APPROVED
By Olivia Yu at 9:12 am, Oct 19, 2018

NMOCD grants closure to 1RP-3619.

Cross Border Resources
Sunray State Tank Battery

Closure Report
Section 16, Township 8S, Range 31E
Chaves County, New Mexico

September 14, 2018

Prepared for:
Red Mountain Resources
14282 Gills Rd.
Farmers Branch, TX 75244

By:

Safety & Environmental Solutions, Inc.
703 E. Clinton Suite 102
Hobbs, New Mexico 88240
(505) 397-0510

TABLE OF CONTENTS

I. Company Contacts

NAME	Company	Telephone	E-mail
Ross Pearson	Red Mountain Resources, Inc.	817-996-4653	ross@redmountainresources.com
Bob Allen	SESI	505-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged to perform delineation services on the Sunray State Battery located in Section 16, Township 8S, Range 31E Chaves County, New Mexico. According to the C-141, on October 7, 2014 a compromised line to the heater treater ruptured, causing a release of crude oil to ground surface. The line was repaired, and the impacted surface area of approximately 35 feet by 70 feet was fenced in. The C-141 was filed with NMOCD on April 24, 2015 and assigned **1RP-3619**.

III. Surface and Ground Water

Research of the *New Mexico Office of the State Engineer* indicates that there is no record of groundwater in the immediate vicinity, but that average depth to water for Township 8S, and Range 31E is 103' BGS. USGS records show two water wells are located in adjacent sections (17, 20) with an average depth to water of 79 feet in 1994, the last year of record.

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethyl benzene, and total xylenes (BTEX), and 100 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 250 mg/kg (PPM) is also required.

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	**X**
	>100 feet	0 points	
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	**X**
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	**X**
RANKING SCORE (TOTAL POINTS)			**10**

OCD remediation guidance for a ranking score of 10 to 19 total points is benzene at 10 ppm, total BTEX at 50 ppm and TPH at 1,000 TPH.

V. Work Performed

On June 15, 2016 SESI personnel were on location to address the concerns of ground surface impact. The impacted area (current spill and previous hard pan) was mapped utilizing a handheld Trimble Juno 3B, whereby it was determined that the total impacted area measured approximately 28,704 sq. ft. The site was flagged in order to activate a line locate request with the New Mexico One Call Center, in order to conduct a vertical delineation of the impacted area (Figure 1, Site Map).

On June 29, 2016 SESI personnel revisited the site in order to determine the vertical extent of impact and map sample point positions. Four (4) Soil Borings were advanced from depths ranging from 1 to 17 feet below ground surface with a hand auger. On July 1, 2016, SESI personnel returned to the site with a truck mounted GeoProbe to obtain deeper soil samples in the vicinity of BH-3. This borehole was labeled BH-3A (Figure 2, Borehole locations (2016) and Impacted Area). Representative soil samples were retrieved at various depths below ground surface, properly packaged, preserved, transported to Cardinal Labs of Hobbs, NM by Chain of Custody and analyzed for Chloride (Cl^-) (Method SM 4500Cl-B). The results are presented in the table below:

Soil Sample Results: Field and LaboratoryTests 06-29-16 to 07-01-16			
SAMPLE ID	**Sample Date**	**Field Test CHLORIDES (ppm)**	**Lab Results CHLORIDES (mg/kg)**
BH-1 @ 4’	6/29/16	< 124	32.0
BH-2 @ 4’	6/29/16	<124	32.0
BH-3 @ 4’	6/29/16	368	- -
BH-3 @ 7’	6/29/16	8,548	- -
BH-3 @ 11’	6/29/16	4,884	- -
BH-3 @ 13’	6/29/16	3,164	- -
BH-3 @ 17’	6/29/16	1,528	- -
BH-3A @ 4’	7/01/16	1,428	976
BH-3A @ 8’	7/01/16	4,884	- -
BH-3A @ 12’	7/01/16	1,636	2,440
BH-3A @ 16’	7/01/16	1,012	- -
BH-3A @ 20’	7/01/16	872	976
BH-3A @ 24’	7/01/16	360	- -
BH-3A @ 27’	7/01/16	360	192
BH-4 Surface	6/29/16	<124	- -
BH-4 @ 1’	6/29/16	- -	16.0

(Note: Data previously submitted with an earlier report and request for closure showed chloride field sample results for BH-1 from the surface to a depth of 3 feet at 1030 to 1045 ppm. However, due to a transcription error, the values submitted were actually the times the samples were collected and set aside for possible future testing. Based on the field test value of <124 ppm for BH-1 at 4 feet, only that sample was sent for laboratory confirmation and the other samples were discarded.)

Hydrocarbon hardpan from a much earlier crude release occupied most of the impacted area. The thickness was generally only several inches and less than a foot. Between October 13, 2016 and October 24, 2016, Gandy removed the hardpan from the site and transported the material to an NMOCD approved facility. They replaced it with a layer of clean sandy material, much of which has since blown aside leaving some native soil exposed.

On March 20, 2017 SESI was on site to install auger holes for confirmation soil samples (Figure 3, Auger Hole Samples). The maximum depth for the auger samples ranged from 1.5 to 3 feet before auger refusal. Soil samples were field tested for chlorides and all sample results were less than 250 ppm. The samples were submitted to Cardinal Labs for analytical testing. The results are presented in the table below.

Soil Sample Results: Field and Laboratory Tests 03-20-17			
SAMPLE ID	**Sample Date**	**Field Test CHLORIDES (ppm)**	**Lab Results CHLORIDES (mg/kg)**
AH-1 @ 1’	3/20/17	< 124	16.0
AH-1 @ 1.5’	3/20/17	<124	16.0 (then refusal)
AH-2 @ 1’	3/20/17	<124	<16.0
AH-2 @ 2’	3/20/17	<124	<16.0 (then refusal)
AH-3 @ 1’	3/20/17	<124	<16.0
AH-3 @ 2’	3/20/17	<124	<16.0
AH-3 @ 3’	3/20/17	<124	<16.0 (then refusal)

On June 20, 2017 SESI was on site to install test trenches to a depth of 14 feet to determine hydrocarbon and chloride concentrations at depths deeper than the auger tests (Figure 4, Test Trench Locations, June 2017).

When digging the test trenches, soil lithology was visually observed and recorded in the field book:
TT-1: 1-3 ft., Red sandy clay; 3-9 ft., Red sand, clay and caliche; 9-14 ft., Red sandy clay
TT-2: 1-3 ft., Red sand; 3-6 ft., Caliche and sand; 6-9 ft. Red sandy clay; 9-14 ft. Red clay and sand.
TT-3: 1-3 ft. Red sand with clay; 4-5 ft., Red sandy clay and caliche; 5-14 ft. Red sandy clay.

Hydrocarbons tested included BTEX and TPH. No BTEX was detected in any of the samples at any depth. DRO TPH of 20.0 mg/kg was detected in TT-1 at 1 foot; DRO TPH of 16.7 mg/kg was detected in TT-2 at 3 feet.

Soil samples were field tested for chlorides and most sample results were less than 250 ppm. The samples were submitted to Cardinal Labs for analytical testing. The results are presented in the table below.

Soil Sample Results: Field and Laboratory Tests 06-20-17			
SAMPLE ID	**Sample Date**	**Field Test CHLORIDES (ppm)**	**Lab Results CHLORIDES (mg/kg)**
TT-1 @ 1’	6/20/17	- -	76.7
TT-1 @ 3’	6/20/17	344	285
TT-1 @ 4’	6/20/17	156	113
TT-1 @ 9’	6/20/17	<124	26.7
TT-1 @ 14’	6/20/17	<124	27.0
TT-2 @ 1’	6/20/17	- -	10.2
TT-2 @ 3’	6/20/17	- -	12.0
TT-2 @ 4’	6/20/17	212	174
TT-2 @ 9’	6/20/17	<124	82.3
TT-2 @ 14’	6/20/17	<124	27.8
TT-3 @ 1’	6/20/17	- -	<10.0
TT-3 @ 3’	6/20/17	- -	16.6
TT-3 @ 4’	6/20/17	<124	<10.0
TT-3 @ 9’	6/20/17	<124	78.6
TT-3 @ 14’	6/20/17	<124	<100

Between November 7, 2017 and November 8, 2017, SESI personnel were onsite with Gandy Corporation backhoe operator at the Sunray State 2 Battery to begin remediation at the source of the current (2014) release. The initial excavation was 12 by 12 square feet and soil samples were obtained from all four walls and field tested for chloride.
The field tests determined that additional excavation was necessary and the excavation was expanded to approximately 30 feet by 35 feet by 4 feet deep (Figure 5, Excavation and Sample Point Locations). Soil samples were obtained and field tested for chloride on all four walls, and two areas from the bottom of the excavation. The results of the field and laboratory tests of the soil are shown in the table below. In addition to chloride testing, the samples were submitted for BTEX and TPH testing. Test results for the six samples showed no BTEX or TPH detections.

Soil Sample Results: Field and Laboratory Tests 11-07-17			
SAMPLE ID	**Location**	**Field Test CHLORIDES (ppm)**	**Lab Results CHLORIDES (mg/kg)**
SP-1	Bottom 4 ft.	236	150
SP-2	Bottom 4 ft.	944	900
SP-3	North Wall	208	<30
SP-4	West Wall	236	120
SP-5	South Wall	236	110
SP-6	East Wall	208	65

A 20 mil poly liner was installed and filled with clean backfill material. The excavation and sample points were mapped and photos were taken of the excavation and the installed liner. All soil samples were properly preserved and submitted for laboratory analysis.

On December 11, 2017, SESI personnel were onsite at the CBR Sunray Battery to till and reseed the affected area. SESI personnel walked the whole area of the site and hand spread the seed. Before and after photos of the area were taken. SESI personnel returned to the area on February 27, 2018 to perform additional seeding of the tilled area. The most recent Google Earth photo (January 2018) shows the tilled area (see also Figure 6).

On June 25, 2018 SESI was on site to take auger hole samples in the vicinity of the test trenches. Samples (labeled as boreholes) were collected for laboratory analysis of chlorides, BTEX and TPH (Figure 6, Borehole Sample Locations June 2018). No field chloride tests were performed. Laboratory results showed no detections of BTEX or TPH. Laboratory test results for chlorides are shown in the table below.

Soil Sample Results: Laboratory Tests 06-25-18			
SAMPLE ID	**Location**	**Field Test CHLORIDES (ppm)**	**Lab Results CHLORIDES (mg/kg)**
BH-1	Surface	- -	238
BH-1	1 ft.	- -	140
BH-1	2 ft.	- -	161
BH-1	3 ft.	- -	186
BH-2	Surface	- -	18.6
BH-2	1 ft.	- -	17.1
BH-2	2 ft.	- -	15.4
BH-2	3 ft.	- -	19.3

VI. Request for Closure

The results of the confirmation sampling indicate that all soils impacted above 300 ppm chlorides have been removed or isolated with the liner at the excavation. Those removed were transported to an approved NMOCD facility for disposal. The area of the excavation has been backfilled with clean soil and returned to grade.
Both areas have been reseeded with BLM #2-LPC seed mixture, and SESI performed a second application in spring 2018. Cross Border Resources respectfully submits this closure report for your consideration, and requests that no further action be required.

VII. Figures & Appendices

Figure 1 – Sunray State Battery Map Dated June 2014
Figure 2– Borehole Locations and Impacted Area Map Dated 2016
Figure 3 – Auger Hole Locations Map Dated March 2017
Figure 4 – Test Trench Locations Map Dated June 2017
Figure 5 – Excavation and Sample Point Locations Map Dated November 2017
Figure 6 – Borehole Sample Locations Map Dated June 2018
Appendix A – Analytical Results
Appendix B – Site Photos
Appendix C – C-141

Figure 1
Sunray State Battery
June 2014 Map

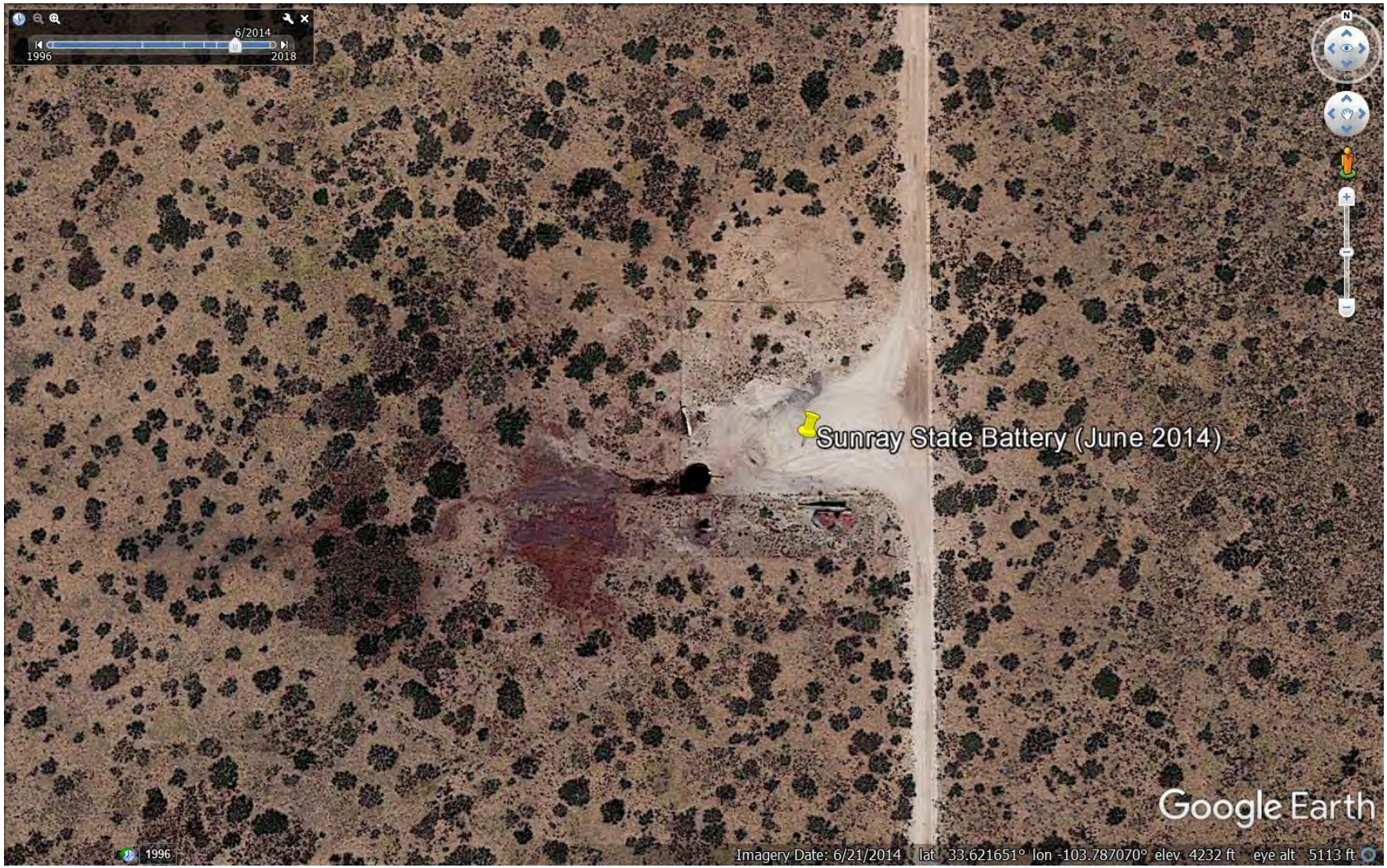

6/2014
1996
2018
Sunray State Battery (June 2014)
Google Earth
1996
Imagery Date: 6/21/2014 lat 33.621651° lon -103.787070° elev 4232 ft eye alt 5113 ft

Figure 2
Borehole Locations and Impacted Area
2016 Map


10/2014
BH-2 6-29-16
BH-3A 7-1-16
BH-3 6-29-16
Area 28,704 sqft
BH-4 6-29-16
BH-1 6-29-16
Google Earth
1996
Imagery Date: 10/4/2014 lat 33.621480° lon -103.787408° elev 4230 ft eye alt 4930 ft

Figure 3
Auger Hole Locations
March 2017 Map


10/2014
AH-2
AH-3
AH-1
Google Earth
1996
Imagery Date: 10/4/2014 lat 33.621482° lon -103.787333° elev 4231 ft eye alt 4924 ft

Figure 4
Test Trench Locations
June 2017 Map


10/2014
TT 2
AH-2
AH-3
TT 3
TT 1
AH-1
Google Earth
1996
Imagery Date: 10/4/2014 lat 33.621496° lon -103.787317° elev 4230 ft eye alt 4828 ft

Figure 5
Excavation and Sample Point Locations
November 2017 Map

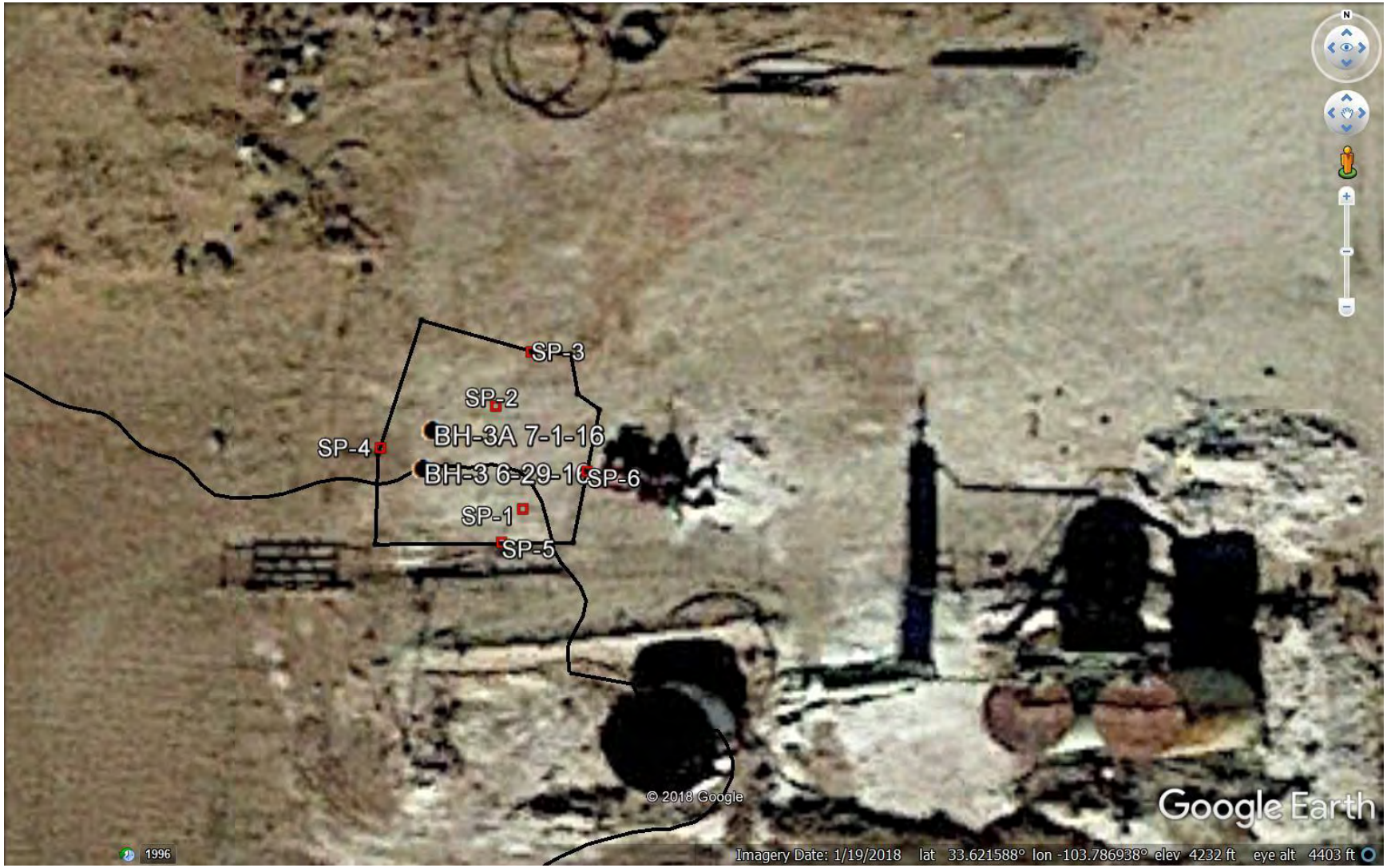
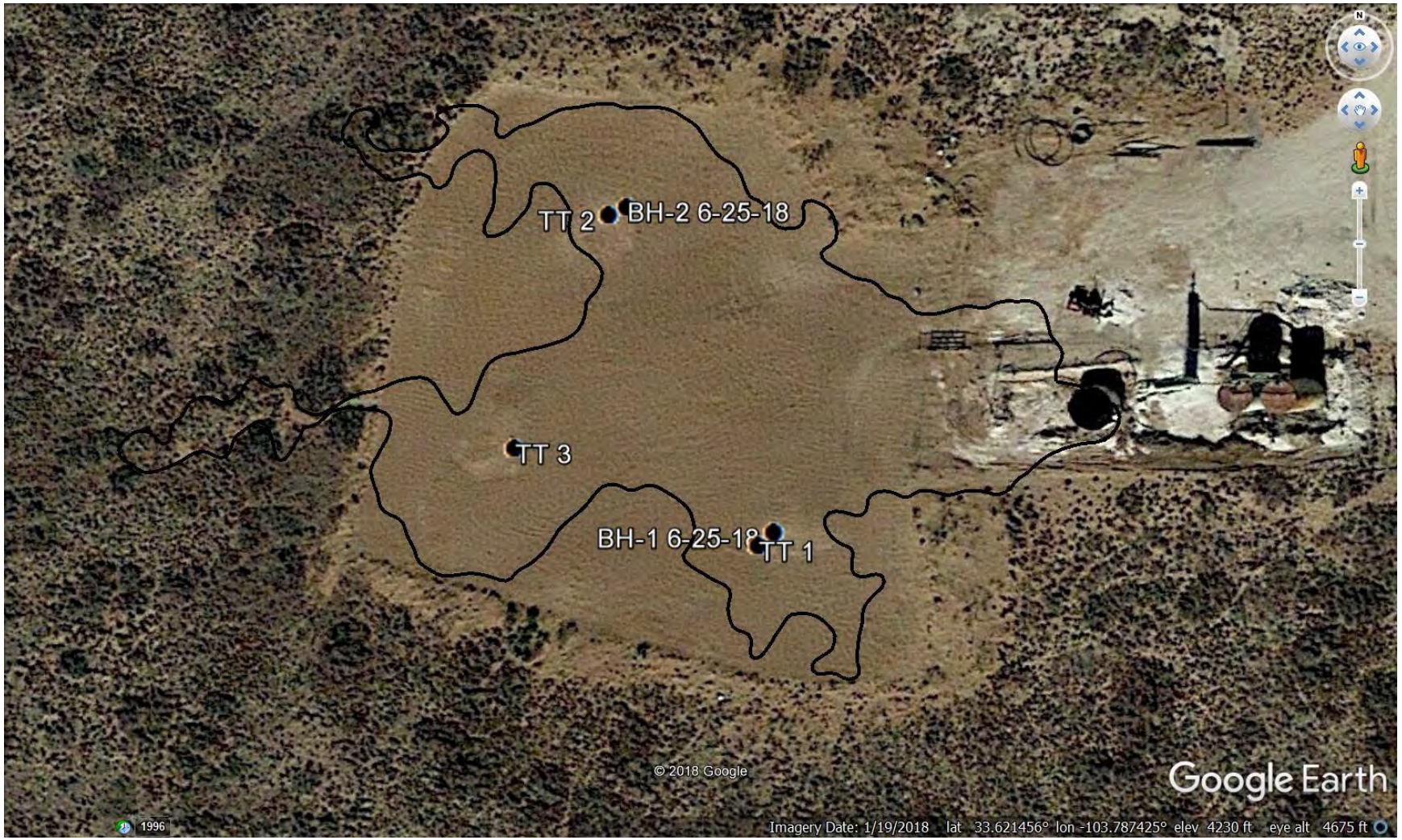

SP-3
SP-2
BH-3A 7-1-16
SP-4
BH-3 6-29-16
SP-6
SP-1
SP-5
© 2018 Google
Google Earth
1996
Imagery Date: 1/19/2018 lat 33.621588° lon -103.786938° elev 4232 ft eye alt 4403 ft

Figure 6
Borehole Sample Locations
June 2018 Map


TT 2
BH-2 6-25-18
TT 3
BH-1 6-25-18
TT 1
© 2018 Google
Google Earth
1996
Imagery Date: 1/19/2018 lat 33.621456° lon -103.787425° elev 4230 ft eye alt 4675 ft

Appendix A
Analytical Results

CARDINAL Laboratories

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

September 12, 2018

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CBR-16-001

Enclosed are the results of analyses for samples received by the laboratory on 07/06/16 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	07/06/2016	Sampling Date:	06/29/2016
Reported:	09/12/2018	Sampling Type:	Soil
Project Name:	CBR-16-001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: BH-1 4' (H601503-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	07/07/2016	ND	432	108	400	3.77	

Sample ID: BH-2 4' (H601503-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	07/07/2016	ND	432	108	400	3.77	

Sample ID: BH-3A 4' (H601503-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	07/07/2016	ND	432	108	400	3.77	

Sample ID: BH-3A 12' (H601503-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	07/07/2016	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	07/06/2016	Sampling Date:	07/01/2016
Reported:	09/12/2018	Sampling Type:	Soil
Project Name:	CBR-16-001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: BH-3A 20' (H601503-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	07/07/2016	ND	432	108	400	3.77	

Sample ID: BH-3A 27' (H601503-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	07/07/2016	ND	432	108	400	3.77	

Sample ID: BH-4 1' (H601503-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	07/07/2016	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

JW

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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 #:	CBR-16-001 Project Owner:
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST: Cl Chlorides

FOR LAB USE ONLY Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	TIME	Cl
H601503																
1	BH-1 4FT		G	1			X					X		06/29	1050	X
2	BH-2 4FT		G	1			X					X		06/29	1115	X
3	BH-3A 4FT	*	G	1			X					X		07/01	1000	X
4	BH-3A 12FT	*	G	1			X					X		07/01	1045	X
5	BH-3A 20FT	*	G	1			X					X		07/01	1130	X
6	BH-3A 27FT	*	G	1			X					X		07/01	1230	X
7	BH-4 1FT		G	1			X					X		06/29	1300	X

Relinquished By:	Date: 07/06/16	Received By:	Jodi Henson
	Time: 0900		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

25.4°C

Sample Condition: Cool ☐ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:
* Sample ID revised as per Dave. 9/12/18 Ch

CARDINAL Laboratories

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

September 12, 2018

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CBR -16 -001

Enclosed are the results of analyses for samples received by the laboratory on 06/21/17 9:31.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TT -1 1'	H701601-01	Soil	20-Jun-17 11:15	21-Jun-17 09:31
TT -1 3'	H701601-02	Soil	20-Jun-17 11:15	21-Jun-17 09:31
TT -1 4'	H701601-03	Soil	20-Jun-17 11:20	21-Jun-17 09:31
TT -1 9'	H701601-04	Soil	20-Jun-17 11:40	21-Jun-17 09:31
TT -1 14'	H701601-05	Soil	20-Jun-17 12:00	21-Jun-17 09:31
TT -2 1'	H701601-06	Soil	20-Jun-17 12:20	21-Jun-17 09:31
TT -2 3'	H701601-07	Soil	20-Jun-17 12:20	21-Jun-17 09:31
TT -2 4'	H701601-08	Soil	20-Jun-17 12:30	21-Jun-17 09:31
TT -2 9'	H701601-09	Soil	20-Jun-17 12:50	21-Jun-17 09:31
TT -2 14'	H701601-10	Soil	20-Jun-17 13:10	21-Jun-17 09:31
TT -3 1'	H701601-11	Soil	20-Jun-17 13:15	21-Jun-17 09:31
TT -3 3'	H701601-12	Soil	20-Jun-17 13:15	21-Jun-17 09:31
TT -3 4'	H701601-13	Soil	20-Jun-17 13:30	21-Jun-17 09:31
TT -3 9'	H701601-14	Soil	20-Jun-17 13:45	21-Jun-17 09:31
TT -3 14'	H701601-15	Soil	20-Jun-17 14:00	21-Jun-17 09:31

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -1 1'

H701601-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*101 %*	*72-148*		*7062201*	MS	*22-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	**20.0**		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*92.1 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*80.1 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**76.7**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -1 3'

H701601-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*101 %*	*72-148*		*7062201*	MS	*22-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*91.5 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.9 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**285**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -1 4'

H701601-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*101 %*	*72-148*		*7062201*	MS	*22-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*91.5 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.9 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**113**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -1 9'

H701601-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	22-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.6 %*	*72-148*		*7062201*	MS	*22-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*93.7 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.1 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**26.7**		10.0	mg/kg wet	10	B706234	JDA	30-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -1 14'

H701601-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.9 %*	*72-148*		*7062201*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*93.9 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*77.5 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**27.0**		10.0	mg/kg wet	10	B706234	JDA	30-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -2 1'

H701601-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062201	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*100 %*	*72-148*		*7062201*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*95.5 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*81.5 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**10.2**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -2 3'

H701601-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.5 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	**16.7**		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*90.8 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*83.3 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**12.0**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -2 4'

H701601-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*101 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*90.6 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.2 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**174**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -2 9'

H701601-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.7 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*90.6 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*78.0 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**82.3**		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -2 14'

H701601-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*100 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*98.0 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.9 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**27.8**		10.0	mg/kg wet	10	B706234	JDA	30-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -3 1'

H701601-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.9 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*90.5 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.0 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	<10.0		10.0	mg/kg wet	10	B706234	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -3 3'

H701601-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.3 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*92.6 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*82.4 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**16.6**		10.0	mg/kg wet	10	B706234	JDA	30-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -3 4'

H701601-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*100 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*95.8 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*80.5 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	<10.0		10.0	mg/kg wet	10	B706232	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -3 9'

H701601-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*99.6 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062104	MS	22-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*88.5 %*	*28.3-164*		*7062104*	MS	*22-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*76.1 %*	*34.7-157*		*7062104*	MS	*22-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**78.6**		10.0	mg/kg wet	10	B706232	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

TT -3 14'

H701601-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Toluene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	7062202	MS	23-Jun-17	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*101 %*	*72-148*		*7062202*	MS	*23-Jun-17*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	7062105	MS	21-Jun-17	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	7062105	MS	21-Jun-17	8015B	
Surrogate: 1-Chlorooctane			*91.6 %*	*28.3-164*		*7062105*	MS	*21-Jun-17*	*8015B*	
Surrogate: 1-Chlorooctadecane			*95.3 %*	*34.7-157*		*7062105*	MS	*21-Jun-17*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	<100		100	mg/kg wet	100	B706232	JDA	29-Jun-17	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7062201 - Volatiles										
Blank (7062201-BLK1)				Prepared & Analyzed: 22-Jun-17						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*ND*		mg/kg	*0.0500*		*98.6*	*72-148*			
LCS (7062201-BS1)				Prepared & Analyzed: 22-Jun-17						
Benzene	2.17	0.050	mg/kg	2.00		109	79.5-124			
Toluene	2.00	0.050	mg/kg	2.00		99.8	75.5-127			
Ethylbenzene	2.03	0.050	mg/kg	2.00		101	77.7-125			
Total Xylenes	5.87	0.150	mg/kg	6.00		97.9	70.9-124			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0495*		mg/kg	*0.0500*		*98.9*	*72-148*			
LCS Dup (7062201-BSD1)				Prepared & Analyzed: 22-Jun-17						
Benzene	2.20	0.050	mg/kg	2.00		110	79.5-124	1.21	6.5	
Toluene	2.03	0.050	mg/kg	2.00		101	75.5-127	1.55	7.02	
Ethylbenzene	2.09	0.050	mg/kg	2.00		105	77.7-125	3.17	7.83	
Total Xylenes	6.06	0.150	mg/kg	6.00		101	70.9-124	3.22	7.78	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0498*		mg/kg	*0.0500*		*99.6*	*72-148*			
Batch 7062202 - Volatiles										
Blank (7062202-BLK1)				Prepared: 22-Jun-17 Analyzed: 23-Jun-17						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0504*		mg/kg	*0.0500*		*101*	*72-148*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7062202 - Volatiles										
LCS (7062202-BS1)				Prepared: 22-Jun-17 Analyzed: 23-Jun-17						
Benzene	2.17	0.050	mg/kg	2.00		109	79.5-124			
Toluene	1.99	0.050	mg/kg	2.00		99.6	75.5-127			
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	77.7-125			
Total Xylenes	5.88	0.150	mg/kg	6.00		98.0	70.9-124			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0515*		mg/kg	*0.0500*		*103*	*72-148*			
LCS Dup (7062202-BSD1)				Prepared: 22-Jun-17 Analyzed: 23-Jun-17						
Benzene	2.17	0.050	mg/kg	2.00		108	79.5-124	0.261	6.5	
Toluene	1.98	0.050	mg/kg	2.00		98.8	75.5-127	0.837	7.02	
Ethylbenzene	2.03	0.050	mg/kg	2.00		101	77.7-125	0.580	7.83	
Total Xylenes	5.85	0.150	mg/kg	6.00		97.5	70.9-124	0.547	7.78	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0507*		mg/kg	*0.0500*		*101*	*72-148*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

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
Batch 7062104 - General Prep - Organics										
Blank (7062104-BLK1)				Prepared & Analyzed: 21-Jun-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	*45.2*		mg/kg	*50.0*		*90.4*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*40.0*		mg/kg	*50.0*		*80.1*	*34.7-157*			
LCS (7062104-BS1)				Prepared & Analyzed: 21-Jun-17						
GRO C6-C10	177	10.0	mg/kg	200		88.6	76.6-119			
DRO >C10-C28	182	10.0	mg/kg	200		90.9	81.4-124			
Total TPH C6-C28	359	10.0	mg/kg	400		89.8	79.4-121			
Surrogate: 1-Chlorooctane	*48.8*		mg/kg	*50.0*		*97.6*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*43.6*		mg/kg	*50.0*		*87.1*	*34.7-157*			
LCS Dup (7062104-BSD1)				Prepared & Analyzed: 21-Jun-17						
GRO C6-C10	183	10.0	mg/kg	200		91.4	76.6-119	3.03	7.94	
DRO >C10-C28	186	10.0	mg/kg	200		92.9	81.4-124	2.24	9.83	
Total TPH C6-C28	369	10.0	mg/kg	400		92.1	79.4-121	2.63	8.57	
Surrogate: 1-Chlorooctane	*50.7*		mg/kg	*50.0*		*101*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*42.0*		mg/kg	*50.0*		*84.0*	*34.7-157*			
Batch 7062105 - General Prep - Organics										
Blank (7062105-BLK1)				Prepared & Analyzed: 21-Jun-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	*45.9*		mg/kg	*50.0*		*91.8*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*48.1*		mg/kg	*50.0*		*96.1*	*34.7-157*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

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
Batch 7062105 - General Prep - Organics										
LCS (7062105-BS1)				Prepared & Analyzed: 21-Jun-17						
GRO C6-C10	212	10.0	mg/kg	200		106	76.6-119			
DRO >C10-C28	225	10.0	mg/kg	200		112	81.4-124			
Total TPH C6-C28	437	10.0	mg/kg	400		109	79.4-121			
Surrogate: 1-Chlorooctane	*50.7*		mg/kg	*50.0*		*101*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*50.0*		mg/kg	*50.0*		*100*	*34.7-157*			
LCS Dup (7062105-BSD1)				Prepared & Analyzed: 21-Jun-17						
GRO C6-C10	215	10.0	mg/kg	200		107	76.6-119	1.15	7.94	
DRO >C10-C28	229	10.0	mg/kg	200		114	81.4-124	1.83	9.83	
Total TPH C6-C28	444	10.0	mg/kg	400		111	79.4-121	1.50	8.57	
Surrogate: 1-Chlorooctane	*52.0*		mg/kg	*50.0*		*104*	*28.3-164*			
Surrogate: 1-Chlorooctadecane	*49.4*		mg/kg	*50.0*		*98.9*	*34.7-157*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 12-Sep-18 16:52

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 B706232 - General Prep - Wet Chem										
Blank (B706232-BLK1)				Prepared: 27-Jun-17 Analyzed: 28-Jun-17						
Chloride	ND	10.0	mg/kg wet							
LCS (B706232-BS1)				Prepared: 27-Jun-17 Analyzed: 28-Jun-17						
Chloride	241	10.0	mg/kg wet	250		96.3	85-115			
LCS Dup (B706232-BSD1)				Prepared: 27-Jun-17 Analyzed: 28-Jun-17						
Chloride	243	10.0	mg/kg wet	250		97.1	85-115	0.798	20	
Batch B706234 - General Prep - Wet Chem										
Blank (B706234-BLK1)				Prepared: 27-Jun-17 Analyzed: 29-Jun-17						
Chloride	ND	10.0	mg/kg wet							
LCS (B706234-BS1)				Prepared: 27-Jun-17 Analyzed: 29-Jun-17						
Chloride	239	10.0	mg/kg wet	250		95.8	85-115			
LCS Dup (B706234-BSD1)				Prepared: 27-Jun-17 Analyzed: 29-Jun-17						
Chloride	240	10.0	mg/kg wet	250		96.2	85-115	0.396	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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 #:	CBR-16-001 Project Owner:
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH 8015	Chlorides 300
H701602 1	TP-1	1 ft	G	1			X					X		06/20	1115	X	X	X
2	TP-1	3 ft	G	1			X					X		06/20	1115	X	X	X
3	TP-1	4 ft	G	1			X					X		06/20	1120	X	X	X
4	TP-1	9 ft	G	1			X					X		06/20	1140	X	X	X
5	TP-1	14 ft	G	1			X					X		06/20	1200	X	X	X
6	TP-2	1 ft	G	1			X					X		06/20	1220	X	X	X
7	TP-2	3 ft	G	1			X					X		06/20	1220	X	X	X
8	TP-2	4 ft	G	1			X					X		06/20	1230	X	X	X
9	TP-2	9 ft	G	1			X					X		06/20	1250	X	X	X

Relinquished By:	Date: 06/21/17 Time: 0800	Received By:	Hara Hodges
Relinquished By: Hara Hodges	Date: 6/21/17 Time: 931am	Received By:	Jodi Henson
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	#75	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials)

4.9°C

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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 #:	CBR-16-001 Project Owner:
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.		(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	BTEX	TPH 8015	CHLORIDES 300
H701601																		
10	T-2	14 ft	G	1			X					X		06/20	1310	X	X	X
11	T-4 3	1 ft *	G	1			X					X		06/20	1315	X	X	X
12	T-4 3	3 ft *	G	1			X					X		06/20	1315	X	X	X
13	T-4 3	4 ft *	G	1			X					X		06/20	1330	X	X	X
14	T-4 3	9 ft *	G	1			X					X		06/20	1345	X	X	X
15	T-4 3	14 ft *	G	1			X					X		06/20	1400	X	X	X

Relinquished By:	Date: 06/21/17	Received By:	Dara Hodges
Relinquished By: Dara Hodges	Date: 6/21/17 Time: 931 am	Received By:	Jacie Henson
Delivered By: (Circle One) Sampler - UPS - Bus - Other: #75	4.9°C	Sample Condition Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS: * Sample ID revised as per Dave. 9/12/17 ck

CARDINAL Laboratories

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

March 28, 2017

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CBR-16-001

Enclosed are the results of analyses for samples received by the laboratory on 03/24/17 8:15.

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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2017	Sampling Date:	03/20/2017
Reported:	03/28/2017	Sampling Type:	Soil
Project Name:	CBR-16-001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: AH -1 1' (H700779-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/27/2017	ND	448	112	400	0.00	

Sample ID: AH -1 1.5' (H700779-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	03/27/2017	ND	448	112	400	0.00	

Sample ID: AH -2 1' (H700779-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/27/2017	ND	448	112	400	0.00	

Sample ID: AH -2 2' (H700779-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/27/2017	ND	448	112	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/24/2017	Sampling Date:	03/20/2017
Reported:	03/28/2017	Sampling Type:	Soil
Project Name:	CBR-16-001	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: AH -3 1' (H700779-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/27/2017	ND	448	112	400	0.00	

Sample ID: AH -3 2' (H700779-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/27/2017	ND	448	112	400	0.00	

Sample ID: AH -3 3' (H700779-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/27/2017	ND	448	112	400	0.00	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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 #:	CBR-16-001 Project Owner:
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Chloride

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME
H200179														
1	AH-1 1ft	G	1			X							03/20	1000
2	AH-1 1.5ft	G	1			X							03/20	1030
3	AH-2 1ft	G	1			X							03/20	1055
4	AH-2 2ft	G	1			X							03/20	1125
5	AH-3 1ft	G	1			X							03/20	1150
6	AH-3 2ft	G	1			X							03/20	1215
7	AH-3 3ft	G	1			X							03/20	1235

Relinquished By:	Date: 03/24/17	Received By: Hara Martin	
Relinquished By: Hara Martin	Time: 0800 / Date: 3-24-17	Received By: Tamara Oldaker	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Time: 815	Sample Condition: Cool ☐ Yes ☑ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TP 17.5c

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 21, 2017

Bob Allen

Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 397-0510
FAX (575) 393-4388

RE: Sunray CBR State 2 OrderNo.: 1711621

Dear Bob Allen:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/10/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1711621**
Date Reported: **11/21/2017**

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-1 Bottom 4ft
Project: Sunray CBR State 2
Collection Date: 11/7/2017 12:05:00 PM
Lab ID: 1711621-001 **Matrix:** SOIL **Received Date:** 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	150	30		mg/Kg	20	11/17/2017 11:11:43 AM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/15/2017 1:55:10 PM	34988
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/15/2017 1:55:10 PM	34988
Surr: DNOP	96.7	70-130		%Rec	1	11/15/2017 1:55:10 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/14/2017 1:12:46 AM	34944
Surr: BFB	93.3	15-316		%Rec	1	11/14/2017 1:12:46 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	11/14/2017 1:12:46 AM	34944
Toluene	ND	0.047		mg/Kg	1	11/14/2017 1:12:46 AM	34944
Ethylbenzene	ND	0.047		mg/Kg	1	11/14/2017 1:12:46 AM	34944
Xylenes, Total	ND	0.094		mg/Kg	1	11/14/2017 1:12:46 AM	34944
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	11/14/2017 1:12:46 AM	34944

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-2 Bottom 4ft
Project: Sunray CBR State 2
Collection Date: 11/7/2017 12:40:00 PM
Lab ID: 1711621-002 **Matrix:** SOIL **Received Date:** 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	900	30		mg/Kg	20	11/17/2017 11:48:57 AM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/15/2017 2:17:23 PM	34988
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/15/2017 2:17:23 PM	34988
Surr: DNOP	96.8	70-130		%Rec	1	11/15/2017 2:17:23 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2017 1:36:13 AM	34944
Surr: BFB	90.8	15-316		%Rec	1	11/14/2017 1:36:13 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/14/2017 1:36:13 AM	34944
Toluene	ND	0.048		mg/Kg	1	11/14/2017 1:36:13 AM	34944
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2017 1:36:13 AM	34944
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2017 1:36:13 AM	34944
Surr: 4-Bromofluorobenzene	91.2	80-120		%Rec	1	11/14/2017 1:36:13 AM	34944

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-3 NorthWall
Project: Sunray CBR State 2
Collection Date: 11/7/2017 10:20:00 AM
Lab ID: 1711621-003 **Matrix:** SOIL **Received Date:** 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	30		mg/Kg	20	11/17/2017 12:01:21 PM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/15/2017 2:39:28 PM	34988
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/15/2017 2:39:28 PM	34988
Surr: DNOP	93.9	70-130		%Rec	1	11/15/2017 2:39:28 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/14/2017 1:59:39 AM	34944
Surr: BFB	91.7	15-316		%Rec	1	11/14/2017 1:59:39 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/14/2017 1:59:39 AM	34944
Toluene	ND	0.049		mg/Kg	1	11/14/2017 1:59:39 AM	34944
Ethylbenzene	ND	0.049		mg/Kg	1	11/14/2017 1:59:39 AM	34944
Xylenes, Total	ND	0.098		mg/Kg	1	11/14/2017 1:59:39 AM	34944
Surr: 4-Bromofluorobenzene	92.9	80-120		%Rec	1	11/14/2017 1:59:39 AM	34944

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-4 WestWall
Project: Sunray CBR State 2
Collection Date: 11/7/2017 11:35:00 AM
Lab ID: 1711621-004 **Matrix:** SOIL **Received Date:** 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	120	30		mg/Kg	20	11/17/2017 12:13:46 PM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/15/2017 3:01:35 PM	34988
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/15/2017 3:01:35 PM	34988
Surr: DNOP	85.7	70-130		%Rec	1	11/15/2017 3:01:35 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2017 2:23:00 AM	34944
Surr: BFB	88.9	15-316		%Rec	1	11/14/2017 2:23:00 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/14/2017 2:23:00 AM	34944
Toluene	ND	0.048		mg/Kg	1	11/14/2017 2:23:00 AM	34944
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2017 2:23:00 AM	34944
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2017 2:23:00 AM	34944
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	11/14/2017 2:23:00 AM	34944

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-5 SouthWall
Project: Sunray CBR State 2
Collection Date: 11/7/2017 10:50:00 AM
Lab ID: 1711621-005
Matrix: SOIL
Received Date: 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	110	30		mg/Kg	20	11/17/2017 12:51:00 PM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/15/2017 3:23:36 PM	34988
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/15/2017 3:23:36 PM	34988
Surr: DNOP	83.3	70-130		%Rec	1	11/15/2017 3:23:36 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/14/2017 2:46:22 AM	34944
Surr: BFB	90.7	15-316		%Rec	1	11/14/2017 2:46:22 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	11/14/2017 2:46:22 AM	34944
Toluene	ND	0.046		mg/Kg	1	11/14/2017 2:46:22 AM	34944
Ethylbenzene	ND	0.046		mg/Kg	1	11/14/2017 2:46:22 AM	34944
Xylenes, Total	ND	0.092		mg/Kg	1	11/14/2017 2:46:22 AM	34944
Surr: 4-Bromofluorobenzene	91.1	80-120		%Rec	1	11/14/2017 2:46:22 AM	34944

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-6 Eastwall
Project: Sunray CBR State 2
Collection Date: 11/7/2017 11:25:00 AM
Lab ID: 1711621-006 **Matrix:** SOIL **Received Date:** 11/10/2017 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	65	30		mg/Kg	20	11/17/2017 1:03:24 PM	35045
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/15/2017 3:45:43 PM	34988
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/15/2017 3:45:43 PM	34988
Surr: DNOP	79.9	70-130		%Rec	1	11/15/2017 3:45:43 PM	34988
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2017 3:09:43 AM	34944
Surr: BFB	91.6	15-316		%Rec	1	11/14/2017 3:09:43 AM	34944
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/14/2017 3:09:43 AM	34944
Toluene	ND	0.048		mg/Kg	1	11/14/2017 3:09:43 AM	34944
Ethylbenzene	ND	0.048		mg/Kg	1	11/14/2017 3:09:43 AM	34944
Xylenes, Total	ND	0.097		mg/Kg	1	11/14/2017 3:09:43 AM	34944
Surr: 4-Bromofluorobenzene	92.6	80-120		%Rec	1	11/14/2017 3:09:43 AM	34944

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711621**

21-Nov-17

Client: Safety & Environmental Solutions

Project: Sunray CBR State 2

Sample ID	**MB-35045**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**35045**		RunNo:	**47229**				
Prep Date:	**11/17/2017**	Analysis Date:	**11/17/2017**		SeqNo:	**1506472**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-35045**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**35045**		RunNo:	**47229**				
Prep Date:	**11/17/2017**	Analysis Date:	**11/17/2017**		SeqNo:	**1506473**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711621**

21-Nov-17

Client: Safety & Environmental Solutions

Project: Sunray CBR State 2

Sample ID	**LCS-34988**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**34988**		RunNo:	**47144**				
Prep Date:	**11/14/2017**	Analysis Date:	**11/15/2017**		SeqNo:	**1504196**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.2	73.2	114			
Surr: DNOP	4.2		5.000		83.6	70	130			

Sample ID	**MB-34988**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**34988**		RunNo:	**47144**				
Prep Date:	**11/14/2017**	Analysis Date:	**11/15/2017**		SeqNo:	**1504197**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.8	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711621**

21-Nov-17

Client: Safety & Environmental Solutions

Project: Sunray CBR State 2

Sample ID **MB-34944**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **34944**	RunNo: **47077**
Prep Date: **11/10/2017**	Analysis Date: **11/13/2017**	SeqNo: **1502179** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.4	15	316			

Sample ID **LCS-34944**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **34944**	RunNo: **47077**
Prep Date: **11/10/2017**	Analysis Date: **11/13/2017**	SeqNo: **1502180** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	75.9	131			
Surr: BFB	1000		1000		104	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711621**

21-Nov-17

Client: Safety & Environmental Solutions

Project: Sunray CBR State 2

Sample ID **MB-34944**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **34944**	RunNo: **47077**
Prep Date: **11/10/2017**	Analysis Date: **11/13/2017**	SeqNo: **1502211** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	80	120			

Sample ID **LCS-34944**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **34944**	RunNo: **47077**
Prep Date: **11/10/2017**	Analysis Date: **11/13/2017**	SeqNo: **1502212** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.025	1.000	0	79.8	77.3	128			
Toluene	0.81	0.050	1.000	0	81.2	79.2	125			
Ethylbenzene	0.83	0.050	1.000	0	82.6	80.7	127			
Xylenes, Total	2.5	0.10	3.000	0	84.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.6	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Safety Env Solutions | Work Order Number: 1711621 | RcptNo: 1

Received By: **Dennis Suazo** 11/10/2017 10:00:00 AM

Completed By: **Isaiah Ortiz** 11/10/2017 12:37:52 PM IO

Reviewed By: SVL 11/10/17

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental Solution

Mailing Address: 703 E. Clinton Hobbs NM 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CBR Sunray State 2 Batt

Project #: CBR-16-001

Project Manager: Allen Rob

Sampler: Sean Jenny

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.8 +0.1(CF) = 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711621	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chlorides (300)				Air Bubbles (Y or N)
11/07	1205	S	SP-1 Bottom Hole	1	Ice	-001	X		X									X				
11/07	1240	S	SP-2 Bottom Hole	1		-002	X		X									X				
11/07	1020	S	SP-3 Northwest	1		-003	X		X									X				
11/07	1035	S	SP-4 Westside	1		-004	X		X									X				
11/07	1050	S	SP-5 Southeast	1		-005	X		X									X				
11/07	1125	S	SP-6 Eastside	1		-006	X		X									X				
						~~-007~~																
						JMO																

Date	Time	Relinquished by:	Received by:	Date	Time
11/09/17	1500	Sean Jenny			
				11/10/17	1000
Date	Time	Relinquished by:	Received by:	Date	Time

Remarks:

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

COURIER 11/13/17 DDS

CARDINAL Laboratories

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

July 02, 2018

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CBR -16 -001

Enclosed are the results of analyses for samples received by the laboratory on 06/26/18 12:00.

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

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1 SURFACE	H801732-01	Soil	25-Jun-18 10:00	26-Jun-18 12:00
BH-1 1'	H801732-02	Soil	25-Jun-18 10:10	26-Jun-18 12:00
BH-1 2'	H801732-03	Soil	25-Jun-18 10:20	26-Jun-18 12:00
BH-1 3'	H801732-04	Soil	25-Jun-18 10:30	26-Jun-18 12:00
BH-2 SURFACE	H801732-05	Soil	25-Jun-18 10:45	26-Jun-18 12:00
BH-2 1'	H801732-06	Soil	25-Jun-18 10:55	26-Jun-18 12:00
BH-2 2'	H801732-07	Soil	25-Jun-18 11:10	26-Jun-18 12:00
BH-2 3'	H801732-08	Soil	25-Jun-18 11:20	26-Jun-18 12:00

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-1 SURFACE

H801732-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*105 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*89.7 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*79.8 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**238**		50.0	mg/kg wet	50	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-1 1'

H801732-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*104 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*94.7 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*82.9 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**140**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-1 2'

H801732-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*104 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*100 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*88.0 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**161**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-1 3'

H801732-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*104 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*89.9 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*80.4 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**186**		50.0	mg/kg wet	50	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-2 SURFACE

H801732-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*104 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*103 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*90.5 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**18.6**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-2 1'

H801732-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*105 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*86.7 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*77.2 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**17.1**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-2 2'

H801732-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*104 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*86.5 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*77.4 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**15.4**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

BH-2 3'

H801732-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Volatile Organic Compounds by EPA Method 8021										
Benzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Toluene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	8062701	MS	27-Jun-18	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			*105 %*	*69.8-142*		*8062701*	MS	*27-Jun-18*	*8021B*	
Petroleum Hydrocarbons by GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	8062702	MS	27-Jun-18	8015B	
Surrogate: 1-Chlorooctane			*94.8 %*	*41-142*		*8062702*	MS	*27-Jun-18*	*8015B*	
Surrogate: 1-Chlorooctadecane			*83.6 %*	*37.6-147*		*8062702*	MS	*27-Jun-18*	*8015B*	
Green Analytical Laboratories										
Soluble (DI Water Extraction)										
Chloride	**19.3**		10.0	mg/kg wet	10	B806254	JDA	28-Jun-18	EPA300.0	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8062701 - Volatiles										
Blank (8062701-BLK1)				Prepared & Analyzed: 27-Jun-18						
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	*0.105*		mg/kg	*0.100*		*105*	*69.8-142*			
LCS (8062701-BS1)				Prepared & Analyzed: 27-Jun-18						
Benzene	1.79	0.050	mg/kg	2.00		89.5	74.5-124			
Toluene	1.79	0.050	mg/kg	2.00		89.7	78.8-122			
Ethylbenzene	1.80	0.050	mg/kg	2.00		89.8	78.6-122			
Total Xylenes	5.65	0.150	mg/kg	6.00		94.1	79.7-123			
Surrogate: 4-Bromofluorobenzene (PID)	*0.102*		mg/kg	*0.100*		*102*	*69.8-142*			
LCS Dup (8062701-BSD1)				Prepared & Analyzed: 27-Jun-18						
Benzene	1.75	0.050	mg/kg	2.00		87.3	74.5-124	2.50	15.2	
Toluene	1.75	0.050	mg/kg	2.00		87.7	78.8-122	2.20	15.1	
Ethylbenzene	1.75	0.050	mg/kg	2.00		87.6	78.6-122	2.47	15.4	
Total Xylenes	5.48	0.150	mg/kg	6.00		91.4	79.7-123	2.93	15.2	
Surrogate: 4-Bromofluorobenzene (PID)	*0.102*		mg/kg	*0.100*		*102*	*69.8-142*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

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
Batch 8062702 - General Prep - Organics										
Blank (8062702-BLK1)				Prepared & Analyzed: 27-Jun-18						
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	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	*41.3*		mg/kg	*50.0*		*82.7*	*41-142*			
Surrogate: 1-Chlorooctadecane	*37.2*		mg/kg	*50.0*		*74.4*	*37.6-147*			
LCS (8062702-BS1)				Prepared & Analyzed: 27-Jun-18						
GRO C6-C10	170	10.0	mg/kg	200		85.1	76.5-133			
DRO >C10-C28	174	10.0	mg/kg	200		86.9	72.9-138			
Total TPH C6-C28	344	10.0	mg/kg	400		86.0	78-132			
Surrogate: 1-Chlorooctane	*39.8*		mg/kg	*50.0*		*79.6*	*41-142*			
Surrogate: 1-Chlorooctadecane	*37.4*		mg/kg	*50.0*		*74.7*	*37.6-147*			
LCS Dup (8062702-BSD1)				Prepared & Analyzed: 27-Jun-18						
GRO C6-C10	175	10.0	mg/kg	200		87.4	76.5-133	2.75	20.6	
DRO >C10-C28	179	10.0	mg/kg	200		89.7	72.9-138	3.11	20.6	
Total TPH C6-C28	354	10.0	mg/kg	400		88.6	78-132	2.93	18	
Surrogate: 1-Chlorooctane	*38.2*		mg/kg	*50.0*		*76.5*	*41-142*			
Surrogate: 1-Chlorooctadecane	*36.5*		mg/kg	*50.0*		*73.0*	*37.6-147*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Safety & Environmental Solutions 703 East Clinton Hobbs NM, 88240	Project: CBR -16 -001 Project Number: NONE GIVEN Project Manager: Bob Allen Fax To: (575) 393-4388	Reported: 02-Jul-18 13:06

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 B806254 - General Prep - Wet Chem										
Blank (B806254-BLK1)				Prepared & Analyzed: 28-Jun-18						
Chloride	ND	10.0	mg/kg wet							
LCS (B806254-BS1)				Prepared & Analyzed: 28-Jun-18						
Chloride	247	10.0	mg/kg wet	250		98.7	85-115			
LCS Dup (B806254-BSD1)				Prepared & Analyzed: 28-Jun-18						
Chloride	247	10.0	mg/kg wet	250		98.9	85-115	0.158	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Safety and Environmental Solutions	BILL TO	
Project Manager:	Bob Allen	P.O. #:	
Address:	703 East Clinton, PO Box 1613	Company:	Same
City:	Hobbs State: NM Zip: 88240	Attn:	
Phone #:	575 397-0510 Fax #: 575 393-4388	Address:	
Project #:	CBR-16-001 Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH	BTEX	Chlorides (300)
H801732																	
1	BH-1 Surface		1			X					X		06/25	1000	X	X	X
2	BH-1 1Ft		1			X					X			1010			
3	BH-1 2Ft		1			X					X			1020			
4	BH-1 3Ft		1			X					X			1030			
5	BH-2 Surface		1			X					X			1045			
6	BH 2 1Ft		1			X					X			1055			
7	BH 2 2Ft		1			X					X			1110			
8	BH 2 3Ft		1			X					X			1120			

Relinquished By:	Date: 06/25/18 Time: 1600	Received By:	Hara Hodges
Relinquished By: Hara Hodges	Date: 06/26/18 Time: 12:00	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	6.0° Corrected 5.9°	Sample Condition Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials) T.O. #75

Phone Result:	☐ Yes	☐ No	Add'l Phone #:
Fax Result:	☐ Yes	☐ No	Add'l Fax #:
REMARKS:			

Appendix B
Site Photos

Cross Border Resources
Sunray State Tank Battery
5-31-2017

Cross Border Resources
Sunray Battery

Impacted Soil

Leak Source

Impacted Soil looking West

Impacted Overview of Area looking NE

Impacted

Visual Hard-Pan

Cross Border Resources

Sunray State Tank Battery

11-9-17

Cross Border Resources

Sunray State Tank Battery

6-20-2018

Appendix C
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 Cross Border Resources	Contact Ross Pearson
Address 2515 McKinney Avenue Suite 900	Telephone No. 214-871-0400 ext. 1019
Facility Name Sunray State Battery	Facility Type Tank Battery

Surface Owner New Mexico State Lands	Mineral Owner New Mexico State Lands	API No. 30-005-21036

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	16	8S	31E	1980'	North	1650'	West	Chaves

Latitude 33.6217 **Longitude** -103.7831

NATURE OF RELEASE

Type of Release Oil	Volume of Release Unknown	Volume Recovered None
Source of Release Tank Battery, Heater Treater	Date and Hour of Occurrence N/A	Date and Hour of Discovery 10/17/2014
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Rupture in the Heater-Treater Separator to the water tank. Line has been fixed. Spill area has been fenced in. Samples have been taken. Please find attached report from Hall Environmental.

Describe Area Affected and Cleanup Action Taken.*
A 35' by 70' area has been affected with spilled oil. Plan to till contaminated soil with micro-blaze and water affected area until hydrocarbon levels get down to an acceptable level per NMOCD guidelines. Once soil reaches acceptable hydrocarbon levels, plan to seed the soil with native grasses.

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:

Printed Name: Alan Barksdale

Title: Chairman

E-mail Address: alan@redmountainresources.com

Date: 4/13/2015 Phone: 214-871-0400

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary