REVIEWED
By Olivia Yu at 3:58 pm, Mar 30, 2018

NOT APPROVED

# Cross Border Resources
Sunray State Tank Battery

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

## February 20, 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***

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## 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: 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 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.

## 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 | |
| | >100 feet | 0 points | **X** |
| **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)** | | | **0** |

## V. Work Performed

On June 15, 2016 SESI personnel were on location to address the concerns of ground surface impact. The impacted area was mapped utilizing a handheld Trimble Juno 3D, whereby it was determined that the spill area measured approximately 28,704 sq. ft. The site was flagged in order to activate a line locate request with the New Mexico One Center, in order to conduct a vertical delineation of the impacted area.

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 Bores were advanced from depths of 1' BGS at BH-4 to 27' BGS at BH-3, respectively. Representative soil samples were retrieved at various depth 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 Tests 06-29-16** | | | |
|---|---|---|---|
| **SAMPLE ID** | **Sample Date** | **Field Test CHLORIDES** | **Lab Results CHLORIDES** |
| BH-1 Surface | 6/29/16 | 1030 ppm | |
| BH-1 @ 1' | 6/29/16 | 1030 ppm | |
| BH-1 @ 2' | 6/29/16 | 1040 ppm | |
| BH-1 @ 3' | 6/29/16 | 1045 ppm | |
| BH-1 @ 4' | 6/29/16 | | 32.0 |
| BH-2 @ 4' | 6/29/16 | <124 ppm | |
| BH-3 @ 4' | 07/01/16 | | 32.0 |
| BH-3 @ 7' | 6/29/16 | | 976 |
| BH-3 @ 8' | 07/01/16 | 4484 ppm | |
| BH-3 @ 11' | 6/29/16 | 4884 ppm | |
| BH-3 @ 12' | 7/01/16 | | 2440 |
| BH-3 @ 13' | 6/29/16 | 3164 ppm | |
| BH-3 @ 16' | 7/01/16 | 1012 ppm | |
| BH-3 @ 17' | 6/29/16 | 1528 ppm | |
| BH-3 @ 20' | 7/01/16 | | 976 |
| BH-3 @ 24' | 07/01/16 | 360 ppm | |
| BH-3 @ 27' | 07/01/16 | | 192 |
| | | | |
| BH-4 Surface | 6/29/16 | <124 | |
| BH-4 @ 1' | 6/29/16 | | 16.0 |

Between October 13, 2016 and October 24, 2016, Gandy removed the hard pan hydrocarbon from the site and transported the material to an NMOCD approved facility.

Between November 7, 2017 and November 8, 2017, SESI personnel was onsite with Gandy Corporation backhoe operator at the Sunray State 2 Battery to begin remediation. The excavation was twelve by twelve square feet and soil samples were obtained and field test on all four walls. Soil samples were obtained and field tested on all four walls, and two areas from the bottom of the excavation. A liner was installed and loaded with 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.

On December 11, 2017, SESI personnel was 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.

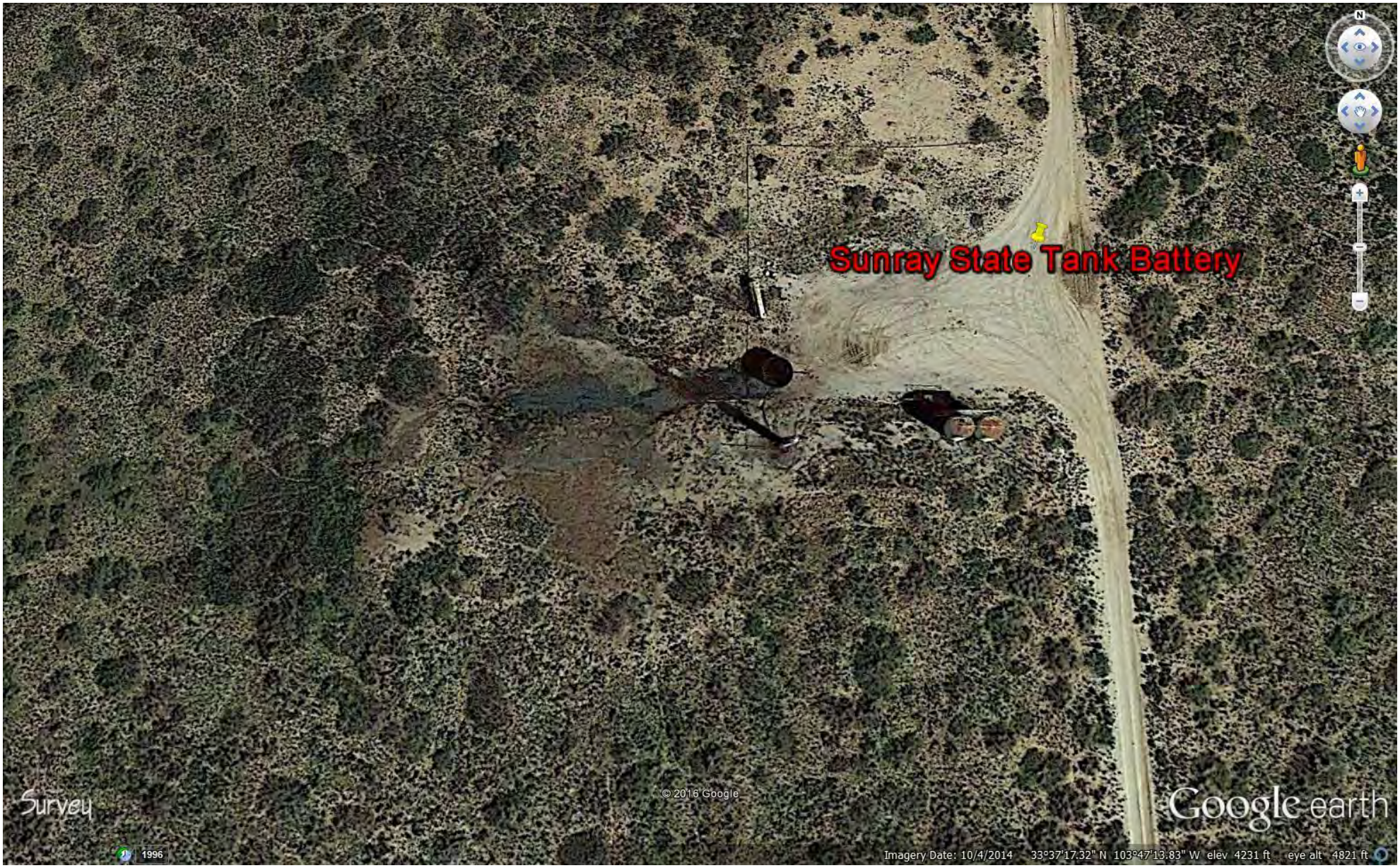
## VI. Request for Closure

The results of the confirmation sampling indicate that all soils impacted above 250ppm Chlorides were removed and transported to an approved NMOCD facility for disposal. The area was backfilled with clean soil and returned to grade. The area has also been reseeded with BLM #2-LPC seed mixture, and SESI commits to a second application being applied in spring 2018. Cross Border Resources respectfully submits this closure report for your consideration, and requests that no further action be required.

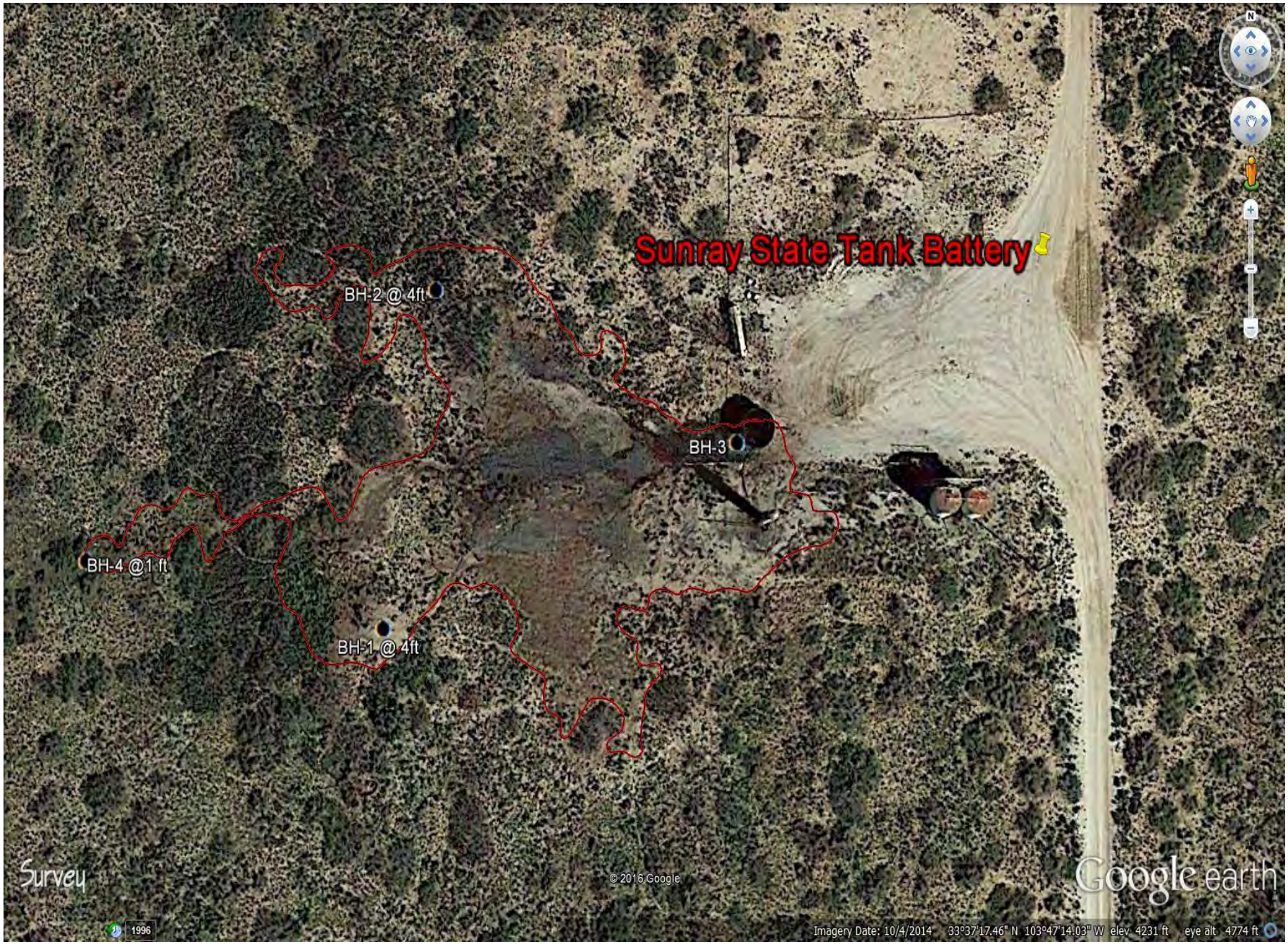
## VII. Figures & Appendices

Figure 1 – Vicinity Map
Figure 2– Site Plan
Appendix A – Analytical Results
Appendix B – Site Photos
Appendix C – C-141

# Figure 1
# Vicinity Map


Sunray State Tank Battery
Survey
© 2016 Google
Google earth
1996
Imagery Date: 10/4/2014 33°37'17.32" N 103°47'13.83" W elev 4231 ft eye alt 4821 ft

# Figure 2
# Site Plan


Sunray State Tank Battery
BH-2 @ 4ft
BH-3
BH-4 @1 ft
BH-1 @ 4ft
Survey
© 2016 Google
Google earth
1996
Imagery Date: 10/4/2014 33°37'17.46" N 103°47'14.03" W elev 4231 ft eye alt 4774 ft

# Appendix A
# Analytical Results

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:

CARDINAL Laboratories

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

June 30, 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 06/21/17 9:31.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |

| 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 -4 1' | H701601-11 | Soil | 20-Jun-17 13:15 | 21-Jun-17 09:31 |
| TT -4 3' | H701601-12 | Soil | 20-Jun-17 13:15 | 21-Jun-17 09:31 |
| TT -4 4' | H701601-13 | Soil | 20-Jun-17 13:30 | 21-Jun-17 09:31 |
| TT -4 9' | H701601-14 | Soil | 20-Jun-17 13:45 | 21-Jun-17 09:31 |
| TT -4 14' | H701601-15 | Soil | 20-Jun-17 14:00 | 21-Jun-17 09:31 |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |

### TT -4 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

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### TT -4 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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### TT -4 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### TT -4 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### TT -4 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 | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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* | | | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |

### 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* | | | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |
|---|---|---|

### 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* | | | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |

### 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* | | | |

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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<br>703 East Clinton<br>Hobbs NM, 88240 | Project: CBR -16 -001<br>Project Number: NONE GIVEN<br>Project Manager: Bob Allen<br>Fax To: (575) 393-4388 | Reported:<br>30-Jun-17 16:38 |

### 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 | |

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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

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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**

BTEX
TPH 8015
Chlorides 300

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H701602 1 | TT-1 1ft | G | 1 | | | X | | | | | X | | 06/20 | 1115 |
| 1 | TT-1 3ft | G | 1 | | | X | | | | | X | | 06/20 | 1115 |
| 2 | TT-1 4ft | G | 1 | | | X | | | | | X | | 06/20 | 1120 |
| 3 | TT-1 9ft | G | 1 | | | X | | | | | X | | 06/20 | 1140 |
| 4 | TT-1 14ft | G | 1 | | | X | | | | | X | | 06/20 | 1200 |
| 5 | | | | | | | | | | | | | | |
| 6 | TT-2 1ft | G | 1 | | | X | | | | | X | | 06/20 | 1220 |
| 7 | TT-2 3ft | G | 1 | | | X | | | | | X | | 06/20 | 1220 |
| 8 | TT-2 4ft | G | 1 | | | X | | | | | X | | 06/20 | 1230 |
| 9 | TT-2 9ft | G | 1 | | | X | | | | | X | | 06/20 | 1250 |



| | | | |
|---|---|---|---|
| Relinquished By: | Date: 06/21/17 | Received By: | |
| | Time: 0800 | | |
| Relinquished By: | Date: 06/21/17 | Received By: | |
| | Time: 0931am | | |
| Delivered By: (Circle One) | #75 4.9° | Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No | CHECKED BY: (Initials) |
| Sampler - UPS - Bus - Other: | | | |

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 | SAMPLING TIME | BTEX | TPH 8015 | CHLORIDES 300 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H701601 | | | | | | | | | | | | | | | | | |
| 10 | TT-2 | 14 Ft | G | 1 | | | X | | | | | X | 06/20 | 1310 | X | X | X |
| 11 7 | TT-4 | 1 Ft | G | 1 | | | X | | | | | X | 06/20 | 1315 | X | X | X |
| 12 8 | TT-4 | 3 Ft | G | 1 | | | X | | | | | X | 06/20 | 1315 | X | X | X |
| 13 9 | TT-4 | 4 Ft | G | 1 | | | X | | | | | X | 06/20 | 1330 | X | X | X |
| 14 5 | TT-4 | 9 Ft | G | 1 | | | X | | | | | X | 06/20 | 1345 | X | X | X |
| 15 6 | TT-4 | 14 Ft | G | 1 | | | X | | | | | X | 06/20 | 1400 | X | X | X |

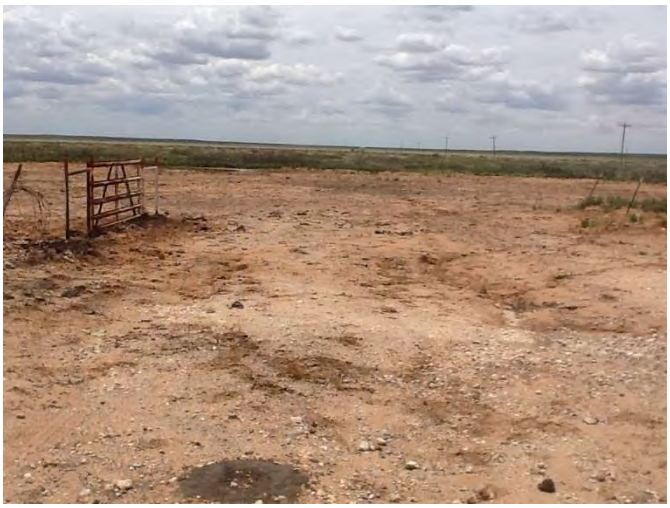
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

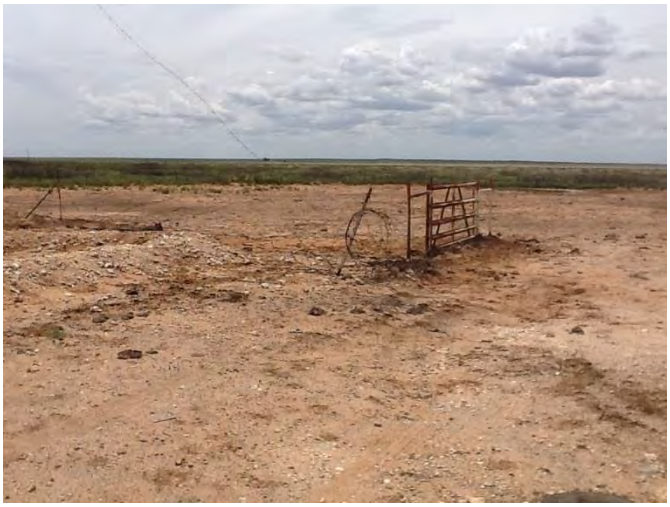
| | | | |
|---|---|---|---|
| Relinquished By: | Date: 06/21/17 | Received By: | Hara Hodges |
| Relinquished By: Hara Hodges | Time: 0800 / Date: 6/21/17 | Received By: | Jodi Henson |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: #75 | Time: 931 am | Sample Condition Cool: Yes / Intact: Yes | CHECKED BY: (Initials) |
| | 4.9°C | | |

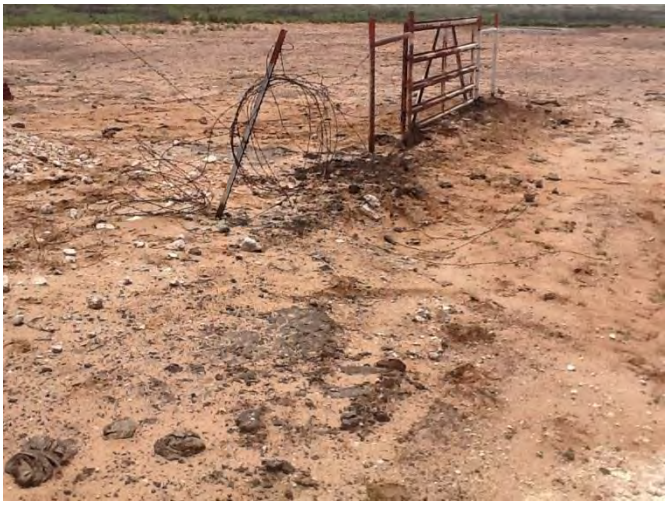
Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

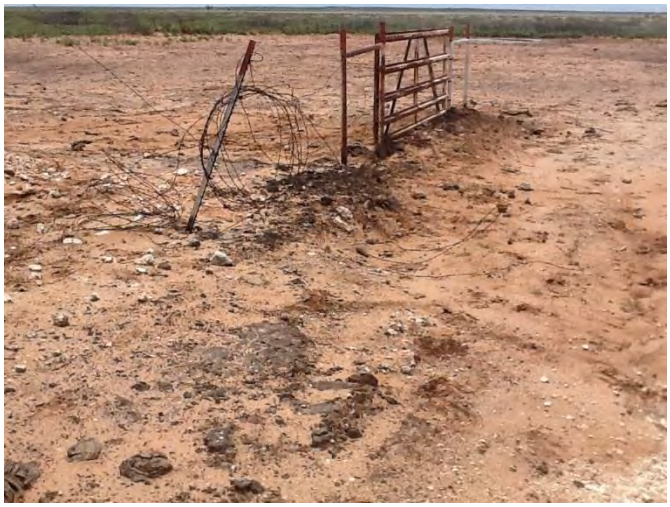
# Appendix B
# Site Photos

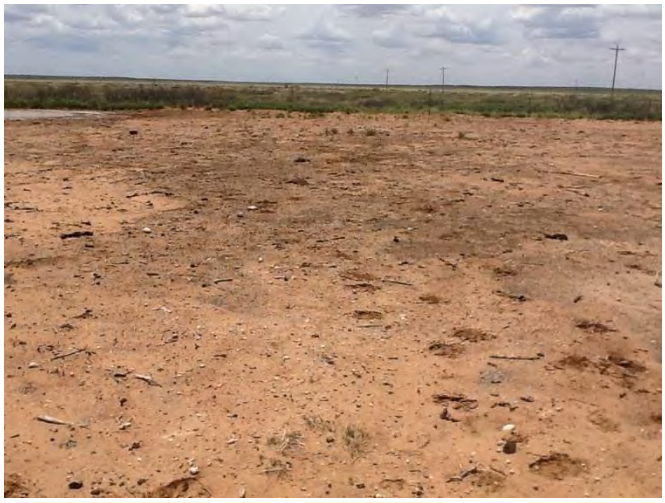
**Cross Border Resources**
**Sunray State Tank Battery**
**5-31-2017**

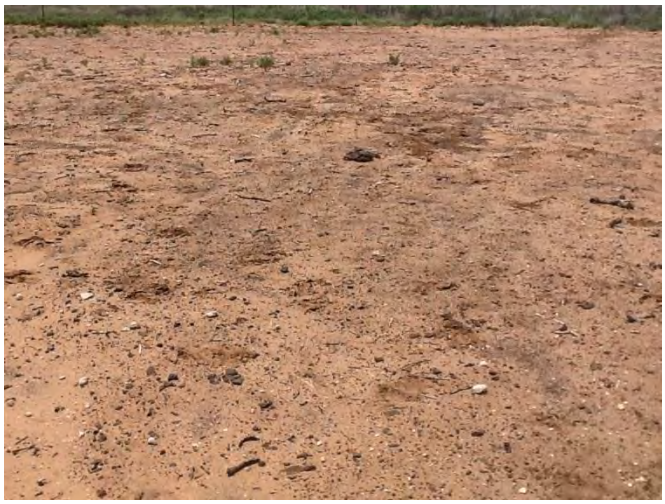


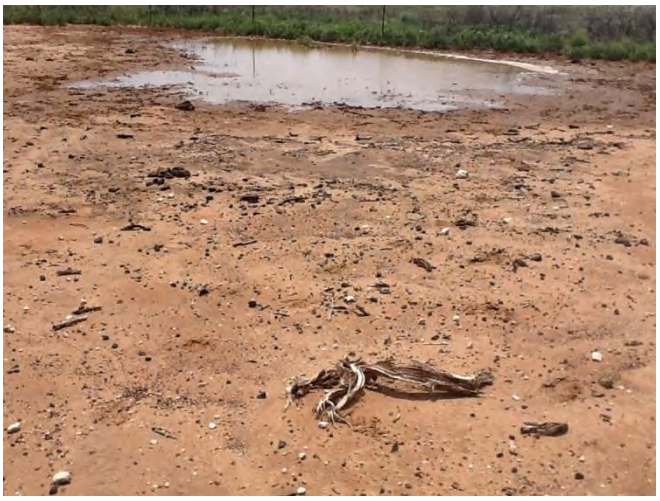


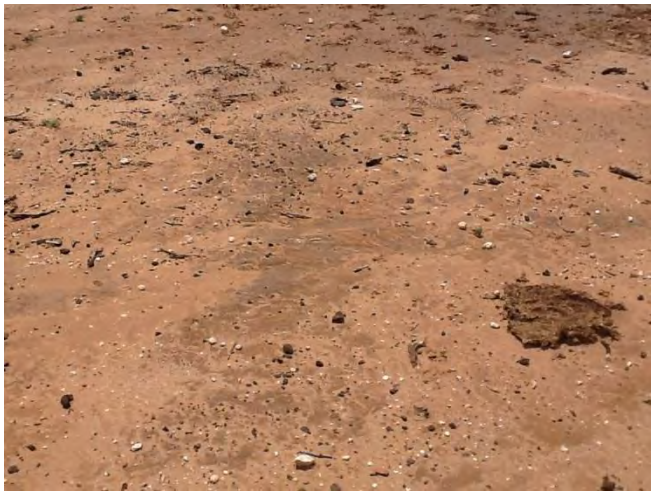


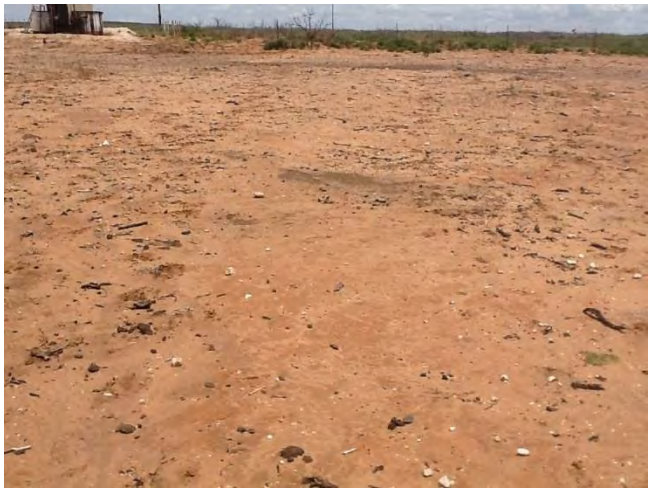


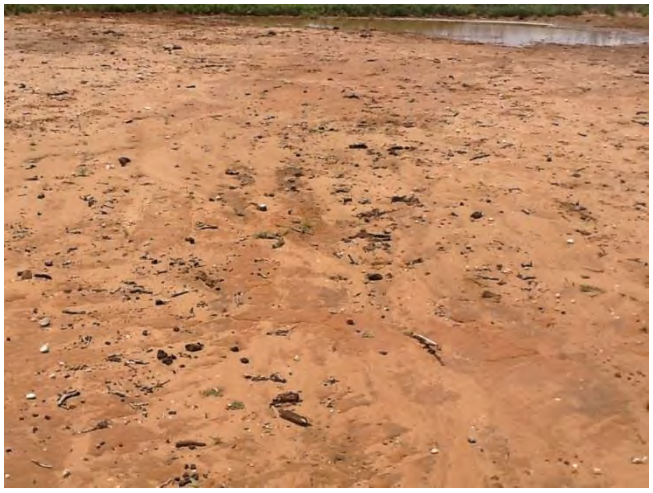


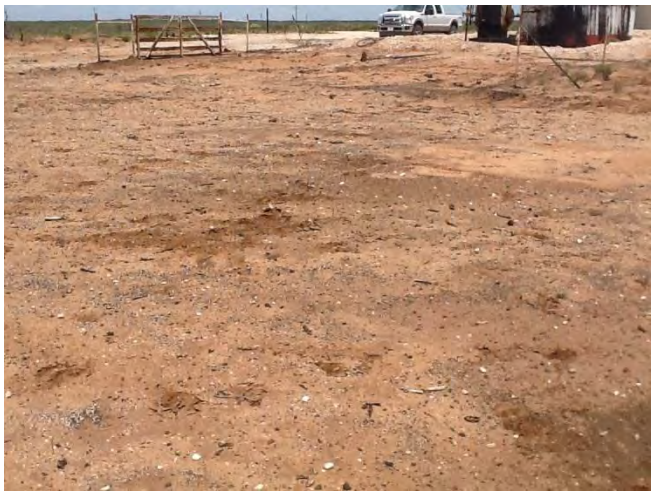


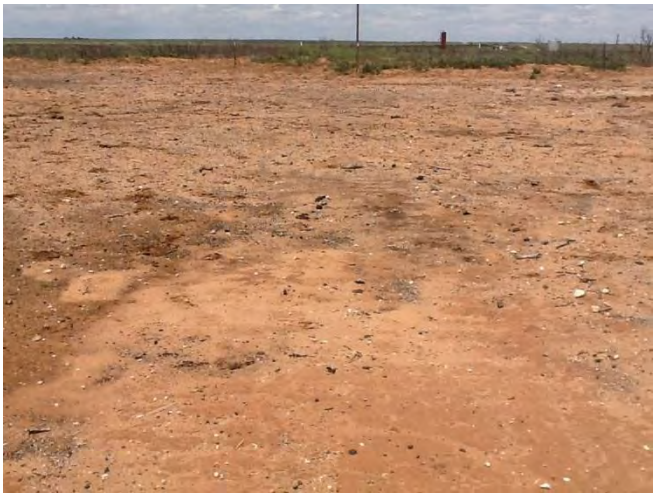


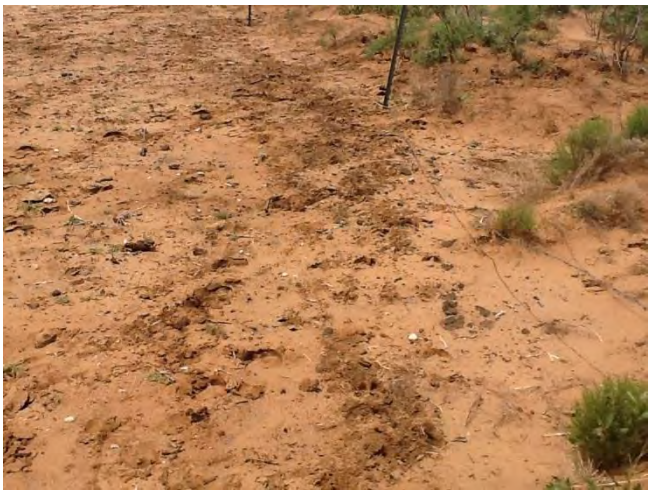


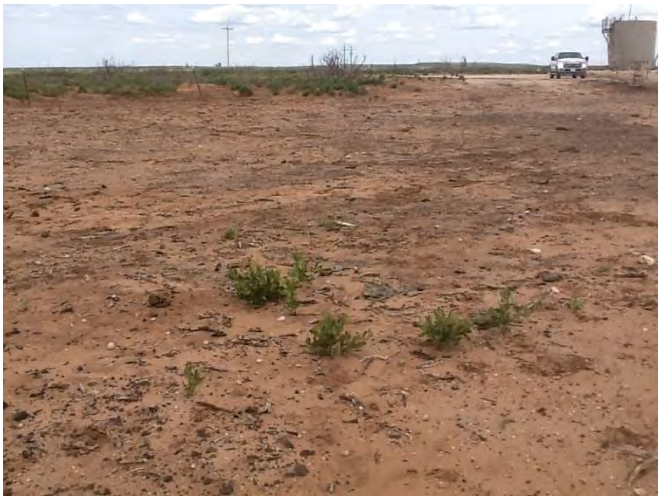


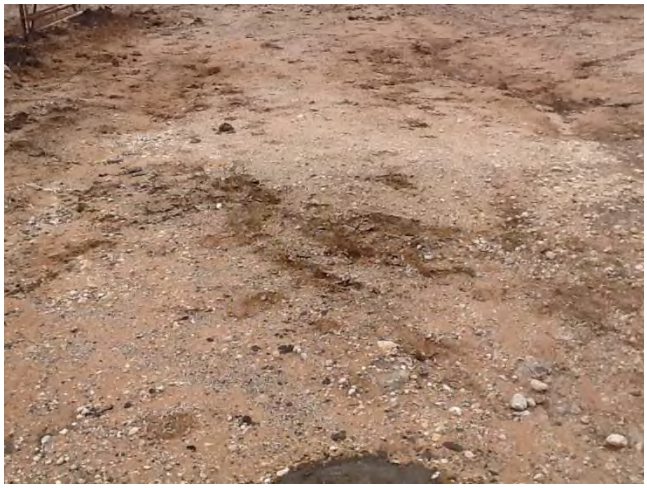


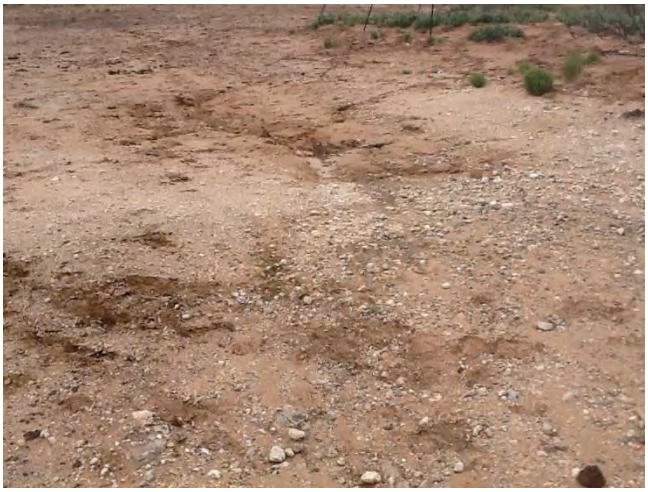


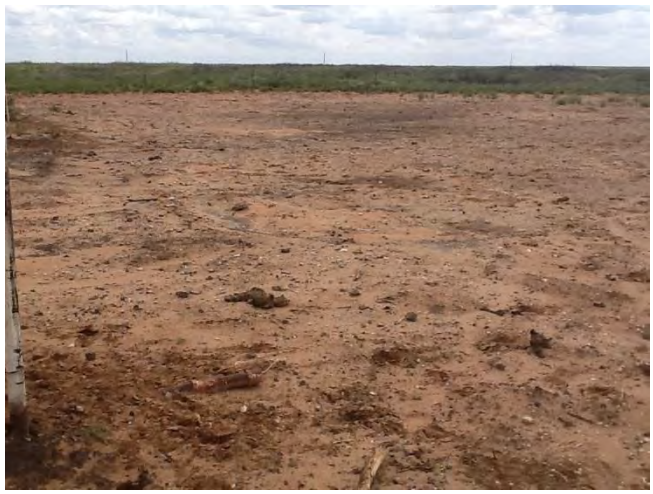


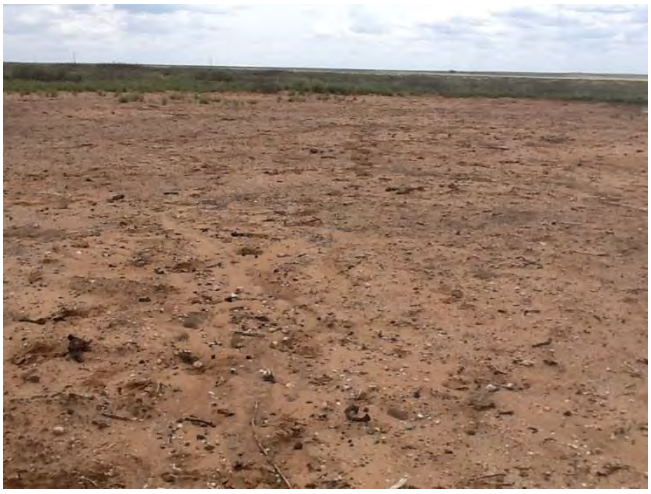


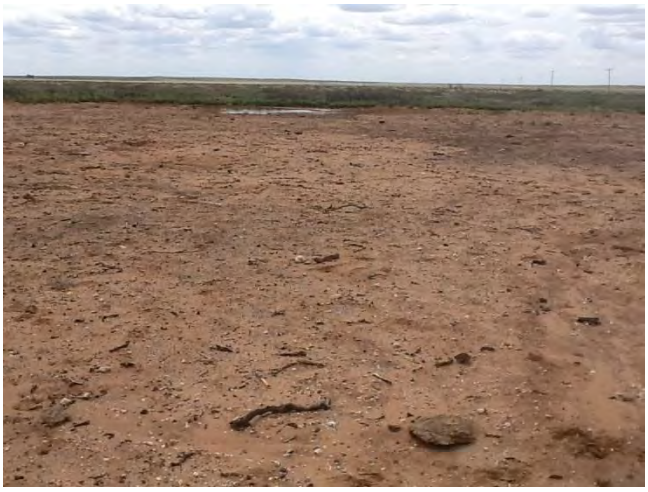


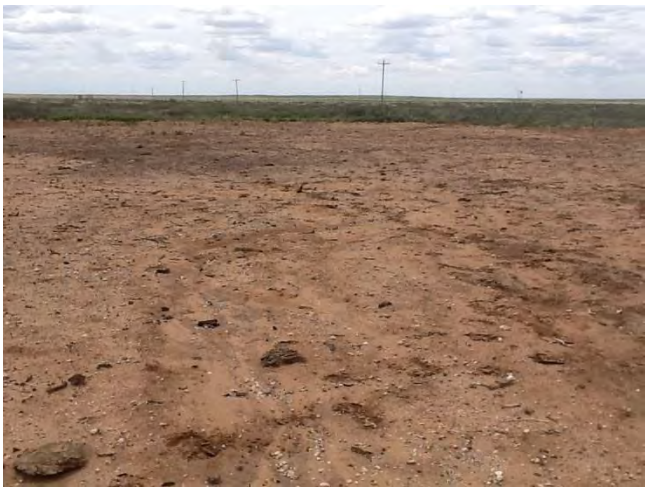


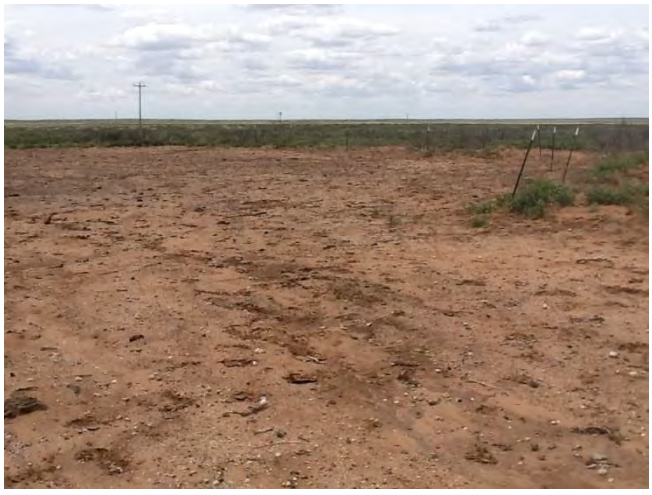


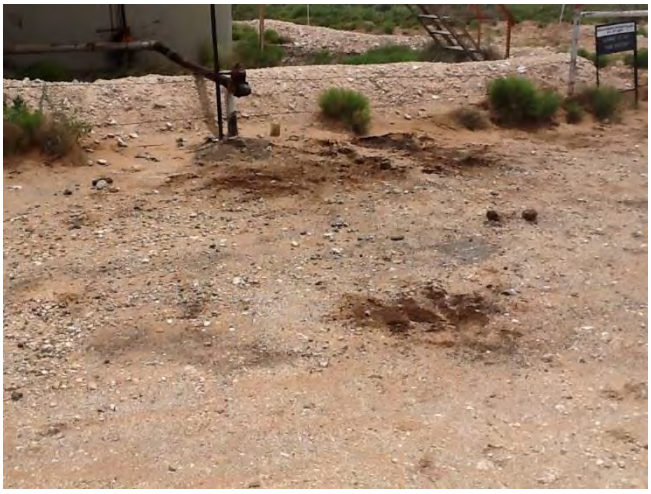


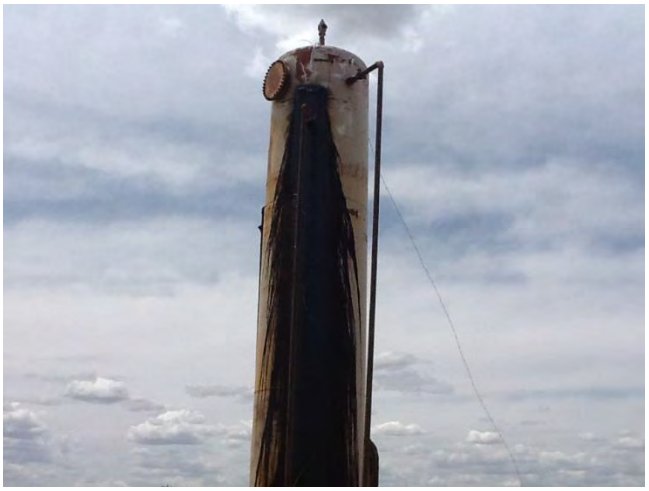








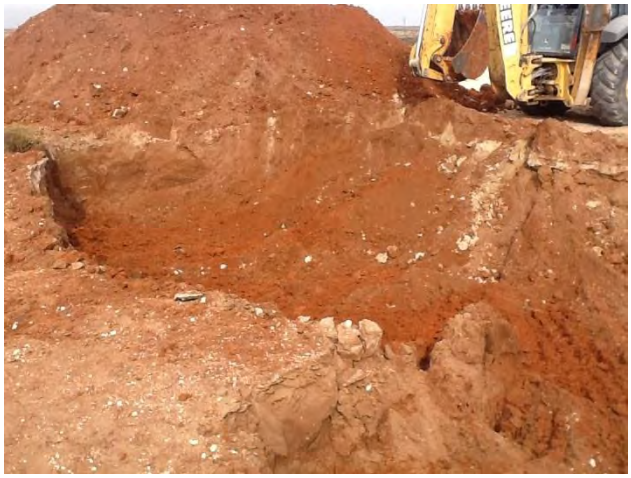


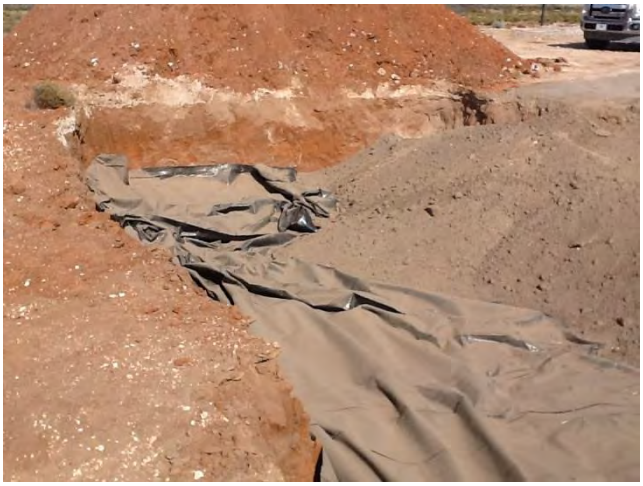


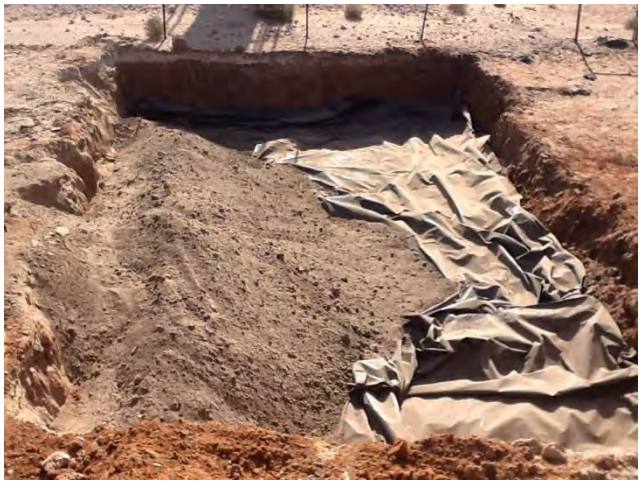
**Cross Border Resources**

**Sunray State Tank Battery**

**11-9-17**







# 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