Confidentiality Requested: Yes No

### KANSAS CORPORATION COMMISSION **OIL & GAS CONSERVATION DIVISION**

1177007

Form ACO-1 August 2013 Form must be Typed Form must be Signed All blanks must be Filled

### WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

| Name:   | ust   |
|---|---|
| Address 1:        Sec       Twp       Ea         Address 2:       Feet from       North /       South Line                  | est West<br>of Section<br>of Section              |
| Address 2:          Feet from         North /         South Lin   | <ul><li>of Section</li><li>⇒ of Section</li></ul> |
|   | of Section  |
| City: State: Zip:+ Feet from _ East / _ West Lin  |   |
| Contact Person: Footages Calculated from Nearest Outside Section Corner:  |   |
| Phone: ()   |   |
| CONTRACTOR: License #, Long:,   |   |
| Name: (e.g. xx.xxxx) (e.gxx   | (.xxxxx)  |
| Wellsite Geologist: Datum: NAD27 NAD83 WGS84  |   |
| Purchaser: County:  |   |
| Designate Type of Completion: Well #:   |   |
| New Well   Be-Entry   Workover  |   |
| Producing Formation:  |   |
| Oil WSW SWD SIOW     Elevation: Ground: Kelly Bushing:  |   |
| Gas D&A ENHR SiGW Total Vertical Depth: Plug Back Total Depth:  |   |
| CM (Coal Bed Methane) Abd.  | Feet  |
| Cathodic Other (Core, Expl., etc.): Multiple Stage Cementing Collar Used? Yes No  |   |
| If Workover/Re-entry: Old Well Info as follows: If yes, show depth set:   | Feet  |
| Operator: If Alternate II completion, cement circulated from:   |   |
| Well Name:  | sx cmt.   |
| Original Comp. Date: Original Total Depth:  |   |
| Deepening Re-perf. Conv. to ENHR Conv. to SWD Drilling Fluid Management Plan  |   |
| Plug Back       Conv. to GSW       Conv. to Producer       (Data must be collected from the Reserve Pit)                    |   |
| Chloride content: ppm Fluid volume:   | bbls  |
| Commingled Permit #: Dewatering method used:  |   |
|   |   |
| SWD Permit #: Location of fluid disposal if hauled offsite:   |   |
| CSW     Permit #:     Operator Name:  |   |
| Lease Name: License #:  |   |
| Quarter Sec. Twp. S. R. C.  | ast 🗌 West  |
| Spud Date or     Date Reached TD     Completion Date or       Recompletion Date     Recompletion Date     County: Permit #: |   |

### AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

### Submitted Electronically

| KCC Office Use ONLY             |  |  |  |  |  |  |  |
|---------------------------------|--|--|--|--|--|--|--|
| Confidentiality Requested       |  |  |  |  |  |  |  |
| Date:                           |  |  |  |  |  |  |  |
| Confidential Release Date:      |  |  |  |  |  |  |  |
| Wireline Log Received           |  |  |  |  |  |  |  |
| Geologist Report Received       |  |  |  |  |  |  |  |
| UIC Distribution                |  |  |  |  |  |  |  |
| ALT I II III Approved by: Date: |  |  |  |  |  |  |  |

|  | Page Two                     | 1177007   |
|--|------------------------------|---|
| Operator Name:   | Lease Name:                  | Well #:   |
| Sec TwpS. R East _ West  | County:                      |   |
| INCTOLICTIONS. Chow important tapa of formations panetrated. Dat | ail all coros Roport all fin | al conject of drill stome tasts giving interval tasted, time tool |

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

| Drill Stem Tests Taken<br>(Attach Additional Sheets) |                          | Yes No                             | L   | og Formatio                    | on (Top), Depth and | op), Depth and Datum |                               |
|--|--------------------------|------------------------------------|---|--------------------------------|---------------------|----------------------|-------------------------------|
| Samples Sent to Geolog                               | gical Survey             | Yes No                             | Nam   | e                              |                     | Тор                  | Datum                         |
| Cores Taken<br>Electric Log Run                      |                          | ☐ Yes ☐ No<br>☐ Yes ☐ No           |   |                                |                     |                      |                               |
| List All E. Logs Run:                                |                          |                                    |   |                                |                     |                      |                               |
|  |                          |                                    |   |                                |                     |                      |                               |
|  |                          | CASING<br>Report all strings set-c | RECORD Ne | ew Used<br>ermediate, producti | on, etc.            |                      |                               |
| Purpose of String                                    | Size Hole<br>Drilled     | Size Casing<br>Set (In O.D.)       | Weight<br>Lbs. / Ft.                          | Setting<br>Depth               | Type of<br>Cement   | # Sacks<br>Used      | Type and Percent<br>Additives |
|  |                          |                                    |   |                                |                     |                      |                               |
|  |                          |                                    |   |                                |                     |                      |                               |
|  |                          |                                    |   |                                |                     |                      |                               |
|  |                          | ADDITIONAL                         | CEMENTING / SQL                               | JEEZE RECORD                   |                     |                      |                               |
| Purpose:<br>Perforate                                | Depth<br>Top Bottom      | Type of Cement                     | # Sacks Used                                  |                                | Type and Pe         | ercent Additives     |                               |
| Protect Casing Plug Back TD                          |                          |                                    |   |                                |                     |                      |                               |
| Plug Off Zone  |                          |                                    |   |                                |                     |                      |                               |
| Did you perform a hydraulic                          | fracturing treatment of  | on this well?                      |   | Yes                            | No (If No, skip     | o questions 2 an     | d 3)                          |
| Does the volume of the tota                          | al base fluid of the hyd | raulic fracturing treatment ex     | ceed 350,000 gallons'                         | ? Yes                          | No (If No, skip     | o question 3)        |                               |
| Was the hydraulic fracturing                         | g treatment information  | lisclosure registry?               | Yes   | No (If No, fill o              | out Page Three o    | of the ACO-1)        |                               |

| Shots Per Foot                       | PERFORATION RECORD - Bridge Plugs Set/Type<br>Specify Footage of Each Interval Perforated |                  |            |                 |            | e                   |                 | Acid, Fracture, Shot, Ce<br>(Amount and Kind | ement Squeeze Record<br>I of Material Used) | Depth   |
|--------------------------------------|---|------------------|------------|-----------------|------------|---------------------|-----------------|--|---|---------|
|                                      |   |                  |            |                 |            |                     |                 |  |   |         |
|                                      |   |                  |            |                 |            |                     |                 |  |   |         |
|                                      |   |                  |            |                 |            |                     |                 |  |   |         |
|                                      |   |                  |            |                 |            |                     |                 |  |   |         |
|                                      |   |                  |            |                 |            |                     |                 |  |   |         |
| TUBING RECORD:                       | Siz   | ze:              | Set At:    |                 | Packer     | At:                 | Liner F         | Run:   | No  |         |
| Date of First, Resumed               | I Product   | ion, SWD or ENHF | <b>}</b> . | Producing Metho | d:<br>Pump | bing                | Gas Lift        | Other (Explain)                              |   |         |
| Estimated Production<br>Per 24 Hours |   | Oil Bb           | ls.        | Gas M           | cf         | Wate                | er              | Bbls.  | Gas-Oil Ratio                               | Gravity |
| DISPOSITI                            |   | SAS:             |            | ME              |            |                     |                 |  |   | R\/Δ1 · |
|                                      | d 🗌 l   | Used on Lease    |            | Open Hole       | Perf.      | Dually<br>(Submit A | Comp.<br>ACO-5) | Commingled (Submit ACO-4)                    |   |         |
| (If vented, Su                       | ıbmit ACC   | D-18.)           |            | Other (Specify) |            |                     |                 |  |   |         |

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

| Form      | ACO1 - Well Completion |
|-----------|------------------------|
| Operator  | Vonfeldt, Alan J       |
| Well Name | Boxberger 18           |
| Doc ID    | 1177007                |

### Tops

| Name           | Тор  | Datum |
|----------------|------|-------|
| Anhydrite      | 806  | +1018 |
| Base Anhydrite | 847  | +977  |
| Grand Haven    | 2351 | -527  |
| Tarkio Lime    | 2422 | -598  |
| Topeka         | 2685 | -861  |
| Heebner Sh     | 2915 | -1091 |
| Toronto        | 2934 | -1110 |
| LKC            | 2976 | -1152 |
| BKC            | 3228 | -1404 |
| RTD            | 3245 | -1421 |

| Form      | ACO1 - Well Completion |
|-----------|------------------------|
| Operator  | Vonfeldt, Alan J       |
| Well Name | Boxberger 18           |
| Doc ID    | 1177007                |

### Casing

| Purpose<br>Of String | Size Hole<br>Drilled | Size<br>Casing<br>Set | Weight | Setting<br>Depth | Type Of<br>Cement | Number of<br>Sacks<br>Used | Type and<br>Percent<br>Additives |
|----------------------|----------------------|-----------------------|--------|------------------|-------------------|----------------------------|----------------------------------|
| Surface              | 12.25                | 8.625                 | 24     | 805              | Common            | 350                        | 3% CC,<br>2% Gel.                |
| Production           | 7.875                | 4.5                   | 10.5   | 3157             | Common            | 235                        | 10% Salt,<br>5% Gil.             |
|                      |                      |                       |        |                  |                   |                            |                                  |
|                      |                      |                       |        |                  |                   |                            |                                  |

## QUALITY OILWELL CEMENTING, INC. Federal Tax 1.D.# 20-2886107

| S  | ec. Twp.   | Range                      | Co                    | ounty   | State  | On Location  | Finish  |  |  |
|--|--|----------------------------|-----------------------|---|--|--|---|--|--|
| Date 12-17-13                                  | 3 14   | 14                         | R                     | SH-   | KG   |  | 8:15 AN   |  |  |
|  | <u> </u>   | 100                        | Location              | Riccol  | 15 00 1/2  | Niter In   | lo Eina   |  |  |
| Lossa Buch                                     | L.   | Vell No # 1/               | 1 2000                | Owner   | • • • • • • • • • •  |  |   |  |  |
| Contractor D 1 H                               |  | 1011110: 14 19             |                       | To Quality Oilw   | ell Cementing, Inc.  |  | t and furnish   |  |  |
| Tuna lab 6                                     |  | a <sup>16</sup> 1 .        | 0                     | cementer and helper to assist owner or contractor to do work as listed. |  |  |   |  |  |
| Holo Size 12 1/14                              |  | 104                        | 5.6 S                 | Charge Al K. Fold   |  |  |   |  |  |
| Con ( 5 /                                      | Denth S  |                            | 1 4                   | 2tract  | <u>, ∧ – k 0k+1−€−+</u>  | <i>A</i>   | n a far frær i frær<br>Norst  |  |  |
| The Size                                       | Depth  | w <u>J</u>                 | 00.00                 |   |  | State  | 1   |  |  |
|  | Tool Depth   |                            |                       |   | lone to satisfaction and   | supervision of owner   | agent or contractor   |  |  |
| Cement Left in Csg. 4/4, 25 Shoe Joint 4/4, 25 |  |                            |                       | Cement Amour  | it Ordered 350   | 20,  | 20/ /m 1  |  |  |
| Vernent Len in Usg171.2                        | J   Snoe Jo  | 40 1.                      | 111                   |   | 5.20   |  | 2 - 1 G AR P. In-   |  |  |
| Meas Line<br>EQ                                | UISPIACE   | 13 14                      | 051                   | Common  | nation territoria.<br>Ny INSEE dia mampiasa dia mampiasa dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kao | and the second   |   |  |  |
| No. Cementer                                   |  |                            |                       | Doz Mix   |  | and the street of the  |   |  |  |
| Pumptrk / % Helper                             | Lacky  | N. (                       |                       | Poz. Mix  |  |  | a section.  |  |  |
| No. Driver                                     | avid   | 2                          |                       | Jeleium   |  | <u>स्टर्भ अन्दर्भ साम</u>  | 1   |  |  |
| Bulktrk PU  Driver P                           | K6   |                            |                       | <u> </u>  |  |  |   |  |  |
|  | NJ   |                            |                       |   |  | TY Page  |   |  |  |
| Remarks:                                       |  | <u></u>                    |                       | san   | in the second  |  |   |  |  |
| Rat Hole                                       | 1000   | 2                          | ा स्थानम्<br>विद्यालय | lowseal   | 1.1.2.20   |  | APPRICAL DR   |  |  |
| Mouse Hole                                     | 2001U  |                            | ĸ                     | Kol-Séal  |  |  |   |  |  |
| Centralizers                                   |  |                            | Ň                     | Mud CLR 48  |  |  |   |  |  |
| Baskets  | - Andrew Barres  | <u> </u>                   | C                     | FL-117 or CD  | 110 CAF 38   |  |   |  |  |
| D/V or Port Collar                             |  | -                          | S                     | Sand  | New York Street  | 182.32.4 (1).<br>1. (1)  |   |  |  |
| dille generation and                           |  |                            | H                     | landling  |  | litter of the second  |   |  |  |
|  |  | Service Service            | N                     | Aileage   |  | And the second s |   |  |  |
| [  |  |                            |                       |   | FLOAT EQUIPME  | NT   | en de la de la composition de |  |  |
| Cement   | 1 and the second |                            | G                     | auide Shoe  |  | and a set  |   |  |  |
| A CONTRACTOR                                   | المراجعة المراجعة  |                            | C                     | entralizer  | a nana<br><del>ana ang ang a</del>   |  |   |  |  |
|  | 1.274  | - <u>111-</u>              | B B                   | laskets   |  | وكي فصحتك  |   |  |  |
| C. C. IC                                       | whate  | d'                         | A                     | FU Inserts  | <u> </u>   | a series of the  |   |  |  |
| 이 가는 것 같아요.                                    |  | F                          | loat Shoe             | 1. J. V.V.  |  | ورجعة يجار   |   |  |  |
|  | And the second s | 8 (88 (V655.)<br>1 (1)     | L.                    | atch Down   |  |  | - "s  |  |  |
| and star                                       | ik. 1911 ali   | Anna Francis               |                       |   | n 🖷 🕴 🖓 👘 🖓  | 100 A  | 100 A.  |  |  |
|  | A A A A A A A A A A A A A A A A A A A  | Bear Branning              | 1000 Da               | The second second   |  |  | NE AL   |  |  |
|  |  |                            | P                     | umptrk Charge   | 2  |  |   |  |  |
|  |  |                            | M                     | lileage   |  | A. 1. 1.33   | 1-2-19  |  |  |
|  |  | 19 19 18 19<br>19 19 19 19 |                       | 10-10-10-10-10-10-10-10-10-10-10-10-10-1                                |  | Tax  |   |  |  |
|  |  |                            |                       | et en<br>X e e  | international de la companya de la c                        | Discount   | - 2 <sup>-1</sup>   |  |  |
|  |  |                            | i tomati in           |   |  |  |   |  |  |

# QUALITY OILWELL CEMENTING, INC. Federal Tax 1.D.# 20-2886107

| Cell 785-324-1041                       |   |  |   | Particular Constant                              |  |   |  |  |  |
|---|---|--|---|--|--|---|--|--|--|
| Sec.                                    | Twp.  | Range  | County  | State  | On Location  | Finish  |  |  |  |
| Date /2 31 13 3                         | 14  | 14   | Russell   | KS   | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -<br>1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - | 10.30 4   |  |  |  |
| A STREET                                | * - ; *8 ž  | 1.1  | Location Russe  | <u>H</u>   | a tali a an  |   |  |  |  |
| Lease Boxberger                         | N   | /ell No. 🕅 /   | 6 Owner   | 20 - 20 - 16 - 16 - 16 - 16 - 16 - 16 - 16 - 1   | $x = x^{2} = x - x^{2} = x^{2}$  | $> \frac{2}{2} = \frac{4}{2} = \frac{2}{2}$   |  |  |  |
| Contractor Royel # 1                    | Bio en  |  | To Quality Oi<br>You are here   | lwell Cementing, Inc.<br>by requested to rent ce | menting equipmen   | t and furnish   |  |  |  |
| Type Job Production SI                  | ring  | ян <u>р</u>  | cementer and  | d helper to assist owner                         | r or contractor to de  | o work as listed.   |  |  |  |
| Hole Size 7 7/4                         | т.р. 3  | 245  | To VC   | Charge Vonfeldt Oil                              |  |   |  |  |  |
| Csg. 41 1/2                             | Depth 3   | 157  | Street  | 이 나는 옷을 다 있었다.                                   | 21 1 기 변환값 -   | Nage 2  |  |  |  |
| Tbg. Size                               | Depth   | 8 8 8  | City  |  | State  | N 8 6 6 6   |  |  |  |
| Tool                                    | Tool Depth  |  |   |  | supervision of owner   | agent or contractor.  |  |  |  |
| Cement Left in Csg. 410 87              | Shoe Joi  | nt 40.4  | 7 Cement Amo  | unt Ordered 235                                  | som 10%  | Salt  |  |  |  |
| Meas Line                               | Displace  | 491  | 2 661 5%  | Vilsonite !                                      | 14 Elow  | 2 8-10 C  |  |  |  |
| EQUIF                                   | PMENT   |  | Common  |  | 18 14 14   | and the second  |  |  |  |
| Pumptrk 9 No. Cementer                  | ody   |  | Poz. Mix  |  | 1995 A.F. 1  |   |  |  |  |
| Bulktrk 14 No. Driver Da                | vid   |  | Gel.  |  | the second   | 1 - 24.5K   |  |  |  |
| Bulktrk PU No. Driver B                 | ert .   |  | Calcium   |  |  |   |  |  |  |
| JOB SERVICE                             | S & REMAR   | KS   | Hulls   | -9 d0 <sup>p</sup> _12                           | a far  | 2.1   |  |  |  |
| Remarks                                 | ens in a  | an a   | Salt  | Salt   |  |   |  |  |  |
| Rat Hole 305                            | at a c  | 2  | Flowseal  | Flowseal   |  |   |  |  |  |
| Mouse Hole 159*                         |   | 5  | Kol-Seal  | and the set                                      |  | , i simi  |  |  |  |
| Centralizers 1, 4, 5, 9                 | ,12,16  | 5  | Mud CLR 48  | Mud CLR 48 - 500 661                             |  |   |  |  |  |
| Baskets 2, 12, 21                       | . 4 K   |  | CFL-117 or C  | CFL-117 or CD110 CAF 38                          |  |   |  |  |  |
| D/V or Port Collar                      | -   | 1993 - 19 | Sand  | Sand   |  |   |  |  |  |
| A REAL PROPAGE                          | 1   |  | Handling  | Handling   |  |   |  |  |  |
| And States                              | and the second  | -  | Mileage   | Carlender av ser                                 | and the second second second   | Sector and the  |  |  |  |
| Hooked on Hi                            | 5 Mix   | ad 500   | yel 4/2   | リカ FLOAT EQUIPMENT                               |  |   |  |  |  |
| Mud Flush                               | and all   | 14   | Guide Shoe  | Guide Shoe                                       |  |   |  |  |  |
| a tana kata ana                         | ī.  |  | Centralizer   | 26   | en yr i'r y  |   |  |  |  |
| Plugged Ratt                            | Mause   | hole   | Baskets 3   |  | 941 St. 19   | C. J. B. M. MIRA  |  |  |  |
|   |   |  | AFU Inserts   |  | antique la   | e fange in en eine  |  |  |  |
| Mypel 190.5x                            | down  | 1/2  | Float Shoe  | Float Shoe                                       |  |   |  |  |  |
| 1                                       | QIV Y III   | No.  | Latch Down  | Latch Down ~ 1                                   |  |   |  |  |  |
| Displayed 49%                           | 5 bbl   |  | Rubber  | Rubber Plue                                      |  |   |  |  |  |
| 0.714.04                                | ALCONO.   | Brithmen   |   | 8- 6 3000 0                                      |  | e 4 200   |  |  |  |
|   | and all and the second |  | Pumptrk Char  | rge  |  |   |  |  |  |
| 00 A 10 P 103 10 P                      |   | 3.1.5  | Mileage   |  | 🖉 y the chine i  | 18 N.   |  |  |  |
| 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |   | a de la generativa.<br>A letterativa   |   |  | Tax  |   |  |  |  |
| the second second second                |   | 1  | ्राज्य के स्थित के स<br>स्थित के स्थित | an ang ana s                                     | Discount   |   |  |  |  |
| Granting Donie Riv                      | dia   | $X = V_{VF} C$   | the part of the second second   | ್ಷ ಅಲ್ಲೇಷ ಗಿಷ್ಟಿಗೆ.<br>ಕೆಲ್ಲಿ ಕೆಲ್ಲಿ ಸಿಗಿಸ್ಟ್ ಗಿ | Total Charge   |   |  |  |  |
| signature isactice DM                   | ng_   |  | 14  | S  | a  | and the second secon |  |  |  |

| Company:<br>Address:   | <b>OPERATOR</b><br>ALAN J. VONFELDT<br>PO BOX 611<br>RUSSELL, KANSAS 67665                      |                            |   |  |  |  |  |  |
|--|---|----------------------------|---|--|--|--|--|--|
| Contact Geologist:<br>Contact Phone Nbr:<br>Well Name:<br>Location:<br>Pool:<br>State:   | ALAN VONFELDT<br>785-483-0252<br>BOXBERGER # 18<br>NW SE SW Sec.3-14s-14w<br>IN FIELD<br>KANSAS | API:<br>Field:<br>Country: | 15-167-23,932-00-00<br>HALL-GURNEY<br>USA |  |  |  |  |  |
|  | Scale 1:240 Impe  | erial                      |   |  |  |  |  |  |
| Well Name:<br>Surface Location:<br>Bottom Location:<br>API:<br>License Number:   | BOXBERGER # 18<br>NW SE SW Sec.3-14s-14w<br>15-167-23,932-00-00<br>7281                         |                            |   |  |  |  |  |  |
| Spud Date:<br>Region:  | 12/26/2013<br>RUSSELL COUNTY  | Time:                      | 9:15 AM                                   |  |  |  |  |  |
| Drilling Completed:  | 12/30/2013  | Time:                      | 3:34 PM                                   |  |  |  |  |  |
| Bottom Hole Coordinates:<br>Bottom Hole Coordinates:<br>Ground Elevation:<br>K.B. Elevation:<br>Logged Interval:<br>Total Depth:<br>Formation:<br>Drilling Fluid Type: | 1819.00ft<br>1824.00ft<br>2250.00ft<br>3245.00ft<br>LANSING-KANSAS CITY<br>CHEMICAL/FRESH WATER | To:<br>R GEL               | 3245.00ft                                 |  |  |  |  |  |
|  | SURFACE CO-ORD  | NATES                      |   |  |  |  |  |  |
| Well Type:<br>Longitude:<br>N/S Co-ord:<br>E/W Co-ord:   | Vertical<br>-98.8669984<br>990' FSL<br>1650' FWL  | Latitude:                  | 38.8590759                                |  |  |  |  |  |
|  | LOGGED BY   |                            |   |  |  |  |  |  |
|  |   |                            |   |  |  |  |  |  |
| Company:<br>Address:   | SOLUTIONS CONSULTING<br>108 W 35TH<br>HAYS, KS 67601  | B, INC.                    |   |  |  |  |  |  |
| Phone Nbr:<br>Logged By:   | (785) 639-1337<br>GEOLOGIST   | Name:                      | HERB DEINES                               |  |  |  |  |  |
| Contractor:<br>Rig #:  | CONTRACTO<br>ROYAL DRILLING, INC.<br>1  | R                          |   |  |  |  |  |  |
| Rig Type:<br>Spud Date:  | MUD ROTARY<br>12/26/2013  | Time:                      | 9:15 AM                                   |  |  |  |  |  |
| TD Date:<br>Big Belease:   | 12/30/2013  | Time:                      | 3:34 PM<br>10:00 PM                       |  |  |  |  |  |
|  |   |                            |   |  |  |  |  |  |
| K.B. Elevation:  | ELEVATIONS  | Ground Elevation:          | 1819.00ft                                 |  |  |  |  |  |
| K.B. to Ground:  | 5.00ft  |                            |   |  |  |  |  |  |
| <b>NOTES</b><br>RECOMMENDATION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE AND LOG ANALYSIS  |   |                            |   |  |  |  |  |  |
| OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: RADIATION GUARD LOG, MICRORESISTIVITY LOG  |   |                            |   |  |  |  |  |  |
| NO DRILL STEM TESTS WERE   | NO DRILL STEM TESTS WERE RAN ON THIS WELL   |                            |   |  |  |  |  |  |
| (  | RAN ON THIS WELL  |                            |   |  |  |  |  |  |

|                    | <i>BOXBERGER #18</i><br>NW SE SW<br>SEC.3-14S-14W<br>1819'GL 1824'KB | # H-5<br>S2 SW/4<br>SEC.3-14-14W<br>KB 1819' | # H-14<br>C SW/4<br>SEC.3-14-14W<br>KB 1828' |  |
|--------------------|--|--|--|--|
| FORMATION          | LOG TOPS   | LOG TOPS                                     | LOG TOPS                                     |  |
| Anhydrite          | 806+1018   | +1015  | +1005  |  |
| <b>B-Anhydrite</b> | 847+ 977   | + 977  |  |  |
| Grand Have         | n 2351- 527  |  |  |  |
| Tarkio Lime        | 2422- 598  | - 597  |  |  |
| Topeka             | 2685-861   | - 860  | - 866  |  |
| Heebner Sh         | 2915-1091  | -1085  | -1092  |  |
| Toronto            | 2934-1110  | -1105  | -1111  |  |
| LKC                | 2976-1152  | -1147  | -1153  |  |
| ВКС                | 3228-1404  | -1397  | -1406  |  |
| Gorbam Sar         |  | -1/108                                       | -1/121                                       |  |

|   | Cornain   |  |                       |                             |            |
|---|---|--|-----------------------|-----------------------------|------------|
|   | Arbuckle  | e Not Read                                   | ched                  |                             |            |
|   | RTD   | 3245-142                                     | -1409                 | -1423                       |            |
|   |   |  |                       |                             |            |
|   |   |  |                       |                             |            |
|   |   |  |                       |                             |            |
|   |   | SU   |                       | ACTIVITY                    |            |
|   | 10 KDK 540 10 KDK 5                               |  |                       |                             |            |
|   | 12-26-13  | 8 RU, Spud 9:15A                             | M                     |                             |            |
|   | 12-27-13  | 3 808', drilling, se                         | et 8 5/8" to 805' w/  | 350 sxs common 2%gel 3%     | CC,        |
|   |   | slope 0 degree,                              | , WOC 12 hrs, drill p | lug 7:15PM                  |            |
|   | 12-28-13  | 3 1640', drilling                            |                       |                             |            |
|   | 12-29-13  | 3 2425'. drilling.                           | finish displacing 26  | 51'                         |            |
|   | 12-30-13  | 3 3062' drilling                             | RTD 3245'@3.34PM      | I. ST 23 stds. CCH. TOWR 14 | nøs        |
|   | 12 30 13  |  | ND 5245 (53.54) N     | istion assing and compart   | 765<br>765 |
|   | 12-51-13  | 5 5245, 11VVD, LL                            | JDP, run 4 /2 prout   | iction casing and cement, r |            |
|   |   |  |                       |                             |            |
|   |   |  |                       |                             |            |
|   |   |  |                       |                             |            |
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|   |   |  |                       |                             |            |
|   |   |  |                       |                             |            |
| I |   |  |                       |                             |            |
| I |   |  |                       |                             |            |
|   | Chtcong   | I met fw7>                                   |                       | shale red                   |            |
|   | Lmst fw<7   | shale, grn                                   | Carbon Sh             | Sinac, iou                  |            |
| 1 |   |  |                       |                             |            |
|   |   |  | ACCESSORIES           | 6                           |            |
|   | MINERAL   | FOSSIL                                       |                       |                             |            |
|   | <ul> <li>Chert, dark</li> <li>P Pvrite</li> </ul> | <ul> <li>Oolite</li> <li>Oomoldic</li> </ul> |                       |                             |            |
|   |   |  |                       |                             |            |

| Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca |                                |     |           |          |   |   |
|--|--------------------------------|-----|-----------|----------|---|---|
| Curve Track #1   |                                |     |           |          |   | Curve Track #3  |
| ROP (min/ft)   |                                |     |           |          |   |   |
|  | Depth   Intervals              | DST | Lithology | Oil Show | Geological Descriptions   |   |
| 1:240 Imperial   | Cored Interval<br>DST Interval |     |           |          |   | 1:240 Imperial  |
| ROP (min/ft)   | 2240<br>-<br>-                 |     |           |          | BEGIN 1' DRILL TIME FROM 2250' TO RTD<br>BEGIN 10' WET AND DRY SAMPLES FROM 2350' TO<br>RTD | 8 5/8" SURFACE CASING<br>SET TO 805' W/350 SXS<br>COMMON 2%GEL 3%CC |
|  | 2250                           |     |           |          | ANHYDRITE TOP 806+1018<br>ANHYDRITE BASE 847+977  | SLOPE 0 DEGREES   |
|  | 2260                           |     |           |          |   |   |
|  | 2270                           |     |           |          |   |   |





Shale, It gray, soft forming soft mud clumps, sticky Lime, crm, granular, fossiliferous

### GRAND HAVEN LIME 2351-527

Lime, crm-lt brn-lt gray, granular-fnxln

### 1ST TARKIO SAND



FINISH DISPLACEMENT FOR MUD UP @2651'

LOG INTERVAL 2686-95 SHOULD BE PERFORATED AND TESTED PRIOR TO ABANDONMENT OF WELL



