



April 5, 2018

#5E26442-BG6

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

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE FLOWER DRAW 2 ST SWD #1 (2RP-4507),  
EDDY COUNTY, NEW MEXICO

Dear, Mrs. Weaver,

On behalf of Mewbourne Oil Company, Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes the assessment, initial delineation and proposed remediation for the release associated with the Flower Draw 2 ST SWD #1. The site is in Unit G SECTION 2, TOWNSHIP 26S, RANGE 28E, NMPM, Eddy County, New Mexico, on State of New Mexico land. Figure 1 illustrates the vicinity and location of the site.

Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Flower Draw 2 ST SWD #1
Company	Mewbourne Oil Company
RP Number	2RP-4541
API Number	30-015-23615
Location	32.073425°-104.055676°
Estimated Date of Release	12/25/17
Date Reported to NMOCD	12/28/17
Land Owner	State of New Mexico
Reported To	Crystal Weaver
Source of Release	Equipment Failure
Released Material	Produced Water
Released Volume	7739 bbls
Recovered Volume	5400 bbls
Net Release	2339 bbls
Nearest Waterway	0.63 Miles from Pecos River
Depth to Groundwater	Estimated to be less than 100'
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	10

## **1.0 Background**

Injection pump failed and filled storage tanks. Tank alarm did not send notification. Inlet valve to facility was shut and trucks used to pick up standing fluid. Vacuum trucks were used to recover 5400 bbls of produced water. The release area is shown in Figure 2.

## **2.0 Site Ranking and Land Jurisdiction**

The release site is located approximately 0.63 miles east of the Pecos River. According to the Groundwater Determination Flower Draw 2 State SWD #1 from Atkins Engineering Associates Report the estimated depth of ground for this location to be 55 feet bgs.

Recommended Remediation Action Levels (RRALs) are determined by the site ranking according to the NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (1993). Below in Table 2 are the remediation standards and the site ranking for this location. Justification for this site ranking is found in Figure 1 and Appendix B.

Table 2.

Soil Remediation Standards	0 to 9	10 to 19	>19
<b>Benzene</b>	<b>10 PPM</b>	<b>10 PPM</b>	<b>10 PPM</b>
<b>BTEX</b>	<b>50 PPM</b>	<b>50 PPM</b>	<b>50 PPM</b>
<b>TPH</b>	<b>5000 PPM</b>	<b>1000 PPM</b>	<b>100 PPM</b>

Depth to Groundwater	NMOCD Numeric Rank
< 50 BGS = 20	
50' to 99' = 10	10
>100' = 0	
Distance to Nearest Surface Water	NMOCD Numeric Rank
< 200' = 20	
200' - 1000' = 10	
>1000' = 0	0
Well Head Protection	NMOCD Numeric Rank
<1000' (or <200' domestic) = 20	
> 1000' = 0	0
<b>Total Site Ranking</b>	<b>10</b>

## **3.0 Release Characterization**

On January 15/16, 2018 SMA personnel evaluated the release area. The release occurred starting at the tank batter on pad moved north off pad, over the reserve pit and down in to the pasture. Soil samples were collected and field-screened with a mobile titration unit (EPA 4500) to characterize the extent of the release. Samples were collected using a backhoe. Delineation occurred on pad (Sample Locations P) and off pad (Sample Locations). All sample location was sampled till bedrock was reached. Further delineation cannot occur once bedrock is reached. For the pad area bedrock was reached at 5'-9' bgs. For the off pad area bedrock was reached between 10'-12' bgs. A minimum of two samples collected for laboratory analysis, and field screened at least once per two feet. Two

backgrounds samples were taken within the same soil types that the release occurred in. BG1 sample shows the soil to be elevated in chloride than other soils types. 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 analyses including chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Sample locations are depicted on Figure 2. All field screening and laboratory results are summarized in Table 3. Laboratory reports are included in Appendix C.

#### **4.0 Soil Remediation Workplan**

With approval from area utilities owners via 811 and NMOCD, SMA proposes the excavation of affected soils. SMA will continuously guide the excavation activities by field screening with a mobile titration unit (EPA 4500) and a calibrated PID. As affected soils are varying depths on both the pad and pasture, excavation will occur to different depths.

Sample locations taken on the well pad are represented by sample numbers P1-P5 (Figure 2) with an estimated volume of 5,637 cubic yards of affected soil. Each sample location was performed until a confining layer of bedrock was encountered to ensure the entire amount of affected soil was accounted for. Area around sample location P1 will scraped 1 feet bgs. For sample locations P3 and P4 the area will be excavated 3 feet bgs. The area represented by sample number P2 will be excavated to 4 ft bgs then plastic 40 mill liner will be placed in the open excavation to act as a cap. Bottom hole confirmation samples will be collected.

Sample locations taken in the pasture are represented by sample numbers D1-D5 (Figure 2) with an estimated volume of 1,935 cubic yards of affected soil. Again, each sample location was performed until a confining layer of bedrock was encountered to ensure the entire amount of affected soil was accounted for. The area represented by sample numbers D1, D2, and D3 will be excavated to a depth of 4 feet bgs. Excavation more than four feet bgs would create more surface damage within the small unmade draw without any added benefit. In addition, we do not believe a liner would be useful in this area since impact is no more than 12 inches wide. The area represented by D4 will be excavated to 4feet bgs. The main pooling area off pad pooling area thought to be around D5. In this area excavation will occur to 4 feet bgs and a plastic 40 mill liner will be placed in the open excavation and clean material will be added on top of the liner to act as a cap. Sidewall confirmation samples will be collected. D6 sample location is taken from exposed solid bedrock. Delineation cannot occur past the surface solid bedrock. A flushing using fresh water over the exposed bed rock into a sump to wash the chloride that are on top of the bedrock. The waste water then will be properly disposed at a NMOCD permitted facility.

The samples will be sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analyses including chlorides by Method 300.0, volatile organics (BTEX) by Method 8021B, and MRO, DRO, and GRO by EPA Method 8015D. Approximately 7,527 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.

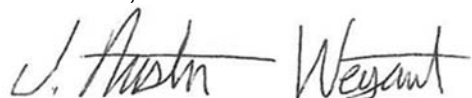
## **5.0 Scope and Limitations**

The scope of our services consisted of the performance of 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 575-689-8801.

Submitted by:  
SOUDER, MILLER & ASSOCIATES

Reviewed by:

A handwritten signature in black ink, appearing to read "Austin Weyant".

Austin Weyant  
Project Scientist

### **ATTACHMENTS:**

#### **Figures:**

Figure 1: Site Vicinity and NMOSE Well Location Map

Figure 2: Sample Location Map

#### **Tables:**

Table 3: Summary of Sample Results

#### **Appendices:**

Appendix A: Form C141 Initial

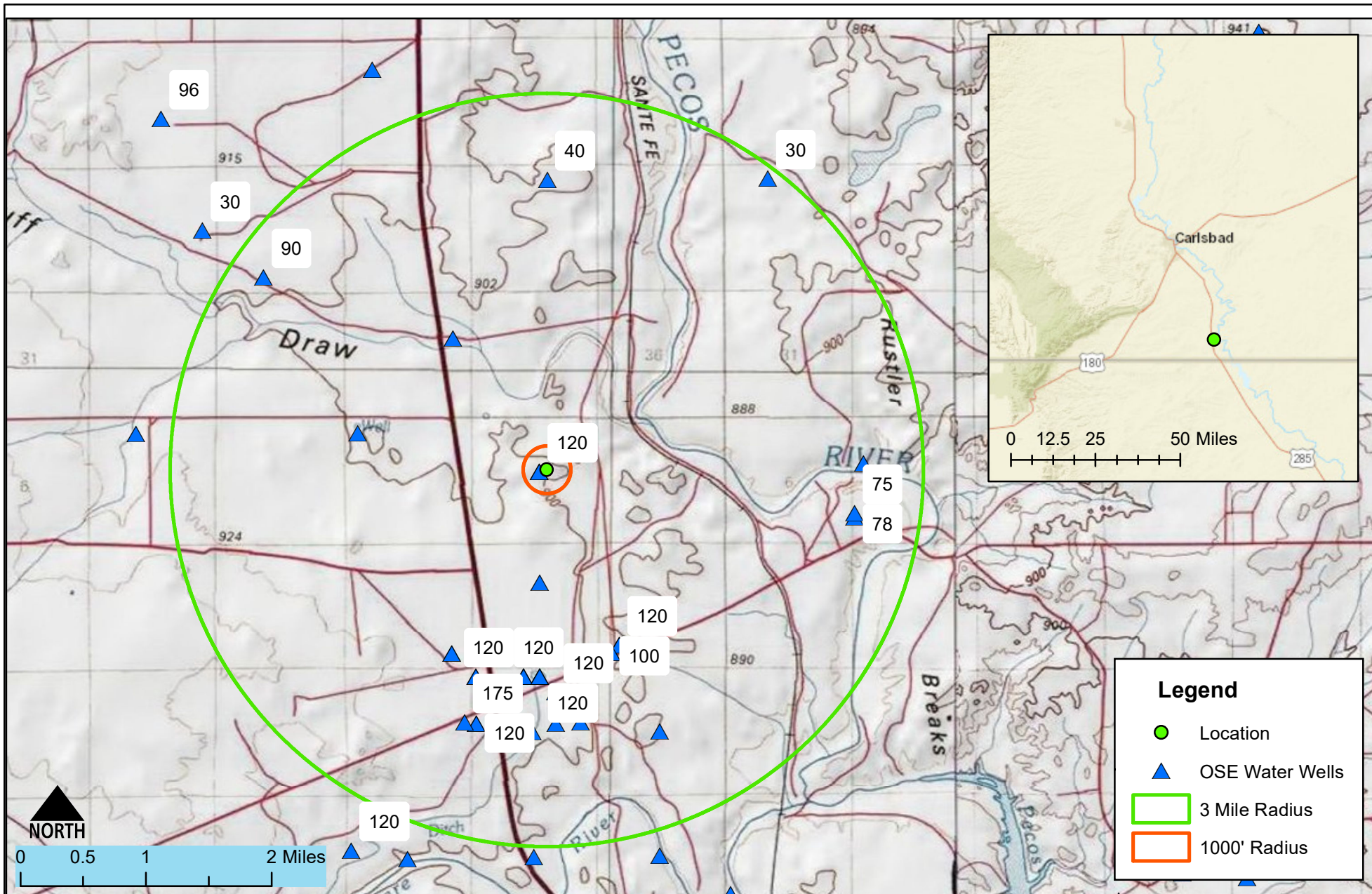
Appendix B: Laboratory Analytical Reports

Appendix C: Field Notes

Appendix D: Groundwater Determination Flower Draw 2 State SWD #1

**FIGURE 1:**  
**SITE VICINITY AND NMOSE WELL**  
**LOCATION MAP**





Site Vicinity & NMOSE Well Location Map  
 Flower Draw 2 St SWD #1 - Mewbourne Oil Co.  
 Eddy County, New Mexico

Figure 1

Date Saved:  
1/23/2018

By: _____	Date: _____	Revisions
By: _____	Date: _____	Descr: _____
Copyright 2015 Souder, Miller & Associates - All Rights Reserved		

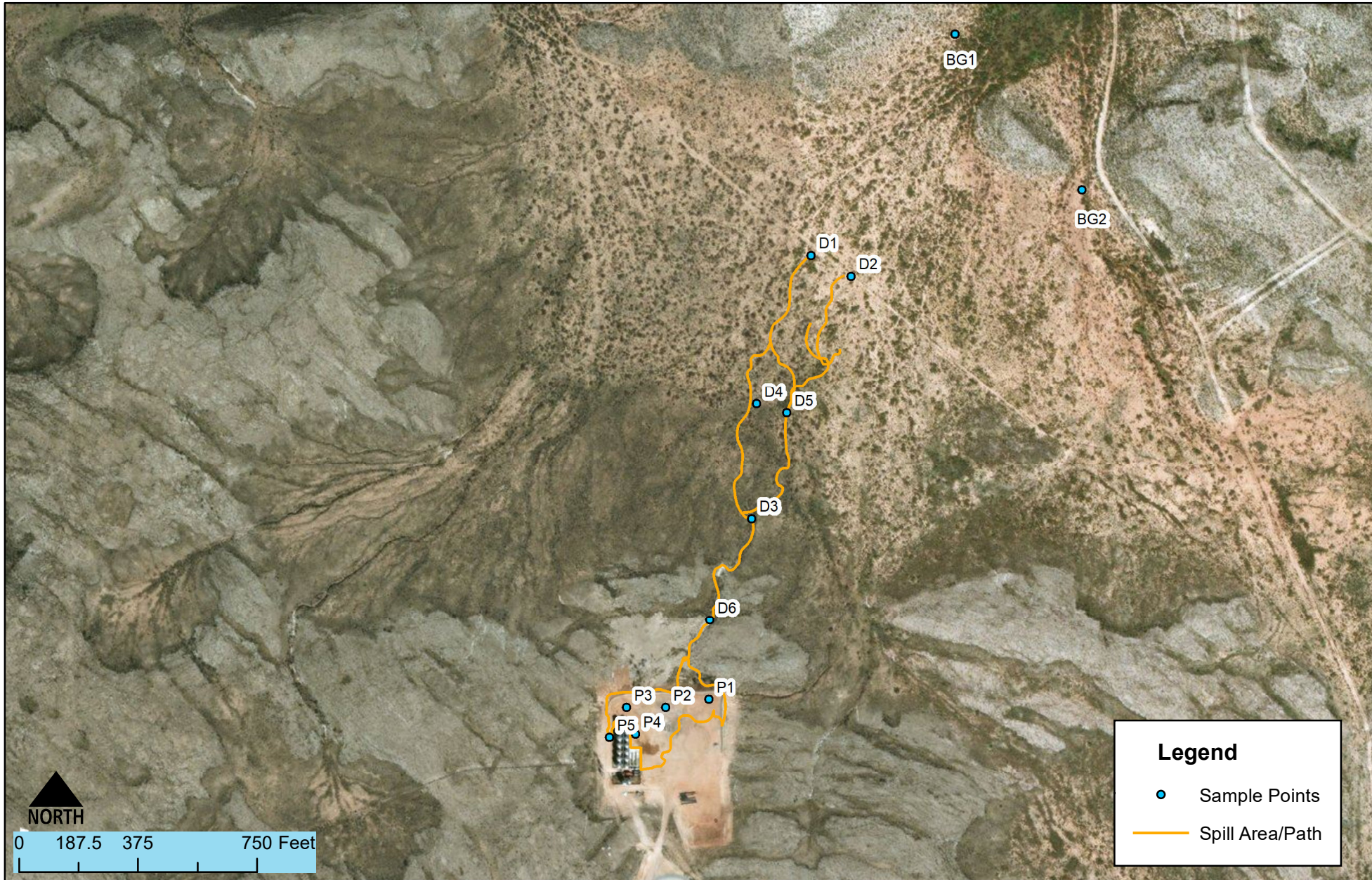
Drawn	<b>Melodie Sanjari</b>
Checked	_____
Approved	_____



201 South Halaguena Street  
 Carlsbad, New Mexico 88221  
 (575) 689-7040  
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**FIGURE 2:**  
**SAMPLE LOCATION MAP**





Sample Location Map  
 Flower Draw 2 St SWD #1 - Mewbourne Oil Co.  
 Eddy County, New Mexico

Figure 2

Date Saved:  
4/5/2018

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

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Drawn	<b>Melodie Sanjari</b>
Checked	_____
Approved	_____



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**TABE 3:**  
**SUMMARY OF SAMPLE RESULTS**

## Flower State Sample Analysis

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Action Taken	Benzene mg/Kg	Toluene mg/Kg	Ethyl-benzene mg/Kg	Xylenes mg/kg	BTEX mg/Kg	GRO (C6-C12) mg/Kg	DRO (C12-C28) mg/Kg	MRO (C28-C35) mg/Kg	Total TPH (C6-C35) mg/Kg	CI- Laboratory mg/Kg	CI- Field Screens ppm
NMOCD RRAL's for Site Ranking 10				50 mg/Kg				10 mg/Kg				1000 mg/Kg		
BG1	1/16/2018	surface	None	---	---	---	---	---	---	---	---	---	1100	1250
BG2	3/30/2018	surface	None	---	---	---	---	---	---	---	---	---	250	320
D1-D5 (S-4') COMP	1/16/2018	0-4	None	<0.05	<0.05	<0.05	<0.150	<0.30	<10	12	35	47	7370	---
P1-P5 (S-4) COMP	1/16/2018	0-4	None	<0.05	<0.05	<0.05	<0.150	<0.30	<10	73	20	92	4200	---
D1	1/15/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	897
D1	1/15/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	3784
D1	1/15/2018	3	Excavate	---	---	---	---	---	---	---	---	---	---	
D1	1/15/2018	4	Excavate	---	---	---	---	---	---	---	---	---	---	3163
D1	1/15/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	2456
D1	1/15/2018	7	In-Situ	---	---	---	---	---	---	---	---	---	---	1749
D1	1/15/2018	8.5	In-Situ	---	---	---	---	---	---	---	---	---	---	1633
D2	1/15/2018	surface		---	---	---	---	---	---	---	---	---	---	17596
D2	1/15/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	6382
D2	1/15/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	2456
D2	1/15/2018	3	Excavate	---	---	---	---	---	---	---	---	---	---	1013
D2	1/15/2018	4	Excavate	---	---	---	---	---	---	---	---	---	---	2672
D2	1/15/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	1662
D2	1/15/2018	6	In-Situ	---	---	---	---	---	---	---	---	---	---	2644
D2	1/15/2018	7	In-Situ	---	---	---	---	---	---	---	---	---	---	2268
D2	1/15/2018	8	In-Situ	---	---	---	---	---	---	---	---	---	---	406
D2	1/15/2018	9	In-Situ	---	---	---	---	---	---	---	---	---	---	435
D2	1/16/2018	12	In-Situ	---	---	---	---	---	---	---	---	---	365	---
D3	1/15/2018	surface		---	---	---	---	---	---	---	---	---	---	---
D3	1/15/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	4347
D3	1/15/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	4952
D3	1/15/2018	3	Excavate	---	---	---	---	---	---	---	---	---	---	2600
D3	1/15/2018	4	Excavate	---	---	---	---	---	---	---	---	---	---	2644
D3	1/15/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	1446
D3	1/15/2018	6	In-Situ	---	---	---	---	---	---	---	---	---	612	147
D4	1/15/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	6194
D4	1/15/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	1662
D4	1/15/2018	3	In-Situ	---	---	---	---	---	---	---	---	---	---	262
D4	1/15/2018	4	In-Situ	---	---	---	---	---	---	---	---	---	12.2	<30
D4	1/15/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	<30
D4	1/15/2018	6	In-Situ	---	---	---	---	---	---	---	---	---	10.3	<30
D5	1/15/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	5920
D5	1/15/2018	3	Excavate	---	---	---	---	---	---	---	---	---	---	4707
D5	1/15/2018	4	Excavate/Liner	---	---	---	---	---	---	---	---	---	---	4996
D5	1/15/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	4058
D5	1/15/2018	6	In-Situ	---	---	---	---	---	---	---	---	---	---	3148
D5	1/15/2018	7	In-Situ	---	---	---	---	---	---	---	---	---	---	2167
D5	1/15/2018	8	In-Situ	---	---	---	---	---	---	---	---	---	2500	2519
D5	1/15/2018	9	Excavate	---	---	---	---	---	---	---	---	---	---	---
D5	1/16/2018	11	In-Situ	---	---	---	---	---	---	---	---	---	1500	---
D6	2/28/2018	rocksurface	In-Situ	---	---	---	---	---	---	---	---	---	6000	---
D1-D5	1/16/2018	S-4	composite	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	12.2	35	47.2	7370	

exceeds RRAL's

excavated

"--" = Not Analyzed

## Flower State Sample Analysis

Sample Number on Figure 2	Sample Date	Depth (feet bgs)	Action Taken	Benzene mg/Kg	Toluene mg/Kg	Ethyl- benzene mg/Kg	Xylenes mg/kg	BTEX mg/Kg	GRO (C6-C12) mg/Kg	DRO (C12-C28) mg/Kg	MRO (C28-C35) mg/Kg	Total TPH (C6-C35) mg/Kg	Cl- Laboratory mg/Kg	Cl- Field Screens ppm
NMOCD RRAL's for Site Ranking 10				50 mg/Kg				10 mg/Kg				1000 mg/Kg		
P1	1/16/2018	surface	Excavate	---	---	---	---	---	---	---	---	---	---	1416
P1	1/16/2018	1	In-Situ	---	---	---	---	---	---	---	---	---	---	305
P1	1/16/2018	2	In-Situ	---	---	---	---	---	---	---	---	---	---	31
P1	1/16/2018	3	In-Situ	---	---	---	---	---	---	---	---	---	---	75
P1	1/16/2018	4	In-Situ	---	---	---	---	---	---	---	---	---	96.8	204
P1	1/16/2018	11	In-Situ	---	---	---	---	---	---	---	---	---	15.1	---
P2	1/16/2018	surface	Excavate	---	---	---	---	---	---	---	---	---	---	15965
P2	1/16/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	4173
P2	1/16/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	2687
P2	1/16/2018	3	Excavate	---	---	---	---	---	---	---	---	---	---	3293
P2	1/16/2018	4	Excavate/Liner	---	---	---	---	---	---	---	---	---	2320	2268
P2	1/16/2018	5.5	In-Situ	---	---	---	---	---	---	---	---	---	1250	---
P3	1/16/2018	surface	Excavate	---	---	---	---	---	---	---	---	---	---	20223
P3	1/16/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	1662
P3	1/16/2018	2	Excavate	---	---	---	---	---	---	---	---	---	---	1056
P3	1/16/2018	3	In-Situ	---	---	---	---	---	---	---	---	---	---	233
P3	1/16/2018	4	In-Situ	---	---	---	---	---	---	---	---	---	---	406
P3	1/16/2018	5	In-Situ	---	---	---	---	---	---	---	---	---	---	175
P3	1/16/2018	6	In-Situ	---	---	---	---	---	---	---	---	---	---	<30
P3	1/16/2018	7	In-Situ	---	---	---	---	---	---	---	---	---	95.6	161
P3	1/16/2018	8	In-Situ	---	---	---	---	---	---	---	---	---	75.5	---
P4	1/16/2018	surface	Excavate	---	---	---	---	---	---	---	---	---	---	16124
P4	1/16/2018	1	Excavate	---	---	---	---	---	---	---	---	---	---	4678
P4	1/16/2018	2	Excavate	---	---	---	---	---	---	---	---	---	675	334
P4	1/16/2018	3	In-Situ	---	---	---	---	---	---	---	---	---	156	---
P5	1/16/2018	surface	In-Situ	---	---	---	---	---	---	---	---	---	---	<30
P5	1/16/2018	1	In-Situ	---	---	---	---	---	---	---	---	---	---	305
P5	1/16/2018	2	In-Situ	---	---	---	---	---	---	---	---	---	---	103
P5	1/16/2018	3	In-Situ	---	---	---	---	---	---	---	---	---	---	46
P5	1/16/2018	4	In-Situ	---	---	---	---	---	---	---	---	---	---	450
P5	1/16/2018	7	In-Situ	---	---	---	---	---	---	---	---	---	---	118
P5	1/16/2018	8	In-Situ	---	---	---	---	---	---	---	---	---	27.8	---
P5	1/16/2018	9	In-Situ	---	---	---	---	---	---	---	---	---	25.9	---

**exceeds RRAL's**

excavated

"--" = Not Analyzed



**APPENDIX A:**  
**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

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: Mewbourne Oil Company	Contact: Zack Thomas
Address: PO Box 5270 Hobbs NM 88241	Telephone No. 575-393-5905
Facility Name: Flower Draw 2 St SWD #1	Facility Type: SWD

Surface Owner: State	Mineral Owner: State	API No. 30-015-23615
----------------------	----------------------	----------------------

**LOCATION OF RELEASE**

Unit Letter G	Section 2	Township 26S	Range 28E	Feet from the 2004'	North/South Line North	Feet from the 1980'	East/West Line East	County Eddy
------------------	--------------	-----------------	--------------	------------------------	---------------------------	------------------------	------------------------	----------------

Latitude 32.07344023 Longitude 104.055688882

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: 7739 bbls	Volume Recovered: 5400 bbls
Source of Release: Storage tanks	Date and Hour of Occurrence 12/25/17	Date and Hour of Discovery 12-25-17 7:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Krystal Weaver (left message)	
By Whom? Robin Terrell	Date and Hour 12/28/17 12:30 PM	
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.\*  
NA


Describe Cause of Problem and Remedial Action Taken.\*

Injection pump failed and filled storage tanks. Tank alarm did not send notification. Inlet valve to facility was shut and trucks used to pick up standing fluid

Describe Area Affected and Cleanup Action Taken.\*

Affected area- North side of well pad and a narrow path (3-6 ft wide) that extends approximately 500 yds NE of pad.

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: 	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Robin Terrell	Approved by Environmental Specialist:		
Title: District Manager	Approval Date:	Expiration Date:	
E-mail Address: rterrell@mewbourne.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 12-28-17	Phone: 575-390-4816		

\* Attach Additional Sheets If Necessary

APPENDIX B:  
LABORATORY ANALYTICAL  
REPORTS



March 06, 2018

AUSTIN WEYANT

SOUDER MILLER AND ASSOCIATES

201 S. HALAGUENO

CARLSBAD, NM 88220

RE: FLOWER DRAW

Enclosed are the results of analyses for samples received by the laboratory on 01/18/18 10:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

### Analytical Results For:

SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
D1 - D5 ( S-4' ) COMP.	H800207-01	Soil	16-Jan-18 15:00	18-Jan-18 10:20
P1 - P5 ( S-4' ) COMP.	H800207-02	Soil	16-Jan-18 15:02	18-Jan-18 10:20
D1 -12'	H800207-04	Soil	16-Jan-18 15:15	18-Jan-18 10:20
D2 -12'	H800207-06	Soil	16-Jan-18 15:20	18-Jan-18 10:20
D3 -6'	H800207-07	Soil	15-Jan-18 13:30	18-Jan-18 10:20
D4 -4'	H800207-09	Soil	15-Jan-18 14:00	18-Jan-18 10:20
D4 -6'	H800207-10	Soil	15-Jan-18 13:40	18-Jan-18 10:20
D5 -8'	H800207-11	Soil	15-Jan-18 15:00	18-Jan-18 10:20
D5 -11'	H800207-12	Soil	16-Jan-18 15:30	18-Jan-18 10:20
D6 -ROCK SURFACE	H800207-13	Soil	16-Jan-18 15:50	18-Jan-18 10:20
P1 - 4'	H800207-14	Soil	16-Jan-18 10:03	18-Jan-18 10:20
P1 - 11'	H800207-15	Soil	16-Jan-18 11:30	18-Jan-18 10:20
P2 - 4'	H800207-16	Soil	16-Jan-18 10:27	18-Jan-18 10:20
P2 - 5.5'	H800207-17	Soil	16-Jan-18 10:40	18-Jan-18 10:20
P3 - 7'	H800207-18	Soil	16-Jan-18 11:42	18-Jan-18 10:20
P3 - 8'	H800207-19	Soil	16-Jan-18 11:48	18-Jan-18 10:20
P4 - 2'	H800207-20	Soil	16-Jan-18 12:00	18-Jan-18 10:20
P4 - 3'	H800207-21	Soil	16-Jan-18 13:00	18-Jan-18 10:20
P5 - 8'	H800207-22	Soil	16-Jan-18 13:15	18-Jan-18 10:20
P5 - 9'	H800207-23	Soil	16-Jan-18 14:06	18-Jan-18 10:20

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

### D1 - D5 ( S-4' ) COMP. H800207-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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#### Cardinal Laboratories

#### Inorganic Compounds

Salinity	12.1		0.0	Salinity units	1	8012205	AC	22-Jan-18	120.1	
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#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8012208	MS	22-Jan-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 111 % 72-148 8012208 MS 22-Jan-18 8021B

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	
DRO >C10-C28*	12.2		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	
EXT DRO >C28-C36	35.0		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	

Surrogate: 1-Chlorooctane 92.0 % 41-142 8011902 MS 22-Jan-18 8015B

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147 8011902 MS 22-Jan-18 8015B

#### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	7370		250	mg/kg wet	250	B801177	JDA	29-Jan-18	EPA300.0	
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#### Sodium Saturation

Cation Exchange Capacity	37.2		0.04	meq/100 g	1	B802002	JDA	01-Feb-18	USDA-60 19	
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#### Exchangable Metals by ICP (Ammonium Acetate Extractable - Soluble)

Exchangable Sodium Percentage	8.96		1.00	%	1	B802002	JDA	01-Feb-18	USDA-60	
Sodium	766		1.00	mg/kg dry	1	B802002	JDA	01-Feb-18	EPA200.7	

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Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

SOUDEY MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

### P1 - P5 ( S-4' ) COMP.

#### H800207-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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### Cardinal Laboratories

#### Inorganic Compounds

Salinity	6.8		0.0	Salinity units	1	8012205	AC	22-Jan-18	120.1	
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#### Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8012208	MS	22-Jan-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8012208	MS	22-Jan-18	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 112 % 72-148 8012208 MS 22-Jan-18 8021B

#### Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	
DRO >C10-C28*	72.5		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	
EXT DRO >C28-C36	19.8		10.0	mg/kg	1	8011902	MS	22-Jan-18	8015B	

Surrogate: 1-Chlorooctane 85.8 % 41-142 8011902 MS 22-Jan-18 8015B

Surrogate: 1-Chlorooctadecane 87.6 % 37.6-147 8011902 MS 22-Jan-18 8015B

### Green Analytical Laboratories

#### Soluble (DI Water Extraction)

Chloride	4200		200	mg/kg wet	200	B801177	JDA	29-Jan-18	EPA300.0	
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#### Sodium Saturation

Cation Exchange Capacity	10.9		0.04	meq/100 g	1	B802002	JDA	01-Feb-18	USDA-60 19	
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#### Exchangable Metals by ICP (Ammonium Acetate Extractable - Soluble)

Exchangable Sodium	16.8		1.00	%	1	B802002	JDA	01-Feb-18	USDA-60	
Percentage										
Sodium	421		1.00	mg/kg dry	1	B802002	JDA	01-Feb-18	EPA200.7	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D1 -12'****H800207-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>290</b>		50.0	mg/kg wet	50	B801177	JDA	29-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

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201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D2 -12'****H800207-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	365		50.0	mg/kg wet	50	B801177	JDA	29-Jan-18	EPA300.0	
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201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D3 -6'****H800207-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	612		100	mg/kg wet	100	B801177	JDA	29-Jan-18	EPA300.0	
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201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D4 -4'****H800207-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>12.2</b>		10.0	mg/kg wet	10	B801177	JDA	29-Jan-18	EPA300.0	
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201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D4 -6'****H800207-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>10.3</b>		10.0	mg/kg wet	10	B801177	JDA	29-Jan-18	EPA300.0	
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**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D5 -8'****H800207-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>2500</b>		100	mg/kg wet	100	B801177	JDA	29-Jan-18	EPA300.0	
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201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D5 -11'****H800207-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>1500</b>		50.0	mg/kg wet	50	B801177	JDA	29-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**D6 -ROCK SURFACE****H800207-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>9920</b>		250	mg/kg wet	250	B801177	JDA	30-Jan-18	EPA300.0	
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**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P1 - 4'****H800207-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>96.8</b>		10.0	mg/kg wet	10	B801177	JDA	30-Jan-18	EPA300.0	
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**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P1 - 11'****H800207-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>15.1</b>		10.0	mg/kg wet	10	B801177	JDA	30-Jan-18	EPA300.0	
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**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P2 - 4'****H800207-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	2320		200	mg/kg wet	200	B801177	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P2 - 5.5'****H800207-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>1250</b>		50.0	mg/kg wet	50	B801177	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P3 - 7'****H800207-18 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>95.6</b>		10.0	mg/kg wet	10	B801177	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P3 - 8'****H800207-19 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	75.5		10.0	mg/kg wet	10	B801177	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P4 - 2'****H800207-20 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	675		50.0	mg/kg wet	50	B801177	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P4 - 3'****H800207-21 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>156</b>		10.0	mg/kg wet	10	B801178	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P5 - 8'****H800207-22 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>27.8</b>		20.0	mg/kg wet	20	B801178	JDA	30-Jan-18	EPA300.0	
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**Analytical Results For:**SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONEReported:  
06-Mar-18 15:53**P5 - 9'****H800207-23 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>25.9</b>		10.0	mg/kg wet	10	B801178	JDA	30-Jan-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 SOUDER MILLER AND ASSOCIATES  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220

 Project: FLOWER DRAW  
 Project Number: 32.07344023- 104.055688882  
 Project Manager: AUSTIN WEYANT  
 Fax To: NONE

 Reported:  
 06-Mar-18 15:53

**Inorganic Compounds - Quality Control**
**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 8012205 - General Prep - Wet Chem**
**Duplicate (8012205-DUP1)**
**Source: H800207-01**

Prepared &amp; Analyzed: 22-Jan-18

Salinity	11.7	0.0	Salinity units	12.1	3.36	200
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

### Volatile Organic Compounds by EPA Method 8021 - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8012208 - Volatiles

##### Blank (8012208-BLK1)

Prepared & Analyzed: 22-Jan-18

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.107		mg/kg	0.100		107	72-148			

##### LCS (8012208-BS1)

Prepared & Analyzed: 22-Jan-18

Benzene	1.91	0.050	mg/kg	2.00		95.3	79.5-124			
Toluene	1.99	0.050	mg/kg	2.00		99.3	75.5-127			
Ethylbenzene	1.96	0.050	mg/kg	2.00		98.1	77.7-125			
Total Xylenes	6.12	0.150	mg/kg	6.00		102	70.9-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	72-148			

##### LCS Dup (8012208-BSD1)

Prepared & Analyzed: 22-Jan-18

Benzene	1.87	0.050	mg/kg	2.00		93.4	79.5-124	2.03	6.5	
Toluene	1.96	0.050	mg/kg	2.00		97.8	75.5-127	1.44	7.02	
Ethylbenzene	1.94	0.050	mg/kg	2.00		96.8	77.7-125	1.33	7.83	
Total Xylenes	6.04	0.150	mg/kg	6.00		101	70.9-124	1.19	7.78	
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	72-148			

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

### Petroleum Hydrocarbons by GC FID - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 8011902 - General Prep - Organics

##### Blank (8011902-BLK1)

Prepared: 19-Jan-18 Analyzed: 22-Jan-18

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	48.1		mg/kg	50.0		96.2	41-142			
Surrogate: 1-Chlorooctadecane	46.4		mg/kg	50.0		92.8	37.6-147			

##### LCS (8011902-BS1)

Prepared: 19-Jan-18 Analyzed: 22-Jan-18

GRO C6-C10	204	10.0	mg/kg	200		102	76.5-133			
DRO >C10-C28	225	10.0	mg/kg	200		112	72.9-138			
Total TPH C6-C28	429	10.0	mg/kg	400		107	78-132			
Surrogate: 1-Chlorooctane	50.6		mg/kg	50.0		101	41-142			
Surrogate: 1-Chlorooctadecane	48.4		mg/kg	50.0		96.7	37.6-147			

##### LCS Dup (8011902-BSD1)

Prepared: 19-Jan-18 Analyzed: 22-Jan-18

GRO C6-C10	205	10.0	mg/kg	200		103	76.5-133	0.418	20.6	
DRO >C10-C28	220	10.0	mg/kg	200		110	72.9-138	1.95	20.6	
Total TPH C6-C28	426	10.0	mg/kg	400		106	78-132	0.814	18	
Surrogate: 1-Chlorooctane	50.7		mg/kg	50.0		101	41-142			
Surrogate: 1-Chlorooctadecane	48.3		mg/kg	50.0		96.6	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 SOUDER MILLER AND ASSOCIATES  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220

 Project: FLOWER DRAW  
 Project Number: 32.07344023- 104.055688882  
 Project Manager: AUSTIN WEYANT  
 Fax To: NONE

 Reported:  
 06-Mar-18 15:53

**Soluble (DI Water Extraction) - Quality Control**
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B801177 - General Prep - Wet Chem**
**Blank (B801177-BLK1)**

Prepared: 26-Jan-18 Analyzed: 29-Jan-18

Chloride ND 10.0 mg/kg wet

**LCS (B801177-BS1)**

Prepared: 26-Jan-18 Analyzed: 29-Jan-18

Chloride 244 10.0 mg/kg wet 250 97.7 85-115

**LCS Dup (B801177-BSD1)**

Prepared: 26-Jan-18 Analyzed: 29-Jan-18

Chloride 246 10.0 mg/kg wet 250 98.3 85-115 0.584 20

**Batch B801178 - General Prep - Wet Chem**
**Blank (B801178-BLK1)**

Prepared: 26-Jan-18 Analyzed: 30-Jan-18

Chloride ND 10.0 mg/kg wet

**LCS (B801178-BS1)**

Prepared: 26-Jan-18 Analyzed: 30-Jan-18

Chloride 247 10.0 mg/kg wet 250 98.7 85-115

**LCS Dup (B801178-BSD1)**

Prepared: 26-Jan-18 Analyzed: 30-Jan-18

Chloride 246 10.0 mg/kg wet 250 98.3 85-115 0.423 20

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**Analytical Results For:**

 SOUDER MILLER AND ASSOCIATES  
 201 S. HALAGUENO  
 CARLSBAD NM, 88220

 Project: FLOWER DRAW  
 Project Number: 32.07344023- 104.055688882  
 Project Manager: AUSTIN WEYANT  
 Fax To: NONE

 Reported:  
 06-Mar-18 15:53

**Sodium Saturation - Quality Control**
**Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B802002 - Sodium Acetate Saturation**
**Blank (B802002-BLK1)**

Prepared &amp; Analyzed: 01-Feb-18

Cation Exchange Capacity ND 0.04 meq/100 g

**Duplicate (B802002-DUP1)**

Source: H800207-02

Prepared &amp; Analyzed: 01-Feb-18

Cation Exchange Capacity 13.1 0.04 meq/100 g 10.9 18.0 200

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**Analytical Results For:**

SOUDER MILLER AND ASSOCIATES  
201 S. HALAGUENO  
CARLSBAD NM, 88220

Project: FLOWER DRAW  
Project Number: 32.07344023- 104.055688882  
Project Manager: AUSTIN WEYANT  
Fax To: NONE

Reported:  
06-Mar-18 15:53

**Exchangable Metals by ICP (Ammonium Acetate Extractable - Soluble) - Quality Control**
**Green Analytical Laboratories**

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

**Batch B802002 - Sodium Acetate Saturation**
**Blank (B802002-BLK1)**

Prepared &amp; Analyzed: 01-Feb-18

Exchangable Sodium Percentage	ND	1.00	%							
Sodium	ND	1.00	mg/kg dry							

**Duplicate (B802002-DUP1)**

Source: H800207-02

Prepared &amp; Analyzed: 01-Feb-18

Sodium	378	1.00	mg/kg dry		421			10.8	20	
Exchangable Sodium Percentage	12.5	1.00	%		16.8			28.7	20	R1

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### Notes and Definitions

R1	Duplicate sample RPD exceeded laboratory acceptance criteria. Sample(s) may be difficult to homogenize.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

Company Name: Souder Miller & Assoc.		BILL TO		ANALYSIS REQUEST	
Project Manager: Rustin Bryant		P.O. # 5270			
Address: 201 S. Halyardeno		Company: Newbourn			
City: Carlsbad		Attn: Zack Thomas			
Phone #: 575 999 9244		Address: PO Box 5270			
Fax #: 575 999 9244		City: Hobbs			
Project #:		State: NM Zip: 88241			
Project Name: Flower Draw		Phone #: 575 393 5405			
Project Location: 32.07344023 104.05568882		Fax #: 575-397-0252			
Sample Name: CCM/MS					
FOR LAB USE ONLY					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER
1180607	D1-D5 (S-4') comp.	C	1	SOIL	OIL
2	P1-P5 (S-4') comp.	C	1	SLUDGE	OTHER :
3	D1-11'		1	ACID/BASE:	ICE / COOL
4	D1-12'		1	OTHER :	
5	D2-10'		1	DATE	TIME
6	D2-12'		1	01/16/18	3:00
7	D3-6'		1	01/16/18	3:02
8	D3-10'		1	01/16/18	9:50
9	D4-4'		1	01/16/18	3:15
10	D4-6'		1	01/15/18	11:30
			1	01/15/18	3:20
			1	01/15/18	1:30
			1	01/16/18	3:45
			1	01/15/18	2:00
			1	01/15/18	1:40
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.					
Relinquished By: M. J. J. J.	Date: 01/18/18	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
Relinquished By:	Time: 18:20	Date: 01/18/18	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:	
Delivered By: (Circle One) 1.3	Sample Condition: <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact	CHECKED BY: [Signature]	REMARKS: Page 1 of 3		
Sampler - UPS - Bus - Other: 1.550cc	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				



### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

<b>Company Name:</b> <i>Souder Miller &amp; Assoc.</i>				<b>BILL TO</b>			
<b>Project Manager:</b> <i>Austin Weyant</i>				<b>P.O. #:</b> <i>5270</i>			
<b>Address:</b> <i>201 S. Hargreaves St</i>				<b>Company:</b> <i>Mcnebourne</i>			
<b>City:</b> <i>Carlsbad</i>				<b>Attn:</b> <i>Zack Thomas</i>			
<b>State:</b> <i>NM</i>				<b>Address:</b> <i>PO Box 5270</i>			
<b>Phone #:</b> <i>575 499 9244</i>				<b>City:</b> <i>Hobbs</i>			
<b>Project #:</b>				<b>State:</b> <i>NM</i>			
<b>Project Name:</b> <i>Proctor Draw</i>				<b>Zip:</b> <i>88241</i>			
<b>Project Location:</b> <i>32.07344023 104.05568882</i>				<b>Phone #:</b> <i>575 373 6405</i>			
<b>Sampler Name:</b> <i>Can/Ints</i>				<b>Fax #:</b> <i>575 371 6252</i>			

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS REQUEST	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER : <i>Yes</i>	ACID/BASE:				ICE / COOL
<i>HT800807</i>														
<i>11</i>	<i>D5-8'</i>													
<i>12</i>	<i>D5-11'</i>													
<i>13</i>	<i>D6 - rock surface</i>													
<i>14</i>	<i>P1-4'</i>													
<i>15</i>	<i>P1-11'</i>													
<i>16</i>	<i>P2-4'</i>													
<i>17</i>	<i>P2-5.5'</i>													
<i>18</i>	<i>P3-7'</i>													
<i>19</i>	<i>P3-8'</i>													

<b>Relinquished By:</b> <i>[Signature]</i>		<b>Received By:</b> <i>[Signature]</i>	
<b>Date:</b> <i>01/18/18</i>		<b>Date:</b> <i>01/18/18</i>	
<b>Time:</b> <i>10:20</i>		<b>Time:</b> <i>10:20</i>	
<b>Relinquished By:</b>		<b>Received By:</b>	

<b>Delivered By:</b> (Circle One) <i>1.30</i>	<b>Sample Condition</b> <input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>CHECKED BY:</b> <i>[Signature]</i>
<b>Sampler - UPS - Bus - Other:</b> <i>1.552 corrected</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>REMARKS:</b> <i>EPA 300.0 (Chlorides)</i>  <i>Page 2 of 3</i>







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

March 06, 2018

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

RE: Flower SWD

OrderNo.: 1803082

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/2/2018 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](http://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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order **1803082**

Date Reported: **3/6/2018**

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** D6

**Project:** Flower SWD

**Collection Date:** 2/28/2018 3:00:00 PM

**Lab ID:** 1803082-001

**Matrix:** SOLID

**Received Date:** 3/2/2018 9:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	6000	300		mg/Kg	200	3/5/2018 10:58:06 PM	36821

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

<b>Qualifiers:</b>	*	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
	PQL	Practical Quantitative Limit	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#: 1803082

06-Mar-18

Client: Souder, Miller &amp; Associates

Project: Flower SWD

Sample ID	MB-36821		SampType:	mblk		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS		Batch ID:	36821		RunNo:	49544				
Prep Date:	3/4/2018		Analysis Date:	3/4/2018		SeqNo:	1601148		Units:		mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	ND	1.5									

Sample ID	LCS-36821		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 36821		RunNo: 49544					
Prep Date:	3/4/2018		Analysis Date: 3/4/2018		SeqNo: 1601149		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.3	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  
PQL Practical Quantitative Limit  
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



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

Work Order Number: 1803082

RcptNo: 1

Received By: Mandy Woods

3/2/2018 9:55:00 AM

Completed By: Isaiah Ortiz

3/2/2018 10:14:54 AM

Reviewed By: ENH

3/2/18

Labeled By PDS

### Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
2. How was the sample delivered? Courier

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
5. Sample(s) in proper container(s)? Yes ☒ No ☐  
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
11. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. 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)

15. 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: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.1	Good	Yes			





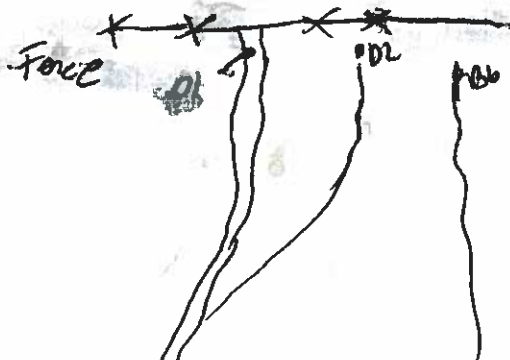
# APPENDIX C: FIELD NOTES

Onsite 9/15

Blade  
Zack

B6-S-0.11  
B6-1'

Delineation of site on and off page



CHECKED	BY
0.00	
01-5	12.35
01-1'	0.81
01-2'	2.81
01-3'	
01-4'	2.38
01-5'	1.89
01-7	1.4
01-8.5	1.32

\* D1-11- hit hard  
 layer  
 0.83  
 could not  
 go further  
 → stick 12'

D2-5	12.36
D2-1	4.61
-2	1.89
D2-3	0.89
-4	2.04
-5	1.34
-6	2.02
7	2.16 1.76
8	0.47
9	0.49
X10	0.55

7(west) - 2.06

B61-S

1 ~~0.04~~ 0.062 ~~0.06~~ 0.09

3 - 0.06

4 - 0.09

D5

1 - 4.29

2 - 4.30

3 - 3.45

4 - 3.65

5 - 3.00

6 - 2.37

7 - 1.69

\* 8 - 1.93

9 - Refusal  
Rock Layer

\* rock - 11'

D3-S

1 - 3.20

very moist → 2 - 3.62

3 - 1.99

② 4 - 2.02

5 - 1.19

\* 6 - 0.29

→ \* Rock (10') → no rock

DW

1 - 4.48

2 - 1.34

\* 3 - 0.37

\* 4 - 0.17

5 - .08

\* 6 - .06

D6-Surface



Flower - Meadow

01/16/18

L. Miller

on site @ 9:30

seen

sd (off by 0.10)

P1-S 9:53 1.17

P1-1' 9:55 0.80

P1-2' 9:57 0.21

P1-3' 10 0.24

\* P1-4' 10:03 .33

\* P1-11' 11:30 (rock)

P2-S 10:05 11.25

P2-1' 10:10 3.08

P2-2' 10:12 2.05

P2-3' 10:13 2.47

\* P2-4' 10:27 1.76

\* P2-5.5' 10:40 (rock).

(4' tunnel)  
(Rock)

P3-S 11:20 14.2

P3-1' 11:22 1.34

P3-2' 11:31 0.92

P3-3' 11:37 0.35

P3-4' 11:40 0.47

P3-5' 11:41 0.31

P3-6' 11:42 0.20

\* P3-7' 11:48 .80

\* P3-8' (rock) 11:50

P5 S 0.12

1 0.4

2 0.26

3 0.22

4 0.5

5 2.0

7 0.27

\* 8 0.87

+ 9 rock

P4-S-11.36

1-3.43

12:00 2 0.42

12:05 3 Rock

**APPENDIX D:**  
**GROUNDWATER DETERMINATION**  
**FLOWER DRAW 2 STATE SWD #1**

2/02/2018

Austin Weyant  
201 S. Halaguena Street  
Carlsbad, NM 88221

*Transmitted via email on the date of this letter to [austin.weyant@soudermiller.com](mailto:austin.weyant@soudermiller.com)*

Re: Groundwater Determination Flower Draw 2 State SWD #1

Mr. Weyant:

Atkins Engineering Associates, Inc (AEA) has completed a groundwater determination for the Flower Draw 2 State SWD #1 (site) located in Unit G of Section 2, Township 26 South, Range 28 East, NMPM in Eddy County, New Mexico. This letter report outlines our findings.

### **General Site Conditions**

The site is located at 32.073425°, -104.055676° with an approximate land surface elevation of 2,965 feet in southern Eddy County. The site is located approximately 0.71 miles east of US 285, 0.77 miles west of the nearest point on the Pecos River and 5.0 miles north of the New Mexico and Texas state line.

The site sits on a hill/ridge with pronounced slopes to the north/north east. Based on the approximate spill boundary provided by your office, the release flowed off the site in that direction. The elevation at the site of 2,965 feet gives way to the north with the northernmost extent of the release settling at an approximate elevation of 2,910 feet.

A review of the *Geologic Map of New Mexico* (Dane and Bachman, 1965) shows the surface geology is upper Permian age Rustler formation consisting of siltstone, gypsum, sandstone and dolomite.

## Groundwater Conditions

At the site., the general assumed direction of the groundwater flow is from the west to the east toward the Pecos River (*General Direction of Movement of Ground Water in Eddy County, NM, Reed 1966*). Since the site is located on the outcrop of the Rustler Formation, the first water bearing strata should be in that formation. USGS groundwater wells in the area were researched.

These USGS wells were plotted using the USGS coordinates, but the first two plotted east of their PLSS descriptions. The New Mexico Office of the State Engineer in conjunction with the USGS used to take water levels, so OSE field well schedules were reviewed. Field schedules for all the USGS wells were located and scans of each are attached to this report.

USGS data was compared to OSE field schedules and well locations were adjusted to PLSS descriptions, manually adjusted—if necessary—and plotted using PLSS, visual and topographic evidence. For the water level elevation analysis, the elevations of the wells reported on the OSE field schedules along with the 2003 water level data—which all the wells had in common—was used. The elevations were rounded to the nearest foot as shown on the field schedules, and contoured.

No	USGSID	PLSS	LatDD	LongDD	OSEElev	DTW_2003	WLE_2003
1	320303104012301	26S.28E.14.21412	32.047897	-104.054906	2972	92.12	2880
2	320307104005301	26S.28E.13.11214	32.048916	-104.046943	2943	58.88	2884
3	320309104020401	26S.28E.14.11111	32.049722	-104.066306	2979	97.02	2882
4	320518104031401	25S.28E.35.2324	32.088611	-104.054806	2897	54.32	2843
5	320738104073301	25S.28E.18.32441	32.127028	-104.127361	3031	67.08	2964
6	320749104041001	25S.28E.15.23	32.131703	-104.072786	2949	49.87	2899
7	320901104075601	25S.28E.07.11143	32.149806	-104.134167	3056	46.30	3010
8	320921104045601	25S.28E.04.42444	32.155535	-104.084102	2973	29.17	2944

A wide area and a zoomed map showing the project area of interest and the water level contouring are attached.

## Estimated Depth to Water

The release boundary falls between the 2,860 and 2,850 foot contour interval. The release land surface elevation falls between 2,965 and 2,910 feet. At the source area the projected depth to water is 105 feet (2,965-2,860). At the north end of the release the estimate depth to water is 55 feet (2,910-2,855).



These projections are estimates based on the 2003 water level data used; however, current factors like precipitation or pumping could impact the depths to water encountered. For example, USGS well 320309104020401 declined 42.1 feet between 2003 and 2013, however, USGS well 320518104031401 declined 0.64 feet in the same time frame.

Field verification of the depth to water would help verify the existing conditions.

If you have any questions, please contact me at 575.624.2420 or [chris@atkinseng.com](mailto:chris@atkinseng.com).

Sincerely,

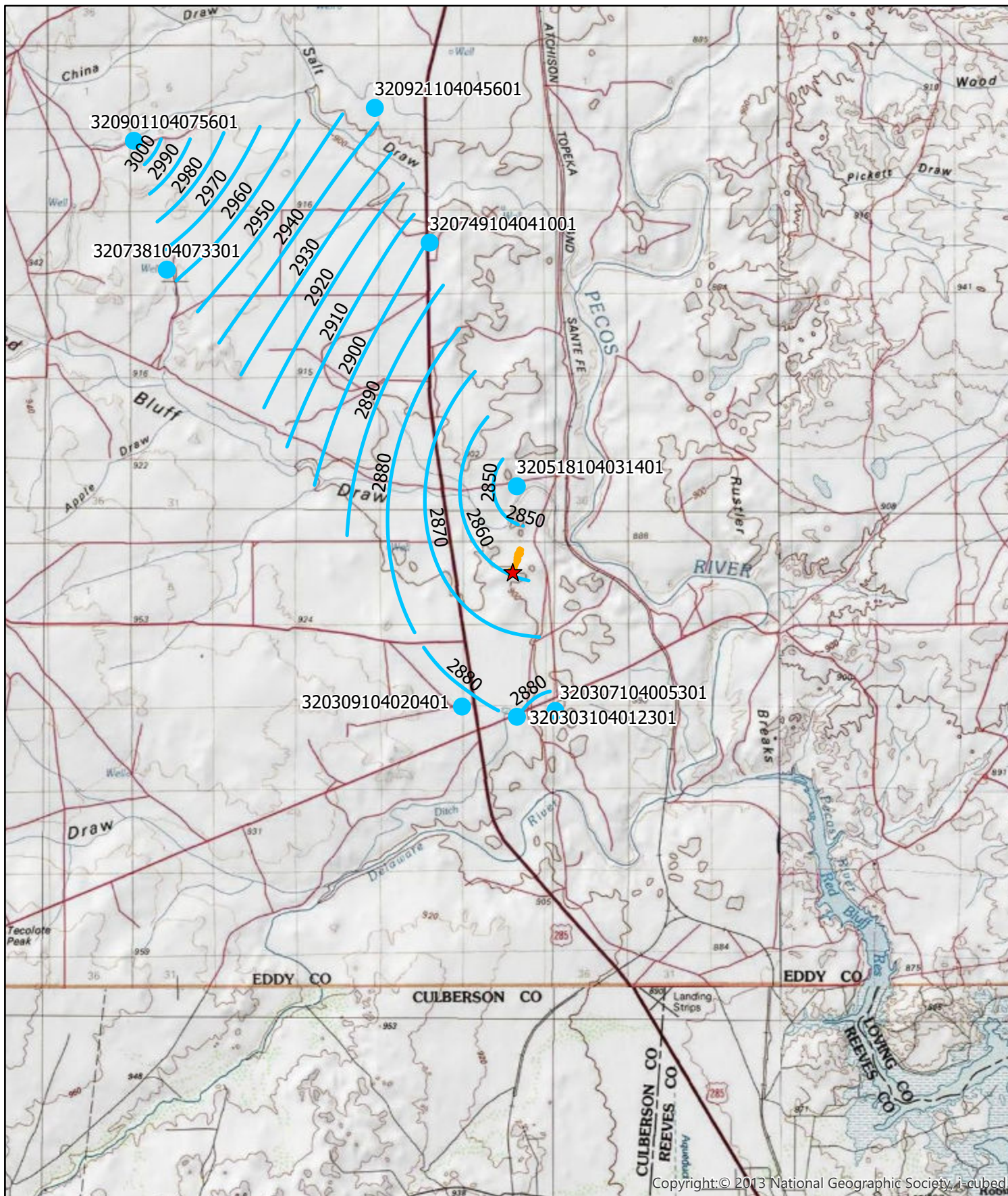
A handwritten signature in blue ink that reads "Chris Cortez". The signature is written in a cursive, flowing style.

Chris Cortez

Attachments: USGS/OSE Field Schedules, Maps (Wide and Zoom)

Cc: Lucas Middleton via email [lucas.middleton@soudermiller.com](mailto:lucas.middleton@soudermiller.com)

Melodie Sanjari [melodie.sanjari@soudermiller.com](mailto:melodie.sanjari@soudermiller.com)



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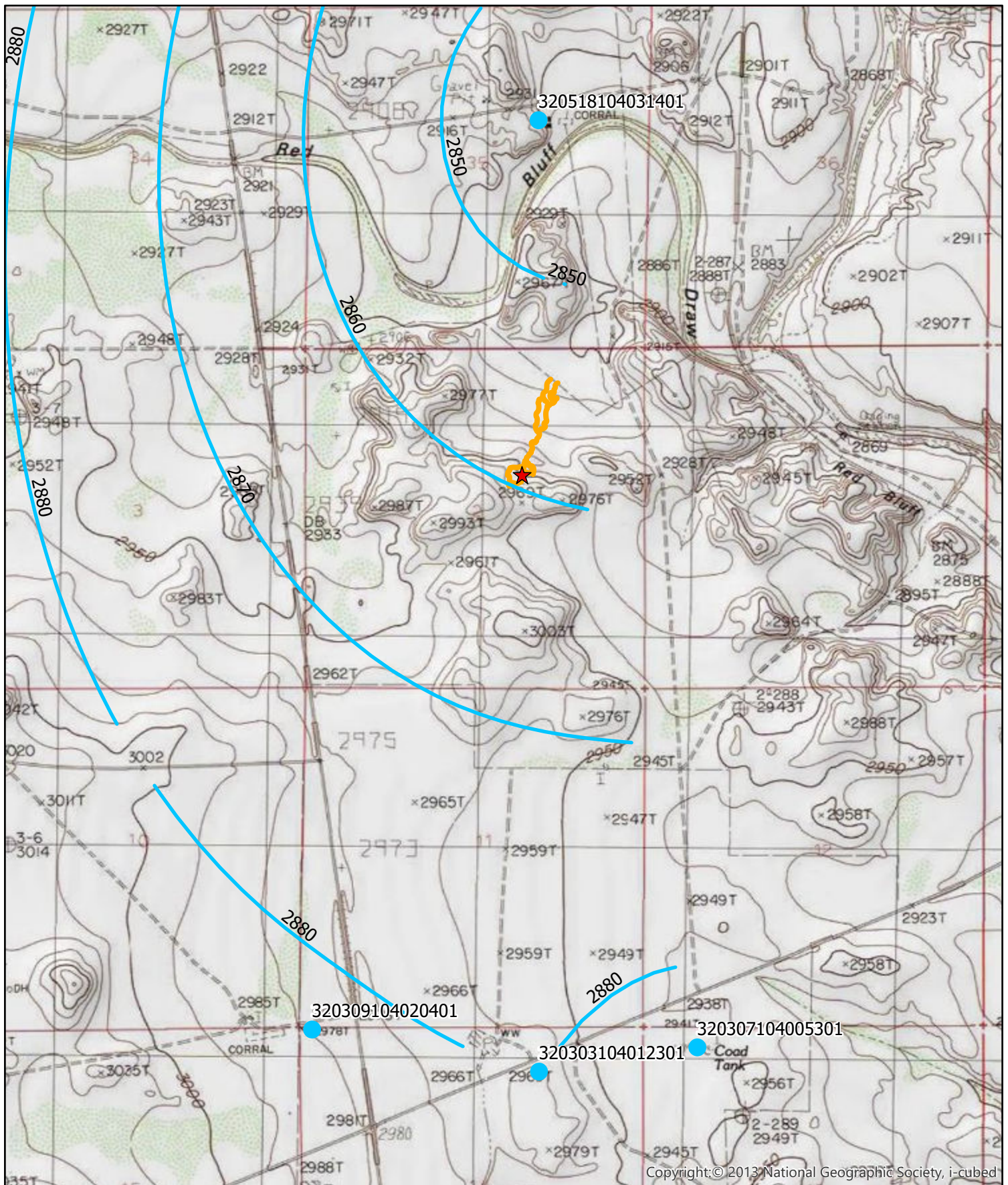
- ★ Flower Draw 2 St SWD #1
- Approx. Release Boundary
- USGS 2003 Water Level Elevation Contours
- USGS Wells



0 0.75 1.5 3 Miles

Flower Draw 2 St SWD #1 with  
2003 USGS water Level Contours





- ★ Flower Draw 2 St SWD #1
- Approx. Release Boundary
- USGS 2003 Water Level Elevation Contours
- USGS Wells



0 1,000 2,000 4,000 Feet

Flower Draw 2 St SWD #1 with  
2003 USGS water Level Contours