



# NABORS

**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
PE LOG**

|                              |  |                             |  |
|------------------------------|--|-----------------------------|--|
| Company                      |  | CHIEFTAIN OIL COMPANY, INC. |  |
| Well                         |  | STEFFEN #1 OWWO             |  |
| Field                        |  | WILDCAT                     |  |
| County                       |  | HODGEMAN                    |  |
| State                        |  | KANSAS                      |  |
| Company                      |  | CHIEFTAIN OIL COMPANY, INC. |  |
| Well                         |  | STEFFEN #1 OWWO             |  |
| Field                        |  | WILDCAT                     |  |
| County                       |  | HODGEMAN                    |  |
| State                        |  | KANSAS                      |  |
| Location:                    |  | API # : 15-083-20613-0001   |  |
| Permanent Datum              |  | GROUND LEVEL                |  |
| Log Measured From            |  | 1980' FNL & 660' FWL        |  |
| Drilling Measured From       |  | C - SW - NW                 |  |
| SEC 28 TWP 21S RGE 21W       |  | DIL                         |  |
| Elevation                    |  | K.B. 2166                   |  |
| D.F. 2164                    |  | G.L. 2158                   |  |
| Date                         |  | 11/5/12                     |  |
| Run Number                   |  | ONE                         |  |
| Depth Driller                |  | 4500                        |  |
| Depth Logger                 |  | 4499                        |  |
| Bottom Logged Interval       |  | 4475                        |  |
| Top Log Interval             |  | 4100                        |  |
| Casing Driller               |  | 8 5/8" @ 328'               |  |
| Casing Logger                |  | 328                         |  |
| Bit Size                     |  | 7 7/8"                      |  |
| Type Fluid in Hole           |  | CHEMICAL MUD                |  |
| Density / Viscosity          |  | 9.1/55                      |  |
| pH / Fluid Loss              |  | 10.0/7.0                    |  |
| Source of Sample             |  | FLOWLINE                    |  |
| Rim @ Meas. Temp             |  | .500 @ 90F                  |  |
| Rinf @ Meas. Temp            |  | .375 @ 90F                  |  |
| Rmc @ Meas. Temp             |  | .600 @ 90F                  |  |
| Source of Rmf / Rmc          |  | MEASUREMENT                 |  |
| Rim @ BHT                    |  | .372 @ 121F                 |  |
| Time Circulation Stopped     |  | 4 HOURS                     |  |
| Time Logger on Bottom        |  | 7:00 P.M.                   |  |
| Maximum Recorded Temperature |  | 121F                        |  |
| Equipment Number             |  | 4854                        |  |
| Location                     |  | HAYS, KANSAS                |  |
| Recorded By                  |  | JEFF LUEBBERS               |  |
| Witnessed By                 |  | ARDEN RATZLAFF              |  |
|                              |  | RON MOLZ                    |  |

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

## Comments

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
BURDETT, KS. 7W. ON HWY 156 TO "RD. 232", 2 1/2N., E. INTO



**COMPLETION  
& PRODUCTION**

# MAIN SECTION

Database File:

010005pe.db

Dataset Pathname:

pass2.8

Presentation Format:

ldt\_neu

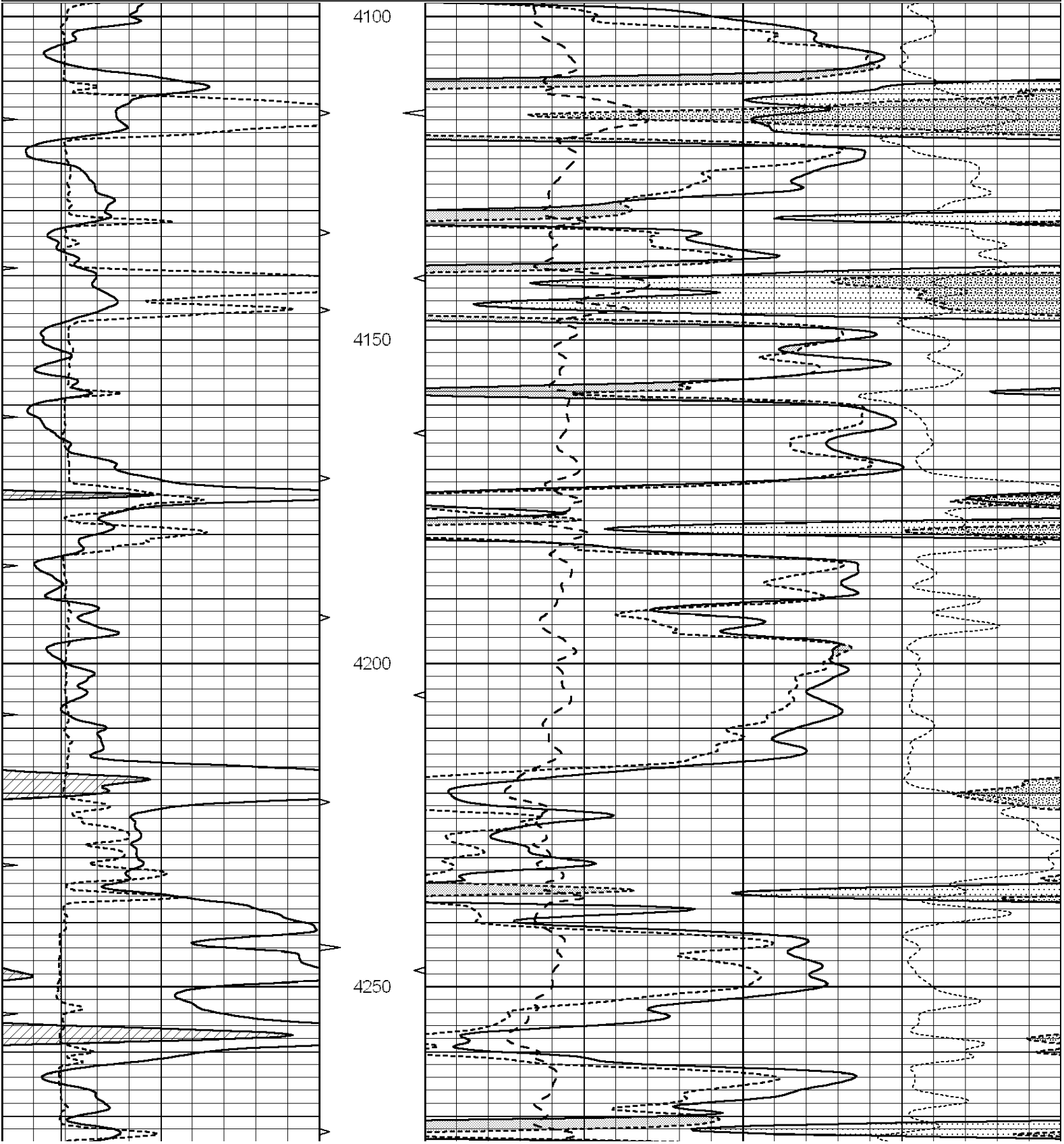
Dataset Creation:

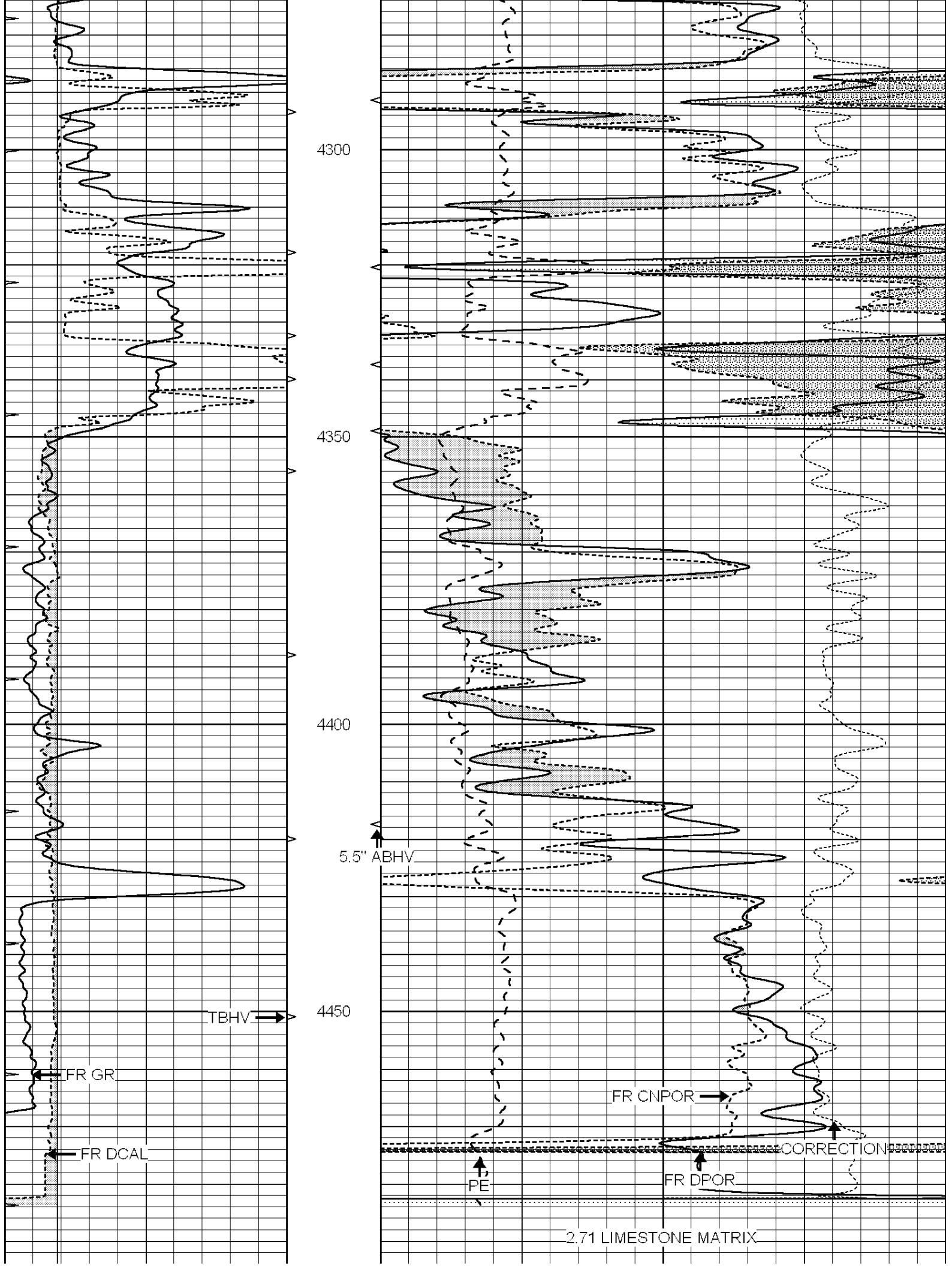
Mon Nov 05 19:31:40 2012

Charted by:

Depth in Feet scaled 1:240

|       |                  |     |          |    |                          |                          |       |                   |      |     |
|-------|------------------|-----|----------|----|--------------------------|--------------------------|-------|-------------------|------|-----|
| 0     | GAMMA RAY (GAPI) | 150 | ABHV     | 30 | COMPENSATED DENSITY (pu) |                          |       |                   | -10  |     |
| 6     | CALIPER (in)     | 16  | 10 (ft3) | 0  | 30                       | COMPENSATED NEUTRON (pu) |       |                   |      | -10 |
| ----- |                  |     |          |    |                          |                          |       |                   |      |     |
| 0     | MINMK            | 20  | TBHV     | 0  | PE                       | 10                       | -0.25 | CORRECTION (g/cc) | 0.25 |     |
|       |                  |     | 0 (ft3)  | 10 | -----                    |                          |       |                   |      |     |
|       |                  |     |          |    |                          |                          |       |                   |      |     |





|                         |
|-------------------------|
| PRE-SURVEY VERIFICATION |
|-------------------------|

|                              |                          |          |        |
|------------------------------|--------------------------|----------|--------|
| Detector                     | Readings                 | Measured | Target |
| Short Space                  | cps                      |          |        |
| Long Space                   | cps                      | pu       | pu     |
| POST-SURVEY VERIFICATION     |                          |          |        |
| Detector                     | Readings                 | Measured | Target |
| Short Space                  | cps                      |          |        |
| Long Space                   | cps                      | pu       | pu     |
| Gamma Ray Calibration Report |                          |          |        |
| Serial Number:               | 070559                   |          |        |
| Tool Model:                  | OPEN_GR                  |          |        |
| Performed:                   | Wed Sep 19 15:58:00 2012 |          |        |
| Calibrator Value:            | 1.0                      | GAPI     |        |
| Background Reading:          | 0.0                      | cps      |        |
| Calibrator Reading:          | 1.0                      | cps      |        |
| Sensitivity:                 | 0.3000                   | GAPI/cps |        |