paul 25 24S 28E RB #221H | | | | |
| Location | Incident Number | API Number | Section, Township, Range | | |
| | 2RP-4008 | 30-015-43018 | NW/NE (Unit D) | Section 25 | T24S, R28E NMPM |
| Estimated Date of Release | November 22, 2016 | | | | |
| Date Reported to NMOCD | November 22, 2016 | | | | |
| Reported by | Catherine Green | | | | |
| Land Owner | Private | | | | |
| Reported To | NM Oil Conservation Division (NMOCD) | | | | |
| Source of Release | Equipment Failure | | | | |
| Released Material | Produced Water | | | | |
| Released Volume | ~560 bbls Produced Water | | | | |
| Recovered Volume | 240 bbls Produced Water | | | | |
| Net Release | 320 bbls Produced Water | | | | |
| Nearest Waterway | 1.4 miles north of the location | | | | |
| Depth to Groundwater | Estimated to be 49 feet | | | | |
| Nearest Domestic Water Source | Greater than 1,000 feet | | | | |
| NMOCD Ranking | 20 | | | | |
| SMA Response Dates | Initial: 11/23/16 | | | | |
| Subcontractors | | | | | |
| Disposal Facility | | | | | |
| Estimated Yd3 Contaminated Soil Excavated and Disposed | 5,800 | | | | |

# TABLE 2

# SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

Table 2: Summary of Site Chloride Field Screening Results

| FIELD SCREENING RESULTS SUMMARY | | | | | |
|---|---|---|---|---|---|
| Date | Time | Field Screening Reference | Sample Depth (Feet BGS) | Chloride Reading | Lab Sample Collected Y/N |
| 11/23/2016 | 10:00 | BG1 | Surface | 1,569 | Y |
| 11/23/2016 | 10:00 | P1 | Surface | 14,732 | Y |
| 11/23/2016 | 10:00 | P1-3 | 3' | 7,791 | Y |
| 11/23/2016 | 10:00 | L1 | 1' | 2,984 | Y |
| 11/23/2016 | 10:00 | L2 | 1' | 5,530 | Y |
| 11/23/2016 | 10:00 | L2 | 3' | 2,939 | Y |
| 11/23/2016 | 10:00 | L3 | 1' | 7,277 | Y |
| 11/23/2016 | 10:00 | L3 | 4' | 5,450 | Y |
| 11/23/2016 | 10:00 | L4 | Surface | 1,123 | Y |
| 11/23/2016 | 10:00 | L5 | 1.5' | 5,816 | Y |
| 11/23/2016 | 10:00 | L6 | 2' | 5,839 | Y |
| 11/23/2016 | 10:00 | L7 | 3' | 6,980 | Y |
| 11/30/2016 | 2:00pm | D1-6 | 6' | 1785 | Y |
| 11/30/2016 | 2:00pm | D1-8 | 8' | 1602 | Y |
| 11/30/2016 | 2:00pm | D1-10 | 10' | 1420 | Y |
| 11/30/2016 | 2:00pm | D1-12 | 12' | 1009 | Y |
| 11/30/2016 | 2:00pm | D2-6 | 6' | 1237 | Y |
| 11/30/2016 | 2:00pm | D2-12 | 12' | 1000 | Y |

# TABLE 3

# SUMMARY OF LABORATORY ANALYSES

# Table 3: Summary of Laboratory Analyses

| Analytical Report- 1612375 | Sample Number on Figure 2 Map | Sample Date | Depth | BTEX ppm | Benzene mg/Kg | GRO mg/Kg | DRO mg/Kg | Cl- mg/Kg |
|---|---|---|---|---|---|---|---|---|
| 1612375-001 | D1 | 11/30/2016 | 6' | N/A | N/A | N/A | N/A | 1200 |
| 1612375-002 | D1 | 11/30/2016 | 10' | >0.099 | >0.025 | >4.9 | 12 | 2500 |
| 1612375-003 | D2 | 11/30/2016 | 6' | N/A | N/A | N/A | N/A | 3000 |
| 1612375-004 | D2 | 11/30/2016 | 10' | N/A | N/A | N/A | N/A | 1400 |

# APPENDIX A

# LABORATORY ANALYTICAL REPORTS

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

December 15, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: Paul 221 OrderNo.: 1612375

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/7/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **1612375**
Date Reported: **12/15/2016**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** D1-6
**Project:** Paul 221
**Collection Date:** 11/30/2016 2:00:00 PM
**Lab ID:** 1612375-001
**Matrix:** SOIL
**Received Date:** 12/7/2016 9:50:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGT** | |
| Chloride | 1200 | 75 | | mg/Kg | 50 | 12/14/2016 4:21:45 PM | 29153 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** D1-10
**Project:** Paul 221
**Collection Date:** 11/30/2016 2:00:00 PM
**Lab ID:** 1612375-002
**Matrix:** SOIL
**Received Date:** 12/7/2016 9:50:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGT** | |
| Chloride | 2500 | 150 | | mg/Kg | 100 | 12/14/2016 4:34:10 PM | 29153 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **TOM** | |
| Diesel Range Organics (DRO) | 12 | 10 | | mg/Kg | 1 | 12/9/2016 3:15:45 PM | 29082 |
| Surr: DNOP | 99.2 | 70-130 | | %Rec | 1 | 12/9/2016 3:15:45 PM | 29082 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 4.9 | | mg/Kg | 1 | 12/9/2016 12:42:05 PM | 29078 |
| Surr: BFB | 90.0 | 68.3-144 | | %Rec | 1 | 12/9/2016 12:42:05 PM | 29078 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 12/9/2016 12:42:05 PM | 29078 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 12/9/2016 12:42:05 PM | 29078 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 12/9/2016 12:42:05 PM | 29078 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 12/9/2016 12:42:05 PM | 29078 |
| Surr: 4-Bromofluorobenzene | 96.5 | 80-120 | | %Rec | 1 | 12/9/2016 12:42:05 PM | 29078 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** D2-6
**Project:** Paul 221
**Collection Date:** 11/30/2016 2:00:00 PM
**Lab ID:** 1612375-003
**Matrix:** SOIL
**Received Date:** 12/7/2016 9:50:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGT** | |
| Chloride | 3000 | 150 | | mg/Kg | 100 | 12/14/2016 4:46:35 PM | 29153 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller & Associates
**Client Sample ID:** D2-10
**Project:** Paul 221
**Collection Date:** 11/30/2016 2:00:00 PM
**Lab ID:** 1612375-004
**Matrix:** SOIL
**Received Date:** 12/7/2016 9:50:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **LGT** | |
| Chloride | 1400 | 75 | | mg/Kg | 50 | 12/14/2016 4:58:59 PM | 29153 |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1612375**

***15-Dec-16***

**Client:** Souder, Miller & Associates

**Project:** Paul 221

| Sample ID | **MB-29153** | SampType: | **MBLK** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **29153** | RunNo: | **39371** | | | | | |
| Prep Date: | **12/13/2016** | Analysis Date: | **12/13/2016** | SeqNo: | **1232526** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID | **LCS-29153** | SampType: | **LCS** | TestCode: | **EPA Method 300.0: Anions** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **29153** | RunNo: | **39371** | | | | | |
| Prep Date: | **12/13/2016** | Analysis Date: | **12/13/2016** | SeqNo: | **1232527** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 93.4 | 90 | 110 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1612375**

***15-Dec-16***

**Client:** Souder, Miller & Associates

**Project:** Paul 221

| Sample ID | **LCS-29082** | SampType: | **LCS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **29082** | | RunNo: | **39269** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1230208** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 47 | 10 | 50.00 | 0 | 93.1 | 62.6 | 124 | | | |
| Surr: DNOP | 4.7 | | 5.000 | | 93.7 | 70 | 130 | | | |

| Sample ID | **MB-29082** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **29082** | | RunNo: | **39269** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1230209** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Surr: DNOP | 10 | | 10.00 | | 100 | 70 | 130 | | | |

| Sample ID | **LCS-29117** | SampType: | **LCS** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **29117** | | RunNo: | **39305** | | | | |
| Prep Date: | **12/12/2016** | Analysis Date: | **12/12/2016** | | SeqNo: | **1230437** | Units: | **%Rec** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 3.9 | | 5.000 | | 77.4 | 70 | 130 | | | |

| Sample ID | **MB-29117** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015M/D: Diesel Range Organics** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **29117** | | RunNo: | **39305** | | | | |
| Prep Date: | **12/12/2016** | Analysis Date: | **12/12/2016** | | SeqNo: | **1230438** | Units: | **%Rec** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 8.0 | | 10.00 | | 80.4 | 70 | 130 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1612375**

***15-Dec-16***

**Client:** Souder, Miller & Associates

**Project:** Paul 221

| Sample ID | **MB-29078** | SampType: | **MBLK** | | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **29078** | | RunNo: | **39283** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1229674** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 860 | | 1000 | | 85.7 | 68.3 | 144 | | | |

| Sample ID | **LCS-29078** | SampType: | **LCS** | | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **29078** | | RunNo: | **39283** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1229675** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 91.9 | 74.6 | 123 | | | |
| Surr: BFB | 920 | | 1000 | | 92.3 | 68.3 | 144 | | | |

| Sample ID | **1612375-002AMS** | SampType: | **MS** | | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **D1-10** | Batch ID: | **29078** | | RunNo: | **39283** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1229678** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 27 | 4.9 | 24.30 | 0 | 110 | 61.3 | 150 | | | |
| Surr: BFB | 950 | | 971.8 | | 98.0 | 68.3 | 144 | | | |

| Sample ID | **1612375-002AMSD** | SampType: | **MSD** | | TestCode: | **EPA Method 8015D: Gasoline Range** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **D1-10** | Batch ID: | **29078** | | RunNo: | **39283** | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | | SeqNo: | **1229679** | Units: | **mg/Kg** | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 27 | 4.7 | 23.34 | 0 | 116 | 61.3 | 150 | 0.965 | 20 | |
| Surr: BFB | 910 | | 933.7 | | 97.6 | 68.3 | 144 | 0 | 0 | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1612375**

***15-Dec-16***

**Client:** Souder, Miller & Associates

**Project:** Paul 221

| Sample ID | **MB-29078** | SampType: | **MBLK** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **29078** | RunNo: | **39283** | | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | SeqNo: | **1229693** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.95 | | 1.000 | | 94.5 | 80 | 120 | | | |

| Sample ID | **LCS-29078** | SampType: | **LCS** | TestCode: | **EPA Method 8021B: Volatiles** | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **29078** | RunNo: | **39283** | | | | | |
| Prep Date: | **12/8/2016** | Analysis Date: | **12/9/2016** | SeqNo: | **1229694** | Units: | **mg/Kg** | | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.92 | 0.025 | 1.000 | 0 | 91.9 | 75.2 | 115 | | | |
| Toluene | 0.95 | 0.050 | 1.000 | 0 | 95.1 | 80.7 | 112 | | | |
| Ethylbenzene | 0.95 | 0.050 | 1.000 | 0 | 94.6 | 78.9 | 117 | | | |
| Xylenes, Total | 2.9 | 0.10 | 3.000 | 0 | 95.4 | 79.2 | 115 | | | |
| Surr: 4-Bromofluorobenzene | 0.98 | | 1.000 | | 98.5 | 80 | 120 | | | |

**Qualifiers:**

| | | | |
|---|---|---|---|
| * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| R | RPD outside accepted recovery limits | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-CARLSBAD LM  Work Order Number: 1612375  RcptNo: 1

Received by/date: AJ 12/07/16

Logged By: Andy Jansson 12/7/2016 9:50:00 AM

Completed By: Andy Jansson 12/07/16

Reviewed By: JO 12/08/16

## Chain of Custody

| | | | |
|---|---|---|---|
| 1. Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| 2. Is Chain of Custody complete? | Yes ☑ | No ☐ | Not Present ☐ |
| 3. How was the sample delivered? | Courier | | |

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 6. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 9. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 10. VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 11. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | # of preserved bottles checked for pH: ____ (<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | Adjusted? ____ |
| 14. Is it clear what analyses were requested? | Yes ☑ | No ☐ | Checked by: ____ |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

## Special Handling (if applicable)

| | | | |
|---|---|---|---|
| 16. Was client notified of all discrepancies with this order? | Yes ☐ | No ☐ | NA ☑ |

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 2.6 | Good | Yes | | | |

# Chain-of-Custody Record

ent: SMA - Cobb2

iling Address:

one #:

ail or Fax#:

/QC Package:
Standard ☐ Level 4 (Full Validation)

creditation
NELAP ☐ Other

EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name:
Paul 221

Project #:

Project Manager:
Austin Weyant

Sampler: LM
On Ice: ☑ Yes ☐ No
Sample Temperature: 2.6

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1612375 | BTEX + MTBE + TMB's (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions (F,Cl,$NO_3$,$NO_2$,$PO_4$,$SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | | | | | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 016 | 2:00 | Soil | D1-6 | 4oz | | -001 | | | | | | | | X | | | | | | | | |
| | | | D1-10 | | | -002 | X | | X | | | | | X | | | | | | | | |
| | | | D2-6 | | | -003 | | | | | | | | X | | | | | | | | |
| | | | D2-10 | | | -004 | | | | | | | | X | | | | | | | | |

| Date | Time | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 6-16 | 9:30 | | | 12/6/16 | 0830 |
| 6/16 | 1900 | | | 12/07/16 | 0950 |

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

# APPENDIX B
# FORM C141 INITIAL

NM OIL CONSERVATION
Artesia District
NOV 24, 2016
RECEIVED

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

nAB1633632758

## OPERATOR

X☐ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company Matador Production Company 228937 | Contact Catherine Green |
| Address 500 N Main St Ste 1 Roswell NM 88201 | Telephone No.575-627-2453 |
| Facility Name Paul 25 24S 28E RB #221H | Facility Type Oil |

| | | |
|---|---|---|
| Surface Owner Private | Mineral Owner Fee | API No. 30-015-43018 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| D | 25 | 24S | 28E | 359 | N | 217 | W | Eddy |

**Latitude 32.19484171** **Longitude** -104.0487226

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Produced Water | Volume of Release~560 bbls | Volume Recovered 240 bbls |
| Source of Release Line Split | Date and Hour of Occurrence Nov. 22, 2016 11am | Date and Hour of Discovery Nov. 22, 2016 10:30am |
| Was Immediate Notice Given? x☐ Yes ☐ No ☐ Not Required | If YES, To Whom? Telephoned Mike Bratcher and Randy Bayliss. Left voicemails. | |
| By Whom? Catherine Green | Date and Hour Nov. 22, 2016 3pm | |
| Was a Watercourse Reached? ☐ Yes x☐ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Lease Operator observed 0 pressure on water line. Investigated by walking the line. Discovered severed pipe. Shut off well. Called for vacuum trucks. Line will be replaced.

Describe Area Affected and Cleanup Action Taken.*
See picture attached. Soil samples will be collected . Contaminated soil will be remediated/removed/replaced. Line will be fixed/replaced.

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: Catherine Green | OIL CONSERVATION DIVISION<br>Approved by Environmental Specialist: Crystal Weaver |
| Printed Name:Catherine Green | |
| Title:Regulatory Analyst | Approval Date: 11/23/16 Expiration Date: NA |
| E-mail Address:cgreen@matadorresources.com | Conditions of Approval: Attached ☑ |
| Date: Nov. 22, 2016 Phone:575-627-2453 | |

2RP-4008