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201 Main Street, Suite 1360 ♦ Fort Worth, TX 76102 ♦ (817) 296-1730

**August 28, 2017**

Olivia Yu  
NMOCD District 1  
1625 French Dr.  
Hobbs, NM 88240

**Dear Olivia Yu:**

RXSoil, Inc. is pleased to submit the attached Closure Report summarizing the on-site soil remediation of produced water impacted and crude oil distressed soil at the Ruth Co. SWD site located in Eddy County, New Mexico. The purpose of this Closure Report is to obtain closure from the New Mexico Oil Conservation Division (NMOCD) for remediation of the release that occurred on November 6, 2016. Results of the complete restoration and remediation follow in the attached report.

Submitted by: RXSoil, Inc.

Stan Mickle

Jacob Mickle

Vice President of Operations  
Office: (817) 332-7645  
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Remediation Field Specialist  
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## **Closure Report**

Ruth Co SWD  
1RP-4572-0

32°41'49.94"N 103° 5'33.15"W

Section 30, Township 18S, Range 39E

August 28, 2017

**Prepared by: RXSoil, Inc. &  
Safety & Environmental Solutions, Inc.**

**RXSOIL**

**Prepared for:**

**Olivia Yu**

New Mexico Oil Conservation Division – District I  
1625 N. French Drive Hobbs, New Mexico 88240

# Table of Contents

<b>I.</b>	<b>Introduction.....</b>	<b>4</b>
<b>II.</b>	<b>Site Assessment and Initial Results.....</b>	<b>4</b>
<b>III.</b>	<b>Work Done and Conclusion.....</b>	<b>4</b>
 <b>Figures:</b>		
	<b>Figure 1 – Vicinity Map.....</b>	<b>7</b>
	<b>Figure 2 – Sample Point Map Dec. 2016.....</b>	<b>9</b>
	<b>Figure 3 – Sample Map May 2017.....</b>	<b>13</b>
	<b>Figure 4 – Excavated Areas.....</b>	<b>59</b>
	<b>Figure 5&amp;6 – Mid Project.....</b>	<b>163</b>
	<b>Figure 7&amp;8 – Final Project.....</b>	<b>166</b>
 <b>Appendixes:</b>		
	<b>Appendix A – Pre-lab Data May 2017.....</b>	<b>17</b>
	<b>Appendix B – Post Remediation Lab Data.....</b>	<b>61</b>
	<b>Appendix C – Confirmation Samples.....</b>	<b>130</b>
	<b>Appendix D – C-141.....</b>	<b>169</b>
	<b>Appendix E – Ground Water Table.....</b>	<b>171</b>

## **I. Introduction**

RXSoil, Inc., has prepared this report that describes the assessment, initial delineation done by SESI, and work performed by RXSoil, Inc., of the release associated with the Ruth Co. SWD site located in Eddy County, New Mexico. Figure 1 illustrates the vicinity and location of the site. According to the C-141, Appendix D, as the result of a lightning strike, fluids were then released on location. This document includes the work efforts and the lab sampling done by a Third party, Cardinal laboratories, supporting complete restoration. Please refer to Appendix A & B for data tables.

## **II. Site Assessment and Initial Results**

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). The Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 1000 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 600 mg/kg (PPM as directed by NMOCD District I. The site and impacted areas are shown via satellite imagery; please refer to Figures 2 and 3. The pre-remediation lab data, please refer to Appendix A, samples were taken by SESI and properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH (total petroleum hydrocarbons) (Method 8015M), and chlorides (Method SM4500Cl-B & 300.0). The results are represented in the tables below; please refer to Appendix A & B.

## **III. Work Done and Conclusion**

On-site remediation was used to address the site contamination. RXSoil, Inc. supervised the excavation of affected soils with approval from area utilities owners via 811 and NMOCD. RXSoil, Inc. continuously guided the excavation activities by collecting soil samples for field screening. Excavation occurred at various depths, refer to Figure 4. The entire area of impact was excavated to clean background depths. There were liners placed on the bottoms of areas that were excavated to 48". Third-Party Lab testing was conducted on samples taken throughout the process. The impacted soil was placed into an RXSoil, Inc. proprietary engineered containment, and cleaned utilizing specialized delivery systems to effectively treat the soil.

No harmful or hazardous chemicals were used in the RXSoil, Inc. process. The leachate fluid recovered from the treatment process was sent to an SWD approved by the NMOCD. An estimated ~3,000 bbl of water were used. Final soil samples were then collected, please refer to Appendix B, and tested at the end of treatment to confirm impacted soil had been remediated to required chloride, TPH and BTEX levels.

Soil samples collected throughout the project were a combination of composites and discrete samples. These samples were taken from various rows, columns, and different depths within the grid creating a 3D representation of the profile. Each row was collected separately then sent to Cardinal laboratories. An estimated ~1,800 cu.yd. were treated. Concluding the remediation project, soil was then placed back into excavated areas and the pad returned to its original state as requested by NMOCD.

**FIGURE 1**  
**Vicinity Map**



**FIGURE 2**  
**Sample Point Map**  
**December 2016**



Bore Hole
Sample Point
Oil Sample
High in Chlorides
High in TPH

Sample Point # 1		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
SP-S'	880	<10.0

Bore Hole # 5		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	32	<10.0
BH-2'	32	
BH-3'	48	
BH-4'	48	
BH-8'	64	

Bore Hole # 4		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	96	<10.0
BH-2'	16	
BH-3'	16	
BH-4'	16	
BH-8'	32	

Bore Hole # 3		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	80	<10.0
BH-2'	16	
BH-3'	16	
BH-4'	64	
BH-8'	32	

Bore Hole # 2		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	32	<10.0
BH-2'	64	
BH-3'	80	
BH-4'	128	
BH-8'	96	

Bore Hole # 6		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	688	<10.0
BH-2'	400	
BH-3'	192	
BH-4'	80	
BH-8'	32	

Bore Hole # 7		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	480	<10.0
BH-2'	64	
BH-3'	16	
BH-4'	32	
BH-8'	<16	

Bore Hole # 8		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	1090	<10.0
BH-2'	64	
BH-3'	144	
BH-4'	144	
BH-8'	<16	

Bore Hole # 14		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	96	64.1
BH-2'	48	
BH-3'	48	
BH-4'	48	

Bore Hole # 13		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	80	<10.0
BH-2'	16	
BH-3'	<16	
BH-4'	<16	

Sample Point # 2		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
SP-S'	208	47.7

Oil Sample # 3		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
OS-S'	6660	12,041

Oil Sample # 2		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
OS-S'	4000	4,280

Sample Point # 3		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
SP-S'	224	<10.0

Oil Sample # 1		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
OS-S'	4080	19,423

Sample Point # 4		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
SP-S'	32	<10.0

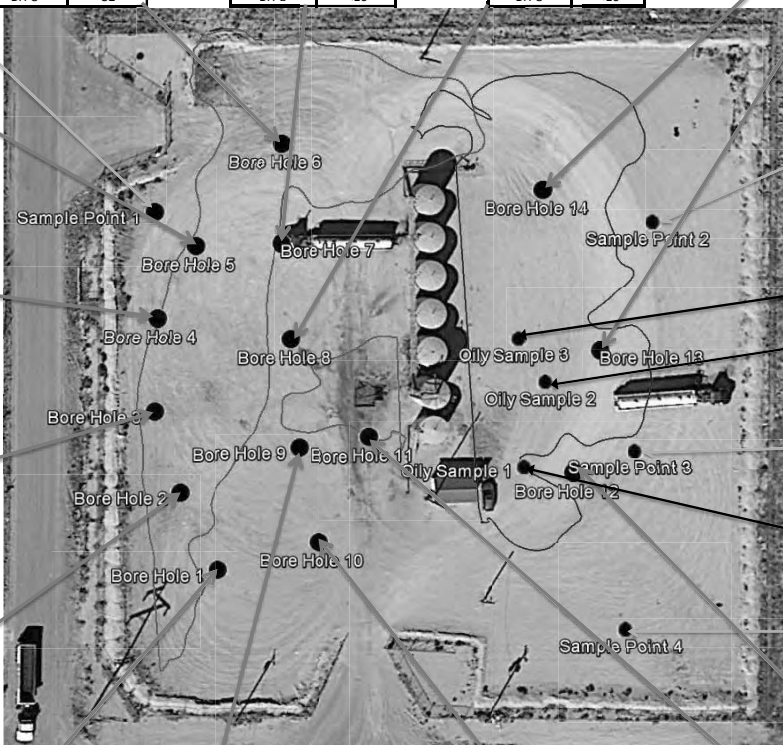
Bore Hole # 12		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	48	<10.0
BH-2'	32	
BH-3'	32	
BH-4'	32	

Bore Hole # 1		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	<16	<10.0
BH-2'	<16	
BH-3'	<16	
BH-4'	32	
BH-8'	48	

Bore Hole # 9		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	1250	<10.0
BH-2'	96	
BH-3'	80	
BH-4'	48	
BH-8'	16	

Bore Hole # 10		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	592	<10.0
BH-2'	48	
BH-3'	64	
BH-4'	128	
BH-8'	32	

Bore Hole # 11		
12/13/2016	CL	TPH
Depth ft'	ppm	ppm
BH-1'	2560	496
BH-2'	832	13.5
BH-3'	240	
BH-4'	272	



**Soil Sample Results: Cardinal Laboratories 12-16-16**

<b>Sample ID</b>	<b>Chlorides (mg/kg)</b>	<b>TPH GRO (mg/kg)</b>	<b>TPH DRO (mg/kg)</b>	<b>TPH EXT DRO (mg/kg)</b>	<b>Bottom of caliche pad/ top of sand (ft.)</b>	<b>Bottom of underlying sand/ top of native caliche (ft.)</b>
BH-1, 0.9-1.1'	<16.0	<10.0	<10.0	<10.0	0.6	5.05
BH-1, 1.9-2.1'	<16.0					
BH-1, 2.7-2.9'	<16.0					
BH-1, 3.5-4'	32.0					
BH-1, 8'	48.0					
BH-2, 0.9-1.1'	32.0	<10.0	<10.0	<10.0	0.4	6.1
BH-2, 1.9-2.1'	64.0					
BH-2, 2.7-2.9'	80.0					
BH-2, 3.5-4'	128					
BH-2, 8'	96.0					
BH-3, 0.9-1.1'	80.0	<10.0	<10.0	<10.0	0.5	N/A
BH-3, 1.9-2.1'	16.0					
BH-3, 2.8-3.0'	16.0					
BH-3, 3.5-4'	64.0					
BH-3, 8'	32.0					
BH-4, 0.9-1.1'	96.0	<10.0	<10.0	<10.0	0.5	7.0
BH-4, 1.9-2.1'	16.0					
BH-4, 2.9-3.1'	16.0					
BH-4, 3.5-4'	16.0					
BH-4, 8'	32.0					
BH-5, 0.9-1.1'	32.0	<10.0	<10.0	<10.0	1.4	6.1
BH-5, 1.9-2.1'	32.0					
BH-5, 2.9-3.1'	48.0					
BH-5, 3.5-4'	48.0					
BH-5, 8'	64.0					
BH-6, 0.9-1.1'	688	<10.0	<10.0	<10.0	1.05	6.65
BH-6, 1.9-2.1'	400					
BH-6, 2.9-3.1'	192					
BH-6, 3.5-4'	80.0					
BH-6, 8'	32.0					
BH-7, 0.9-1.1'	480	<10.0	<10.0	<10.0	1.0	6.1
BH-7, 1.9-2.1'	64.0					
BH-7, 2.9-3.1'	16.0					
BH-7, 3.5-4'	32.0					
BH-7, 8'	<16.0					
BH-8, 0.9-1.1'	1,090	<10.0	<10.0	<10.0	1.3	All sand to 8'
BH-8, 1.9-2.1'	64.0					
BH-8, 2.9-3.1'	144					
BH-8, 3.5-4'	144					
BH-8, 8'	<16.0					
BH-9, 0.9-1.1'	1,250	<10.0	<10.0	<10.0	1.4	5.6
BH-9, 1.9-2.1'	96.0					
BH-9, 2.9-3.1'	80.0					

BH-9, 3.5-4'	48.0					
BH-9, 8'	16.0					
BH-10, 0.9-1.1'	592	<10.0	<10.0	<10.0	0.75	6.15
BH-10, 1.9-2.1'	48.0					
BH-10, 2.9-3.1'	64.0					
BH-10, 3.5-4'	128					
BH-10, 8'	32.0					
BH-11, 0.8-1.2'	2,560	<10.0	348	148	1.2	N/A
BH-11, 1.0-2.1'	832	<10.0	<10.0	13.5		
BH-11, 2.9-3.1'	240					
BH-11, 3.5-4.0'	272					
BH-11, 8'	N/T					
BH-12, 0.9-1.1'	48.0	<10.0	<10.0	<10.0	0.7	5.95
BH-12, 1.9-2.1'	32.0					
BH-12, 2.8-3.0'	32.0					
BH-12, 3.5-4.0'	32.0					
BH-12, 8'	N/T					
BH-13, 0.9-1.1'	80.0	<10.0	<10.0	<10.0	0.8	5.9
BH-13, 1.9-2.1'	16.0					
BH-13, 2.8-3.0'	<16.0					
BH-13, 3.5-4.0'	<16.0					
BH-13, 8'	N/T					
BH-14, 0.9-1.1'	96.0	<10.0	28.0	36.1	1.1	All sand to 8'
BH-14, 1.9-2.1'	48.0					
BH-14, 2.9-3.1'	48.0					
BH-14, 3.5-4.0'	48.0					
BH-14, 8'	N/T					
S-1, 0-0.85'	880	<10.0	<10.0	<10.0		
S-2, 0-0.55'	208	<10.0	26.7	21.0		
S-3, 0-0.55'	224	<10.0	<10.0	<10.0		
S-4, 0-0.55'	32.0	<10.0	<10.0	<10.0		
OS-1, 0-0.5'	4,080	493	13,500	5,430		
OS-2, 0-0.5'	4,000	<100	2,980	1,300		
OS-3, 0-0.5'	6,660	131	7,980	3,930		

N/T – Not tested

N/A – Info not available

**FIGURE 3**  
**Sample Map**  
**May 2017**



Survey

Google Earth

1931

Imagery Date: 11/22/2016 32°41'50.06" N 103°05'33.77" W elev. 3620 ft eye alt. 4185 ft

**Soil Sample Results: Cardinal Laboratories April-May, 2017**

<b>Sample ID</b>	<b>Chlorides (mg/kg)</b>	<b>Benzene (mg/kg)</b>	<b>Total BTEX (mg/kg)</b>	<b>TPH GRO (mg/kg)</b>	<b>TPH DRO (mg/kg)</b>	<b>TPH EXT DRO (mg/kg)</b>
BH-1, 1'	16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-1, 2'	16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-1, 3'	32.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-1, 4'	32.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-1, 5'	32.0					
BH-1, 6'	32.0					
BH-1, 7'	80.0					
BH-1, 8'	160	<0.050	<0.300	<10.0	<10.0	<10.0
BH-1, 9'	160	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 1'	496	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 2'	384	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 3'	288	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 4'	64.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 5'	80.0					
BH-2, 6-9'	N/A	N/A	N/A	N/A	N/A	N/A
BH-2, 10'	128					
BH-2, 11'	128					
BH-2, 12'	160	<0.050	<0.300	<10.0	<10.0	<10.0
BH-2, 13'	160					
BH-2, 14	160					
BH-2, 15'	144	<0.050	<0.300	<10.0	<10.0	<10.0
BH-3, 2'	160	<0.050	<0.300	<10.0	<10.0	<10.0
BH-3, 3'	288	<0.050	<0.300	<10.0	<10.0	<10.0
BH-3, 4'	336	<0.050	<0.300	<10.0	<10.0	<10.0
BH-3, 5'	784					
BH-3, 6'	2,240					
BH-3, 7'	2,720					
BH-3, 8'	3,080	<0.050	<0.300	<10.0	<10.0	<10.0
BH-3, 8.5'	2,480	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 1'	416	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 2'	896	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 3'	832	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 4'	2,800	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 5'	5,760					
BH-4, 6'	880					
BH-4, 7'	112					
BH-4, 8'	80.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 9'	32.0					
BH-4, 10'	80.0					
BH-4, 11'	32.0					
BH-4, 12'	48.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-4, 13'	48.0	<0.050	<0.300	<10.0	<10.0	<10.0

<b>Sample ID</b>	<b>Chlorides (mg/kg)</b>	<b>Benzene (mg/kg)</b>	<b>Total BTEX (mg/kg)</b>	<b>TPH GRO (mg/kg)</b>	<b>TPH DRO (mg/kg)</b>	<b>TPH EXT DRO (mg/kg)</b>
BH-5, 2'	10,300	<0.050	<0.300	<10.0	<10.0	<10.0
BH-5, 3'	672	<0.050	<0.300	<10.0	<10.0	<10.0
BH-5, 4'	912	<0.050	<0.300	<10.0	<10.0	<10.0
BH-5, 6'	1,800					
BH-5, 7'	1,040					
BH-5, 8'	368	<0.050	<0.300	<10.0	<10.0	<10.0
BH-5, 9-12'	N/A	N/A	N/A	N/A	N/A	N/A
BH-5, 13'	<16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-5, 14'	<16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-6, 2'	160	<0.050	<0.300	<10.0	<10.0	<10.0
BH-6, 3'	144	<0.050	<0.300	<10.0	<10.0	<10.0
BH-6, 4'	448	<0.050	<0.300	<10.0	<10.0	<10.0
BH-6, 6'	224					
BH-6, 7'	1,250					
BH-6, 8'	32.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-6, 9'	32.0					
BH-6, 10'	<16.0					
BH-6, 10.8'	16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-7, 5'	272	<0.050	<0.300	<10.0	<10.0	<10.0
BH-7, 10'	1,120	<0.050	<0.300	<10.0	<10.0	<10.0
BH-7, 25'	352	<0.050	<0.300	<10.0	<10.0	<10.0
BH-7, 30'	240	<0.050	<0.300	<10.0	<10.0	<10.0
BH-7, 35'	80.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-8, 4-6'	448	<0.050	<0.300	<10.0	16.2	<10.0
BH-8, 9-11'	32.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-8, 15'	16.0	<0.050	<0.300	<10.0	<10.0	<10.0
BH-8, 24-26'	32.0	<0.050	<0.300	<10.0	<10.0	<10.0

**Notes:**

Boreholes BH-1 – BH-6 sampled with Geoprobe, April 21, 2017

Boreholes BH-7 – BH-8 sampled with Foremost-Mobile hollow stem auger, May 18, 2017

Borehole BH-7 located adjacent to BH-3, BH-8 located adjacent to BH-5.

N/A – Info not available

**APPENDIX A**  
**Lab Data from May 2017**



May 25, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: RXS-16-005

Enclosed are the results of analyses for samples received by the laboratory on 05/19/17 16:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 5' (H701350-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTX	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	05/22/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 80.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 10' (H701350-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 90.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.3 % 34.7-157

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Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 15' (H701350-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 88.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.9 % 34.7-157

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Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 25' (H701350-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168		
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197		
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372		
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522		
Total BTEx	<0.300	0.300	05/23/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 83.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.2 % 34.7-157

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 05/19/2017  
 Reported: 05/25/2017  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 30' (H701350-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 84.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.6 % 34.7-157

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 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 05/19/2017  
 Reported: 05/25/2017  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

 Sampling Date: 05/18/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 7 35' (H701350-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 92.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.3 % 34.7-157

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 Bob Allen  
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 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 05/19/2017  
 Reported: 05/25/2017  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 8 4-6' (H701350-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168		
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197		
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372		
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522		
Total BTEx	<0.300	0.300	05/23/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	16.2	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 91.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.8 % 34.7-157

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Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH - 8 9-11' (H701350-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168		
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197		
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372		
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522		
Total BTEx	<0.300	0.300	05/23/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 83.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.0 % 34.7-157

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### Analytical Results For:

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 05/19/2017  
Reported: 05/25/2017  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

### Sample ID: BH - 8 15' (H701350-09)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 92.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.6 % 34.7-157

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 Bob Allen  
 703 East Clinton  
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 Fax To: (575) 393-4388

Received: 05/19/2017  
 Reported: 05/25/2017  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 05/18/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: BH - 8 24-26' (H701350-10)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/23/2017	ND	1.88	94.2	2.00	0.168	
Toluene*	<0.050	0.050	05/23/2017	ND	1.86	93.2	2.00	0.197	
Ethylbenzene*	<0.050	0.050	05/23/2017	ND	1.96	97.9	2.00	0.372	
Total Xylenes*	<0.150	0.150	05/23/2017	ND	5.44	90.7	6.00	0.522	
Total BTEx	<0.300	0.300	05/23/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/22/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/22/2017	ND	186	93.0	200	5.75	
DRO >C10-C28	<10.0	10.0	05/22/2017	ND	193	96.4	200	7.87	
EXT DRO >C28-C36	<10.0	10.0	05/22/2017	ND					

Surrogate: 1-Chlorooctane 89.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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



# ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240  
(505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: <b>Safety &amp; Environmental Solutions, Inc.</b>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <b>Bob Allen</b>		City: <b>Hobbs</b>		State: <b>NM</b>		Zip: <b>88240</b>	
Address: <b>703 East Clinton</b>		Attn: <b>RX5015</b>		Address:			
City: <b>Hobbs</b>		State: <b>NM</b>		Zip: <b>88240</b>			
Phone #: <b>575-397-0510</b>		Fax #: <b>575-393-4388</b>		City:			
Project #: <b>RX5-16-DO5</b>		Project Owner:		State:			
Project Name:		City:		Zip:			
Project Location:		Phone #:		Fax #:			
Sampler Name: <b>David Boyer</b>		FOR USE ONLY		MATRIX		PRESERV	
Lab I.D.		Sample I.D.		GROUNDWATER		WASTEWATER	
1 BH-7, 5		3		SOIL		OIL	
2 BH-7, 15		4		SLUDGE		OTHER :	
3 BH-7, 25		5		ACID/BASE:		ICE / COOL	
4 BH-7, 30		6		OTHER :		DATE	
5 BH-8, 25		7		DATE		TIME	
6 BH-8, 30		8		15/18		1025	
7 BH-8, 35		9		15/18		1045	
8 BH-8, 40		10		15/18		1125	
9 BH-8, 45		11		15/18		1150	
10 BH-8, 50		12		15/18		1220	
11 BH-8, 55		13		15/18		1335	
12 BH-8, 60		14		15/18		1420	
13 BH-8, 65		15		15/18		1435	
14 BH-8, 70		16		15/18		1525	
15 BH-8, 75		17		15/18		1535	
16 BH-8, 80		18		15/18		1545	
17 BH-8, 85		19		15/18		1555	
18 BH-8, 90		20		15/18		1605	
19 BH-8, 95		21		15/18		1615	
20 BH-8, 100		22		15/18		1625	
21 BH-8, 105		23		15/18		1635	
22 BH-8, 110		24		15/18		1645	
23 BH-8, 115		25		15/18		1655	
24 BH-8, 120		26		15/18		1705	
25 BH-8, 125		27		15/18		1715	
26 BH-8, 130		28		15/18		1725	
27 BH-8, 135		29		15/18		1735	
28 BH-8, 140		30		15/18		1745	
29 BH-8, 145		31		15/18		1755	
30 BH-8, 150		32		15/18		1805	
31 BH-8, 155		33		15/18		1815	
32 BH-8, 160		34		15/18		1825	
33 BH-8, 165		35		15/18		1835	
34 BH-8, 170		36		15/18		1845	
35 BH-8, 175		37		15/18		1855	
36 BH-8, 180		38		15/18		1905	
37 BH-8, 185		39		15/18		1915	
38 BH-8, 190		40		15/18		1925	
39 BH-8, 195		41		15/18		1935	
40 BH-8, 200		42		15/18		1945	
41 BH-8, 205		43		15/18		1955	
42 BH-8, 210		44		15/18		2005	
43 BH-8, 215		45		15/18		2015	
44 BH-8, 220		46		15/18		2025	
45 BH-8, 225		47		15/18		2035	
46 BH-8, 230		48		15/18		2045	
47 BH-8, 235		49		15/18		2055	
48 BH-8, 240		50		15/18		2105	
49 BH-8, 245		51		15/18		2115	
50 BH-8, 250		52		15/18		2125	
51 BH-8, 255		53		15/18		2135	
52 BH-8, 260		54		15/18		2145	
53 BH-8, 265		55		15/18		2155	
54 BH-8, 270		56		15/18		2205	
55 BH-8, 275		57		15/18		2215	
56 BH-8, 280		58		15/18		2225	
57 BH-8, 285		59		15/18		2235	
58 BH-8, 290		60		15/18		2245	
59 BH-8, 295		61		15/18		2255	
60 BH-8, 300		62		15/18		2305	
61 BH-8, 305		63		15/18		2315	
62 BH-8, 310		64		15/18		2325	
63 BH-8, 315		65		15/18		2335	
64 BH-8, 320		66		15/18		2345	
65 BH-8, 325		67		15/18		2355	
66 BH-8, 330		68		15/18		2405	
67 BH-8, 335		69		15/18		2415	
68 BH-8, 340		70		15/18		2425	
69 BH-8, 345		71		15/18		2435	
70 BH-8, 350		72		15/18		2445	
71 BH-8, 355		73		15/18		2455	
72 BH-8, 360		74		15/18		2505	
73 BH-8, 365		75		15/18		2515	
74 BH-8, 370		76		15/18		2525	
75 BH-8, 375		77		15/18		2535	
76 BH-8, 380		78		15/18		2545	
77 BH-8, 385		79		15/18		2555	
78 BH-8, 390		80		15/18		2605	
79 BH-8, 395		81		15/18		2615	
80 BH-8, 400		82		15/18		2625	
81 BH-8, 405		83		15/18		2635	
82 BH-8, 410		84		15/18		2645	
83 BH-8, 415		85		15/18		2655	
84 BH-8, 420		86		15/18		2705	
85 BH-8, 425		87		15/18		2715	
86 BH-8, 430		88		15/18		2725	
87 BH-8, 435		89		15/18		2735	
88 BH-8, 440		90		15/18		2745	
89 BH-8, 445		91		15/18		2755	
90 BH-8, 450		92		15/18		2805	
91 BH-8, 455		93		15/18		2815	
92 BH-8, 460		94		15/18		2825	
93 BH-8, 465		95		15/18		2835	
94 BH-8, 470		96		15/18		2845	
95 BH-8, 475		97		15/18		2855	
96 BH-8, 480		98		15/18		2905	
97 BH-8, 485		99		15/18		2915	
98 BH-8, 490		100		15/18		2925	
99 BH-8, 495		101		15/18		2935	
100 BH-8, 500		102		15/18		2945	
101 BH-8, 505		103		15/18		2955	
102 BH-8, 510		104		15/18		3005	
103 BH-8, 515		105		15/18		3015	
104 BH-8, 520		106		15/18		3025	
105 BH-8, 525		107		15/18		3035	
106 BH-8, 530		108		15/18		3045	
107 BH-8, 535		109		15/18		3055	
108 BH-8, 540		110		15/18		3105	
109 BH-8, 545		111		15/18		3115	
110 BH-8, 550		112		15/18		3125	
111 BH-8, 555		113		15/18		3135	
112 BH-8, 560		114		15/18		3145	
113 BH-8, 565		115		15/18		3155	
114 BH-8, 570		116		15/18		3205	
115 BH-8, 575		117		15/18		3215	
116 BH-8, 580		118		15/18		3225	
117 BH-8, 585		119		15/18		3235	
118 BH-8, 590		120		15/18		3245	
119 BH-8, 595		121		15/18		3255	
120 BH-8, 600		122		15/18		3305	
121 BH-8, 605		123		15/18		3315	
122 BH-8, 610		124		15/18		3325	
123 BH-8, 615		125		15/18		3335	
124 BH-8, 620		126		15/18		3345	
125 BH-8, 625		127		15/18		3355	
126 BH-8, 630		128		15/18		3405	
127 BH-8, 635		129		15/18		3415	
128 BH-8, 640		130		15/18		3425	
129 BH-8, 645		131		15/18		3435	
130 BH-8, 650		132		15/18		3445	
131 BH-8, 655		133		15/18		3455	
132 BH-8, 660		134		15/18		3505	
133 BH-8, 665		135		15/18		3515	
134 BH-8, 670		136		15/18		3525	
135 BH-8, 675		137		15/18		3535	
136 BH-8, 680		138		15/18		3545	
137 BH-8, 685		139		15/18		3555	
138 BH-8, 690		140		15/18		3605	
139 BH-8, 695		141		15/18		3615	
140 BH-8, 700		142		15/18		3625	
141 BH-8, 705		143		15/18		3635	
142 BH-8, 710		144		15/18		3645	
143 BH-8, 715		145		15/18		3655	
144 BH-8, 720		146		15/18		3705	
145 BH-8, 725		147		15/18		3715	
146 BH-8, 730		148		15/18		3725	
147 BH-8, 735		149		15/18		3735	
148 BH-8, 740		150		15/18		3745	
149 BH-8, 745		151		15/18		3755	
150 BH-8, 750		152		15/18		3805	
151 BH-8, 755		153		15/18		3815	
152 BH-8, 760		154		15/18		3825	
153 BH-8, 765		155		15/18		3835	
154 BH-8, 770		156		15/18		3845	
155 BH-8, 775		157		15/18		3855	
156 BH-8, 780		158		15/18		3905	
157 BH-8, 785		159		15/18		3915	
158 BH-8, 790		160		15/18		3925	
159 BH-8, 795		161		15/18		3935	
160 BH-8, 800		162		15/18		3945	
161 BH-8, 805		163		15/18		3955	
162 BH-8, 810		164		15/18		4005	
163 BH-8, 815		165		15/18		4015	
164 BH-8, 820		166		15/18		4025	
165 BH-8, 825		167		15/18		4035	
166 BH-8, 830		168		15/18		4045	
167 BH-8, 835		169		15/18		4055	
168 BH-8, 840		170		15/18		4105	
169 BH-8, 845		171		15/18		4115	
170 BH-8, 850		172		15/18		4125	
171 BH-8, 855		173		15/18		4135	
172 BH-8, 860		174		15/18		4145	
173 BH-8, 865		175		15/18		4155	
174 BH-8, 870		176		15/18		4205	
175 BH-8, 875		177		15/18		4215	
176 BH-8, 880		178		15/18		4225	
177 BH-8, 885		179		15/18		4235	
178 BH-8, 890		180		15/18		4245	
179 BH-8, 895		181		15/18		4255	
180 BH-8, 900		182		15/18		4305	
181 BH-8, 905		183		15/18		4315	
182 BH-8, 910		184		15/18		4325	
183 BH-8, 915		185		15/18		4335	
184 BH-8, 920		186		15/18		4345	
185 BH-8, 925		187		15/18		4355	
186 BH-8, 930		188		15/18		4405	
187 BH-8, 935		189		15/18		4415	
188 BH-8, 940		190		15/18		4425	
189 BH-8, 945		191		15/18		4435	
190 BH-8, 950		192		15/18		4445	
191 BH-8, 955		193		15/18		4455	
192 BH-8, 960		194		15/18		4505	
193 BH-8, 965		195		15/18		4515	
194 BH-8, 970		196		15/18		4525	
195 BH-8, 975		197		15/18		4535	
196 BH-8, 980		198		15/18		4545	
197 BH-8, 985		199		15/18		4555	
198 BH-8, 990		200		15/18		4605	
199 BH-8, 995		201		15/18		4615	
200 BH-8, 1000		202		15/18		4625	

**APPENDIX A Continued**  
**Lab Data from December 2016**

December 16, 2016

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: RXS-16-005

Enclosed are the results of analyses for samples received by the laboratory on 12/13/16 10:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-1 0.9-1.1' (H602785-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/14/2016	ND	416	104	400	3.77		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47		
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353		
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND						
Surrogate: 1-Chlorooctane		90.0 %	35-147							
Surrogate: 1-Chlorooctadecane		99.1 %	28-171							

**Sample ID: BH-1 1.9-2.1' (H602785-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-1 2.7-2.9' (H602785-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/14/2016	ND	416	104	400	3.77		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-2 0.9-1.1' (H602785-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane		82.9 %	35-147						
Surrogate: 1-Chlorooctadecane		81.6 %	28-171						

**Sample ID: BH-2 1.9-2.1' (H602785-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-2 2.7-2.9' (H602785-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/14/2016	ND	416	104	400	3.77		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-3 0.9-1.1' (H602785-07)**

Chloride, SM4500Cl-B		mg/ kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/ kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	78.9 %	35-147							
Surrogate: 1-Chlorooctadecane	79.9 %	28-171							

**Sample ID: BH-3 1.9-2.1' (H602785-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-3 2.8-3.0' (H602785-09)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-4 0.9-1.1' (H602785-10)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	76.1 %	35-147							
Surrogate: 1-Chlorooctadecane	83.9 %	28-171							

**Sample ID: BH-4 1.9-2.1' (H602785-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-4 2.9-3.1' (H602785-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-5 0.9-1.1' (H602785-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	85.4 %	35-147							
Surrogate: 1-Chlorooctadecane	90.1 %	28-171							

**Sample ID: BH-5 1.9-2.1' (H602785-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-5 2.9-3.1' (H602785-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-6 0.9-1.1' (H602785-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	87.0 %	35-147							
Surrogate: 1-Chlorooctadecane	91.0 %	28-171							

**Sample ID: BH-6 1.9-2.1' (H602785-17)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-6 2.9-3.1' (H602785-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-7 0.9-1.1' (H602785-19)**

Chloride, SM4500Cl-B		mg/ kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/ kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	89.3 %	35-147							
Surrogate: 1-Chlorooctadecane	104 %	28-171							

**Sample ID: BH-7 1.9-2.1' (H602785-20)**

Chloride, SM4500Cl-B		mg / kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-7 2.9-3.1' (H602785-21)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-8 0.9-1.1' (H602785-22)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane		80.8 %	35-147						
Surrogate: 1-Chlorooctadecane		96.4 %	28-171						

**Sample ID: BH-8 1.9-2.1' (H602785-23)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-8 2.9-3.1' (H602785-24)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-9 0.9-1.1' (H602785-25)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	86.9 %	35-147							
Surrogate: 1-Chlorooctadecane	91.0 %	28-171							

**Sample ID: BH-9 1.9-2.1' (H602785-26)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-9 2.9-3.1' (H602785-27)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/07/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-10 0.9-1.1' (H602785-28)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	12/14/2016	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	89.1 %	35-147							
Surrogate: 1-Chlorooctadecane	106 %	28-171							

**Sample ID: BH-10 1.9-2.1' (H602785-29)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	12/14/2016	ND	416	104	400	3.77		

**Sample ID: BH-10 2.9-3.1' (H602785-30)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/14/2016	ND	416	104	400	3.77		

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Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-11 0.8-1.2' (H602785-31)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	12/15/2016	ND	400	100	400	3.92	QM-07
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	348	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	148	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	81.9 %	35-147							
Surrogate: 1-Chlorooctadecane	106 %	28-171							

**Sample ID: BH-11 1.9-2.1' (H602785-32)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	832	16.0	12/15/2016	ND	400	100	400	3.92		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47		
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353		
EXT DRO >C28-C35	13.5	10.0	12/13/2016	ND						
Surrogate: 1-Chlorooctane	83.3 %	35-147								
Surrogate: 1-Chlorooctadecane	86.0 %	28-171								

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 Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

 Sampling Date: 12/09/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-11 2.9-3.1' (H602785-33)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: BH-11 3.5-4.0' (H602785-34)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: BH-12 0.9-1.1' (H602785-35)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/15/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					

Surrogate: 1-Chlorooctane 88.6 % 35-147

Surrogate: 1-Chlorooctadecane 97.8 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-12 1.9-2.1' (H602785-36)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/15/2016	ND	400	100	400	3.92		

**Sample ID: BH-12 2.8-3.0' (H602785-37)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: BH-12 3.5-4.0' (H602785-38)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/15/2016	ND	400	100	400	3.92	

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**Analytical Results For:**

Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: BH-13 0.9-1.1' (H602785-39)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/15/2016	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					
Surrogate: 1-Chlorooctane	86.4 %	35-147							
Surrogate: 1-Chlorooctadecane	96.2 %	28-171							

**Sample ID: BH-13 1.9-2.1' (H602785-40)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: BH-13 2.8-3.0' (H602785-41)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2016	ND	400	100	400	3.92		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-13 3.5-4.0' (H602785-42)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/15/2016	ND	400	100	400	3.92		

**Sample ID: BH-14 0.9-1.1' (H602785-43)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	12/15/2016	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	28.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	36.1	10.0	12/13/2016	ND					

Surrogate: 1-Chlorooctane 82.3 % 35-147

Surrogate: 1-Chlorooctadecane 92.1 % 28-171

**Sample ID: BH-14 1.9-2.1' (H602785-44)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	12/15/2016	ND	400	100	400	3.92		

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: BH-14 2.9-3.1' (H602785-45)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: BH-14 3.5-4.0' (H602785-46)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	12/15/2016	ND	400	100	400	3.92	

**Sample ID: S-1 0-0.85 (H602785-47)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	12/15/2016	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/13/2016	ND	209	105	200	1.47	
DRO >C10-C28	<10.0	10.0	12/13/2016	ND	228	114	200	0.353	
EXT DRO >C28-C35	<10.0	10.0	12/13/2016	ND					

Surrogate: 1-Chlorooctane 87.3 % 35-147

Surrogate: 1-Chlorooctadecane 103 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: S-2 0-0.55 (H602785-48)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	12/15/2016	ND	400	100	400	3.92		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/14/2016	ND	189	94.6	200	0.431		
DRO >C10-C28	26.7	10.0	12/14/2016	ND	199	99.5	200	0.921		
EXT DRO >C28-C35	21.0	10.0	12/14/2016	ND						
Surrogate: 1-Chlorooctane	86.2 %	35-147								
Surrogate: 1-Chlorooctadecane	94.7 %	28-171								

**Sample ID: S-3 0-0.55' (H602785-49)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/15/2016	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/14/2016	ND	189	94.6	200	0.431	
DRO >C10-C28	<10.0	10.0	12/14/2016	ND	199	99.5	200	0.921	
EXT DRO >C28-C35	<10.0	10.0	12/14/2016	ND					
Surrogate: 1-Chlorooctane	80.3 %	35-147							
Surrogate: 1-Chlorooctadecane	89.6 %	28-171							

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

Safety & Environmental Solutions  
 Bob Allen  
 703 East Clinton  
 Hobbs NM, 88240  
 Fax To: (575) 393-4388

Received: 12/13/2016  
 Reported: 12/16/2016  
 Project Name: RXS-16-005  
 Project Number: RXS-16-005  
 Project Location: NONE GIVEN

Sampling Date: 12/09/2016  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Celey D. Keene

**Sample ID: S-4 0-0.55' (H602785-50)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/15/2016	ND	400	100	400	3.92		
TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	12/14/2016	ND	189	94.6	200	0.431		
DRO >C10-C28	<10.0	10.0	12/14/2016	ND	199	99.5	200	0.921		
EXT DRO >C28-C35	<10.0	10.0	12/14/2016	ND						
Surrogate: 1-Chlorooctane		68.1 %	35-147							
Surrogate: 1-Chlorooctadecane		81.8 %	28-171							

**Sample ID: OS-1 (H602785-51)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	4080	16.0	12/16/2016	ND	416	104	400	0.00	QM-07		
TPH 8015M		mg/kg		Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	493	100	12/14/2016	ND	189	94.6	200	0.431			
DRO >C10-C28	13500	100	12/14/2016	ND	199	99.5	200	0.921			
EXT DRO >C28-C35	5430	100	12/14/2016	ND							
Surrogate: 1-Chlorooctane											
	112 %	35-147									
Surrogate: 1-Chlorooctadecane											
	478 %	28-171									

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

Safety & Environmental Solutions  
Bob Allen  
703 East Clinton  
Hobbs NM, 88240  
Fax To: (575) 393-4388

Received: 12/13/2016  
Reported: 12/16/2016  
Project Name: RXS-16-005  
Project Number: RXS-16-005  
Project Location: NONE GIVEN

Sampling Date: 12/12/2016  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Celey D. Keene

**Sample ID: OS-2 (H602785-52)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/16/2016	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<100	100	12/14/2016	ND	189	94.6	200	0.431	
DRO >C10-C28	2980	100	12/14/2016	ND	199	99.5	200	0.921	
EXT DRO >C28-C35	1300	100	12/14/2016	ND					
Surrogate: 1-Chlorooctane	85.2 %	35-147							
Surrogate: 1-Chlorooctadecane	158 %	28-171							

**Sample ID: OS-3 (H602785-53)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6660	16.0	12/16/2016	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	131	100	12/14/2016	ND	189	94.6	200	0.431		
DRO >C10-C28	7980	100	12/14/2016	ND	199	99.5	200	0.921		
EXT DRO >C28-C35	3930	100	12/14/2016	ND						
Surrogate: 1-Chlorooctane	100 %	35-147								
Surrogate: 1-Chlorooctadecane	220 %	28-171								

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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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



# CARDINAL Laboratories

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 6

### BILL TO

### ANALYSIS REQUEST

P.O. #:

Company: Sante RX Soil

Attn:

Address:

City:

State:

Zip:

Phone #:

Fax #:

Project Name:

Project Location:

Sample Name:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

CHLORIDES

TPH (6015 method)

Ext.\*

Yes

No

Add'l Phone #:

Add'l Fax #:

REMARKS:

\* Ext 280 added 12/16/16 as per Dave. 12/16/16

Company Name:	Safety and Environmental Solutions	P.O. #:	
Project Manager:	Bob Allen	Company:	Sante RX Soil
Address:	703 East Clinton, PO Box 1613	Attn:	
City:	Hobbs	Address:	
Phone #:	575 397-0510	City:	
Project #:	RXS-16-005	State:	
Project Name:		Zip:	
Project Location:		Phone #:	
Sample Name:	DAVID BOYER	Fax #:	
FOR LAB USE ONLY		PRESERV.	SAMPLING
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS
GROUNDWATER		WASTEWATER	
SOIL		OIL	
SLUDGE		OTHER:	
ACID/BASE:		ICE / COOL	
OTHER:		DATE	TIME
CHLORIDES		TPH (6015 method)	Ext.*
Yes		No	Add'l Phone #:
No		Add'l Fax #:	REMARKS:
* Ext 280 added 12/16/16 as per Dave. 12/16/16			

Relinquished By:	Date:	Received By:	Time:
<u>[Signature]</u>	<u>12/13/16</u>	<u>[Signature]</u>	<u>10:15</u>
Delivered By: (Circle One)		Sample Condition	CHECKED BY:
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	(Initials)
		Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	<u>WKS #75</u>
		2.8°C	



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 2 of 4

BILL TO

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions

Project Manager: Bob Allen

Address: 703 East Clinton, PO Box 1613

City: Hobbs State: NM Zip: 88240

Phone #: 575 397-0510 Fax #: 575 393-4388

Project #: RXS-16-005 Project Owner:

Project Name:

Project Location:

Sample Name: D4V115 Boyer

FOR LAB USE ONLY

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

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TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

Lab I.D.

Sample I.D.

#K00785-

11 BH-4 1.9-2.1'

12 BH-4 2.9-3.1'

13 BH-5 0.9-1.1'

14 BH-5 1.9-3.1'

15 BH-5 2.9-3.1'

16 BH-6 0.9-1.1'

17 BH-6 1.9-2.1'

18 BH-6 2.9-3.1'

19 BH-7 0.9-1.1'

20 BH-7 1.9-2.1'

Relinquished By:

Date: 10/13/14

Received By:

Date: 10/15

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Relinquished By:

Date: 10/15

Received By:

Date: 10/15

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition

Cool Intact

Yes

No

CHECKED BY:

(Initials)

Col #75

Phone Result:

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No

Yes

No



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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 3 of 6

Company Name: Safety and Environmental Solutions						<b>BILL TO</b>		ANALYSIS REQUEST									
Project Manager: Bob Allen						P.O. #:											
Address: 703 East Clinton, PO Box 1613						Company: Same											
City: Hobbs						Attn:											
Phone #: 575 397-0510						Address:											
Fax #: 575 393-4388						City:											
Project #: RXS-16-005						State:											
Project Owner:						Zip:											
Project Location:						Phone #:											
Sample Name: DAVI B Cyl A						Fax #:											
FOR LAB USE ONLY						PRESERV.		SAMPLING									
Lab I.D.						MATRIX											
Sample I.D.						(G)RAB OR (C)OMP.											
						# CONTAINERS											
						GROUNDWATER											
						WASTEWATER											
						SOIL											
						OIL											
						SLUDGE											
						OTHER :											
						ACID/BASE:											
						ICE / COOL											
						OTHER :											
H00785-						DATE		TIME									
21 BH-7 2.9-3.1'						12/1		1635 X									
22 BH-8 0.9-1.1'								1440 X									
23 BH-8 1.9-2.1'								1445									
24 BH-8 2.9-3.1'								1650 X									
25 BH-9 0.9-1.1'								1655									
26 BH-9 1.9-2.1'								1650									
27 BH-9 2.9-3.1'								1710									
28 BH-10 0.9-1.1'								1710 X									
29 BH-10 1.9-2.1'								1710									
30 BH-10 2.9-3.1'								1710 X									
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 interruption, 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: JH Boyer						Date: 6/18/16		Received By: [Signature]		Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:							
Relinquished By:						Time: 10:15		Date:		Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:							
Delivered By: (Circle One)						Sample Condition		CHECKED BY: (Initials)									
Sampler - UPS - Bus - Other:						Cool - Intact		Col #75									
						<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											
2.8c																	



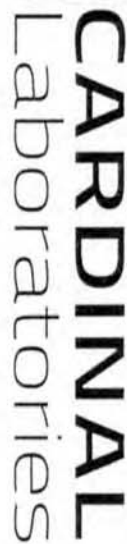
CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 4 of 6

Company Name: Safety and Environmental Solutions		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
Project Manager: Bob Allen		P.O. #:			
Address: 703 East Clinton, PO Box 1613		Company: Same			
City: Hobbs		Attn:			
Phone #: 575 397-0510		Address:			
Fax #: 575 393-4388		City:			
Project #: 15-16-005		State:			
Project Owner:		Zip:			
Project Name:		Phone #:			
Project Location:		Fax #:			
Sample Name: David Boyce		SAMPLING			
FOR LAB USE ONLY		PRESERV			
Lab I.D.		Sample I.D.			
H602785		(G)RAB OR (C)OMP.			
		# CONTAINERS			
		GROUNDWATER			
		WASTEWATER			
		SOIL			
		OIL			
		SLUDGE			
		OTHER :			
		ACID/BASE:			
		ICE / COOL			
		OTHER :			
		DATE			
		TIME			
31		12/19		1405	
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### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 6

Page 26 of 27





## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**(575) 393-2326 FAX (575) 393-2476**

**BILL TO**

ANALYSIS REQUEST

Company Name: Safety and Environmental Solutions										P.O. #:										BILL TO										ANALYSIS REQUEST									
Project Manager: Bob Allen										Company: Same																													
Address: 703 East Clinton, PO Box 1613										Attn:																													
City: Hobbs										Address:																													
Phone #: 575 397-0510										Fax #:																													
Project #: RX5-16-005										City:																													
Project Name:										State:																													
Project Location:										Phone #:																													
Sample Name: B900B900										Fax #:																													
FOR LAB USE ONLY										PRESERV										SAMPLING																			
Lab I.D. Sample I.D.										MATRIX																													
										GROUNDWATER																													
										WASTEWATER																													
										SOIL																													
										OIL																													
										SLUDGE																													
										OTHER :																													
										ACID/BASE:																													
										ICE / COOL																													
										OTHER :																													
										DATE										TIME																			
H602785										G1										18/12										1542									
S1										G1										12/12										1543									
S2										G1										12/12										1543									
S3										G1										12/12										1543									

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: [Signature] Date: 12/13/16 Received By: [Signature] Date: 12/13/16

Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_ Date: \_\_\_\_\_

Delivered By: (Circle One) 2.8°C Sample Condition ☒ Cool ☒ Intact ☐ Yes ☐ No ☐ Yes ☐ No

Sampler - UPS - Bus - Other: \_\_\_\_\_

CHECKED BY: [Signature] (Initials) CA # 75

REMARKS: \_\_\_\_\_

Phone Result: ☐ Yes ☒ No Add'l Phone #: \_\_\_\_\_

Fax Result: ☐ Yes ☒ No Add'l Fax #: \_\_\_\_\_

**FIGURE 4**  
**Excavated Areas**



**APPENDIX B**  
**Post Remediation**  
**Lab data**

1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 07/24/17		Received: 07/24/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	TPH	BTEX	DATE
#1	A 3&4-RXNM072417	COMP	A	<10.0 mg/kg	<0.300 mg/kg	24-Jul
#2	B 3&4-RXNM072417	COMP	A	24.0 mg/kg	<0.300 mg/kg	24-Jul
#3	C 3&4-RXNM072417	COMP	A	15.9 mg/kg	<0.300 mg/kg	24-Jul
#4	D 3&4-RXNM072417	COMP	A	13.6 mg/kg	<0.300 mg/kg	24-Jul



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

July 24, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/24/17 10:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 07/24/2017  
Reported: 07/24/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 07/24/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: A 3 & 4 - RXNM072417 (H701915-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2017	ND	1.65	82.6	2.00	2.20	
Toluene*	<0.050	0.050	07/24/2017	ND	1.82	90.9	2.00	2.55	
Ethylbenzene*	<0.050	0.050	07/24/2017	ND	2.03	101	2.00	2.56	
Total Xylenes*	<0.150	0.150	07/24/2017	ND	6.13	102	6.00	3.15	
Total BTEX	<0.300	0.300	07/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2017	ND	190	95.0	200	0.548	
DRO >C10-C28	<10.0	10.0	07/24/2017	ND	199	99.5	200	1.17	
EXT DRO >C28-C36	<10.0	10.0	07/24/2017	ND					

Surrogate: 1-Chlorooctane 90.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 07/24/2017  
Reported: 07/24/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 07/24/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B 3 & 4 - RXNM072417 (H701915-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2017	ND	1.65	82.6	2.00	2.20	
Toluene*	<0.050	0.050	07/24/2017	ND	1.82	90.9	2.00	2.55	
Ethylbenzene*	<0.050	0.050	07/24/2017	ND	2.03	101	2.00	2.56	
Total Xylenes*	<0.150	0.150	07/24/2017	ND	6.13	102	6.00	3.15	
Total BTEX	<0.300	0.300	07/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2017	ND	190	95.0	200	0.548	
DRO >C10-C28	24.0	10.0	07/24/2017	ND	199	99.5	200	1.17	
EXT DRO >C28-C36	<10.0	10.0	07/24/2017	ND					

Surrogate: 1-Chlorooctane 86.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 07/24/2017  
Reported: 07/24/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 07/24/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: C 3 & 4 - RXNM072417 (H701915-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2017	ND	1.65	82.6	2.00	2.20	
Toluene*	<0.050	0.050	07/24/2017	ND	1.82	90.9	2.00	2.55	
Ethylbenzene*	<0.050	0.050	07/24/2017	ND	2.03	101	2.00	2.56	
Total Xylenes*	<0.150	0.150	07/24/2017	ND	6.13	102	6.00	3.15	
Total BTEX	<0.300	0.300	07/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2017	ND	190	95.0	200	0.548	
DRO >C10-C28	15.9	10.0	07/24/2017	ND	199	99.5	200	1.17	
EXT DRO >C28-C36	<10.0	10.0	07/24/2017	ND					

Surrogate: 1-Chlorooctane 93.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 07/24/2017  
Reported: 07/24/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 07/24/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: D 3 & 4 - RXNM072417 (H701915-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/24/2017	ND	1.65	82.6	2.00	2.20	
Toluene*	<0.050	0.050	07/24/2017	ND	1.82	90.9	2.00	2.55	
Ethylbenzene*	<0.050	0.050	07/24/2017	ND	2.03	101	2.00	2.56	
Total Xylenes*	<0.150	0.150	07/24/2017	ND	6.13	102	6.00	3.15	
Total BTEx	<0.300	0.300	07/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/24/2017	ND	190	95.0	200	0.548	
DRO >C10-C28	13.6	10.0	07/24/2017	ND	199	99.5	200	1.17	
EXT DRO >C28-C36	<10.0	10.0	07/24/2017	ND					

Surrogate: 1-Chlorooctane 85.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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



**(575) 393-2326 FAX (575) 393-2476**

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

NEW YORK T. 75  
962-553-6276  
6/16/01 01 553-6276

1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 07/24/17		Received: 08/04/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	300.0	BTEX	DATE
#1	AR1-A-RXNM072417	COMP	A	43.3 ppm	-	24-Jul
#2	AR1-B-RXNM072417	COMP	A	68.4 ppm	-	24-Jul
#3	AR1-C-RXNM072417	COMP	A	21.8 ppm	-	24-Jul
#4	AR1-D-RXNM072417	COMP	A	79.7 ppm	-	24-Jul



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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August 04, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/26/17 10:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 17:45

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AR1-A-RXNM072417	H701945-01	Soil	24-Jul-17 10:00	26-Jul-17 10:25
AR1-B-RXNM072417	H701945-02	Soil	24-Jul-17 10:00	26-Jul-17 10:25
AR1-C-RXNM072417	H701945-03	Soil	24-Jul-17 10:00	26-Jul-17 10:25
AR1-D-RXNM072417	H701945-04	Soil	24-Jul-17 10:00	26-Jul-17 10:25

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 17:45**AR1-A-RXNM072417****H701945-01 (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>43.3</b>		10.0	mg/kg wet	10	B707240	JDA	04-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 17:45**AR1-B-RXNM072417****H701945-02 (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>68.4</b>		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 17:45**AR1-C-RXNM072417****H701945-03 (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>21.8</b>		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 17:45**AR1-D-RXNM072417****H701945-04 (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>79.7</b>		10.0	mg/kg wet	10	B707239	JDA	04-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
04-Aug-17 17:45

### Soluble (DI Water Extraction) - Quality Control

#### Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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#### Batch B707239 - General Prep - Wet Chem

##### Blank (B707239-BLK1)

Prepared: 31-Jul-17 Analyzed: 03-Aug-17

Chloride ND 10.0 mg/kg wet

##### LCS (B707239-BS1)

Prepared: 31-Jul-17 Analyzed: 03-Aug-17

Chloride 232 10.0 mg/kg wet 250 92.9 85-115

##### LCS Dup (B707239-BSD1)

Prepared: 31-Jul-17 Analyzed: 03-Aug-17

Chloride 232 10.0 mg/kg wet 250 92.8 85-115 0.0990 20

#### Batch B707240 - General Prep - Wet Chem

##### Blank (B707240-BLK1)

Prepared: 31-Jul-17 Analyzed: 04-Aug-17

Chloride ND 10.0 mg/kg wet

##### LCS (B707240-BS1)

Prepared: 31-Jul-17 Analyzed: 04-Aug-17

Chloride 237 10.0 mg/kg wet 250 94.7 85-115

##### LCS Dup (B707240-BSD1)

Prepared: 31-Jul-17 Analyzed: 04-Aug-17

Chloride 236 10.0 mg/kg wet 250 94.5 85-115 0.178 20

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 07/24/17		Received: 08/04/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	300.0	BTEX	DATE
#1	BR1-A-RXNM072417	COMP	B	158 ppm	-	24-Jul
#2	BR1-B-RXNM072417	COMP	B	26.5 ppm	-	24-Jul
#3	BR1-C-RXNM072417	COMP	B	24.3 ppm	-	24-Jul
#4	BR1-D-RXNM072417	COMP	B	68.5 ppm	-	24-Jul



August 04, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/26/17 10:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 16:44

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BR1-A-RXNM072417	H701946-01	Soil	24-Jul-17 10:00	26-Jul-17 10:25
BR1-B-RXNM072417	H701946-02	Soil	24-Jul-17 10:00	26-Jul-17 10:25
BR1-C-RXNM072417	H701946-03	Soil	24-Jul-17 10:00	26-Jul-17 10:25
BR1-D-RXNM072417	H701946-04	Soil	24-Jul-17 10:00	26-Jul-17 10:25

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 16:44**BR1-A-RXNM072417****H701946-01 (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>158</b>		10.0	mg/kg wet	10	B707240	JDA	04-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 16:44**BR1-B-RXNM072417****H701946-02 (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>26.5</b>		10.0	mg/kg wet	10	B707240	JDA	04-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 16:44**BR1-C-RXNM072417****H701946-03 (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>24.3</b>		10.0	mg/kg wet	10	B707240	JDA	04-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
04-Aug-17 16:44**BR1-D-RXNM072417****H701946-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	---------	----------	--------	-------

**Green Analytical Laboratories****Soluble (DI Water Extraction)**

<b>Chloride</b>	<b>68.5</b>		10.0	mg/kg wet	10	B707240	JDA	04-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RX-SOIL INC.  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102

 Project: RUTH CO. SWD  
 Project Number: NONE GIVEN  
 Project Manager: JACOB MICKLE  
 Fax To: NA

 Reported:  
 04-Aug-17 16:44

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B707240 - General Prep - Wet Chem</b>									
<b>Blank (B707240-BLK1)</b>					Prepared: 31-Jul-17 Analyzed: 04-Aug-17				
Chloride	ND	10.0	mg/kg wet						
<b>LCS (B707240-BS1)</b>					Prepared: 31-Jul-17 Analyzed: 04-Aug-17				
Chloride	237	10.0	mg/kg wet	250		94.7	85-115		
<b>LCS Dup (B707240-BSD1)</b>					Prepared: 31-Jul-17 Analyzed: 04-Aug-17				
Chloride	236	10.0	mg/kg wet	250		94.5	85-115	0.178	20

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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

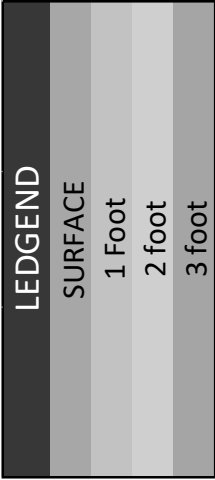


# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 08/07/17		Received: 08/08/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	TPH	BTEX	DATE
#1	A-S-RXNM080717	DISCRETE	A	592.6mg/kg	<0.300mg/kg	7-Aug
#2	B-1'-RXNM080717	DISCRETE	A	33.1mg/kg	<0.300mg/kg	7-Aug
#3	C-2'-RXNM080717	DISCRETE	A	463.0mg/kg	<0.300mg/kg	7-Aug
#4	D-3'-RXNM080717	DISCRETE	A	360.0mg/kg	<0.300mg/kg	7-Aug



August 08, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/07/17 8:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 08/07/2017  
Reported: 08/08/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 08/06/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: A-S RXNM080717 (H702056-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/08/2017	ND	1.84	92.1	2.00	1.63	
Toluene*	<0.050	0.050	08/08/2017	ND	1.73	86.5	2.00	2.07	
Ethylbenzene*	<0.050	0.050	08/08/2017	ND	1.79	89.5	2.00	1.29	
Total Xylenes*	<0.150	0.150	08/08/2017	ND	5.34	89.0	6.00	1.37	
Total BTEX	<0.300	0.300	08/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/08/2017	ND	171	85.5	200	1.47	
<b>DRO &gt;C10-C28</b>	<b>501</b>	10.0	08/08/2017	ND	177	88.4	200	3.59	
<b>EXT DRO &gt;C28-C36</b>	<b>91.6</b>	10.0	08/08/2017	ND					

Surrogate: 1-Chlorooctane 68.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 08/07/2017  
Reported: 08/08/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 08/06/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: B-1' RXNM080717 (H702056-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/08/2017	ND	1.84	92.1	2.00	1.63		
Toluene*	<0.050	0.050	08/08/2017	ND	1.73	86.5	2.00	2.07		
Ethylbenzene*	<0.050	0.050	08/08/2017	ND	1.79	89.5	2.00	1.29		
Total Xylenes*	<0.150	0.150	08/08/2017	ND	5.34	89.0	6.00	1.37		
Total BTX	<0.300	0.300	08/08/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/08/2017	ND	171	85.5	200	1.47	
DRO >C10-C28	23.0	10.0	08/08/2017	ND	177	88.4	200	3.59	
EXT DRO >C28-C36	10.1	10.0	08/08/2017	ND					

Surrogate: 1-Chlorooctane 89.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 08/07/2017  
Reported: 08/08/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 08/06/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: C-2' RXNM080717 (H702056-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/08/2017	ND	1.84	92.1	2.00	1.63	
Toluene*	<0.050	0.050	08/08/2017	ND	1.73	86.5	2.00	2.07	
Ethylbenzene*	<0.050	0.050	08/08/2017	ND	1.79	89.5	2.00	1.29	
Total Xylenes*	<0.150	0.150	08/08/2017	ND	5.34	89.0	6.00	1.37	
Total BTX	<0.300	0.300	08/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/08/2017	ND	171	85.5	200	1.47	
DRO >C10-C28	262	10.0	08/08/2017	ND	177	88.4	200	3.59	
EXT DRO >C28-C36	174	10.0	08/08/2017	ND					

Surrogate: 1-Chlorooctane 68.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 08/07/2017  
Reported: 08/08/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 08/06/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: D-3' RXNM080717 (H702056-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/08/2017	ND	1.84	92.1	2.00	1.63	
Toluene*	<0.050	0.050	08/08/2017	ND	1.73	86.5	2.00	2.07	
Ethylbenzene*	<0.050	0.050	08/08/2017	ND	1.79	89.5	2.00	1.29	
Total Xylenes*	<0.150	0.150	08/08/2017	ND	5.34	89.0	6.00	1.37	
Total BTX	<0.300	0.300	08/08/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/08/2017	ND	171	85.5	200	1.47	
DRO >C10-C28	209	10.0	08/08/2017	ND	177	88.4	200	3.59	
EXT DRO >C28-C36	151	10.0	08/08/2017	ND					

Surrogate: 1-Chlorooctane 78.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

---

Cardinal Laboratories

\*=Accredited Analyte

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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

[illegible]



1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 08/07/17		Received: 08/08/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	300.0	BTEX	DATE
#1	AR2-A-RXNM080717	DISCRETE	A	40.7mg/kg	-	7-Aug
#2	AR2-B-RXNM080717	DISCRETE	A	25.2mg/kg	-	7-Aug
#3	AR2-C-RXNM080717	DISCRETE	A	21.5mg/kg	-	7-Aug
#4	AR2-D-RXNM080717	DISCRETE	A	36.9mg/kg	-	7-Aug
#5	AR2-E-RXNM080717	DISCRETE	A	24.6mg/kg	-	7-Aug
#6	AR2-F-RXNM080717	DISCRETE	A	21.6mg/kg	-	7-Aug
#7	AR2-G-RXNM080717	DISCRETE	A	29.9mg/kg	-	7-Aug
#8	AR2-H-RXNM080717	DISCRETE	A	27.5mg/kg	-	7-Aug
#9	AR2-I-RXNM080717	DISCRETE	A	26.5mg/kg	-	7-Aug
#10	AR2-J-RXNM080717	DISCRETE	A	22.0mg/kg	-	7-Aug

LEDGEND
SURFACE
1 Foot
2 foot
3 foot



August 17, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/07/17 8:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AR2- A -RXNM080717	H702059-01	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- B -RXNM080717	H702059-02	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- C -RXNM080717	H702059-03	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- D -RXNM080717	H702059-04	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- E -RXNM080717	H702059-05	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- F -RXNM080717	H702059-06	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- G -RXNM080717	H702059-07	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- H -RXNM080717	H702059-08	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- I -RXNM080717	H702059-09	Soil	06-Aug-17 11:15	07-Aug-17 08:40
AR2- J -RXNM080717	H702059-10	Soil	06-Aug-17 11:15	07-Aug-17 08:40

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- A -RXNM080717****H702059-01 (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>40.7</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- B -RXNM080717****H702059-02 (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>25.2</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- C -RXNM080717****H702059-03 (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>21.5</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- D -RXNM080717****H702059-04 (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>36.9</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- E -RXNM080717****H702059-05 (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>24.6</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- F-RXNM080717****H702059-06 (Soil)**

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

<b>Chloride</b>	<b>21.6</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- G -RXNM080717****H702059-07 (Soil)**

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

<b>Chloride</b>	<b>29.9</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- H -RXNM080717****H702059-08 (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>27.5</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- I-RXNM080717****H702059-09 (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>26.5</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 11:53**AR2- J -RXNM080717****H702059-10 (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>22.0</b>		10.0	mg/kg wet	10	B708102	JDA	15-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
17-Aug-17 11:53

### Soluble (DI Water Extraction) - Quality Control

#### Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B708102 - General Prep - Wet Chem</b>									
<b>Blank (B708102-BLK1)</b>					Prepared & Analyzed: 14-Aug-17				
Chloride	ND	10.0	mg/kg wet						
<b>LCS (B708102-BS1)</b>					Prepared & Analyzed: 14-Aug-17				
Chloride	236	10.0	mg/kg wet	250	94.4	85-115			
<b>LCS Dup (B708102-BSD1)</b>					Prepared & Analyzed: 14-Aug-17				
Chloride	235	10.0	mg/kg wet	250	94.1	85-115	0.250	20	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Page 15 of 15



1RP-4572-0						
RXSOIL, INC.						
Ruth Co. SWD						
Sent: 08/07/17		Received: 08/08/17		Laboratory: Cardinal Labs		
Post Remediation: Data Results						
Sample	Lab ID Sample	Type	CELL	300.0	BTEX	DATE
#1	BR2-A-RXNM080717	DISCRETE	B	38.9mg/kg	-	7-Aug
#2	BR2-B-RXNM080717	DISCRETE	B	24.0mg/kg	-	7-Aug
#3	BR2-C-RXNM080717	DISCRETE	B	380.0mg/kg	-	7-Aug
#4	BR2-D-RXNM080717	DISCRETE	B	22.0mg/kg	-	7-Aug
#5	BR2-E-RXNM080717	DISCRETE	B	36.5mg/kg	-	7-Aug
#6	BR2-F-RXNM080717	DISCRETE	B	93.2mg/kg	-	7-Aug
#7	BR2-G-RXNM080717	DISCRETE	B	55.0mg/kg	-	7-Aug
#8	BR2-H-RXNM080717	DISCRETE	B	27.0mg/kg	-	7-Aug
#9	BR2-I-RXNM080717	DISCRETE	B	25.6mg/kg	-	7-Aug
#10	BR2-J-RXNM080717	DISCRETE	B	1340mg/kg	-	7-Aug

LEDGEND

SURFACE

1 Foot

2 foot

3 foot

August 17, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/07/17 8:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BR2- A -RXNM080617	H702060-01	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- B -RXNM080617	H702060-02	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- C -RXNM080617	H702060-03	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- D -RXNM080617	H702060-04	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- E -RXNM080617	H702060-05	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- F -RXNM080617	H702060-06	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- G -RXNM080617	H702060-07	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- H -RXNM080617	H702060-08	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- I -RXNM080617	H702060-09	Soil	06-Aug-17 12:15	07-Aug-17 08:40
BR2- J -RXNM080617	H702060-10	Soil	06-Aug-17 12:15	07-Aug-17 08:40

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- A -RXNM080617****H702060-01 (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>38.9</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- B -RXNM080617****H702060-02 (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>24.0</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- C -RXNM080617****H702060-03 (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>380</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- D -RXNM080617****H702060-04 (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>22.0</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- E -RXNM080617****H702060-05 (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	36.5		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- F -RXNM080617****H702060-06 (Soil)**

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

<b>Chloride</b>	<b>93.2</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- G -RXNM080617****H702060-07 (Soil)**

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

<b>Chloride</b>	<b>55.0</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- H -RXNM080617****H702060-08 (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>27.0</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- I-RXNM080617****H702060-09 (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>25.6</b>		10.0	mg/kg wet	10	B708103	JDA	16-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
17-Aug-17 17:18**BR2- J -RXNM080617****H702060-10 (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>1340</b>		50.0	mg/kg wet	50	B708103	JDA	17-Aug-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
17-Aug-17 17:18

### Soluble (DI Water Extraction) - Quality Control

#### Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B708103 - General Prep - Wet Chem</b>									
<b>Blank (B708103-BLK1)</b>					Prepared: 14-Aug-17 Analyzed: 16-Aug-17				
Chloride	ND	10.0	mg/kg wet						
<b>LCS (B708103-BS1)</b>					Prepared: 14-Aug-17 Analyzed: 16-Aug-17				
Chloride	239	10.0	mg/kg wet	250		95.4	85-115		
<b>LCS Dup (B708103-BSD1)</b>					Prepared: 14-Aug-17 Analyzed: 16-Aug-17				
Chloride	237	10.0	mg/kg wet	250		95.0	85-115	0.437	20

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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



~~222~~

Page 15 of 15

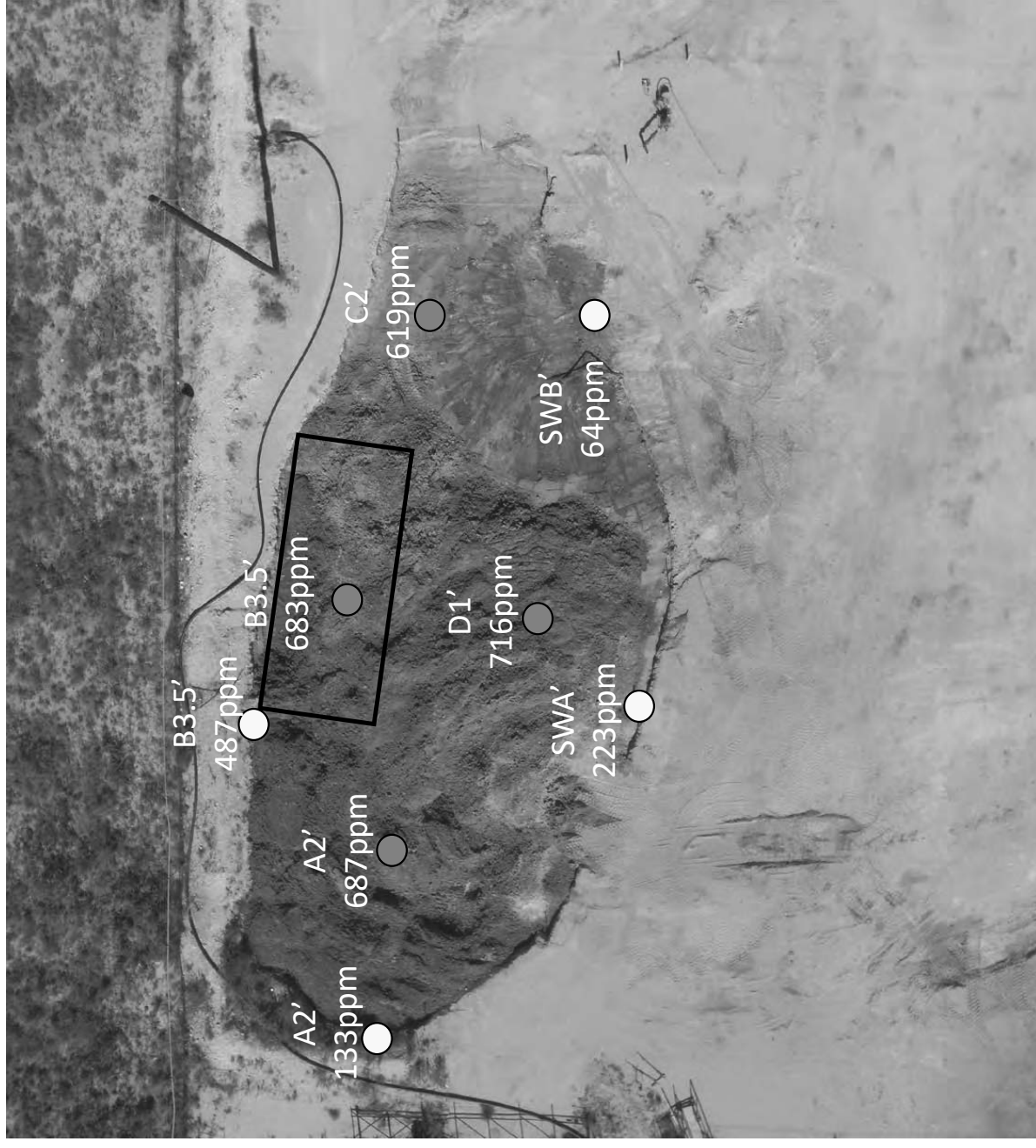


# **APPENDIX C**

## **Confirmation Samples**

## Area 1

- Bottom samples are marked  
RED.
- Side Wall samples are marked  
YELLOW.
- Black square indicates where  
liner was placed.



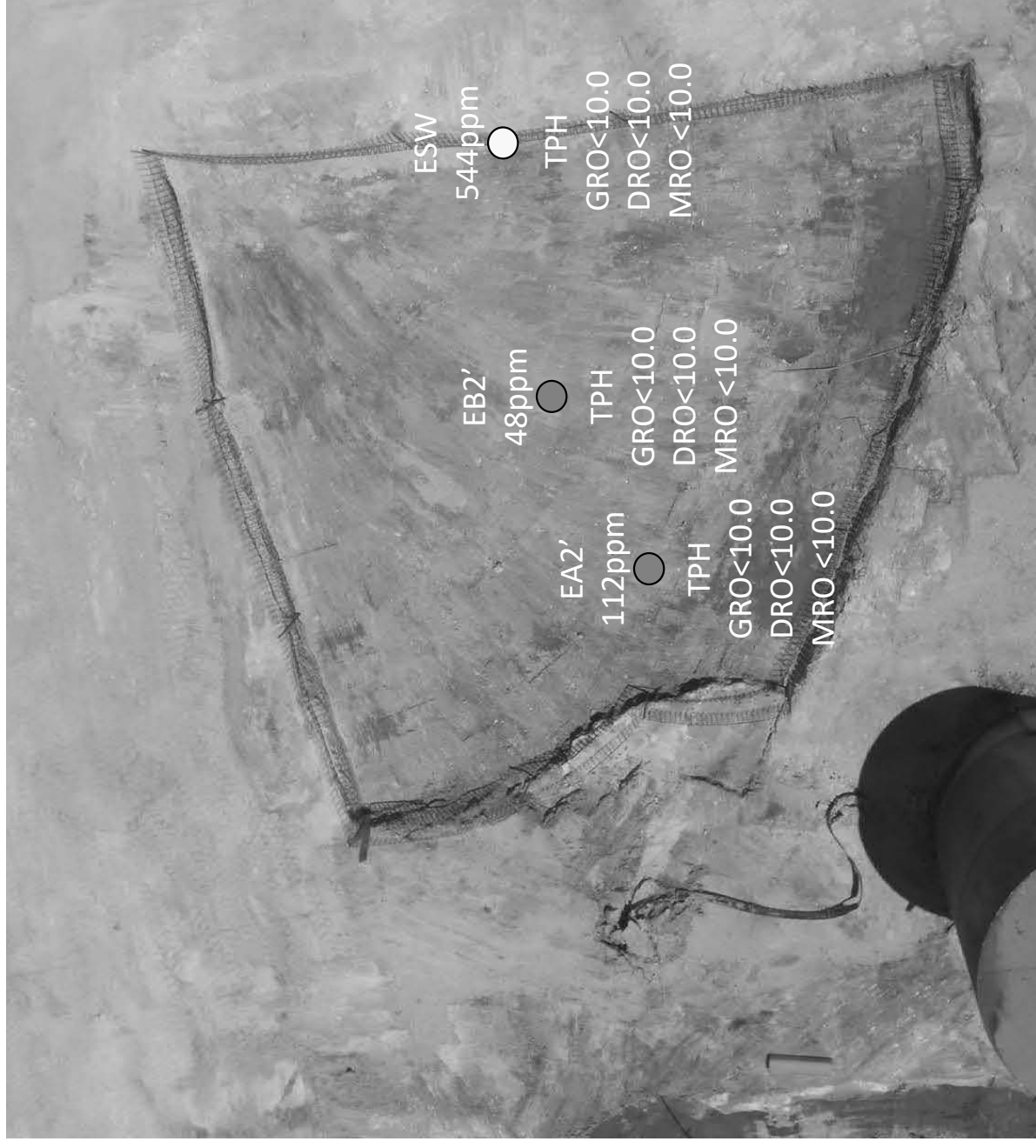
## Area 2

- The concrete drain was left in place
- Bottom sample was taken at 4 foot. Liner was placed on bottom



## Area 3

- Bottom samples at 32" were confirmed clean for chlorides and TPH below thresholds.
- As well as side wall sample.





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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July 24, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/12/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
R1-A2' BOTTOM-RXNM070917	H701814-01	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-A2' S.W.-RXNM070917	H701814-02	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-B3.5' BOTTOM-RXNM071017	H701814-03	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-B3.5' S.W.-RXNM071017	H701814-04	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-C2' BOTTOM-RXNM071017	H701814-05	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-D1' BOTTOM-RXNM071217	H701814-06	Soil	12-Jul-17 16:30	12-Jul-17 16:30
R1-D1' S.W.-RXNM071217	H701814-07	Soil	12-Jul-17 16:30	12-Jul-17 16:30

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-A2' BOTTOM-RXNM070917**  
**H701814-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	768		16.0	mg/kg	4	7071311	AC	13-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	687		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-A2' S.W.-RXNM070917****H701814-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	--------------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories****Inorganic Compounds**

Chloride	272		16.0	mg/kg	4	7071311	AC	13-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	133		10.0	mg/kg wet	10	B707153	JDA	20-Jul-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-B3.5' BOTTOM-RXNM071017****H701814-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	800		16.0	mg/kg	4	7071311	AC	13-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	683		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-B3.5' S.W.-RXNM071017****H701814-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	640		16.0	mg/kg	4	7071311	AC	14-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	487		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-C2' BOTTOM-RXNM071017****H701814-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	656		16.0	mg/kg	4	7071311	AC	14-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	619		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-D1' BOTTOM-RXNM071217****H701814-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	656		16.0	mg/kg	4	7071311	AC	14-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	716		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
24-Jul-17 15:59**R1-D1' S.W.-RXNM071217**  
**H701814-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	800		16.0	mg/kg	4	7071311	AC	14-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	645		20.0	mg/kg wet	20	B707153	JDA	21-Jul-17	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
24-Jul-17 15:59

### Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7071311 - 1:4 DI Water</b>									
<b>Blank (7071311-BLK1)</b>				Prepared & Analyzed: 13-Jul-17					
Chloride	ND	16.0	mg/kg						
<b>LCS (7071311-BS1)</b>				Prepared & Analyzed: 13-Jul-17					
Chloride	416	16.0	mg/kg	400		104	80-120		
<b>LCS Dup (7071311-BSD1)</b>				Prepared & Analyzed: 13-Jul-17					
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
24-Jul-17 15:59

**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 B707153 - General Prep - Wet Chem**
**Blank (B707153-BLK1)**

Prepared: 19-Jul-17 Analyzed: 20-Jul-17

Chloride ND 10.0 mg/kg wet

**LCS (B707153-BS1)**

Prepared: 19-Jul-17 Analyzed: 20-Jul-17

Chloride 236 10.0 mg/kg wet 250 94.2 85-115

**LCS Dup (B707153-BSD1)**

Prepared: 19-Jul-17 Analyzed: 20-Jul-17

Chloride 232 10.0 mg/kg wet 250 92.7 85-115 1.69 20

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

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

Brought directly to laboratory field

August 15, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/28/17 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/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:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
15-Aug-17 10:29

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SWA -RXNM072817	H701982-01	Soil	28-Jul-17 15:00	28-Jul-17 15:30
SWB -RXNM072817	H701982-02	Soil	28-Jul-17 15:00	28-Jul-17 15:30
D4 - RXNM072817	H701982-03	Soil	28-Jul-17 15:00	28-Jul-17 15:30

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
15-Aug-17 10:29**SWA -RXNM072817****H701982-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	256		16.0	mg/kg	4	7072805	AC	28-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	223		10.0	mg/kg wet	10	B708046	JDA	09-Aug-17	EPA300.0	
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Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
15-Aug-17 10:29**SWB -RXNM072817****H701982-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	128		16.0	mg/kg	4	7072805	AC	28-Jul-17	4500-Cl-B	
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**Green Analytical Laboratories****Soluble (DI Water Extraction)**

Chloride	64.5		10.0	mg/kg wet	10	B708046	JDA	09-Aug-17	EPA300.0	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NAReported:  
15-Aug-17 10:29**D4 - RXNM072817****H701982-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Chloride	2880		16.0	mg/kg	4	7072805	AC	28-Jul-17	4500-Cl-B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10	<10.0		10.0	mg/kg	1	7072806	MS	29-Jul-17	8015B	
DRO >C10-C28	<10.0		10.0	mg/kg	1	7072806	MS	29-Jul-17	8015B	
EXT DRO >C28-C36	11.1		10.0	mg/kg	1	7072806	MS	29-Jul-17	8015B	
Surrogate: 1-Chlorooctane			89.9 %	28.3-164		7072806	MS	29-Jul-17	8015B	
Surrogate: 1-Chlorooctadecane			98.9 %	34.7-157		7072806	MS	29-Jul-17	8015B	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
15-Aug-17 10:29

### Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 7072805 - 1:4 DI Water</b>									
<b>Blank (7072805-BLK1)</b>				Prepared & Analyzed: 28-Jul-17					
Chloride	ND	16.0	mg/kg						
<b>LCS (7072805-BS1)</b>				Prepared & Analyzed: 28-Jul-17					
Chloride	432	16.0	mg/kg	400		108	80-120		
<b>LCS Dup (7072805-BSD1)</b>				Prepared & Analyzed: 28-Jul-17					
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Analytical Results For:

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
15-Aug-17 10:29

### 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 7072806 - General Prep - Organics

##### Blank (7072806-BLK1)

Prepared &amp; Analyzed: 28-Jul-17

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	55.1		mg/kg	50.0		110	28.3-164			
Surrogate: 1-Chlorooctadecane	59.3		mg/kg	50.0		119	34.7-157			

##### LCS (7072806-BS1)

Prepared &amp; Analyzed: 28-Jul-17

GRO C6-C10	216	10.0	mg/kg	200		108	76.6-119			
DRO >C10-C28	227	10.0	mg/kg	200		114	81.4-124			
Total TPH C6-C28	443	10.0	mg/kg	400		111	79.4-121			
Surrogate: 1-Chlorooctane	62.1		mg/kg	50.0		124	28.3-164			
Surrogate: 1-Chlorooctadecane	65.6		mg/kg	50.0		131	34.7-157			

##### LCS Dup (7072806-BSD1)

Prepared &amp; Analyzed: 28-Jul-17

GRO C6-C10	210	10.0	mg/kg	200		105	76.6-119	2.77	7.94	
DRO >C10-C28	222	10.0	mg/kg	200		111	81.4-124	2.33	9.83	
Total TPH C6-C28	432	10.0	mg/kg	400		108	79.4-121	2.54	8.57	
Surrogate: 1-Chlorooctane	60.5		mg/kg	50.0		121	28.3-164			
Surrogate: 1-Chlorooctadecane	65.8		mg/kg	50.0		132	34.7-157			

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RX-SOIL INC.  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102

Project: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Manager: JACOB MICKLE  
Fax To: NA

Reported:  
15-Aug-17 10:29

**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
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

**Batch B708046 - General Prep - Wet Chem**
**Blank (B708046-BLK1)**

Prepared: 07-Aug-17 Analyzed: 09-Aug-17

Chloride ND 1.00 mg/kg wet

**LCS (B708046-BS1)**

Prepared: 07-Aug-17 Analyzed: 09-Aug-17

Chloride 239 10.0 mg/kg wet 250 95.7 85-115

**LCS Dup (B708046-BSD1)**

Prepared: 07-Aug-17 Analyzed: 09-Aug-17

Chloride 242 10.0 mg/kg wet 250 96.6 85-115 0.915 20

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

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

[illegible]

July 31, 2017

JACOB MICKLE

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: RUTH CO. SWD

Enclosed are the results of analyses for samples received by the laboratory on 07/31/17 11:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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:**

RX-SOIL INC.  
JACOB MICKLE  
201 MAIN STREET, SUITE 1360  
FORT WORTH TX, 76102  
Fax To: NA

Received: 07/31/2017  
Reported: 07/31/2017  
Project Name: RUTH CO. SWD  
Project Number: NONE GIVEN  
Project Location: HOBBS

Sampling Date: 07/30/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: R2A-RXNM073017 (H701985-01)** MID PROJECT SAMPLE - NOT CLOSURE

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2200</b>	16.0	07/31/2017	ND	416	104	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2017	ND	184	91.8	200	0.132	
<b>DRO &gt;C10-C28</b>	<b>913</b>	10.0	07/31/2017	ND	187	93.7	200	1.30	
<b>EXT DRO &gt;C28-C36</b>	<b>379</b>	10.0	07/31/2017	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	91.1 %	28.3-164							
<i>Surrogate: 1-Chlorooctadecane</i>									
	107 %	34.7-157							

**Sample ID: R2B-RXNM073017 (H701985-02)** MID PROJECT SAMPLE - NOT CLOSURE

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1360</b>	16.0	07/31/2017	ND	416	104	400	3.77	
TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2017	ND	184	91.8	200	0.132	
<b>DRO &gt;C10-C28</b>	<b>30.8</b>	10.0	07/31/2017	ND	187	93.7	200	1.30	
<b>EXT DRO &gt;C28-C36</b>	<b>22.6</b>	10.0	07/31/2017	ND					
<i>Surrogate: 1-Chlorooctane</i>									
	90.6 %	28.3-164							
<i>Surrogate: 1-Chlorooctadecane</i>									
	91.3 %	34.7-157							

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RX-SOIL INC.  
 JACOB MICKLE  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

 Received: 07/31/2017  
 Reported: 07/31/2017  
 Project Name: RUTH CO. SWD  
 Project Number: NONE GIVEN  
 Project Location: HOBBS

 Sampling Date: 07/29/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: EA2-RXNM072917 (H701985-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/31/2017	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2017	ND	184	91.8	200	0.132	
DRO >C10-C28	<10.0	10.0	07/31/2017	ND	187	93.7	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/31/2017	ND					
Surrogate: 1-Chlorooctane		93.8 %	28.3-164						
Surrogate: 1-Chlorooctadecane		92.0 %	34.7-157						

**Sample ID: EB2-RXNM072917 (H701985-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/31/2017	ND	416	104	400	3.77	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	07/31/2017	ND	184	91.8	200	0.132	
DRO >C10-C28	<10.0	10.0	07/31/2017	ND	187	93.7	200	1.30	
EXT DRO >C28-C36	<10.0	10.0	07/31/2017	ND					
Surrogate: 1-Chlorooctane		97.7 %	28.3-164						
Surrogate: 1-Chlorooctadecane		94.3 %	34.7-157						

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 RX-SOIL INC.  
 JACOB MICKLE  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

 Received: 07/31/2017  
 Reported: 07/31/2017  
 Project Name: RUTH CO. SWD  
 Project Number: NONE GIVEN  
 Project Location: HOBBS

 Sampling Date: 07/29/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: ESW-RXNM072917 (H701985-05)**

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>544</b>	16.0	07/31/2017	ND	416	104	400	3.77		
TPH 8015M			mg/kg							
			Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	07/31/2017	ND	184	91.8	200	0.132		
DRO >C10-C28	<10.0	10.0	07/31/2017	ND	187	93.7	200	1.30		
EXT DRO >C28-C36	<10.0	10.0	07/31/2017	ND						
Surrogate: 1-Chlorooctane	92.9 %	28.3-164								
Surrogate: 1-Chlorooctadecane	93.3 %	34.7-157								

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Celey D. Keene, Lab Director/Quality Manager

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***	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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Cardinal Laboratories

\*=Accredited Analyte

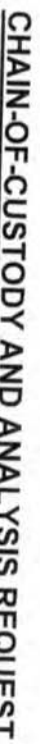
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Celey D. Keene, Lab Director/Quality Manager





**(575) 393-2326 FAX (575) 393-2476**

Page 6 of 6

**FIGURE 5&6**  
**Mid Project**





**FIGURES 7&8**  
**Final Project**







# **APPENDIX D**

## **C-141**



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 <i>Ruthco Oil Co. LLC</i>	Contact <i>Joshua Ruth</i>	
Address	Telephone No. <i>575-631-0437</i>	
Facility Name <i>Ruthco SWD</i>	Facility Type <i>Disposal</i>	
Surface Owner	Mineral Owner	API No. <i>30-025-07950</i>

**LOCATION OF RELEASE**

Unit Letter <i>F</i>	Section <i>30</i>	Township <i>18S</i>	Range <i>39E</i>	Feet from the <i>1980</i>	North/South Line <i>N</i>	Feet from the <i>2310</i>	East/West Line <i>W</i>	County <i>hea</i>
-------------------------	----------------------	------------------------	---------------------	------------------------------	------------------------------	------------------------------	----------------------------	----------------------

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release <i>water and skin oil</i>	Volume of Release <i>69</i>	Volume Recovered <i>69</i>
Source of Release <i>tanks on location</i>	Date and Hour of Occurrence <i>11/16/11 11 PM</i>	Date and Hour of Discovery <i>11/16/11 11 PM</i>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <i>Kristen Lynch</i>	
By Whom? <i>Joshua Ruth</i>	Date and Hour <i>11/17/11 8 am</i>	
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.\* *lightning struck TSD oil gun barrel on location - pick up all fluids on ground and going to haul off bad soil and bring back in good dirt.*

Describe Area Affected and Cleanup Action Taken.\*

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>Josh C Ruth</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <i>Joshua Ruth</i>		Approved by Environmental Specialist:	
Title: <i>President</i>	Approval Date:	Expiration Date:	
E-mail Address:	Conditions of Approval:	Attached <input type="checkbox"/>	
Date:	Phone:		

\* Attach Additional Sheets If Necessary

## **Appendix E**

### **Ground Water Table**



# 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	Depth Well	Depth Water	Water Column
<a href="#">L 02204</a>	L	LE		1	4	1	30	18S	39E	679189	3621984*	123	65	58
<a href="#">L 05134</a>	R	L	LE	1	1	2	30	18S	39E	679584	3622394*	150	78	72
<a href="#">L 05134 POD2</a>	L	LE		1	1	2	30	18S	39E	679584	3622394*	250		
<a href="#">L 05197</a>	L	LE				2	30	18S	39E	679893	3622093*	100	70	30
<a href="#">L 05924 POD2</a>	R	L	LE		3	2	30	18S	39E	679692	3621892*	150	85	65
<a href="#">L 05924 POD3</a>	L	LE		4	3	2	30	18S	39E	679898	3621873	237		
<a href="#">L 06512</a>	L	LE			2	2	30	18S	39E	680087	3622302*	170	70	100
<a href="#">L 07113</a>	L	LE		4	2	2	30	18S	39E	680186	3622201*	120		
<a href="#">L 07231</a>	R	L	LE	2	3	2	30	18S	39E	679791	3621991*	126	72	54
<a href="#">L 07231 POD2</a>	R	L	LE	2	3	2	30	18S	39E	679791	3621991*	150	50	100
<a href="#">L 07231 POD3</a>	L	LE		2	3	2	30	18S	39E	679791	3621991*	195		
<a href="#">L 07492</a>	L	LE				2	30	18S	39E	679893	3622093*	150	82	68
<a href="#">L 07671 POD1</a>	L	LE		2	4	1	30	18S	39E	679389	3621984*	150		
<a href="#">L 07671 POD2</a>	L	LE		2	4	1	30	18S	39E	679389	3621984*	150		
<a href="#">L 08039</a>	L	LE			4	2	30	18S	39E	680095	3621899*	150	50	100
<a href="#">L 08040</a>	L	LE			4	2	30	18S	39E	680095	3621899*	150	85	65
<a href="#">L 08294</a>	L	LE		2	3	2	30	18S	39E	679791	3621991*	150	90	60
<a href="#">L 08550</a>	L	LE		2	3	2	30	18S	39E	679791	3621991*	150	82	68
<a href="#">L 09289</a>	L	LE		1	2	2	30	18S	39E	679986	3622401*	150	60	90
<a href="#">L 09787</a>	R	L	LE	2	4	2	30	18S	39E	680194	3621998*	150	78	72
<a href="#">L 09912</a>	L	LE			2	2	30	18S	39E	680087	3622302*	155	95	60
<a href="#">L 09948</a>	R	L	LE		2	2	30	18S	39E	680087	3622302*	150	88	62
<a href="#">L 09948 POD2</a>	L	LE		3	2	2	30	18S	39E	679950	3622157	255		
<a href="#">L 10389</a>	L	LE				2	30	18S	39E	679893	3622093*	180	87	93
<a href="#">L 10538</a>	L	LE		1	1	2	30	18S	39E	679584	3622394*	200		
<a href="#">L 11356</a>	L	LE		4	3	2	30	18S	39E	679791	3621791*	238		

\*UTM location was derived from PLSS - see Help

(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	Depth Well	Depth Water	Water Column
<u>L 11498</u>	L	LE		2	3	2	30	18S	39E	679791	3621991*	245		
<u>L 11634</u>	L	LE		4	3	2	30	18S	39E	679791	3621791*	234		
<u>L 11639</u>	L	LE		1	1	2	30	18S	39E	679584	3622394*	250		
<u>L 12305 POD1</u>	L	LE		1	2	4	30	18S	39E	679921	3621593	235		
<u>L 12535 POD1</u>	L	LE		2	2	2	30	18S	39E	680238	3622387	235		
<u>L 12711 POD1</u>	L	LE		2	1	4	30	18S	39E	679895	3621595	250		
<u>L 13397 POD1</u>	L	LE		2	2	2	30	18S	39E	680164	3622398	235	98	137

Average Depth to Water: **76 feet**

Minimum Depth: **50 feet**

Maximum Depth: **98 feet**

**Record Count: 33**

**PLSS Search:**

Section(s): 30

Township: 18S

Range: 39E

**\*UTM location was derived from PLSS - see Help**

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.