1R - 427-365

# APPROVALS

# YEAR(S):

2013

## Hansen, Edward J., EMNRD

**From:** Hansen, Edward J., EMNRD
**Sent:** Tuesday, March 26, 2013 5:20 PM
**To:** Hack Conder (hconder@riceswd.com)
**Cc:** Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Katie Jones <kjones@riceswd.com> (kjones@riceswd.com); Scott Curtis (scurtis@riceswd.com); sharon.hall@arcadis-us.com
**Subject:** Remediation Plan (1R427-365) Termination - ROC EME Jct C-13 Site

**RE: Termination Request**
**for the Rice Operating Company's**
**EME Jct C-13 Site**
**Unit Letter C, Section 13, T20S, R36E, NMPM, Lea County, New Mexico**
**Remediation Plan (1R427-365) Termination**

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received Rice Operating Company's report and request to close the above-referenced site, dated March 15, 2013 (received March 20, 2013). The reports are acceptable to the OCD.

The above-referenced report, submitted in accordance with 19.15.29 NMAC (Rule 29; formally, Rule 116), indicates that Rice Operating Company has met the requirements of 19.15.29 NMAC; therefore, the OCD approves the report and hereby notifies you that the remediation plan (1R427-365) is terminated in accordance with 19.15.29 NMAC.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

ARCADIS
*Infrastructure, environment, buildings*

ARCADIS U.S., Inc.
1004 North Big Spring Street
Suite 300
Midland
Texas 79701
Tel 432.687.5400
Fax 432.687.5401
**www.arcadis-us.com**

Sent Certified Mail
Return Receipt No. 7002 2410 0001 5813 4026



Mr. Ed Hansen
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Environmental

Subject:

**Corrective Action Plan (CAP) Report and Termination Request**
**EME Jct. C-13**
**Unit C, SEC. 13, T20S, R36E, Monument, Lea County, New Mexico**
**NMOCD CASE # 1R427-365**

Date:
March 15, 2013

Contact:
Sharon Hall

Phone:
432.687.5400

Email:
sharon.hall@arcadis-us.cor

Our ref:
MT001085.0001

**ARCADIS U.S., Inc.**
TX Engineering License # F-533

Mr. Hansen:

RICE Operating Company (ROC) has retained ARCADIS U.S., Inc. (ARCADIS) to address potential environmental concerns at the above-referenced site. ROC is the service provider (agent) for the EME SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

On behalf of ROC, ARCADIS respectfully submits this Corrective Action Plan (CAP) Report and Termination Request for the above-referenced site.

## SITE HISTORY AND BACKGROUND

The site is located approximately 3.5 miles southwest of Monument, New Mexico as shown on the Site Location Map. The junction box was eliminated and initial delineation was conducted from August 4th, 2011 through August 31st, 2011.

A backhoe was used to excavate soils from an excavation measuring 30 feet by 30 feet by 12 feet deep around the former junction box. Soil samples were collected at regular intervals and analyzed in the field for chlorides using field-adapted Standard Method 4500-Cl B and screened in the field using a photoionization detector (PID).

A five-point wall composite sample was collected from each of the four walls and combined to make a representative four-wall composite sample, and a five-point composite sample was collected from the bottom of the excavation and submitted to Cardinal Laboratories for gasoline range organics (GRO), diesel range organics (DRO) and chloride analysis. Chlorides were detected at a concentration of 992 milligrams per kilogram (mg/kg) in the four-wall composite sample and 960 mg/kg in the five-point composite bottom sample. GRO and DRO were not detected in either of the samples.

Based on the results of the soil sampling analytical results, elevated chloride concentrations are present at the subject site.

Approximately 204 cubic yards of excavated soil was properly disposed of at a NMOCD approved facility. The remaining excavated soils were blended on site with clean imported soil and backfilled into the excavation to a depth of five feet below ground surface. A 20-mil poly liner was installed at five feet below ground surface and the remaining excavation was backfilled with blended soil to ground surface. The area was contoured to the surrounding landscape.

A sample of the blended backfill material was submitted to Cardinal Laboratories for chloride analysis. Chlorides were detected at a concentration of 288 mg/kg.

ROC disclosed potential groundwater impact at the site to New Mexico Oil Conservation Division (NMOCD) via e-mail on March 13, 2012.

ROC submitted an ICP to NMOCD on May 30, 2012 and was approved by NMOCD on June 7, 2012.

**ICP INVESTIGATION RESULTS**

Two soil borings (SB-1 and SB-2) were drilled at the site on July 11, 2012. The soil borings were drilled to depths of 27 and 40 feet below ground surface. Soil samples were collected analyzed in the field for chlorides using field-adapted Method 4500-Cl-B and screened in the field using a PID. Two samples from each boring were submitted to Cardinal Laboratories and analyzed for chlorides, GRO and DRO. SB-1 laboratory analysis resulted in a decrease in chloride concentration from 448 mg/kg at 15 feet to 272 mg/kg at 27 feet. Chloride concentrations in SB-2 decreased from 912 mg/kg at 9 feet to 208 mg/kg at 18 feet. GRO and DRO were not detected in any of the samples.

Groundwater was expected at a depth of 31 feet below ground surface. SB-2 was installed to a depth of 40 feet below ground surface where Triassic clays were encountered. No moist soils were encountered and the decision was made to leave the boring open for 48 hours to determine whether or not a saturated interval exists. After the 48-hour period no moisture was detected in the borehole.

**CORRECTIVE ACTION PLAN ACTIVITIES**

As proposed in the CAP dated September 4, 2012 and subsequent Addendum, which was approved by NMOCD on September 18, 2013, the site was scraped to a depth of 6 inches to one foot, backfilled with clean soil, and seeded with native vegetation. CAP activities were conducted from November 20 through December 17, 2012. The spoil pile (a total of 396 cubic yards) was transported to Sundance Services for disposal. A total of 144 cubic yards of imported topsoil was spread at the site. A composite sample of the imported topsoil was analyzed by a commercial laboratory, resulting in a chloride concentration below detectable limits and a PID (field) reading of 0.0 ppm. The site was then seeded with 12 pounds of Blue Grama grass and 6 pounds of winter wheat. Photographs of CAP activities, revegetation form, and laboratory data and photoionization detector documentation of imported clean soil is attached.

Chloride and TPH concentrations are low at this site, and the existing 20-mil, reinforced liner will inhibit the migration of any residual constituents. ROC has completed the corrective actions, as approved by the NMOCD and the site was seeded with a blend of native vegetation. Vegetation will act as an evapo-transpiration barrier that will also inhibit the downward migration of chlorides and hydrocarbons. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone. Having met the requirements of 19.15.29 NMAC (Rule 29; formally, Rule 116), ROC requests Termination of the regulatory file or similar closure status.

Thank you for your consideration of this CAP Report and Termination Request. If you have any questions, do not hesitate to contact Hack Conder or me.

Sincerely,

ARCADIS U.S., Inc.

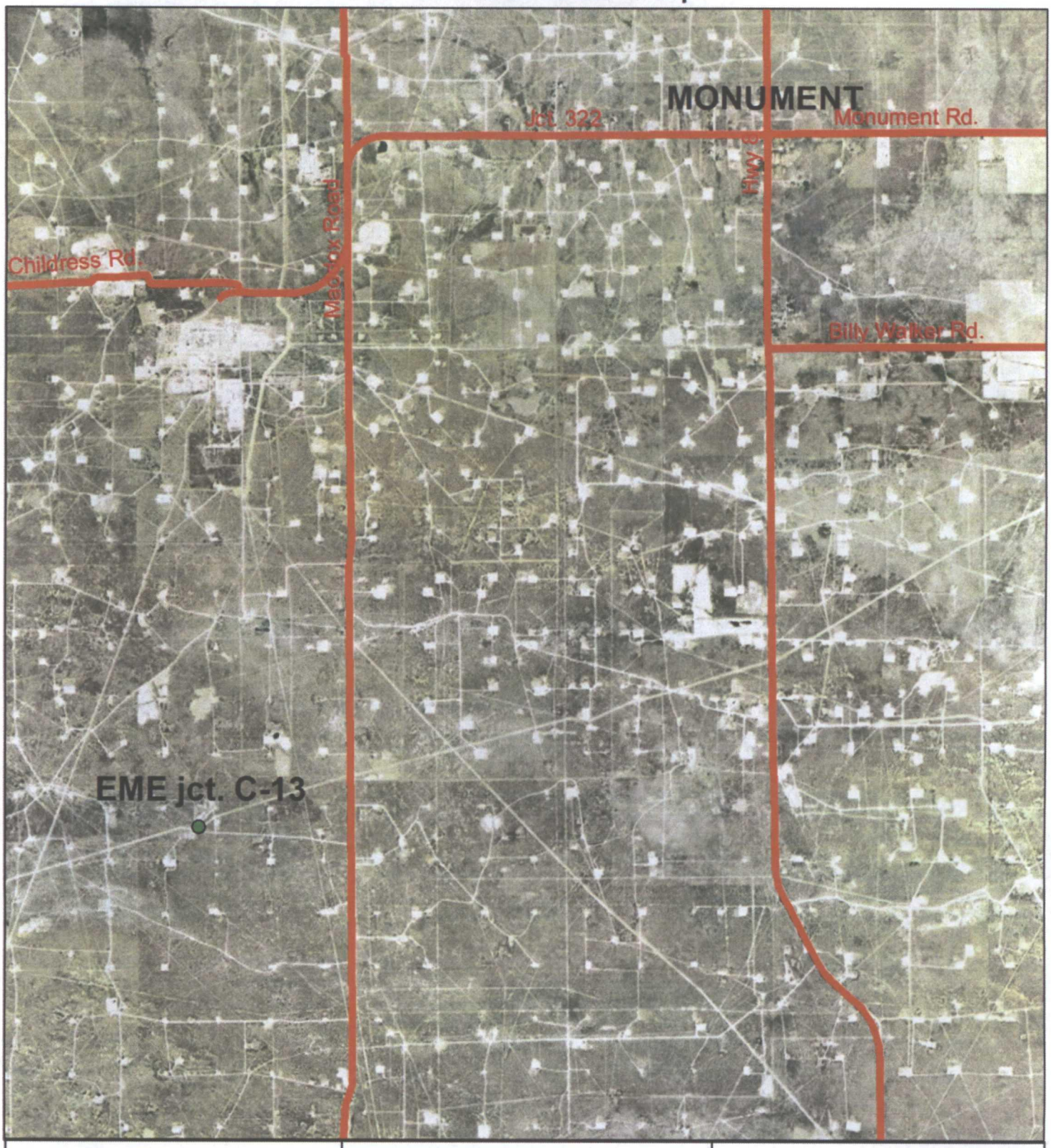
Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies:
Hack Conder, ROC

Attachments:
Site Location Map
Photographs and Revegetation Form
Chloride Laboratory Analysis
Photoionization Detector Log

# Site Location Map




RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

## *EME jct. C-13*

**Legals: UL/C sec. 13**
**T-20-S R-36-E**
**LEA COUNTY, NM**

N
W E
S

0 0.3 0.6 1.2
Miles

Drawing date: 5-2-12
Drafted by: L. Weinheimer

**EME Jct. C-13 (1R427-365)**
**Unit C, Section 13, T20S, R36E**

Site prior to scraping, facing north
5/7/2012

Scraping site, facing south
11/20/2012

Exporting soil, facing north
11/20/2012

Importing soil, facing west
12/13/12

Contouring the site, facing north
12/14/2012

Seeding the site, facing west
12/17/2012

PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
Fax: (575) 393-0293

# REVEGETATION FORM

**1. General Information**

| Site name: EME Jct. C-13 | | | | | | |
|---|---|---|---|---|---|---|
| U/L | Section | Township | Range | County | Latitude | Longitude |
| C | 13 | 21S | 36E | Lea | 32°34'38.977" N | 103°18'41.752" W |
| Contact Name: Zach Conder | | | | | | |
| Email: zconder@rice-ecs.com | | | | | | |
| Site size: 17,407 square feet (169x103-ft) | | | Map detail of site attached ☐ | | | |
| Additional information: | | | | | | |

**2. Soils** **Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

| Salvaged from site ☐ | Bioremediated ☐ | Imported ☒ | Blended ☐ | Depth (in): |
|---|---|---|---|---|
| Texture: sandy | Describe soil & subsoil: | Sandy topsoil with caliche below | | |
| Soil prep methods: | Rip ☐ Depth(in): | Disc ☐ Depth (in): | Rollerpack ☐ | |
| Date completed: 12/14/2012 | | | | |

**3. Bioremediation**

| Fertilizer ☐ | Hay ☐ | Other ☐ |
|---|---|---|
| Type: | | Describe: |
| Lbs/acre: | | |

**4. Seeding** **Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

| Custom seed mix ☒ | Prescribed mix ☐ | Seed mix name: 12 lbs Blue Grama<br>6 lbs Winter Rye | Seeding date: 12/17/2012 |
|---|---|---|---|
| Broadcast ☒<br>Method: Mechanical Hand Seeder | | | |
| Soil conditions during seeding: Dry ☒ Damp ☐ Wet ☐ | | | |
| Photos attached ☐<br>Number of photos: | Observations: | | |

**5. Certification** I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

| Name: Dyllan Yarbrough | Title: Environmental Tech | Date: 12/17/2012 |
|---|---|---|
| Signature: | | |

CARDINAL Laboratories

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

March 08, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JCT C-13

Enclosed are the results of analyses for samples received by the laboratory on 12/13/12 16:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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:*

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

| | | | |
|---|---|---|---|
| Received: | 12/13/2012 | Sampling Date: | 12/13/2012 |
| Reported: | 03/08/2013 | Sampling Type: | Soil |
| Project Name: | EME JCT C-13 | Sampling Condition: | ** (See Notes) |
| Project Number: | NONE GIVEN | Sample Received By: | Jodi Henson |
| Project Location: | NOT GIVEN | | |

**Sample ID: TOP SOIL (H203003-01)**

**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 | 12/17/2012 | ND | 432 | 108 | 400 | 16.0 | |

Cardinal Laboratories

*=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

| | |
|---|---|
| Company Name: Rice Operating | BILL TO |
| Project Manager: | P.O. #: |
| Address: | Company: |
| City: State: Zip: | Attn: |
| Phone #: Fax #: | Address: |
| Project #: Project Owner: | City: |
| Project Name: | State: Zip: |
| Project Location: EmE ~~C-13 Tot~~ * Juaction C-13 | Phone #: |
| Sampler Name: | Fax #: |

| FOR LAB USE ONLY | | | | MATRIX | | | | | | PRESERV | | | SAMPLING | | ANALYSIS REQUEST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | Cl- |
| H203003-1 | Top Soil | G | 1 | | | 1 | | | | | 1 | | 12/13/12 | 3:45 | 1 |

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: 12/13/12 | Received By: Jodi Henson | Phone Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 4:20 | | Fax Result: ☐ Yes ☐ No Add'l Fax #: |
| Relinquished By: | Date: | Received By: | REMARKS: Hack Conder Zach Conder Bruce Baker Lora W |
| | Time: | | |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | 8°C | Sample Condition Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No | CHECKED BY: (Initials) |

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

* Project name changed as per Katie. 3/8/13

# RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

| | | | |
|---|---|---|---|
| CK. | | MODEL: PGM 7300 | SERIAL NO: 590-000508 |
| MODEL | | MODEL: PGM 7300 | SERIAL NO: 590-000504 |
| NO. | X | MODEL: PGM 7320 | SERIAL NO: 592-903318 |
| | | MODEL: PGM 7300 | SERIAL NO: 590-000183 |

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

| | |
|---|---|
| LOT NO: HAL-248-100-1 | EXPIRATION DATE: 7/1/2015 |
| METER READING ACCURACY: 100 | |

ACCURACY : +/- 2%

| COMPANY |
|---|
| RICE OPERATING |

| SYSTEM | JUNCTION | UNIT | SECTION | TOWN SHIP | RANGE |
|---|---|---|---|---|---|
| EME | C-13 JCT | C | 13 | T-20-S | R-36-E |

| SAMPLE ID | PID | SAMPLE ID | PID |
|---|---|---|---|
| TOP SOIL | 0 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE: _____ DATE: 12/13/2012