



# NABORS

**COMPLETION  
& PRODUCTION  
SERVICES CO.**

## COMPENSATED DENSITY / NEUTRON LOG

|                              |                           |                     |                                     |
|------------------------------|---------------------------|---------------------|-------------------------------------|
| Company                      | RITCHIE EXPLORATION, INC. |                     |                                     |
| Well                         | #2 FRANCE                 |                     |                                     |
| Field                        | WILDCAT                   |                     |                                     |
| County                       | WICHITA                   |                     |                                     |
| State                        | KANSAS                    |                     |                                     |
| Company                      | RITCHIE EXPLORATION, INC. |                     |                                     |
| Well                         | #2 FRANCE                 |                     |                                     |
| Field                        | WILDCAT                   |                     |                                     |
| County                       | WICHITA                   |                     |                                     |
| State                        | KANSAS                    |                     |                                     |
| Location:                    | API # : 15-203-20292-0000 |                     | Other Services                      |
|                              | 1625' FNL & 1455' FEL     |                     | DIL                                 |
|                              | SEC 11 TWP 17S RGE 35W    |                     |                                     |
| Permanent Datum              | GROUND LEVEL              | Elevation           | 3173                                |
| Log Measured From            | KELLY BUSHING 9' A.G.L.   |                     |                                     |
| Drilling Measured From       | KELLY BUSHING             |                     |                                     |
|                              |                           | Elevation           | K.B. 3182<br>D.F. 3180<br>G.L. 3173 |
| Date                         | 10/15/14                  |                     |                                     |
| Run Number                   | ONE                       |                     |                                     |
| Depth Driller                | 5030                      |                     |                                     |
| Depth Logger                 | 5034                      |                     |                                     |
| Bottom Logged Interval       | 5010                      |                     |                                     |
| Top Log Interval             | 3500                      |                     |                                     |
| Casing Driller               | 8 5/8"@263'               |                     |                                     |
| Casing Logger                | 262                       |                     |                                     |
| Bit Size                     | 7 7/8"                    |                     |                                     |
| Type Fluid in Hole           | CHEMICAL MUD              | CHLORIDES 8,000 PPM |                                     |
| Density / Viscosity          | 9.3/65                    |                     |                                     |
| pH / Fluid Loss              | 9.0/10.4                  |                     |                                     |
| Source of Sample             | FLOWLINE                  |                     |                                     |
| Rim @ Meas. Temp             | .500@60F                  |                     |                                     |
| Rmf @ Meas. Temp             | .375@60F                  |                     |                                     |
| Rmc @ Meas. Temp             | .600@60F                  |                     |                                     |
| Source of Rmf / Rmc          | MEASUREMENT               |                     |                                     |
| Rim @ BHT                    | .240@125F                 |                     |                                     |
| Time Circulation Stopped     | 3 HOURS                   |                     |                                     |
| Time Logger on Bottom        | 12:30 A.M.                |                     |                                     |
| Maximum Recorded Temperature | 125F                      |                     |                                     |
| Equipment Number             | 4854                      |                     |                                     |
| Location                     | HAYS, KANSAS              |                     |                                     |
| Recorded By                  | JEFF LUEBBERS             |                     |                                     |
| Witnessed By                 | TERRY McLEOD              |                     |                                     |

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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.

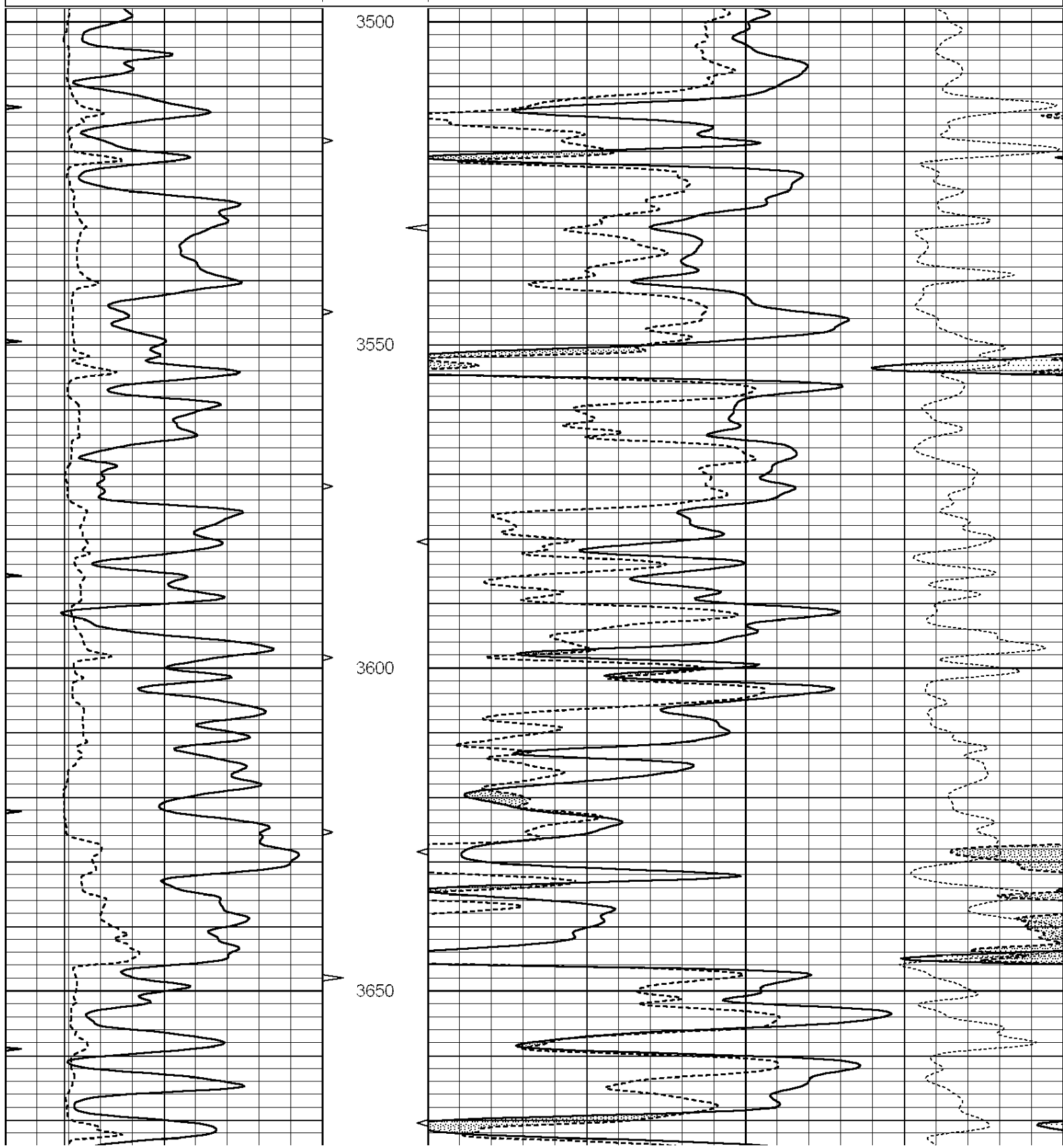
### Comments

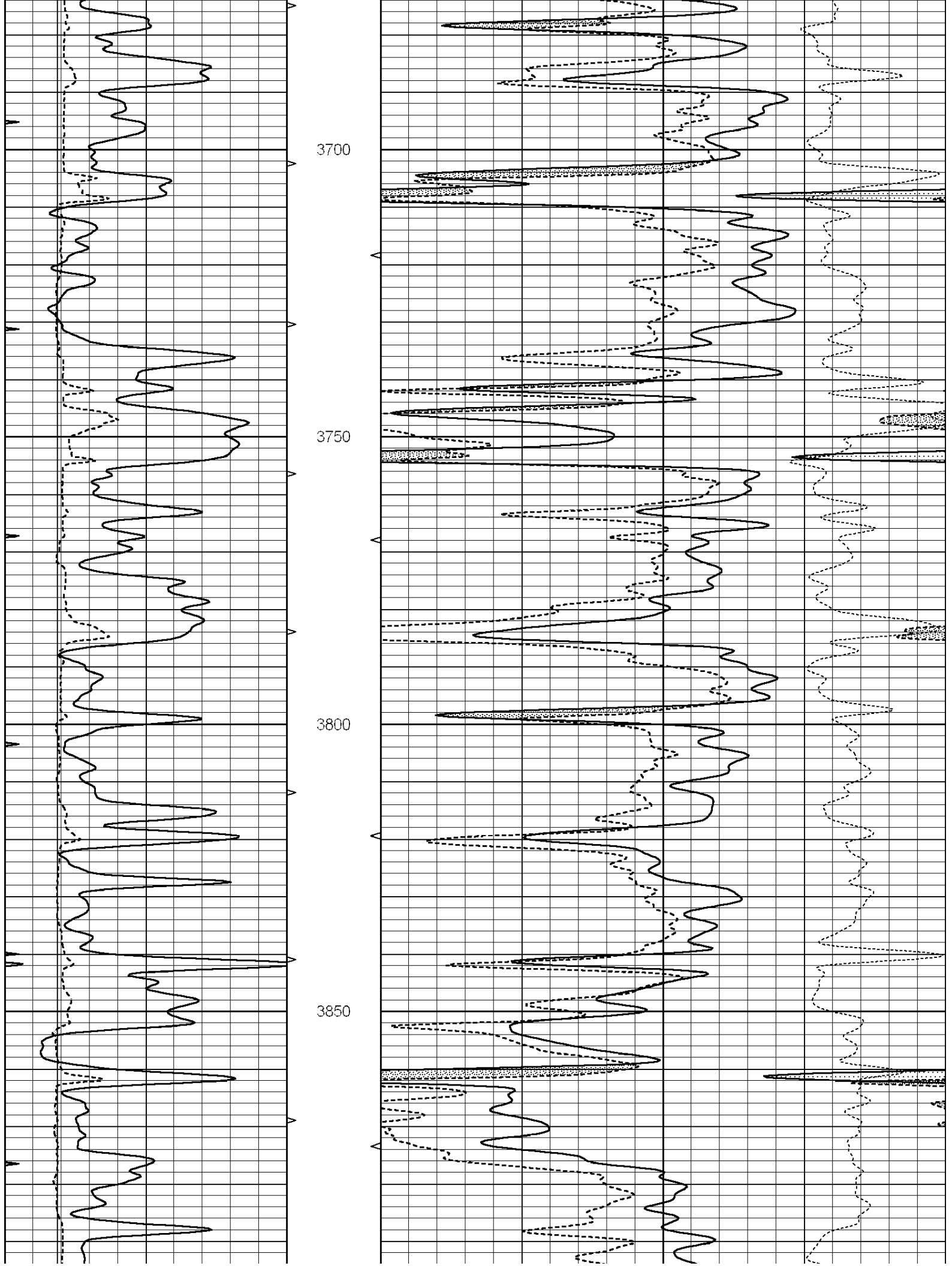
THANK YOU FOR USING "NABORS" HAYS, KANSAS 9785) 628-6395  
DIRECTIONS

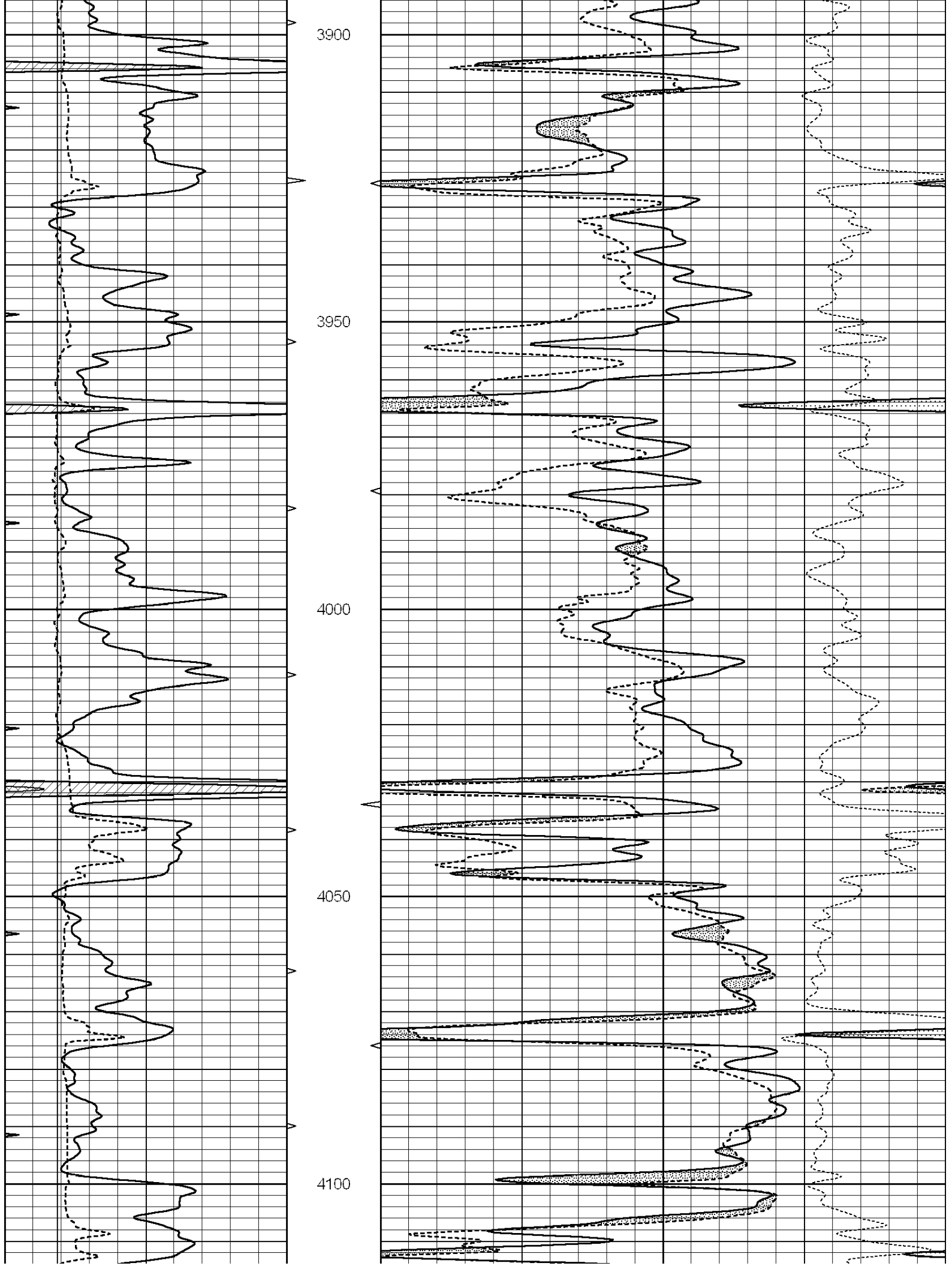
SCOTT CITY, KS. ( HWY 83 & 96) 12W. ON HWY 96 TO "SCOTT - WICHITA CO. LINE", 7N. TO "RD. J",  
1W., 1 1/2N., W. INTO

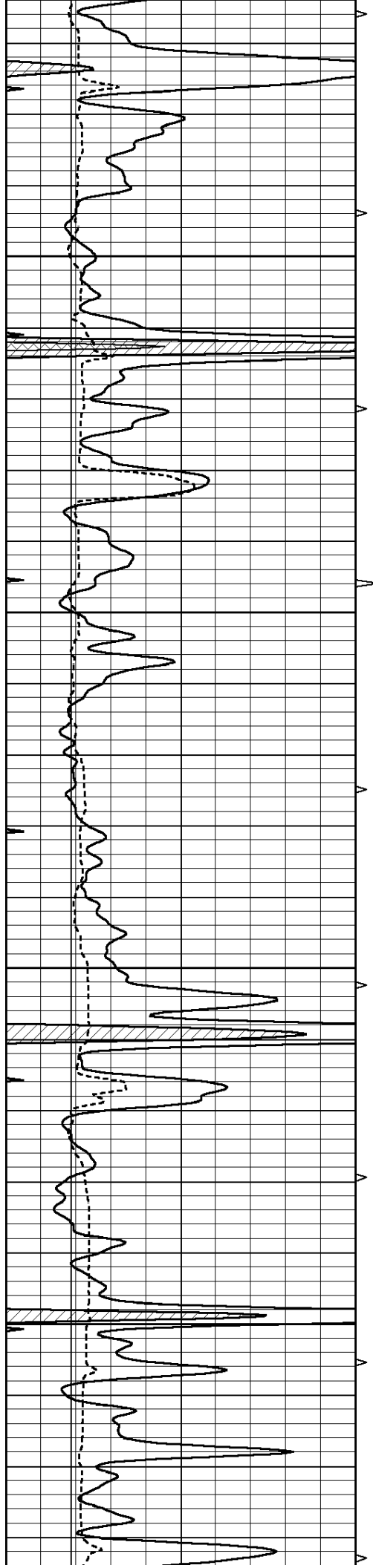
Database File: 25895ddn.db  
 Dataset Pathname: pass5.10  
 Presentation Format: den\_neu  
 Dataset Creation: Wed Oct 15 01:45:45 2014  
 Charted by: Depth in Feet scaled 1:240

|   |                  |     |          |      |                          |      |
|---|------------------|-----|----------|------|--------------------------|------|
| 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     |      | -0.25 CORRECTION (g/cc)  | 0.25 |
|   |                  |     | 0 (ft3)  | 10   |                          |      |







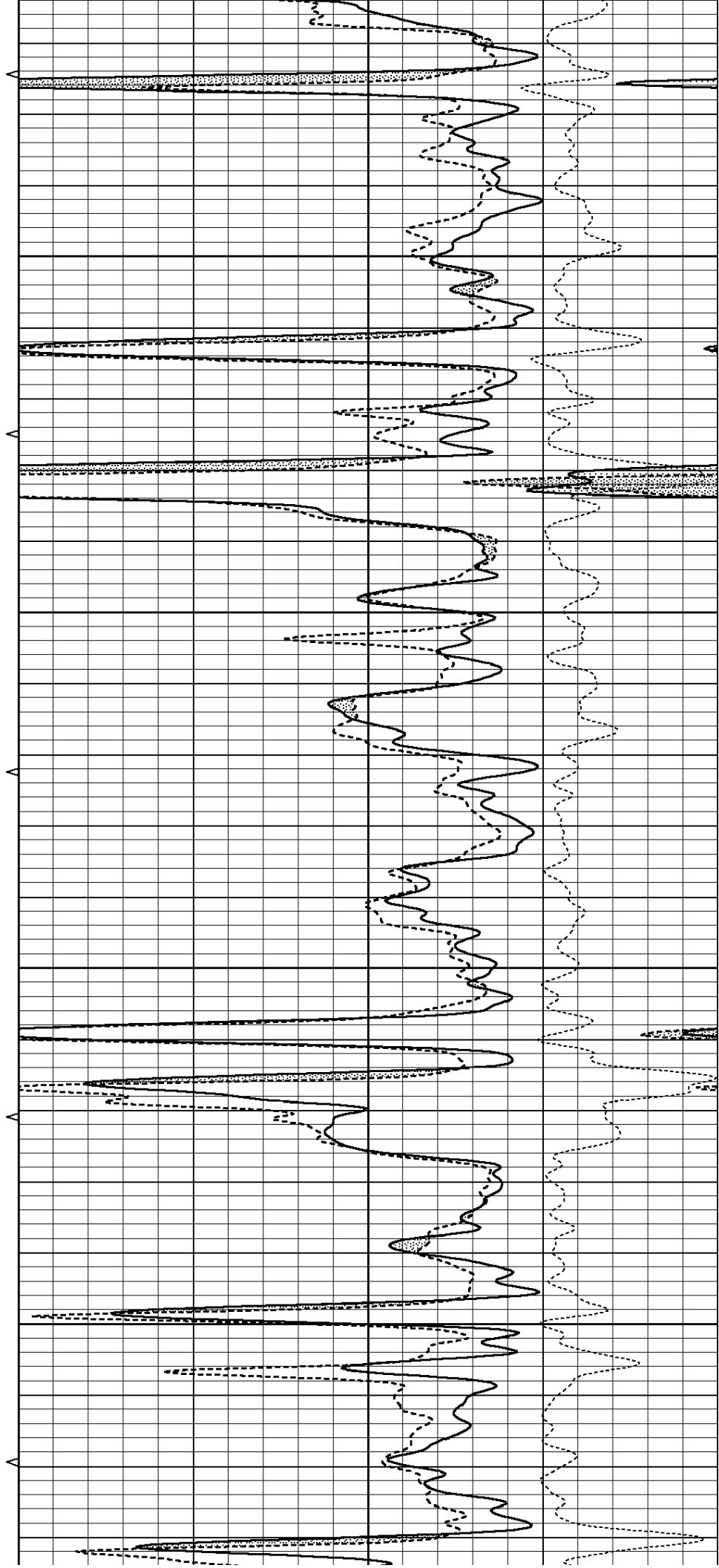


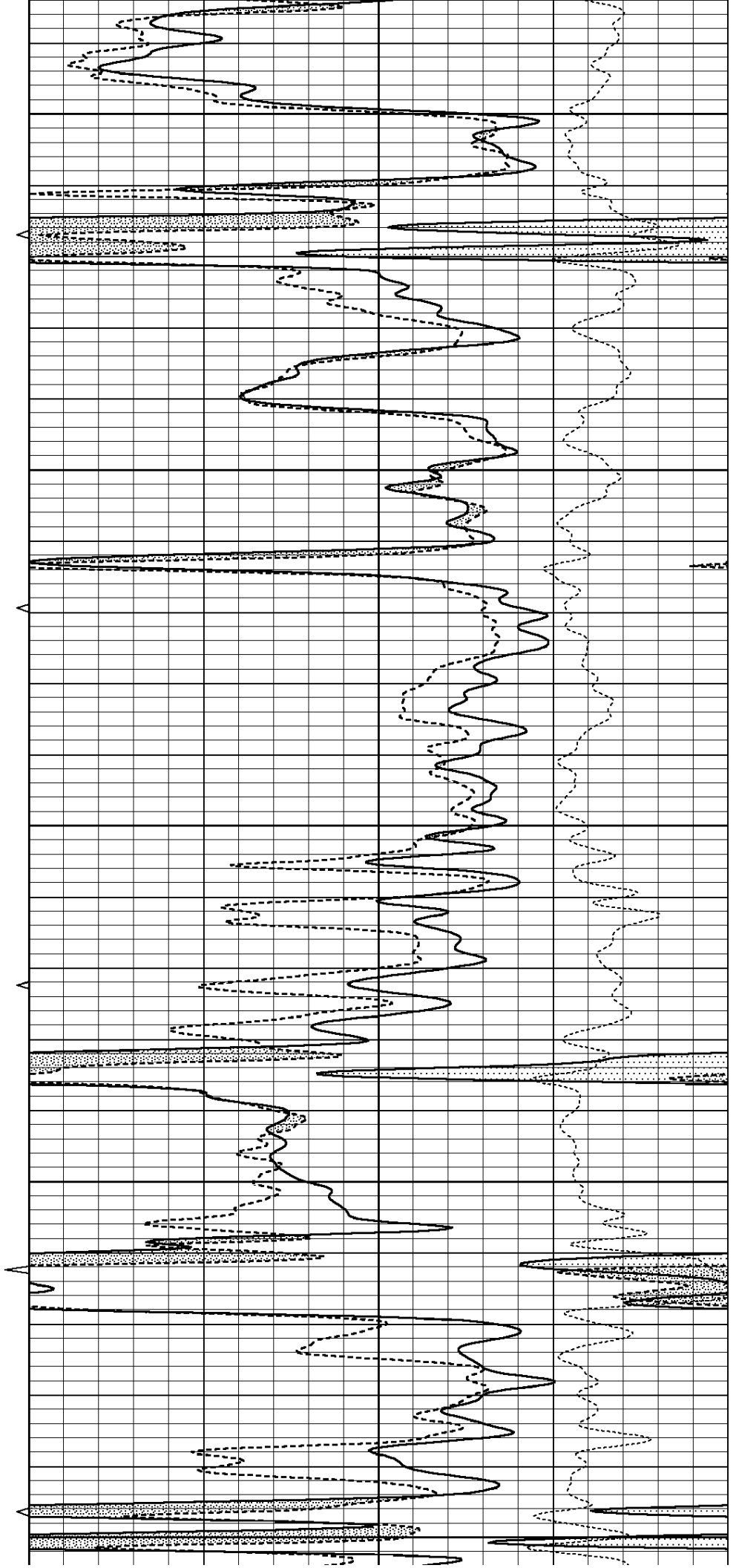
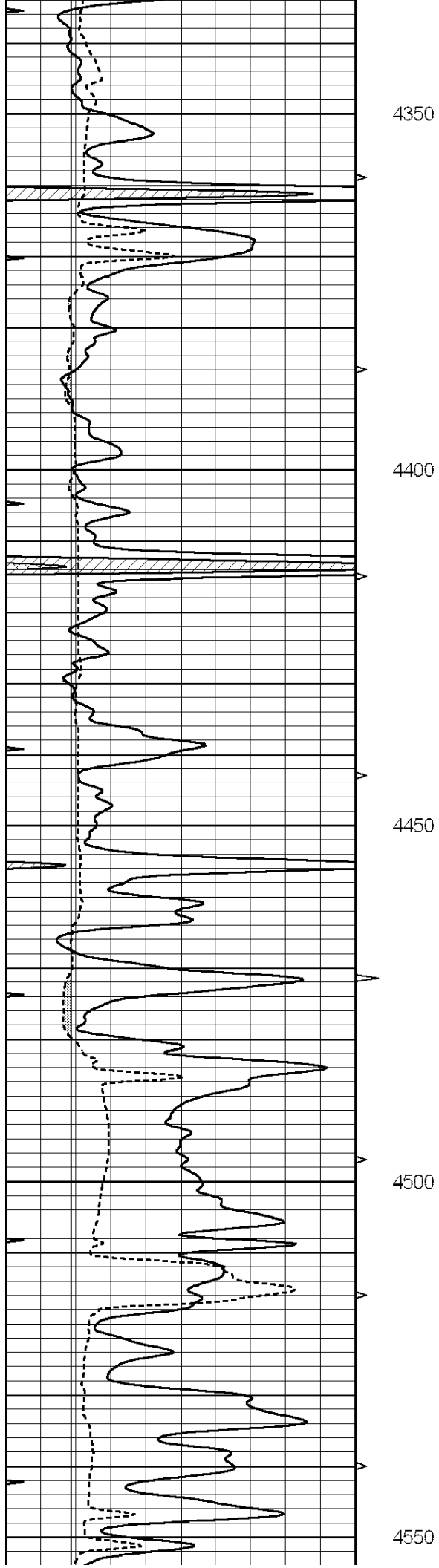
4150

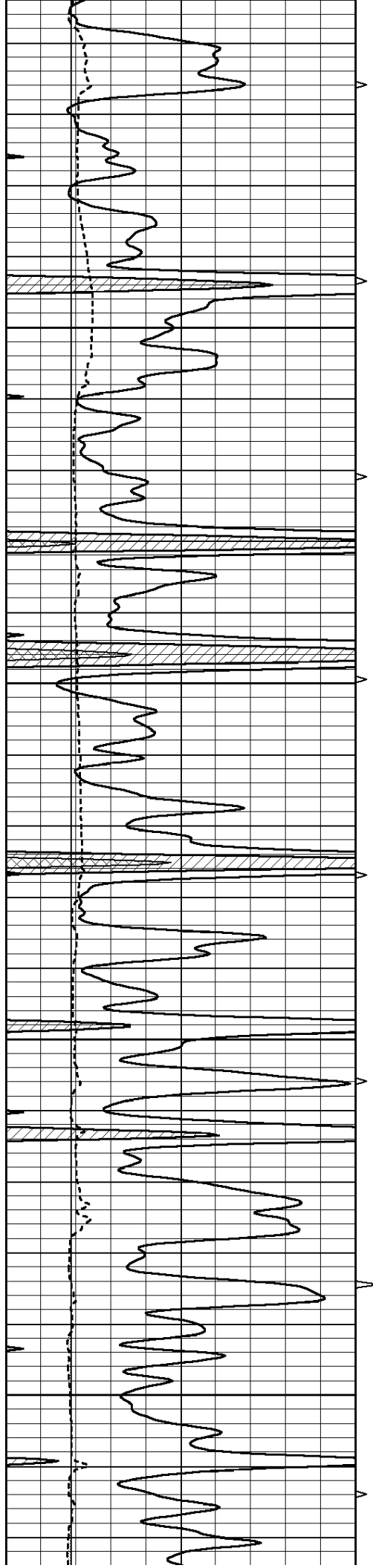
4200

4250

4300





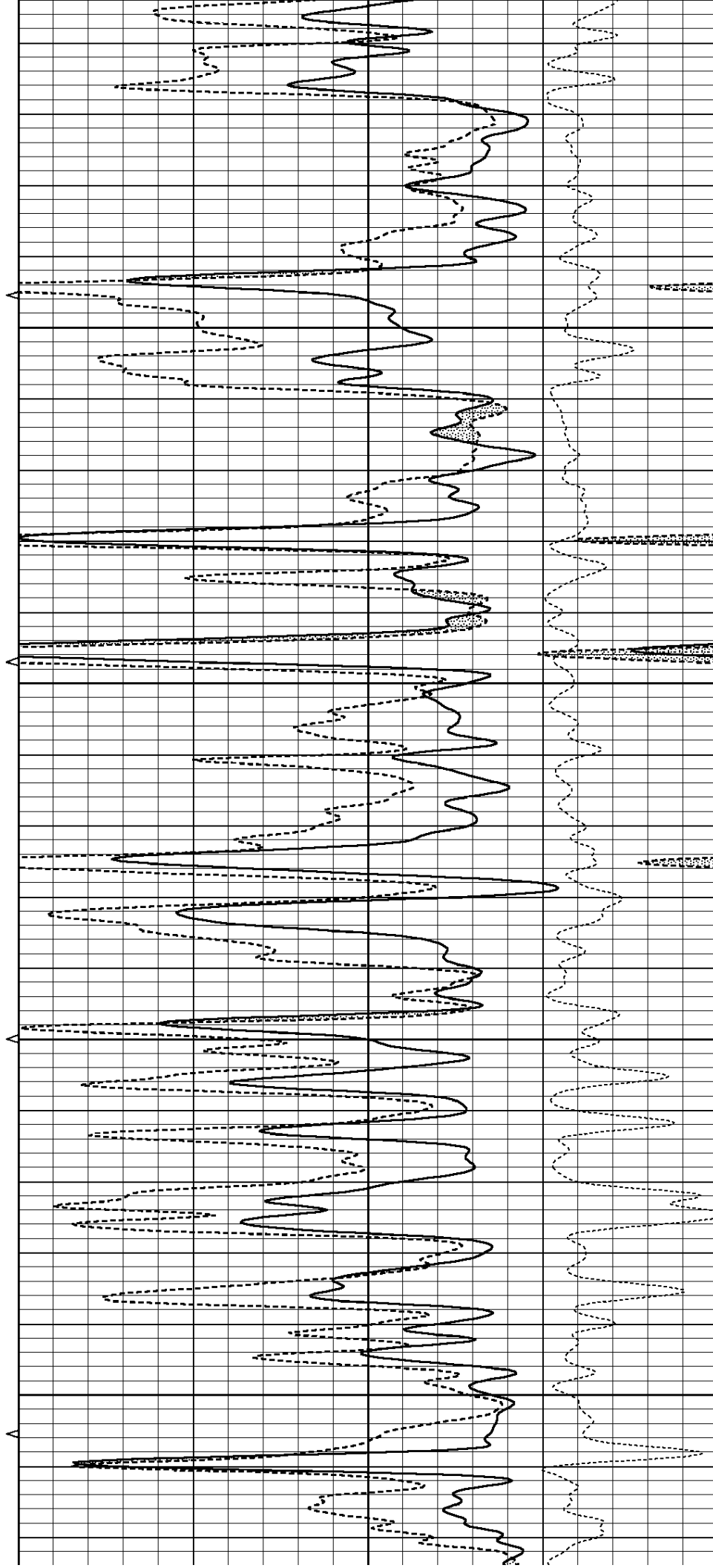


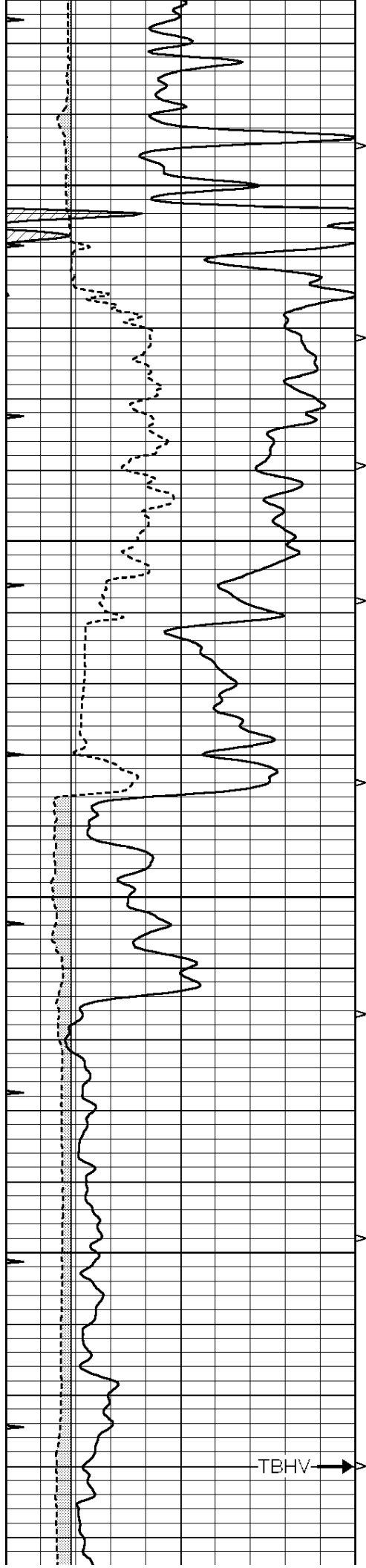
4600

4650

4700

4750





4800

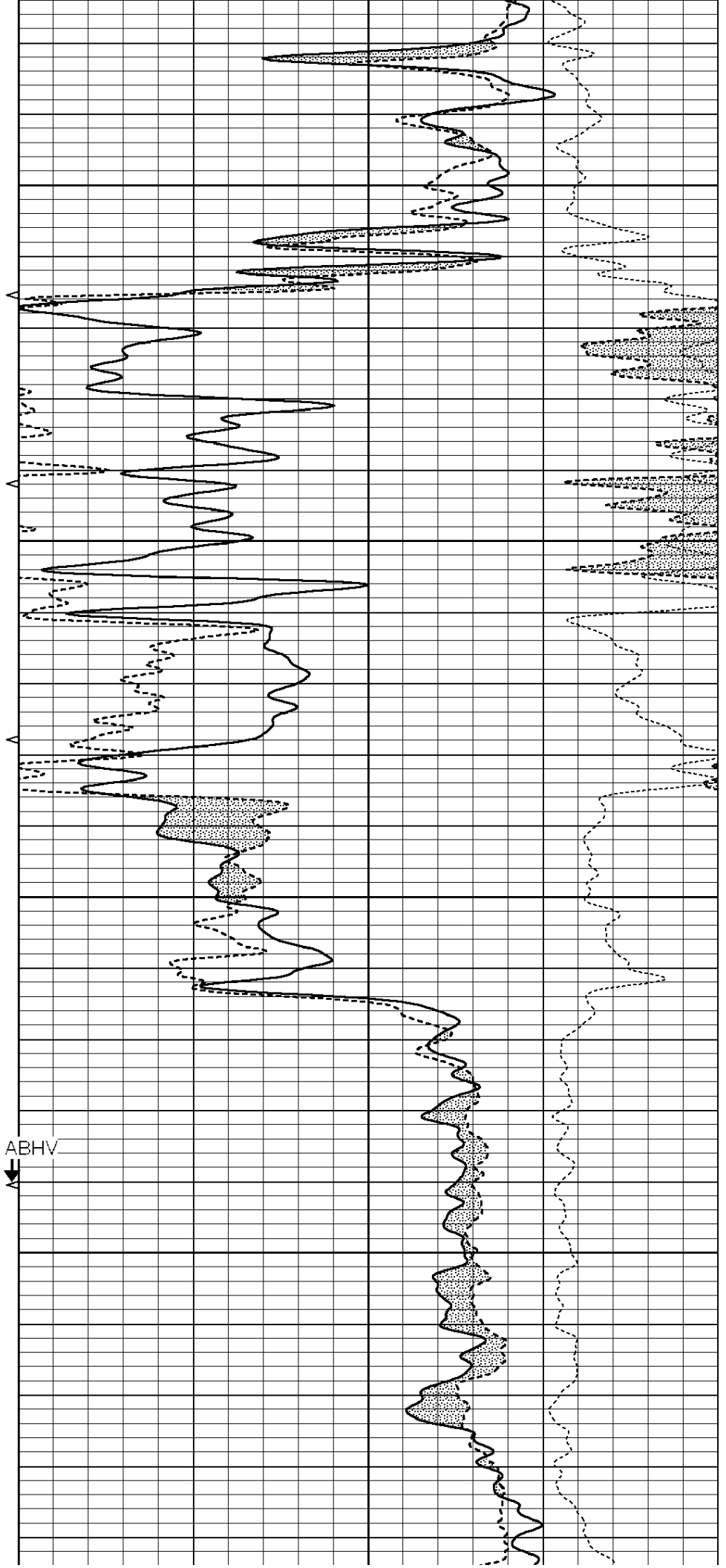
4850

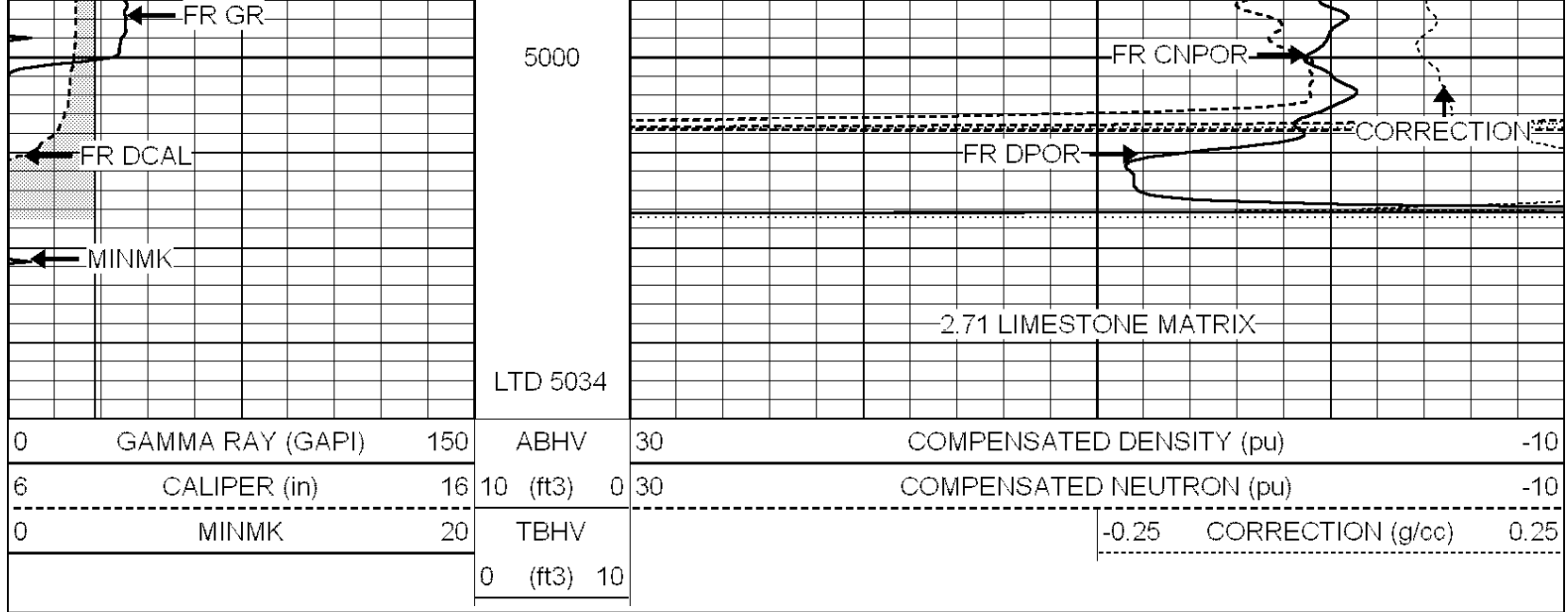
4900

4950

TBHV →

5.5" ABHV

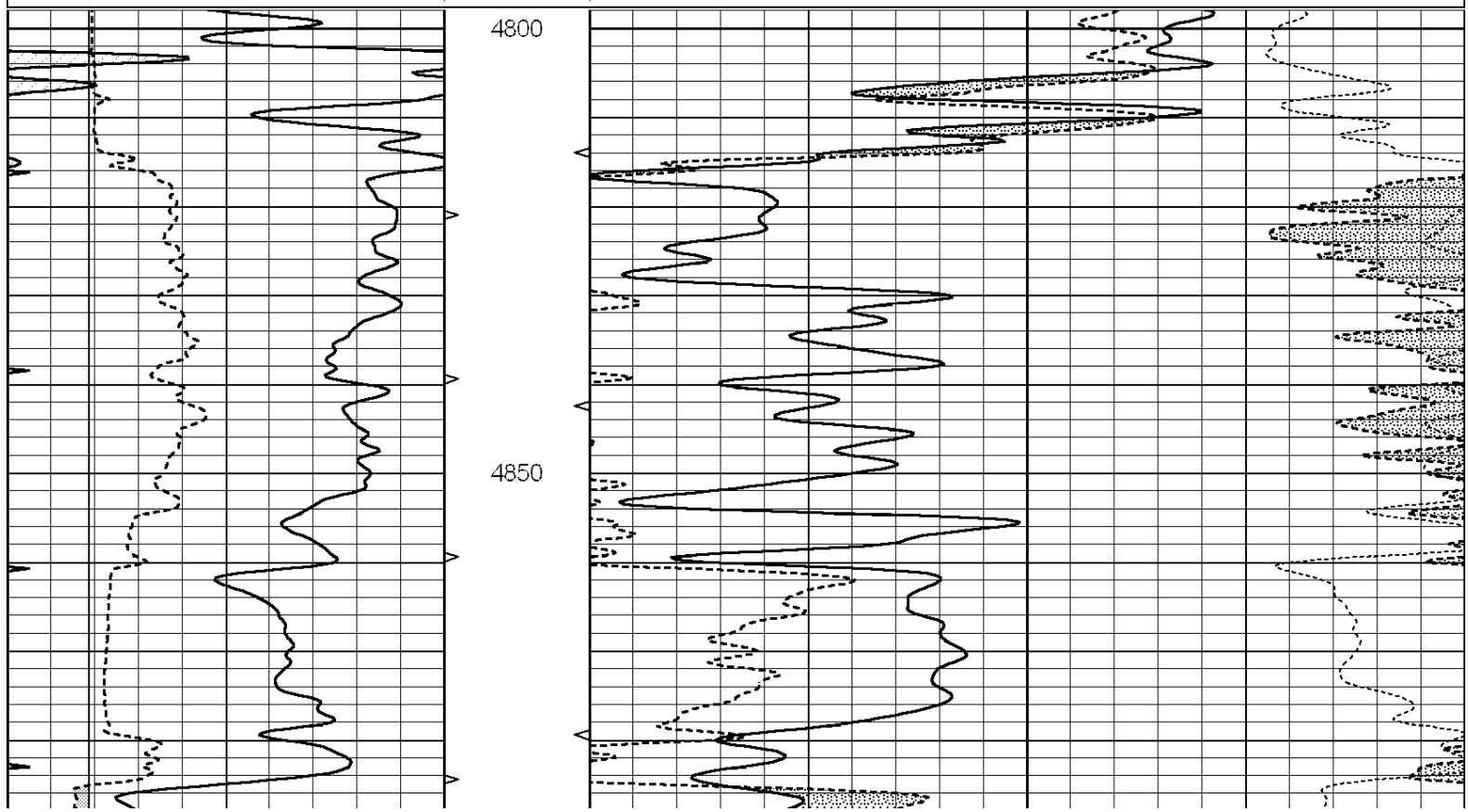


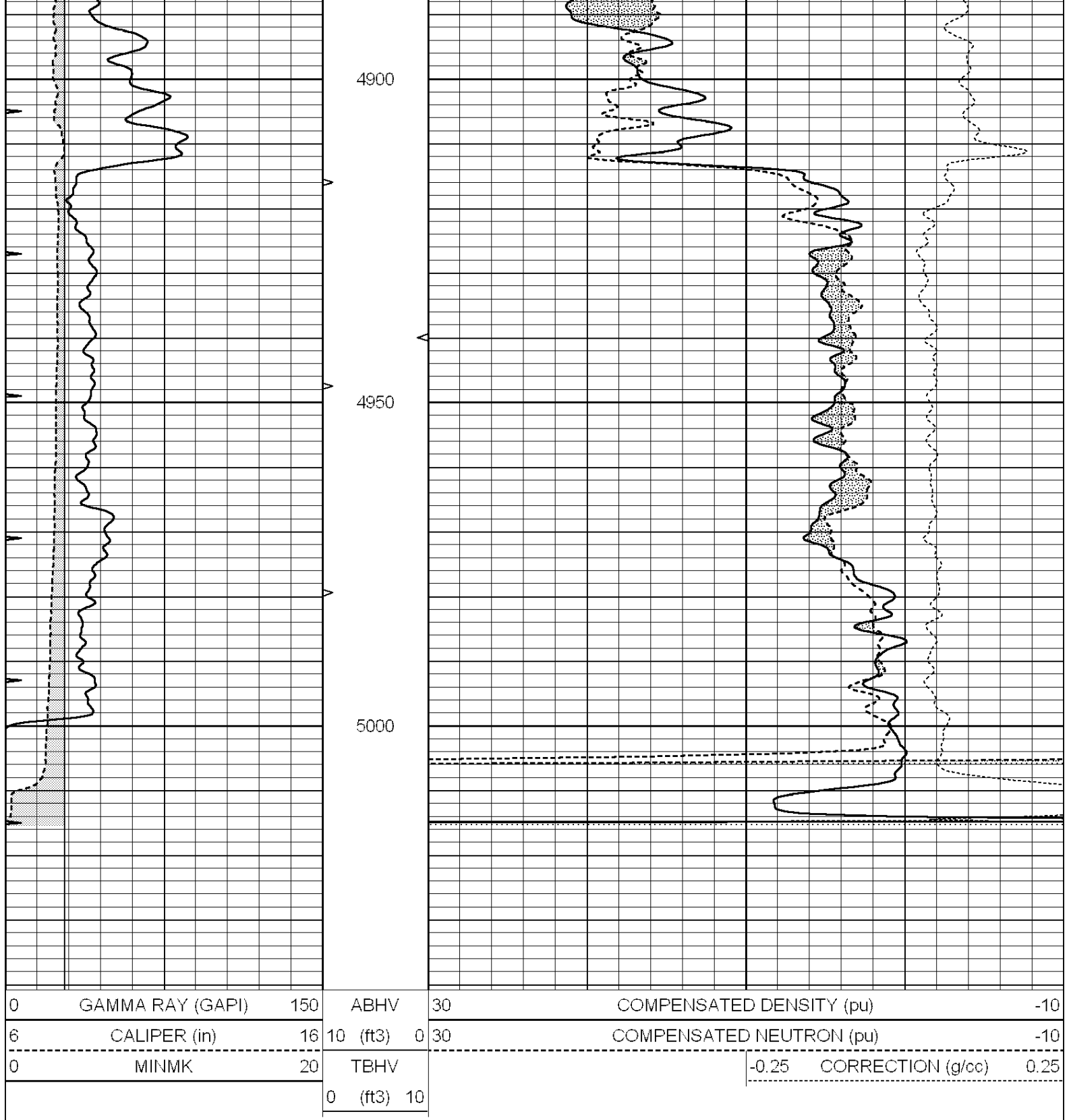


# REPEAT SECTION

Database File: 25895ddn.db  
 Dataset Pathname: pass4.5  
 Presentation Format: den\_neu  
 Dataset Creation: Wed Oct 15 01:06:04 2014  
 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  | COMPENSATED NEUTRON (pu) | -10  |
| 0 | MINMK            | 20  | TBHV     |    | -0.25 CORRECTION (g/cc)  | 0.25 |
|   |                  |     | 0 (ft3)  | 10 |                          |      |





### Calibration Report

Database File: 25895ddn.db  
Dataset Pathname: pass5.10  
Dataset Creation: Wed Oct 15 01:45:45 2014

### Dual Induction Calibration Report

|                                      |                          |
|--------------------------------------|--------------------------|
| Serial-Model:                        | PROBE9-DILG              |
| Surface Cal Performed:               | Thu Oct 09 11:37:56 2014 |
| Downhole Cal Performed:              | Mon Jul 28 12:02:56 2008 |
| After Survey Verification Performed: | Mon Jul 28 12:02:56 2008 |

## Results

| Sunrise Calibration |        |       | Readings |       | References |        | Results |         |
|---------------------|--------|-------|----------|-------|------------|--------|---------|---------|
| Loop:               | Air    | Loop  |          | Air   | Loop       |        | m       | b       |
| Deep                | -0.014 | 0.629 | V        | 0.000 | 400.000    | mmho/m | 670.000 | -10.000 |
| Medium              | 0.039  | 0.728 | V        | 0.000 | 464.000    | mmho/m | 670.000 | -24.000 |
| Internal:           | Zero   | Cal   |          | Zero  | Cal        |        | m       | b       |
| Deep                | 0.011  | 0.610 | V        | 0.000 | 400.000    | mmho/m | 667.135 | -7.256  |
| Medium              | 0.005  | 0.712 | V        | 0.000 | 464.000    | mmho/m | 655.677 | -3.102  |

## Downhole Calibration

| Downhole Calibration |       |        |          |         |            |        |         |       |
|----------------------|-------|--------|----------|---------|------------|--------|---------|-------|
|                      |       |        | Readings |         | References |        | Results |       |
|                      | Zero  | Cal    |          | Zero    | Cal        |        | m'      | b'    |
| Deep                 | 0.000 | 0.000  | mmho/m   | 14.508  | 388.384    | mmho/m | 1.000   | 0.000 |
| Medium               | 0.000 | 0.000  | mmho/m   | 166.367 | 504.400    | mmho/m | 1.000   | 0.000 |
| LL3                  |       | 7.500  | V        |         | 1400.000   | Ohm-m  |         |       |
|                      |       | 0.000  | V        |         | 20.000     | Ohm-m  |         |       |
|                      |       | -7.200 | V        |         | 4000.000   | mmho-m |         |       |

### After Survey Verification

| After Survey Verification |       |       |        |         |       |        |         |       |
|---------------------------|-------|-------|--------|---------|-------|--------|---------|-------|
| Readings                  |       |       |        | Targets |       |        | Results |       |
|                           | Zero  | Cal   |        | Zero    | Cal   |        | m'      | b'    |
| Deep                      | 0.000 | 0.000 | mmho/m | 0.000   | 0.000 | mmho/m | 0.000   | 0.000 |
| Medium                    | 0.000 | 0.000 | mmho/m | 0.000   | 0.000 | mmho/m | 0.000   | 0.000 |
| LL3                       |       | 1.000 | Ohm-m  |         | 1.000 | Ohm-m  |         |       |
|                           |       | 0.000 | Ohm-m  |         | 0.000 | Ohm-m  |         |       |
|                           |       | 1.000 | mmho-m |         | 1.000 | mmho-m |         |       |

Litho Density Calibration Report  
Serial: 004N      Model: PRB

## Master Calibration

Performed Fri May 30 11:01:00 2014

| Master Calibration |            | Performed Fri May 30 11:01:00 2014 |          |                     |         |
|--------------------|------------|------------------------------------|----------|---------------------|---------|
|                    | Background | Magnesium                          | Aluminum | Sandstone           |         |
| Window 1           | 1378.8     | 10804.6                            | 3492.0   | 12453.4             | cps     |
| Window 2           | 1262.4     | 9313.5                             | 3076.7   | 10594.7             | cps     |
| Window 3           | 1077.6     | 5668.7                             | 2076.0   | 6314.8              | cps     |
| Window 4           | 306.4      | 313.0                              | 306.4    | 315.6               | cps     |
| Long Space         | 0.0        | 8051.0                             | 1814.3   | 9332.3              | cps     |
| Short Space        | 1.9        | 1706.1                             | 1146.0   | 1707.6              | cps     |
| Rho                |            | 1.7100                             | 2.5900   | 1.3800              | g/cc    |
| Pe                 |            | 0.0000                             | 2.5700   | 1.5500              |         |
| Rib Angle          | : 45.0     | Rib Slope                          | : 1.002  | Density/Spine Ratio | : 0.571 |
| Spine Angle        | : 75.0     | Spine Slope                        | : 3.745  | Spine Intercept     | : -18.9 |

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

| Before Survey Verification |     | Performed Wed Dec 31 18:00:00 1969 |        |        |      |
|----------------------------|-----|------------------------------------|--------|--------|------|
| Window 1                   | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Window 2                   | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Window 3                   | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Window 4                   | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Long Space                 | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Short Space                | 0.0 | 0.0                                | 0.0    | 0.0    | cps  |
| Measured Rho               |     | 0.0000                             | 0.0000 | 0.0000 | g/cc |
| Measured Correction        |     | 0.0000                             | 0.0000 | 0.0000 | g/cc |
| Measured Pe                |     |                                    | 0.0000 | 0.0000 |      |

|                     |     |        |        |        |      |
|---------------------|-----|--------|--------|--------|------|
| Window 1            | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Window 2            | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Window 3            | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Window 4            | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Long Space          | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Short Space         | 0.0 | 0.0    | 0.0    | 0.0    | cps  |
| Measured Rho        |     | 0.0000 | 0.0000 | 0.0000 | g/cc |
| Measured Correction |     | 0.0000 | 0.0000 | 0.0000 | g/cc |
| Measured Pe         |     |        | 0.0000 | 0.0000 |      |

## Compensated Neutron Calibration Report

Serial Number: 070808  
Tool Model: Probe

## 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: 070558  
Tool Model: OPEN\_GR  
Performed: Mon Jun 30 21:53:39 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps