



# **VANGUARD NATURAL RESOURCES**

5847 San Felipe, Suite 3000  
Houston, Texas 77057  
(832) 327-2255

**Onsurez #1**  
2RP-2397

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## **Termination Request**

API No. 30-015-23592

Release Date: June 13<sup>th</sup>, 2014

Unit Letter C, Section 11, Township 23S, Range 28E

**December 16<sup>th</sup>, 2014**

**Mike Bratcher**

New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau – District 2  
811 S. First St.  
Artesia, NM 88210

**RE: Termination Request  
Vanguard Onsurez #1 (2RP-2397)  
UL/C sec. 11 T23S R28E  
API No. 30-015-23592**

Mr. Bratcher:

Vanguard Natural Resources (Vanguard) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site.

**Background and Previous Work**

The site is located approximately 3.4 miles northeast of Loving, New Mexico at UL/C sec. 11 T23S R28E. USGS records indicate that groundwater will likely be encountered at a depth of approximately 16 +/- feet.

On June 13<sup>th</sup>, 2014, Vanguard discovered a release of oil and produced water. A separator pop off released a mist of 10 barrels of oil and produced water over 8,871 square feet of battery pad and pasture land. A total of 5 barrels of fluid was recovered. Vanguard submitted an initial C-141 to NMOCD on July 25<sup>th</sup>, 2014, which was approved on July 28<sup>th</sup>, 2014 (Appendix A).

RECS personnel were on site beginning on June 19<sup>th</sup>, 2014. Two points within the pasture area were sampled at the surface and with depth (Figure 1). All samples were field tested for chlorides and organic vapors and then sent to a commercial laboratory for analysis (Appendix B). Point 1 was advanced to a depth of 1 ft bgs where the 1 ft bgs sample returned a chloride value of 768 mg/kg, a Gasoline Range Organics (GRO) reading of non-detect and a Diesel Range Organics (DRO) reading of 153 mg/kg. Point 2 was also advanced to a depth of 1 ft bgs where the 1 ft bgs sample returned chloride, GRO and DRO values of non-detect.

The overspray on the lease pad was not sampled; because, the staining was so unpronounced that by August 5<sup>th</sup>, 2014, the staining was no longer visible.

Based on the laboratory analysis data, a Corrective Action Plan (CAP) was written and submitted to NMOCD on August 20<sup>th</sup>, 2014. The CAP stated that the release in the pasture area would be scraped down 1 ft to 1.5 ft. Once the scrape was completed, a composite bottom sample from the scrape would be taken and field tested for chloride and organic vapors. If field testing

indicated that the bottom composite would not return laboratory chloride, GRO and DRO readings below regulatory standards, the scrape would be advanced to a depth where field sampling indicated that these constituents would return laboratory readings below regulatory standards. The final bottom composite of the scrape would be taken to a commercial laboratory to confirm that chloride, GRO and DRO readings returned values below regulatory standards.

All excavated soils would be evaluated for use as backfill, and any soils that did not meet regulatory standards would be sent to a NMOCD approved facility for disposal. Clean soil would be imported to the site to replace any soils taken for disposal. The clean soil would be blended with the remaining excavated soils to use as backfill. A sample of the blended soil would be taken to a commercial laboratory to confirm that chloride, GRO and DRO readings returned values below regulatory standards. The scrapes would be backfilled with the blended soil and contoured to the surrounding location. The disturbed pasture area would then be seeded with a blend of native vegetation.

NMOCD approved the CAP on August 27<sup>th</sup>, 2014, with two stipulations. The first stipulation asserted that all the excavated soils were to be disposed at a NMOCD approved facility, since blending of soils would not be permitted. The second stipulation asserted that confirmation samples needed to be provided for Point 1 and for the overspray area.

CAP activities began at the site on August 5<sup>th</sup>, 2014. Point 1 was augured to a depth of 1.5 ft bgs, and the 1.5 ft bgs sample was field tested for chlorides and organic vapors. The sample was then taken to a commercial laboratory for analysis, which returned a chloride value of 240 mg/kg and a GRO and DRO value of non-detect (Appendix C). A 5 point surface composite sample of the overspray area was taken and field tested for chlorides and organic vapors. The sample was then taken to a commercial laboratory for analysis, which returned a chloride value of 208 mg/kg, a GRO value of non-detect and a DRO value of 200 mg/kg. Based on these readings, no further actions were warranted for the overspray area.

The release area in the pasture was scraped down to 1.5 ft bgs. At the base of the scrape, a 5 point bottom composite sample was taken and field tested for chlorides and organic vapors. The composite was then taken to a commercial laboratory for analysis, which returned a chloride value of 160 mg/kg, a GRO reading of non-detect and a DRO reading of 130 mg/kg. Based on the laboratory data, NMOCD gave verbal approval to backfill the scrape on September 15<sup>th</sup>, 2014.

A total of 332 cubic yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 492 cubic yards of top soil was imported to the site to serve as backfill. A sample of this imported top soil was field tested for chlorides and organic vapors. The sample was then taken to a commercial laboratory for analysis, which returned a chloride value of non-detect. The site was backfilled with the imported top soil and contoured to the surrounding location. On September 29<sup>th</sup>, 2014, soil amendments were added to the disturbed area, and the disturbed area was seeded with Lea County Mix.

Photo documentation of the field activities can be found in Appendix D.

Given that Vanguard has completed the actions as stipulated in the NMOCD approved CAP, Vanguard respectfully requests 'remediation termination' and site closure. A final C-141 can be found in Appendix E.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in dark ink, appearing to read 'J.C.W.' followed by a stylized flourish.

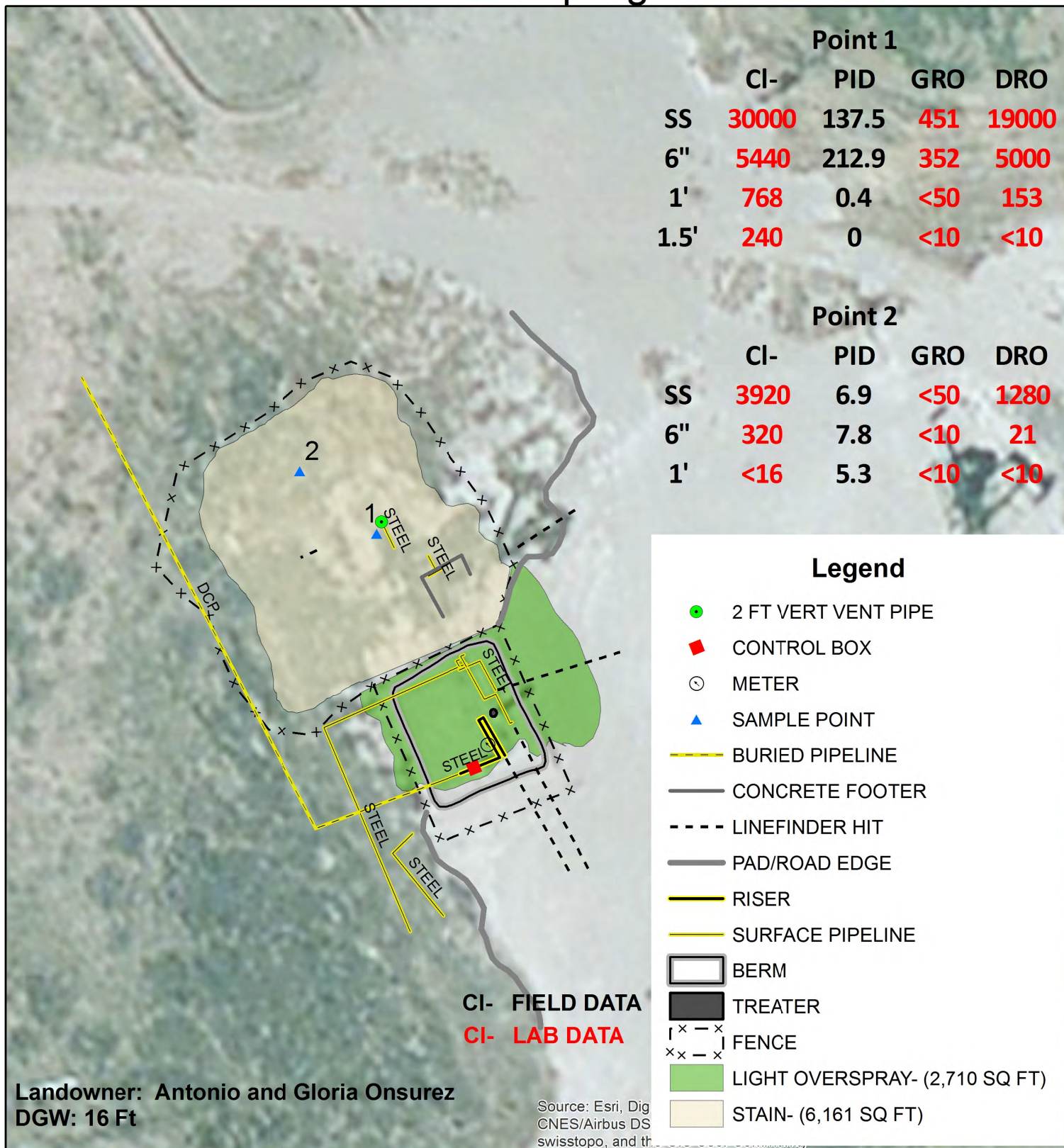
Lara Weinheimer  
Project Scientist  
RECS  
(575) 441-0431

Attachments:

- Figure 1 – Initial Sampling Data
- Figure 2 – Excavation Map
- Appendix A – Initial C-141
- Appendix B – Initial Sampling Labs
- Appendix C – Remediation Labs
- Appendix D – Photo Documentation
- Appendix E – Final C-141

# Figures

# Initial Sampling Data



**RECS**  
RICE ENVIRONMENTAL  
CONSULTING & SAFETY

## VANGUARD ONSUREZ #1

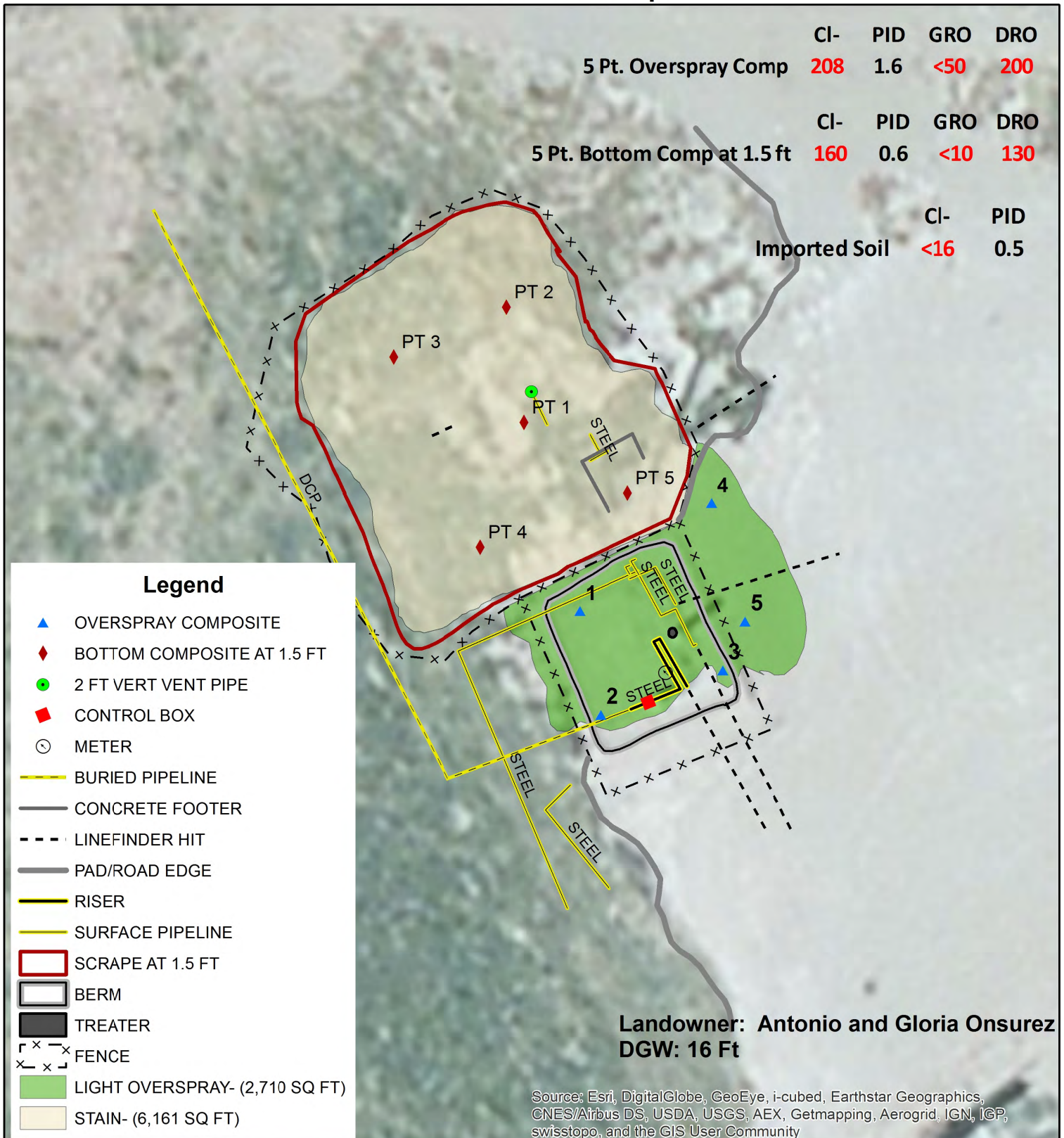
UL C SECTION 11  
T-23-S R-28-E  
EDDY COUNTY, NM

## Figure 1

GPS date: 6/19/14 CF  
Drawing date: 9/11/14  
Drafted by: T. Grieco/L. Weinheimer



# Excavation Map



## VANGUARD ONSUREZ #1

UL C SECTION 11  
T-23-S R-28-E  
EDDY COUNTY, NM

Figure 2



0 25 50  
Feet

GPS date: 9/11/14 AR  
Drawing date: 9/11/14  
Drafted by: T. Grieco, L. Weinheimer

# Appendix A

Initial 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**

*NAB1420950822*

**OPERATOR**

☒ Initial Report ☐ Final Report

|  |               |                            |
|--|---------------|----------------------------|
| Name of Company Vanguard Permian                     | <i>258350</i> | Contact Mike Jones         |
| Address 5847 San Felipe, Ste. 3000 Houston, TX 77057 |               | Telephone No. 575-390-4611 |
| Facility Name Onsurez #1                             |               | Facility Type Battery      |
| Surface Owner Antonio and Gloria Onsurez             | Mineral Owner | API No. 30-015-23592       |

**LOCATION OF RELEASE**

|                  |               |                 |               |                      |                         |                       |                       |                |
|------------------|---------------|-----------------|---------------|----------------------|-------------------------|-----------------------|-----------------------|----------------|
| Unit Letter<br>C | Section<br>11 | Township<br>23s | Range<br>28 e | Feet from the<br>672 | North/South Line<br>FNL | Feet from the<br>1773 | East/West Line<br>FWL | County<br>EDDY |
|------------------|---------------|-----------------|---------------|----------------------|-------------------------|-----------------------|-----------------------|----------------|

Latitude 32.325488 Longitude -104.060743

**NATURE OF RELEASE**

|  |   |  |
|--|---|--|
| Type of Release Oil and Produced Water   | Volume of Release 10 BBLS                 | Volume Recovered 5 BBLS                |
| Source of Release Oil and Gas separator Pop off  | Date and Hour of Occurrence               | Date and Hour of Discovery 6-13-14/9AM |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?                          |  |
| By Whom?   | Date and Hour                             |  |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse. |  |

If a Watercourse was Impacted, Describe Fully.\*

**NM OIL CONSERVATION**  
ARTESIA DISTRICT  
JUL 25 2014

Describe Cause of Problem and Remedial Action Taken.\*

Pop off on separator, releases and blow mist of oil and water in pasture. Pop off was replaced and piped to water tank.

RECEIVED

Describe Area Affected and Cleanup Action Taken.\*

A total of 8,871 square feet of lease pad a pasture land was affected. The site will be assessed and a Corrective Action plan will be submitted to NMOCD.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|   |  |  |                            |
|---|--|--|----------------------------|
| Signature: <i>Mike Jones</i>            |  | <b>OIL CONSERVATION DIVISION</b>   |                            |
| Printed Name: Mike Jones                |  | Approved by Environmental Specialist: <i>[Signature]</i>   |                            |
| Title: Production Foreman               |  | Approval Date: <i>7/28/14</i>  | Expiration Date: <i>NA</i> |
| E-mail Address: <i>mjones@vnrlc.com</i> |  | Conditions of Approval:<br>Remediation per OCD Rule &<br>Guidelines. <b>SUBMIT REMEDIATION</b><br><b>PROPOSAL NO LATER THAN:</b><br><i>8/28/14</i> |                            |
| Date: _____ Phone: 575-390-4611         |  | Attached <input type="checkbox"/>  |                            |

\* Attach Additional Sheets If Necessary

*RP2-2397*

# Appendix B

## Initial Sampling Labs

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

June 26, 2014

LAURA FLORES

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 06/24/14 10:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 LAURA FLORES  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

|                   |              |                     |               |
|-------------------|--------------|---------------------|---------------|
| Received:         | 06/24/2014   | Sampling Date:      | 06/19/2014    |
| Reported:         | 06/26/2014   | Sampling Type:      | Soil          |
| Project Name:     | ONSUREZ #001 | Sampling Condition: | Cool & Intact |
| Project Number:   | NONE GIVEN   | Sample Received By: | Jodi Henson   |
| Project Location: | VANGUARD     |                     |               |

**Sample ID: POINT 1 @ SURFACE (H401886-01)**

| Chloride, SM4500Cl-B   |              | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|------------------------|--------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                | Result       | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>        | <b>30000</b> | 16.0            | 06/25/2014 | ND              | 416 | 104        | 400           | 8.00 |           |
| TPH 8015M              |              | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
| Analyte                | Result       | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>GRO C6-C10</b>      | <b>451</b>   | 100             | 06/24/2014 | ND              | 164 | 82.0       | 200           | 2.21 |           |
| <b>DRO &gt;C10-C28</b> | <b>19000</b> | 100             | 06/24/2014 | ND              | 184 | 92.0       | 200           | 3.27 |           |

Surrogate: 1-Chlorooctane 180 % 65.2-140

Surrogate: 1-Chlorooctadecane 338 % 63.6-154

**Sample ID: POINT 1 @ 6" (H401886-02)**

| Chloride, SM4500Cl-B   |             | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>        | <b>5440</b> | 16.0            | 06/25/2014 | ND              | 416 | 104        | 400           | 3.92 |           |
| TPH 8015M              |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
| Analyte                | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>GRO C6-C10</b>      | <b>352</b>  | 100             | 06/24/2014 | ND              | 164 | 82.0       | 200           | 2.21 |           |
| <b>DRO &gt;C10-C28</b> | <b>5000</b> | 100             | 06/24/2014 | ND              | 184 | 92.0       | 200           | 3.27 |           |

Surrogate: 1-Chlorooctane 144 % 65.2-140

Surrogate: 1-Chlorooctadecane 216 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
LAURA FLORES  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 06/24/2014  
Reported: 06/26/2014  
Project Name: ONSUREZ #001  
Project Number: NONE GIVEN  
Project Location: VANGUARD

Sampling Date: 06/19/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: POINT 2 @ SURFACE (H401886-03)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 3920   | 16.0            | 06/25/2014 | ND              | 416 | 104        | 400           | 3.92 |           |  |
| TPH 8015M            |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10           | <50.0  | 50.0            | 06/25/2014 | ND              | 164 | 82.0       | 200           | 2.21 |           |  |
| DRO >C10-C28         | 1280   | 50.0            | 06/25/2014 | ND              | 184 | 92.0       | 200           | 3.27 |           |  |

Surrogate: 1-Chlorooctane 93.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 139 % 63.6-154

**Sample ID: POINT 2 @ 6" (H401886-04)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 320    | 16.0            | 06/25/2014 | ND              | 416 | 104        | 400           | 3.92 |           |  |
| TPH 8015M            |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10           | <10.0  | 10.0            | 06/25/2014 | ND              | 164 | 82.0       | 200           | 2.21 |           |  |
| DRO >C10-C28         | 21.0   | 10.0            | 06/25/2014 | ND              | 184 | 92.0       | 200           | 3.27 |           |  |

Surrogate: 1-Chlorooctane 85.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 89.4 % 63.6-154

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
LAURA FLORES  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 06/24/2014  
Reported: 06/26/2014  
Project Name: ONSUREZ #001  
Project Number: NONE GIVEN  
Project Location: VANGUARD

Sampling Date: 06/19/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: POINT 2 @ 1' (H401886-05)**

| Chloride, SM4500Cl-B          |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|-------------------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                       | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride                      | <16.0  | 16.0            | 06/25/2014 | ND              | 416 | 104        | 400           | 3.92 |           |
| TPH 8015M                     |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
| Analyte                       | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10                    | <10.0  | 10.0            | 06/25/2014 | ND              | 164 | 82.0       | 200           | 2.21 |           |
| DRO >C10-C28                  | <10.0  | 10.0            | 06/25/2014 | ND              | 184 | 92.0       | 200           | 3.27 |           |
|                               |        |                 |            |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctane     | 81.3 % | 65.2-140        |            |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctadecane | 86.5 % | 63.6-154        |            |                 |     |            |               |      |           |

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

|      |  |
|------|--|
| S-06 | The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.         |
| 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<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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Cardinal Laboratories

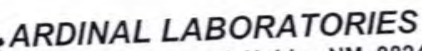
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



RDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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.

RELEASE NOTE: The undersigned hereby releases, defends, holds harmless and agrees to indemnify the undersigned from and against all claims, damages, costs and expenses, including reasonable attorneys' fees, which may be asserted against or incurred by the undersigned in connection with the undersigned's use of the undersigned's services, in no event shall the undersigned 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: 6-24-2014 | Received By: Jodi Benson  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Add'l Phone #: |
| Relinquished By:             | Time: 10:22     | Received By:  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   | Add'l Fax #:   |
| Delivered By: (Circle One)   | Date:           | Sample Condition  | REMARKS:  |                |
| Sampler - UPS - Bus - Other: | Time:           | Cool Intact   | email: hconder@riceswd.com; lflores@rice-ecs.com;                                 |                |
|                              |                 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | lweinheimer@rice-ecs.com; knorman@rice-ecs.com;                                   |                |
|                              |                 | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | jkamplain@rice-ecs.com; sedwards@rice-ecs.com;                                    |                |
|                              |                 | CHECKED BY: (Initials)  | cursanic@rice-ecs.com   |                |
|                              |                 |   | Environmental Tech: cflores@rice-ecs.com  |                |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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

---

August 12, 2014

LAURA FLORES

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 08/06/14 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 LAURA FLORES  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

|                   |              |                     |               |
|-------------------|--------------|---------------------|---------------|
| Received:         | 08/06/2014   | Sampling Date:      | 08/04/2014    |
| Reported:         | 08/12/2014   | Sampling Type:      | Soil          |
| Project Name:     | ONSUREZ #001 | Sampling Condition: | Cool & Intact |
| Project Number:   | NONE GIVEN   | Sample Received By: | Kathy Perez   |
| Project Location: | VANGUARD     |                     |               |

**Sample ID: PT. 1 @ 1' (H402428-01)**

| Chloride, SM4500Cl-B          |            | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|-------------------------------|------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                       | Result     | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>               | <b>768</b> | 16.0            | 08/07/2014 | ND              | 400 | 100        | 400           | 0.00 |           |
| TPH 8015M                     |            | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
| Analyte                       | Result     | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10                    | <50.0      | 50.0            | 08/08/2014 | ND              | 171 | 85.5       | 200           | 8.57 |           |
| <b>DRO &gt;C10-C28</b>        | <b>153</b> | 50.0            | 08/08/2014 | ND              | 180 | 89.9       | 200           | 9.44 |           |
| Surrogate: 1-Chlorooctane     | 87.1 %     | 65.2-140        |            |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctadecane | 109 %      | 63.6-154        |            |                 |     |            |               |      |           |

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

|     |  |
|-----|--|
| ND  | Analyte NOT DETECTED at or above the reporting limit   |
| RPD | Relative Percent Difference  |
| **  | Samples not received at proper temperature of 6°C or below.  |
| *** | Insufficient time to reach temperature.  |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager



# **CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## **CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

|   |  |                     |  |                |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
|---|--|---------------------|--|----------------|--|------------|--|--|--|-----|--|--------|--|--------|--|------------|--|------------|--|--------|--|---------------|--|-------------|--|
| Company Name: <b>RECS</b>                         |  |                     |  | <b>BILL TO</b> |  |            |  | <b>ANALYSIS REQUEST</b>  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Project Manager: Laura Flores, <i>Kyle Norman</i> |  |                     |  | P.O. #:        |  |            |  | <div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div> |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Address:  |  |                     |  | Company:       |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| City: Hobbs State: NM Zip: 88240                  |  |                     |  | Attn:          |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Phone #: Fax #:                                   |  |                     |  | Address:       |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Project #: Project Owner:                         |  |                     |  | City:          |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Project Name:                                     |  |                     |  | State: Zip:    |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Project Location: <i>Onsorez #1</i>               |  |                     |  | Phone #:       |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Sampler Name: <i>Kyle Schuaidt</i>                |  |                     |  | Fax #:         |  |            |  |  |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| FOR LAB USE ONLY                                  |  |                     |  | MATRIX         |  | PRESERV.   |  | SAMPLING   |  |     |  |        |  |        |  |            |  |            |  |        |  |               |  |             |  |
| Lab I.D.  |  | Sample I.D.         |  | GROUNDWATER    |  | WASTEWATER |  | SOIL   |  | OIL |  | SLUDGE |  | OTHER: |  | ACID/BASE: |  | ICE / COOL |  | OTHER: |  | DATE          |  | TIME        |  |
| <i>H402428</i>                                    |  | <i>point 1 @ 1'</i> |  | <i>6</i>       |  | <i>1</i>   |  | <i>X</i>   |  |     |  |        |  |        |  | <i>X</i>   |  | <i>X</i>   |  |        |  | <i>8-4-14</i> |  | <i>4:45</i> |  |

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|   |  |  |  |  |  |  |  |                |  |
|---|--|--|--|--|--|--|--|----------------|--|
| Relinquished By: <i>Kyle Schuaidt</i>         |  | Date: <i>8-6-14</i>                                      |  | Received By: <i>[Signature]</i>                          |  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  | Add'l Phone #: |  |
|   |  | Time:  |  |  |  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  |  | Add'l Fax #:   |  |
| Relinquished By: <i>[Signature]</i>           |  | Date: <i>8-6-14</i>                                      |  | Received By: <i>[Signature]</i>                          |  | REMARKS:<br><br>email: hconder@riceswd.com; lflores@rice-ecs.com;<br>lweinheimer@rice-ecs.com; knorman@rice-ecs.com;<br>jkamplain@rice-ecs.com; sedwards@rice-ecs.com;<br>cursanic@rice-ecs.com<br>Environmental Tech: @rice-ecs.com |  |                |  |
|   |  | Time: <i>3:05</i>  |  |  |  |  |  |                |  |
| Delivered By: (Circle One)                    |  |  |  |  |  |  |  |                |  |
| Sampler - UPS - Bus - Other: <i>-6.0e #24</i> |  | Sample Condition   |  | CHECKED BY: <i>[Signature]</i>                           |  |  |  |                |  |
|   |  | Cool Intact  |  | (Initials)   |  |  |  |                |  |
|   |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |  | <input type="checkbox"/> Yes <input type="checkbox"/> No |  |  |  |                |  |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

# Appendix C

## Remediation Labs

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

September 10, 2014

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 09/09/14 8:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
KYLE NORMAN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 09/09/2014  
Reported: 09/10/2014  
Project Name: ONSUREZ #001  
Project Number: NONE GIVEN  
Project Location: VANGUARD

Sampling Date: 09/09/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: 5 PT COMP OVERSPRAY (H402791-01)**

| Chloride, SM4500Cl-B          |        | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|-------------------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                       | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride                      | 208    | 16.0            | 09/09/2014 | ND              | 416 | 104        | 400           | 0.00 |           |
| TPH 8015M                     |        | mg/kg           |            | Analyzed By: ms |     |            |               |      |           |
| Analyte                       | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10                    | <50.0  | 50.0            | 09/09/2014 | ND              | 168 | 84.0       | 200           | 4.11 |           |
| DRO >C10-C28                  | 200    | 50.0            | 09/09/2014 | ND              | 186 | 92.9       | 200           | 2.47 |           |
| Surrogate: 1-Chlorooctane     |        | 95.2 %          | 65.2-140   |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctadecane |        | 112 %           | 63.6-154   |                 |     |            |               |      |           |

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

|     |  |
|-----|--|
| ND  | Analyte NOT DETECTED at or above the reporting limit   |
| RPD | Relative Percent Difference  |
| **  | Samples not received at proper temperature of 6°C or below.  |
| *** | Insufficient time to reach temperature.  |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

---

Cardinal Laboratories

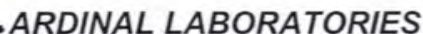
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

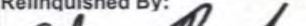




\* RUSH \*

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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: <u>9-9-14</u> |  | Received By:    |  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    |  | Add'l Phone #:  |  |
| Relinquished By:   |  | Time: <u>8:30</u>   |  | Received By:  |  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No      |  | Add'l Fax #:  |  |
| Delivered By: (Circle One)   |  | Time:               |  | Sample Condition  |  | CHECKED BY:  |  | REMARKS:  |  |
| Sampler - UPS - Bus - Other:   |  | -2.89               |  | Cool Intact<br><input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes<br><input type="checkbox"/> No <input type="checkbox"/> No |  |  |  | email: hconder@riceswd.com; lflores@rice-ecs.com;<br>lweinheimer@rice-ecs.com; knorman@rice-ecs.com;<br>jkamplain@rice-ecs.com; sedwards@rice-ecs.com;<br>cursanic@rice-ecs.com<br>Environmental Tech: aredecop@rice-ecs. @rice-ecs.com |  |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54



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

---

September 11, 2014

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 09/10/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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|                  |                              |
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| 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 KYLE NORMAN  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

 Received: 09/10/2014  
 Reported: 09/11/2014  
 Project Name: ONSUREZ #001  
 Project Number: NONE GIVEN  
 Project Location: VANGUARD

 Sampling Date: 09/10/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: PT. 1 @ 1.5' (H402806-01)**

| Chloride, SM4500Cl-B          |            |                 | mg/kg           |              |     |            |               |      |           |  |
|-------------------------------|------------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|--|
|                               |            |                 | Analyzed By: AP |              |     |            |               |      |           |  |
| Analyte                       | Result     | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| <b>Chloride</b>               | <b>240</b> | 16.0            | 09/11/2014      | ND           | 400 | 100        | 400           | 0.00 |           |  |
| TPH 8015M                     |            |                 | mg/kg           |              |     |            |               |      |           |  |
|                               |            |                 | Analyzed By: ms |              |     |            |               |      |           |  |
| Analyte                       | Result     | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10                    | <10.0      | 10.0            | 09/11/2014      | ND           | 177 | 88.3       | 200           | 1.34 |           |  |
| DRO >C10-C28                  | <10.0      | 10.0            | 09/11/2014      | ND           | 200 | 100        | 200           | 3.79 |           |  |
| Surrogate: 1-Chlorooctane     | 98.1 %     | 65.2-140        |                 |              |     |            |               |      |           |  |
| Surrogate: 1-Chlorooctadecane | 115 %      | 63.6-154        |                 |              |     |            |               |      |           |  |

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |  |
|-----|--|
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| 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<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager





# ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2476 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

|                                     |  |                     |  |                                |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
|-------------------------------------|--|---------------------|--|--------------------------------|--|-------------|--|---|--|-------------------------------------|--|-----|--|--------|--|--------|--|------------|--|------------|--|--------|--|----------------|--|--------------|--|-------------------------------------|--|--|--|--|--|--|--|--|--|
| Company Name: <b>RECS</b>           |  |                     |  | <b>BILL TO</b>                 |  |             |  | <b>ANALYSIS REQUEST</b>   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Project Manager: <b>Kyle Norman</b> |  |                     |  | P.O. #:                        |  |             |  | <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Address: 112 W. Taylor              |  |                     |  | Company:                       |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| City: Hobbs State: NM Zip: 88240    |  |                     |  | Attn:                          |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Phone #: Fax #:                     |  |                     |  | Address:                       |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Project #: Project Owner:           |  |                     |  | City:                          |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Project Name:                       |  |                     |  | State: Zip:                    |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Project Location: <b>Onsite #1</b>  |  |                     |  | Phone #:                       |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Sampler Name: <b>Abel Redcop</b>    |  |                     |  | Fax #:                         |  |             |  |   |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| FOR LAB USE ONLY                    |  |                     |  | MATRIX                         |  | PRESERV.    |  | SAMPLING  |  |                                     |  |     |  |        |  |        |  |            |  |            |  |        |  |                |  |              |  |                                     |  |  |  |  |  |  |  |  |  |
| Lab I.D.                            |  | Sample I.D.         |  | (G)RAB OR (C)OMP. # CONTAINERS |  | GROUNDWATER |  | WASTEWATER  |  | SOIL                                |  | OIL |  | SLUDGE |  | OTHER: |  | ACID/BASE: |  | ICE / COOL |  | OTHER: |  | DATE           |  | TIME         |  |                                     |  |  |  |  |  |  |  |  |  |
| <b>H402546</b>                      |  | <b>Pt 1 at 1.5'</b> |  | <b>Q1</b>                      |  |             |  |   |  | <input checked="" type="checkbox"/> |  |     |  |        |  |        |  |            |  |            |  |        |  | <b>9-10-14</b> |  | <b>10:00</b> |  | <input checked="" type="checkbox"/> |  |  |  |  |  |  |  |  |  |

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|                              |  |   |  |                                 |  |   |  |                |  |
|------------------------------|--|---|--|---------------------------------|--|---|--|----------------|--|
| Relinquished By: <b>ah</b>   |  | Date: <b>9-10-14</b>  |  | Received By: <b>Jodi Henson</b> |  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |  | Add'l Phone #: |  |
| Time: <b>4:00</b>            |  | Time: <b>4:00</b>   |  | Time: <b>4:00</b>               |  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No   |  | Add'l Fax #:   |  |
| Relinquished By:             |  | Date:   |  | Received By:                    |  | REMARKS:  |  |                |  |
| Time:                        |  | Time:   |  | Time:                           |  | email: hconder@riceswd.com; kjones@riceswd.com;                                   |  |                |  |
| Delivered By: (Circle One)   |  | Sample Condition  |  | CHECKED BY: <b>JH</b>           |  | lflores@rice-ecs.com; lweinheimer@rice-ecs.com;                                   |  |                |  |
| Sampler - UPS - Bus - Other: |  | Cool Intact   |  |                                 |  | knorman@rice-ecs.com; jkamplain@rice-ecs.com;                                     |  |                |  |
|                              |  | <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes |  |                                 |  | sedwards@rice-ecs.com; cursanic@rice-ecs.com                                      |  |                |  |
|                              |  | <input type="checkbox"/> No <input type="checkbox"/> No                         |  |                                 |  | Environmental Tech: <b>aredcop</b> @rice-ecs.com                                  |  |                |  |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54



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

---

September 11, 2014

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 09/10/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 RICE ENVIRONMENTAL CONSULTING & SAFETY  
 KYLE NORMAN  
 419 W. CAIN  
 HOBBS NM, 88240  
 Fax To: (575) 397-1471

|                   |              |                     |               |
|-------------------|--------------|---------------------|---------------|
| Received:         | 09/10/2014   | Sampling Date:      | 09/10/2014    |
| Reported:         | 09/11/2014   | Sampling Type:      | Soil          |
| Project Name:     | ONSUREZ #001 | Sampling Condition: | Cool & Intact |
| Project Number:   | NONE GIVEN   | Sample Received By: | Jodi Henson   |
| Project Location: | VANGUARD     |                     |               |

**Sample ID: 5 PT COMP @ 1.5 SCRAPE (H402807-01)**

| Chloride, SM4500Cl-B          |            | mg/kg           |            | Analyzed By: AP |     |            |               |      |           |
|-------------------------------|------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                       | Result     | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>               | <b>160</b> | 16.0            | 09/11/2014 | ND              | 400 | 100        | 400           | 0.00 |           |
| TPH 8015M                     |            | mg/kg           |            | Analyzed By: ms |     |            |               |      |           |
| Analyte                       | Result     | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10                    | <10.0      | 10.0            | 09/11/2014 | ND              | 177 | 88.3       | 200           | 1.34 |           |
| <b>DRO &gt;C10-C28</b>        | <b>130</b> | 10.0            | 09/11/2014 | ND              | 200 | 100        | 200           | 3.79 |           |
|                               |            |                 |            |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctane     | 93.8 %     | 65.2-140        |            |                 |     |            |               |      |           |
| Surrogate: 1-Chlorooctadecane | 111 %      | 63.6-154        |            |                 |     |            |               |      |           |

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |  |
|-----|--|
| ND  | Analyte NOT DETECTED at or above the reporting limit   |
| RPD | Relative Percent Difference  |
| **  | Samples not received at proper temperature of 6°C or below.  |
| *** | Insufficient time to reach temperature.  |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

---

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2476 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

\* RUSH \*

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

|                                    |  |                         |  |   |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
|------------------------------------|--|-------------------------|--|---|--|---|--|--|--|----------|--|----------|--|---------------------------------------|--|--|--|--|--|
| Company Name: <b>RECS</b>          |  |                         |  | <b>BILL TO</b>                                |  |   |  | <b>ANALYSIS REQUEST</b>  |  |          |  |          |  |                                       |  |  |  |  |  |
| Project Manager: <b>Norman</b>     |  |                         |  | P.O. #:                                       |  |   |  | <div style="display: flex; flex-direction: column; align-items: center;"> <div>Chlorides</div> <div>TPH 8015 M</div> <div>BTEX</div> <div>Texas TPH</div> <div>Complete Cations/Anions</div> <div>TDS</div> </div> |  |          |  |          |  |                                       |  |  |  |  |  |
| Address:                           |  |                         |  | Company:                                      |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| City: Hobbs State: NM Zip: 88240   |  |                         |  | Attn:   |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| Phone #: Fax #:                    |  |                         |  | Address:                                      |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| Project #: Project Owner:          |  |                         |  | City:   |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| Project Name:                      |  |                         |  | State: Zip:                                   |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| Project Location: <b>Onsite #1</b> |  |                         |  | Phone #:                                      |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| Sampler Name: <b>Abilene</b>       |  |                         |  | Fax #:  |  |   |  |  |  |          |  |          |  |                                       |  |  |  |  |  |
| FOR LAB USE ONLY                   |  | Lab I.D. <b>H4DZ807</b> |  | Sample I.D. <b>1.5pt. comp at 1.5" scrape</b> |  | (GRAB OR (C)OMP. # CONTAINERS <b>C1</b> ) |  | MATRIX   |  | PRESERV. |  | SAMPLING |  | DATE <b>9-10-14</b> TIME <b>12:10</b> |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | GROUNDWATER  |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | WASTEWATER   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | SOIL   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | OIL  |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | SLUDGE   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | OTHER:   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | ACID/BASE:   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | ICE / COOL   |  |          |  |          |  |                                       |  |  |  |  |  |
|                                    |  |                         |  |   |  |   |  | OTHER:   |  |          |  |          |  |                                       |  |  |  |  |  |

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|                              |  |   |  |                                 |  |  |  |
|------------------------------|--|---|--|---------------------------------|--|--|--|
| Relinquished By: <b>oh</b>   |  | Date: <b>9/10/14</b>  |  | Received By: <b>Jodi Hanson</b> |  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: |  |
| Relinquished By: <b>oh</b>   |  | Time: <b>4:00</b>   |  | Received By: <b>Jodi Hanson</b> |  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:     |  |
| Delivered By: (Circle One)   |  | Date:   |  | Time:                           |  | REMARKS:   |  |
| Sampler - UPS - Bus - Other: |  | Sample Condition  |  | CHECKED BY: <b>JA</b>           |  | email: hconder@riceswd.com; lflores@rice-ecs.com;  |  |
|                              |  | Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> |  |                                 |  | lweinheimer@rice-ecs.com; knorman@rice-ecs.com;  |  |
|                              |  | Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>      |  |                                 |  | jkamplain@rice-ecs.com; sedwards@rice-ecs.com;   |  |
|                              |  |   |  |                                 |  | cursanic@rice-ecs.com  |  |
|                              |  |   |  |                                 |  | Environmental Tech: <b>aridrop@rice-ecs.com</b>  |  |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54





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

---

September 11, 2014

KYLE NORMAN

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

419 W. CAIN

HOBBS, NM 88240

RE: ONSUREZ #001

Enclosed are the results of analyses for samples received by the laboratory on 09/10/14 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

RICE ENVIRONMENTAL CONSULTING & SAFETY  
KYLE NORMAN  
419 W. CAIN  
HOBBS NM, 88240  
Fax To: (575) 397-1471

Received: 09/10/2014  
Reported: 09/11/2014  
Project Name: ONSUREZ #001  
Project Number: NONE GIVEN  
Project Location: VANGUARD

Sampling Date: 09/10/2014  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: IMPORTED SOIL (H402808-01)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

| Analyte  | Result | Reporting Limit | Analyzed   | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
|----------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Chloride | <16.0  | 16.0            | 09/11/2014 | ND           | 400 | 100        | 400           | 0.00 |           |

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |  |
|-----|--|
| ND  | Analyte NOT DETECTED at or above the reporting limit   |
| RPD | Relative Percent Difference  |
| **  | Samples not received at proper temperature of 6°C or below.  |
| *** | Insufficient time to reach temperature.  |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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Cardinal Laboratories

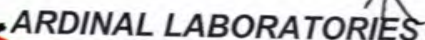
\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 323-2322 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

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|                              |  |                      |  |  |  |   |  |
|------------------------------|--|----------------------|--|--|--|---|--|
| Relinquished By: <i>chr</i>  |  | Date: <i>9/10/14</i> |  | Received By: <i>Jodi Benson</i>                                      |  | Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:  |  |
|                              |  | Time: <i>14:00</i>   |  |  |  | Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Fax #:  |  |
| Relinquished By:             |  | Date:                |  | Received By:   |  | REMARKS:  |  |
|                              |  | Time:                |  |  |  | email: hconder@riceswd.com; lflores@rice-ecs.com;<br>lweinheimer@rice-ecs.com; knorman@rice-ecs.com;<br>jkamplain@rice-ecs.com; sedwards@rice-ecs.com;<br>cursanic@rice-ecs.com |  |
| Delivered By: (Circle One)   |  |                      |  | Sample Condition   |  | CHECKED BY:   |  |
| Sampler - UPS - Bus - Other: |  |                      |  | Cool Intact  |  | (Initials)  |  |
|                              |  |                      |  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes |  | <i>[Signature]</i>  |  |
|                              |  |                      |  | <input type="checkbox"/> No <input checked="" type="checkbox"/> No   |  | Environmental Tech: <i>aredecon</i> @rice-ecs.com   |  |

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#54

# Appendix D

## Photo Documentation

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967



# Vanguard Onsurez #001

Unit Letter C, Section 11, T23S, R28E



Source of release, facing south

6/19/14



Initial release area, facing southeast

6/19/14



Initial release area, facing northwest

6/19/14



Initial release area, facing southeast

6/19/14





Auguring for depth, facing southwest 8/5/14



Collecting sample of overspray area, facing northeast 9/4/14



Scraping release, facing southwest 9/5/14



Exporting soil, facing south 9/9/14





Scrape completed, facing northeast 9/9/14



Scrape completed, facing southeast 9/10/14



Scrape completed, facing southwest 9/10/14



Importing soil, facing west 9/11/14





Backfilling scrape, facing southwest

9/15/14



Scrape backfilled, facing southwest

9/23/14



Scrape backfilled, facing south

9/23/14



Disking site prior to seeding, facing southwest

9/29/14





Applying soil amendments, facing south 9/29/14



Disking amendments into soil, facing southeast 9/29/14



Seeding site, facing northeast 9/29/14



Site completed, facing southwest 9/29/14





Site completed, facing south

9/29/14



Site completed, facing east

9/29/14

# Appendix E

Final C-141

**RICE Environmental Consulting and Safety (RECS)**  
P.O. Box 2948 Hobbs, NM 88241  
Phone 575.393.2967

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 | Vanguard Permian                              | Contact       | Mike Jones   |
| Address         | 5847 San Felipe, Ste. 3000, Houston, TX 77057 | Telephone No. | 575-390-4611 |
| Facility Name   | Onsurez #1                                    | Facility Type | Battery      |

|               |                            |               |  |         |              |
|---------------|----------------------------|---------------|--|---------|--------------|
| Surface Owner | Antonio and Gloria Onsurez | Mineral Owner |  | API No. | 30-015-23592 |
|---------------|----------------------------|---------------|--|---------|--------------|

### LOCATION OF RELEASE

|             |         |          |       |               |                  |               |                |        |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| C           | 11      | 23S      | 28E   | 672           | FNL              | 1773          | FWL            | Eddy   |

Latitude 32.325488 Longitude -104.060743

### NATURE OF RELEASE

|                             |   |   |         |                            |                 |
|-----------------------------|---|---|---------|----------------------------|-----------------|
| Type of Release             | Oil and Produced Water  | Volume of Release                         | 10 BBLS | Volume Recovered           | 5 BBLS          |
| Source of Release           | Oil and Gas separator Pop off   | Date and Hour of Occurrence               |         | Date and Hour of Discovery | 6-13-14<br>9 am |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?                          |         |                            |                 |
| By Whom?                    |   | Date and Hour                             |         |                            |                 |
| Was a Watercourse Reached?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                       | If YES, Volume Impacting the Watercourse. |         |                            |                 |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Pop off on separator, releases and blew a mist of oil and water in the pasture. Pop off was replaced and piped to water tank.

Describe Area Affected and Cleanup Action Taken.\* A total of 8,871 square feet of battery pad and pasture land was affected. RECS personnel were on site beginning on June 19<sup>th</sup>, 2014. Two points within the pasture area were sampled at the surface and with depth. The overspray on the lease pad was not sampled; because, the staining was so unpronounced that by August 5<sup>th</sup>, 2014, the staining was no longer visible. Based on the laboratory analysis data, a CAP was written and submitted to NMOCD on August 20<sup>th</sup>, 2014. NMOCD approved the CAP on August 27<sup>th</sup>, 2014, with two stipulations. The first stipulation asserted that all the excavated soils were to be disposed at a NMOCD approved facility, since blending of soils would not be permitted. The second stipulation asserted that confirmation samples needed to be provided for Point 1 and for the overspray area. CAP activities began at the site on August 5<sup>th</sup>, 2014. Point 1 was augured to a depth of 1.5 ft bgs. The sample was taken to a commercial laboratory for analysis, which returned a chloride value of 240 mg/kg and a GRO and DRO value of non-detect. A 5 point surface composite sample of the overspray area was taken and sent to a commercial laboratory for analysis. The sample returned a chloride value of 208 mg/kg, a GRO value of non-detect and a DRO value of 200 mg/kg. Based on these readings, no further actions were warranted for the overspray area. The release area in the pasture was scraped down to 1.5 ft bgs. At the base of the scrape, a 5 point bottom composite sample was taken and sent to a commercial laboratory for analysis. The sample returned a chloride value of 160 mg/kg, a GRO reading of non-detect and a DRO reading of 130 mg/kg. Based on the laboratory data, NMOCD gave verbal approval to backfill the scrape on September 15<sup>th</sup>, 2014. A total of 332 cubic yards of contaminated soil was taken to a NMOCD approved facility for disposal. A total of 372 cubic yards of top soil was imported to the site to serve as backfill. A sample of this imported top soil was taken to a commercial laboratory for analysis and returned a chloride value of non-detect. The site was backfilled with the imported top soil and contoured to the surrounding location. On September 29<sup>th</sup>, 2014, soil amendments were added to the disturbed area, and the disturbed area was seeded with Lea County Mix.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|                 |                           |  |  |                                       |                                   |
|-----------------|---------------------------|--|--|---------------------------------------|-----------------------------------|
| Signature:      | <i>Mike Jones</i>         |  |  | <b>OIL CONSERVATION DIVISION</b>      |                                   |
| Printed Name:   | <i>M. K. Jones</i>        |  |  | Approved by Environmental Specialist: |                                   |
| Title:          | <i>Production Foreman</i> |  |  | Approval Date:                        | Expiration Date:                  |
| E-mail Address: | <i>m.jones@vnrllc.com</i> |  |  | Conditions of Approval:               | Attached <input type="checkbox"/> |
| Date:           | <i>12-16-14</i>           |  |  | Phone:                                | <i>575-390-4611</i>               |

\* Attach Additional Sheets If Necessary