



March 6, 2017

#5E25774-BG7

NMOCD District II
Crystal Weaver
811 S. First St.
Artesia, NM 88210

SUBJECT: WORK PLAN FOR INCIDENT 2RP-4113, PAUL 25 24S 28E RB #221H, UNIT I SECTION 25-T24S-R28E NMPM,
API# 30-015-43018, EDDY COUNTY, NEW MEXICO

Dear Crystal Weaver:

On behalf of Matador Production Company, Souder Miller & Associates 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 fee lands on February 3, 2017.

Souder, Miller & Associates (SMA) responded at the request of Matador, to assess and delineate the release of production water associated with the Paul 25 24S 28E RB #221H well location. The release was initially reported to NMOCD by Matador Production Company, on February 6, 2017 and was a result of Water recycling facility at Tiger was on Emergency Shut Down. Lease operator went to Paul location that sends water to Tiger. Found that separator Shut Down Valve had failed to close. 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				
Company	Matador Production Company				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-4113	30-015-43018	NW/NW (Unit D)	Section 25	T24S, R28E NMPM
Estimated Date of Release	February 3, 2017				
Date Reported to NMOCD	February 6, 2017				
Reported by	Catherine Green				
Land Owner	Fee				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Pipeline				

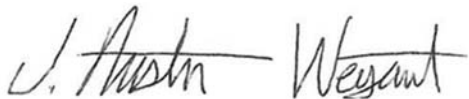


Released Volume	Estimated 100 bbls
Recovered Volume	80 bbls
Nearest Waterway	Nearest surface water is 1.3 miles east of Willow Lake
Depth to Groundwater	Approximately 49' bgs
Nearest Domestic Water Source	Nearest well is 0.39 miles south of the location
NMOCD Ranking	20
SMA Response Dates	February 20, 2017
Subcontractors	TBD
Disposal Facility	Lea Land
Estimated Cubic Yards Contaminated Soil Excavated and Disposed	500

Attached is a copy of the C-141 initial located 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-4113

MATADOR PRODUCTION COMPANY

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



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

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-704

March 6, 2017
SMA Reference
5E25774 BG7

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Table 1: Release Information and Site Ranking

Table 2: Summary Chloride Field Screening Results

Table 3: Summary of Laboratory Analyses

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1.0 Introduction

On behalf of Matador Production 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 located in Section 25, Township 24S, Range 28E NMPM, Eddy County, New Mexico, on fee lands. Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land 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 February 20, 2017 after receiving 811 clearance, SMA field personnel assessed the remediated release area onsite with a gas powered auger, Photo Ionization Detector (PID), and a mobile chlorides titration kit EPA method 9045D meter. The proposed remediated release area was found to be approximately 420 feet long and 20 feet wide. The site delineation samples were taken to depths of 12 feet bgs. Specific sample locations for all samples are depicted on Figure 2 (Sample Location Map) along with sampling details within Table 3. 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 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 two feet bgs to sufficiently remove the impacted materials to NMOCD requirements. Background chlorides for this area was previous sampled for incident 2RP-4008 and was found to be 3,000 ppm. All soil with a chloride level above the background sample will be removed. Affected soils will be removed from the area before closure samples are collected at the final depth of excavation and from the sidewalls. In the pipeline area the excavation will not occur four feet on each side of the pipeline due to pipeline safety. Excavation will occurred to two feet bgs over the pipeline. Hay then was added over pipeline to as a capillary break in the soil. Approximately 500 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

After 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 confirmatory spill and spill mitigation assessment sampling, 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



Austin Weyant
Project Scientist

Reviewed by:



Cynthia Gray, CHMM
Senior Scientist

Figures:

Figure 1: Vicinity Map

Figure 2: Detailed Site and Sample Map

Tables:

Table 1: Release Information and Site Ranking

Table 2: Summary of Chloride Field Screening Results

Table 3: Summary of Laboratory Analyses

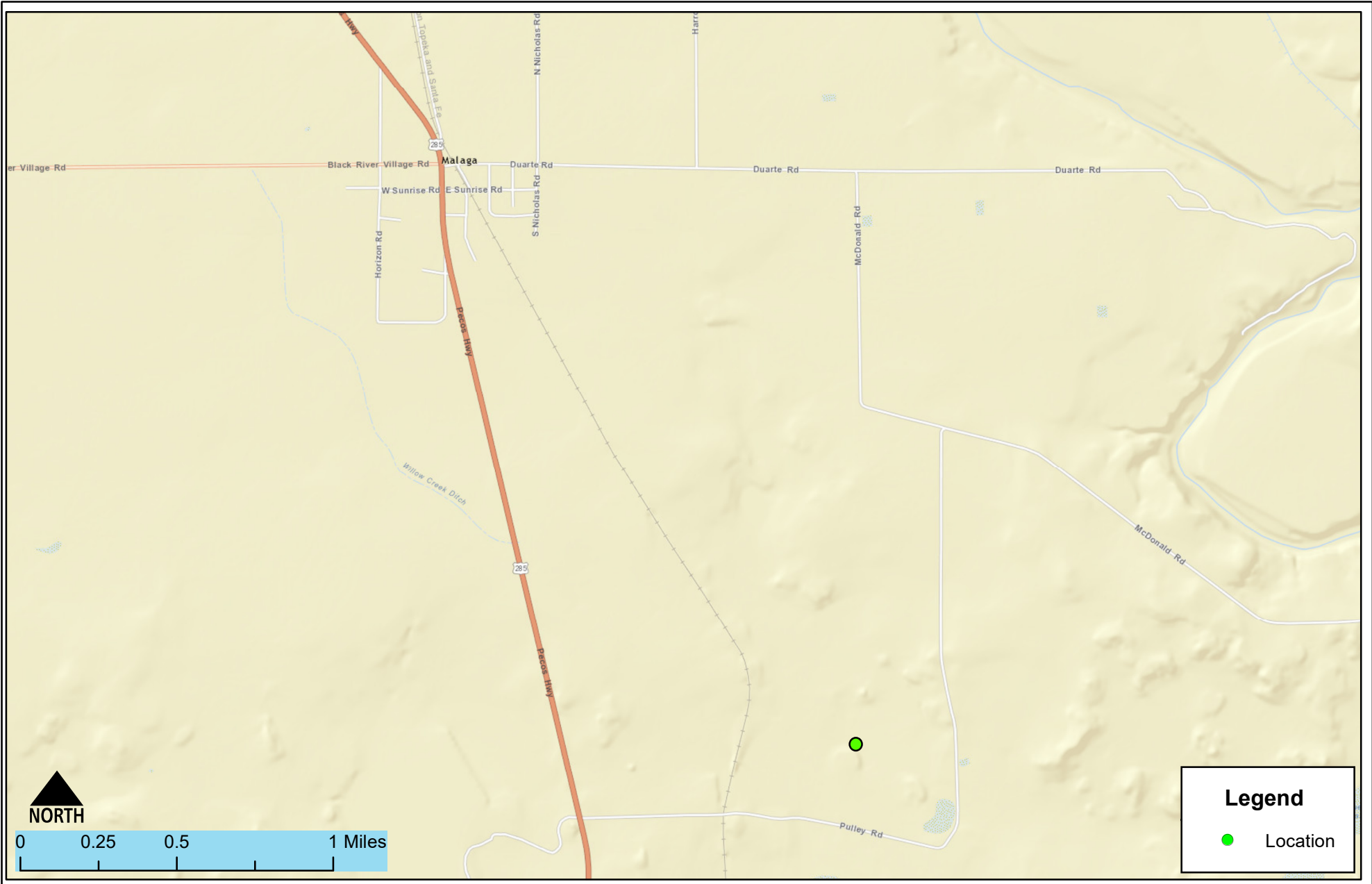
Appendices:

Appendix A: Laboratory Analytical Reports

Appendix B: Form C141 Initial

Appendix C: NMOSE Water Column

FIGURE 1 VICINITY MAP



Vicinity Map
Paul 221H- Matador
Sec. 25 T24S, R28E, Eddy County, NM

Figure 1

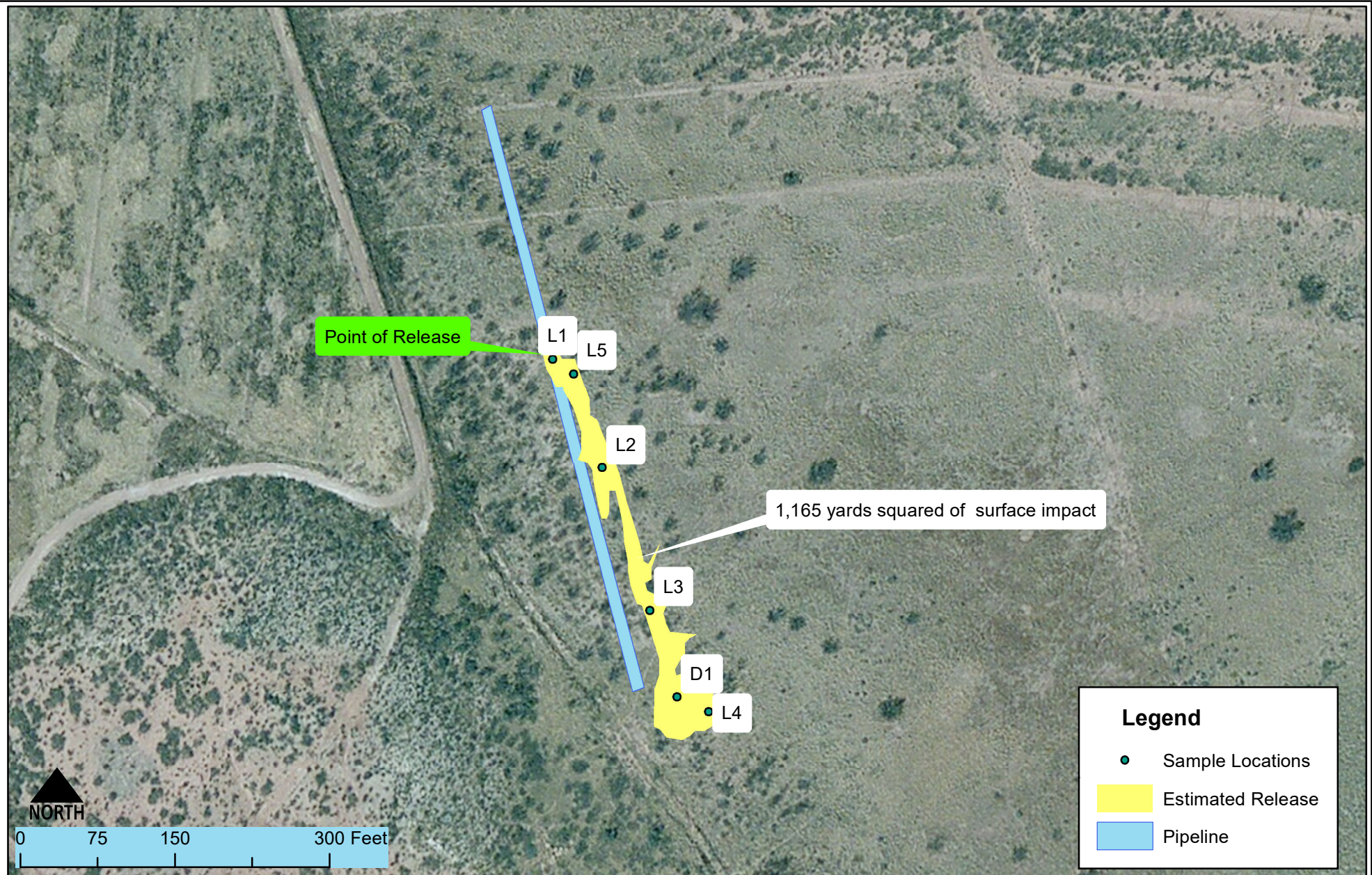
Date Saved: 2/14/2017	Revisions			Drawn	Lucas Middleton
	By: _____	Date: _____	Descr: _____	Checked	_____
	By: _____	Date: _____	Descr: _____	Approved	_____
	Copyright 2015 Souder, Miller & Associates - All Rights Reserved				



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

FIGURE 2

DETAILED SITE AND SAMPLE MAP



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

Figure 2

Date Saved: 3/6/2017	Revisions			Drawn	Lucas Middleton
	By: _____	Date: _____	Descr: _____	Checked _____ Approved _____	
	By: _____	Date: _____	Descr: _____		
	Copyright 2015 Souder, Miller & Associates - All Rights Reserved				



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TABLE 1

RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
Name	Paul 25 24S 28E RB #221H				
Company	Matador Production Company				
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Estimated Date of Release	February 3, 2017				
Date Reported to NMOCD	February 6, 2017				
Reported by	Catherine Green				
Land Owner	Private				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Pipeline				
Released Material	Produced water				
Released Volume	Estimated 100 bbls				
Recovered Volume	80 bbls				
Nearest Waterway	Nearest surface water is 1.3 miles east of Willow Lake				
Depth to Groundwater	Approximately 49' bgs				
Nearest Domestic Water Source	Nearest well is 0.39 miles south of the location				
NMOCD Ranking	20				
SMA Response Dates	February 20, 2017				
Subcontractors	TBD				
Disposal Facility	Lea Lad				
Estimated Cubic Yards Contaminated Soil Excavated and Disposed	500				

TABLE 2

SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

Table 2: Summary of Chloride Field Screening Results

Paul 25 24S 28E RB #221H

Sample Event

2/5/17, 2/20/17

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
2/5/2017	2:00	L1	Surface	6,025	N
2/5/2017	2:00	L2	Surface	3,600	N
2/5/2017	2:00	L3	Surface	3,205	N
2/5/2017	2:00	L4	Surface	3,650	N
2/5/2017	2:00	L5	Surface	2,976	N
2/20/2017	1:00	D1-2	2'	1,000	Y
2/20/2017	1:00	D1-12	12'	1,182	Y



TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

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1702A45-001	L2-2	2/20/2017	2'	N/A	N/A	N/A	N/A	1100
1702A45-002	L2-12	2/20/2017	12'	N/A	N/A	N/A	N/A	1200

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

March 02, 2017

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

RE: Paul 2

OrderNo.: 1702A45

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 2 sample(s) on 2/23/2017 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 qualifiers 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical ReportLab Order: **1702A45**Date Reported: **3/2/2017****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Souder, Miller & Associates
Project: Paul 2**Lab Order:** 1702A45**Lab ID:** 1702A45-001**Collection Date:** 2/20/2017 1:00:00 PM**Client Sample ID:** D1-2**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1100	30		mg/Kg	20	2/28/2017 6:17:00 PM	30454

Lab ID: 1702A45-002**Collection Date:** 2/20/2017 1:00:00 PM**Client Sample ID:** D1-12**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1200	75		mg/Kg	50	3/1/2017 10:47:51 PM	30454

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#: 1702A45

02-Mar-17

Client: Souder, Miller & Associates

Project: Paul 2

Sample ID	MB-30454		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	30454		RunNo:	41047				
Prep Date:	2/28/2017		Analysis Date:	2/28/2017		SeqNo:	1286795		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-30454		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 30454		RunNo: 41047					
Prep Date:	2/28/2017		Analysis Date: 2/28/2017		SeqNo: 1286796		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Detection Limit
W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: SMA-CARLSBAD

Work Order Number: 1702A45

RcptNo: 1

Received by/date: LM 02/23/17

Logged By: Andy Jansson 2/23/2017 9:20:00 AM

Completed By: Andy Jansson 02/23/17

Reviewed By:  02/24/17

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 $>0^{\circ}\text{C}$ 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 ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:
(<2 or >12 unless noted)
Adjusted?

Checked by:

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

APPENDIX B

FORM C141 INITIAL

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

NM OIL CONSERVATION
ARTESIA DISTRICT
Feb 10, 2017
RECEIVED
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

NAB1704368889 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company Matador Resources Company <i>228937</i>	Contact Catherine Green
Address 500 N Main St Ste One Roswell NM 88201	Telephone No. 575-623-6601
Facility Name Paul 25 24S 28E RB #221H	Facility Type Oil

Surface Owner Fee	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 32.194817 Longitude 104.0487226

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release ~100BBLs	Volume Recovered 80BBLs
Source of Release pipeline	Date and Hour of Occurrence Feb 3, 2017 7am	Date and Hour of Discovery Feb 3, 2017 7:30am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Crystal Weaver, voicemail	
By Whom? Catherine Green	Date and Hour Feb. 3 2017 12:07pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Water recycling facility at Tiger was on Emergency Shut Down. Lease operator went to Paul location that sends water to Tiger. Found that separator Shut Down Valve had failed to close. Lease operator drove right of way to Tiger and found produced water on ground at (~32°11'52", 104°2'55".179999). Well shut in to isolate line, vacuum truck called. Excavator dug down at spill sight, located pipe with hole in it. Crew replaced section of pipe. Excavated area currently fenced off. Vacuum truck removed 80 barrels of produced water. Replaced Shut Down Valve on separator.

Describe Area Affected and Cleanup Action Taken.*

Approximately 1,165 square yards of surface impacted. ~~Remove and replace impacted soil.~~

per conversation with operator this sentence has been revised.

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: <i>Catherine Green</i>		OIL CONSERVATION DIVISION	
Printed Name: Catherine Green		Approved by Environmental Specialist: <i>Crystal Weaver</i>	
Title: Regulatory Analyst		Approval Date: <i>2/13/17</i>	Expiration Date: <i>N/A</i>
E-mail Address: cgreen@matadorresources.com		Conditions of Approval: <i>COA's attached</i>	
Date: Feb 6, 2017 Phone: 575-627-2453		Attached <input checked="" type="checkbox"/>	

* Attach Additional Sheets If Necessary

2RP-4113

APPENDIX C

OSE WATER COLUMN DATA



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 03833 POD1	C	ED		2	1	2	26	24S	28E	589014	3562545	660	96	55	41
C 03358 POD1	C	ED		1	4	1	26	24S	28E	588416	3562116	1287	135		

Average Depth to Water: **55 feet**

Minimum Depth: **55 feet**

Maximum Depth: **55 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 589664.55

Northing (Y): 3562429.4

Radius: 1500

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.