



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company RITCHIE EXPLORATION, INC.
Well SELENKE-HOCKERSMITH #1
Field
County GOVE State KANSAS

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County GOVE
State KANSAS

Location: API #: 15-063-22106-00-00
335' FSL & 2530' FEL
S2 - S2 - S2
SEC 22 TWP 13S RGE 31W
Permanent Datum GROUND LEVEL Elevation 2890
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL
SONIC
Elevation
K.B. 2895
D.F. 2893
G.L. 2890

| | | | |
|------------------------------|--------------|-----------------|--|
| Date | 5/7/13 | | |
| Run Number | ONE | | |
| Depth Driller | 4770 | | |
| Depth Logger | 4765 | | |
| Bottom Logged Interval | 4741 | | |
| Top Log Interval | 3500 | | |
| Casing Driller | 221 | | |
| Casing Logger | 218 | | |
| Bit Size | 7.875 | | |
| Type Fluid in Hole | CHEMICAL MUD | CHLORIDES 3.400 | |
| Density / Viscosity | 9.40 / 55 | | |
| pH / Fluid Loss | 9.50 / 10.4 | | |
| Source of Sample | FLOWLINE | | |
| Rim @ Meas. Temp | 0.95 @ 86F | | |
| Rmf @ Meas. Temp | 0.71 @ 86F | | |
| Rmc @ Meas. Temp | 1.14 @ 86F | | |
| Source of Rmf / Rmc | MEASURED | | |
| Rim @ BHT | 0.66 @ 123F | | |
| Time Circulation Stopped | 2 HOURS | | |
| Time Logger on Bottom | | | |
| Maximum Recorded Temperature | 123F | | |
| Equipment Number | 860 | | |
| Location | HAYS, KS. | | |
| Recorded By | IAN MABB | | |
| Witnessed By | MAX LOVELY | | |

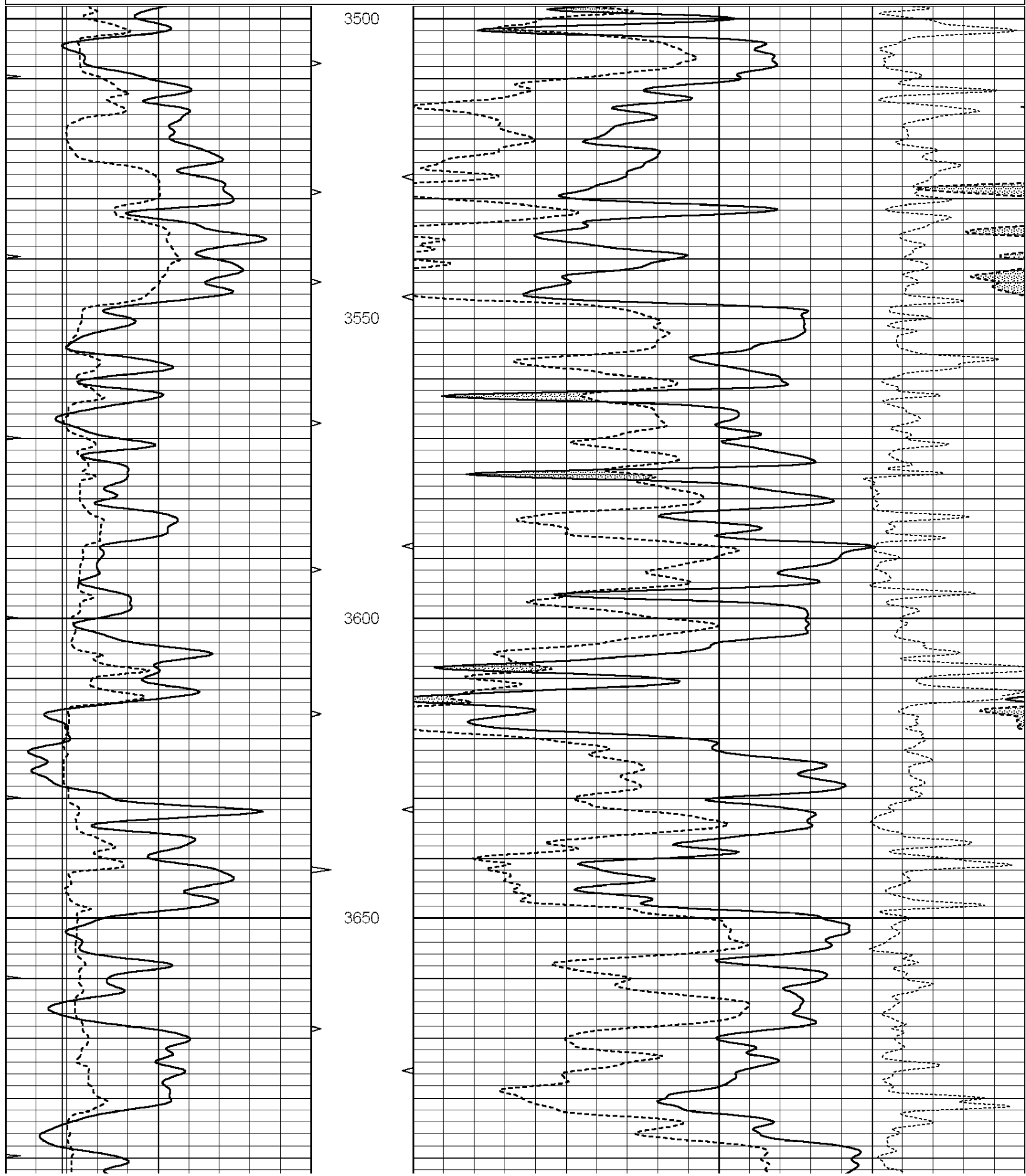
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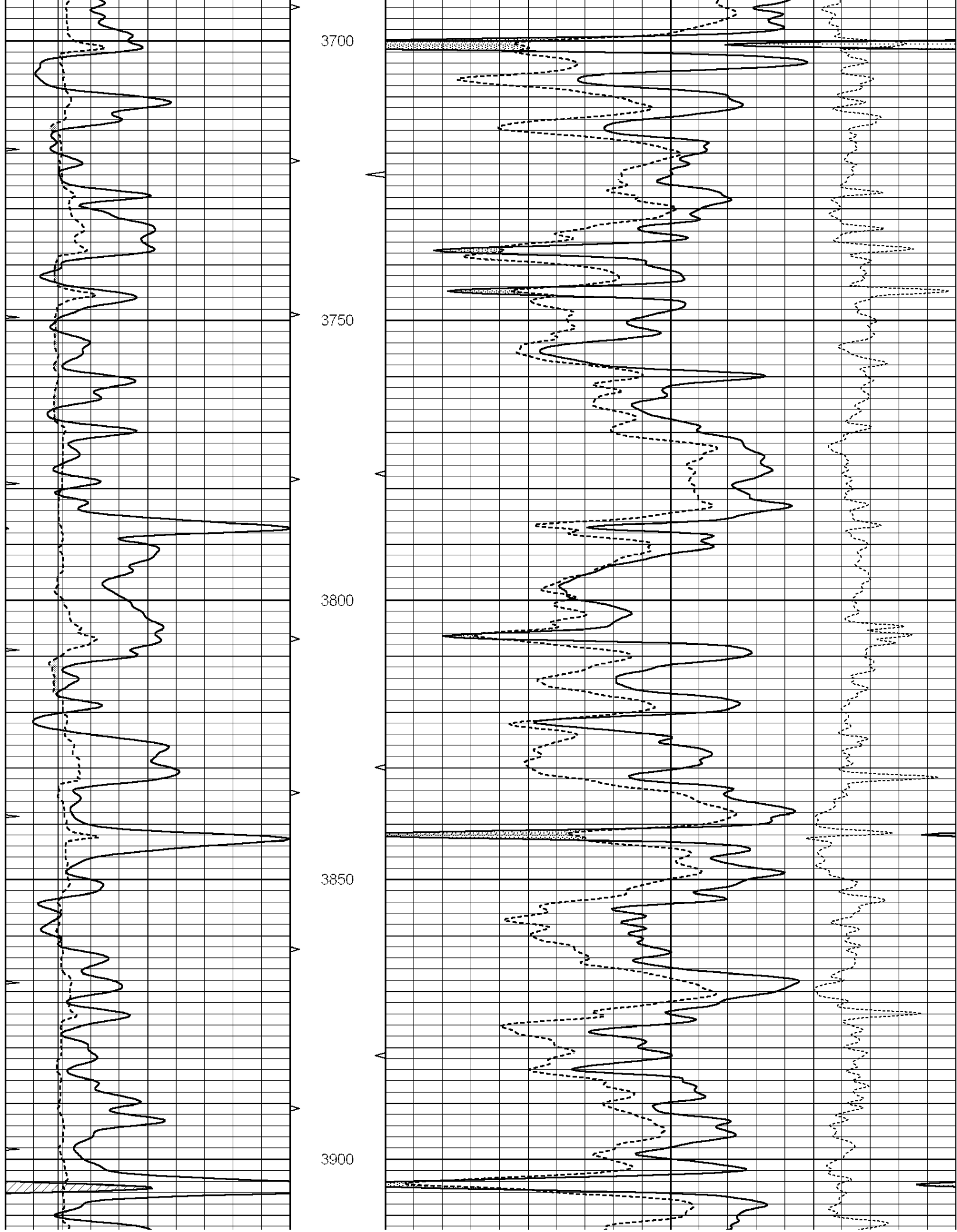
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

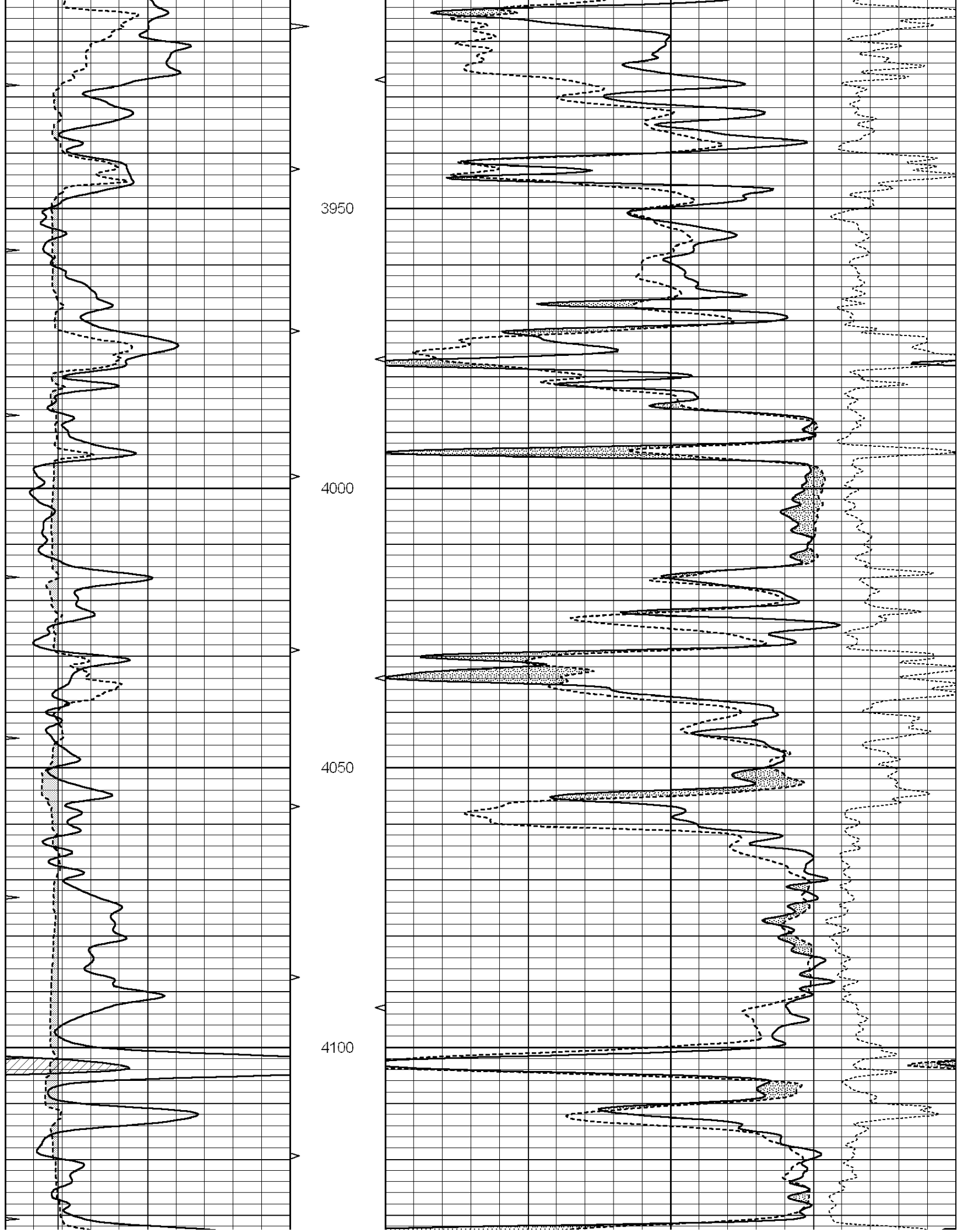
Comments

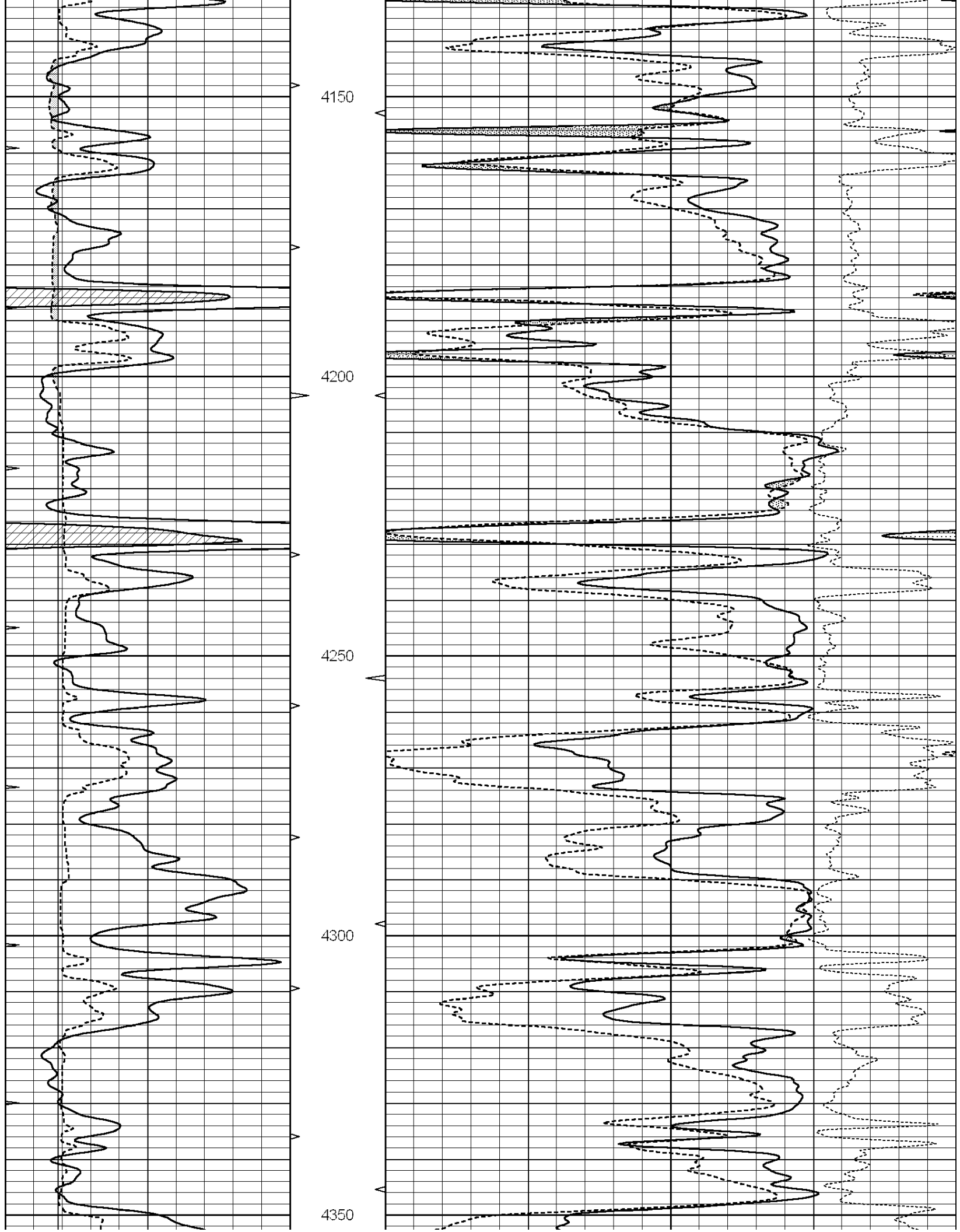
NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: OAKLEY, KS. - 11 MILES SOUTH TO GOVE RD. - EAST TO RD. 16 - 4 MILES SOUTH TO RD. 0
- 1/2 EAST - NORTH INTO

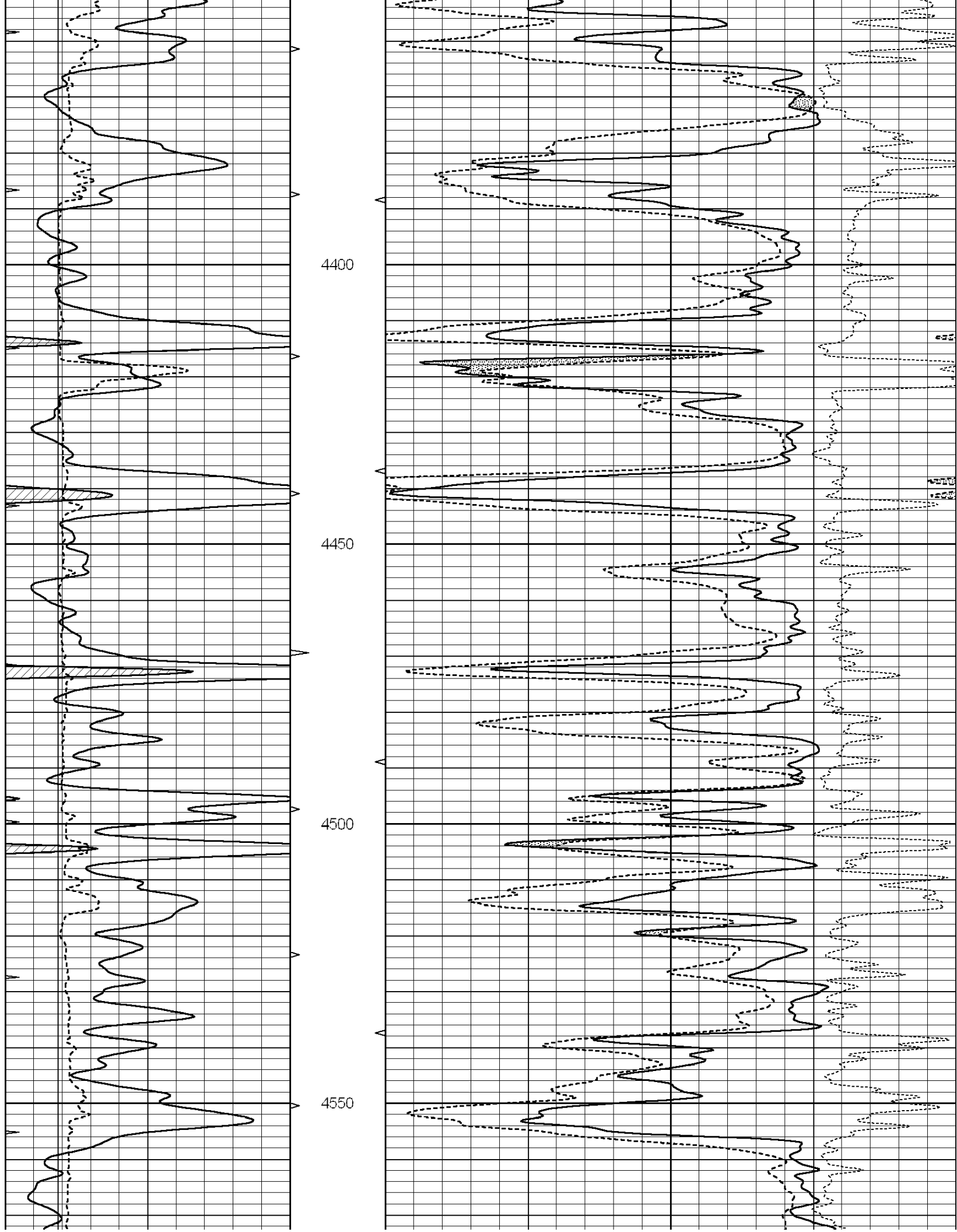
| | | | | | | |
|---|------------------|-----|----------|------|--------------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | -10 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 30 | COMPENSATED NEUTRON (pu) | -10 |
| 0 | MINMK | 20 | TBHV | | -0.25 CORRECTION (g/cc)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

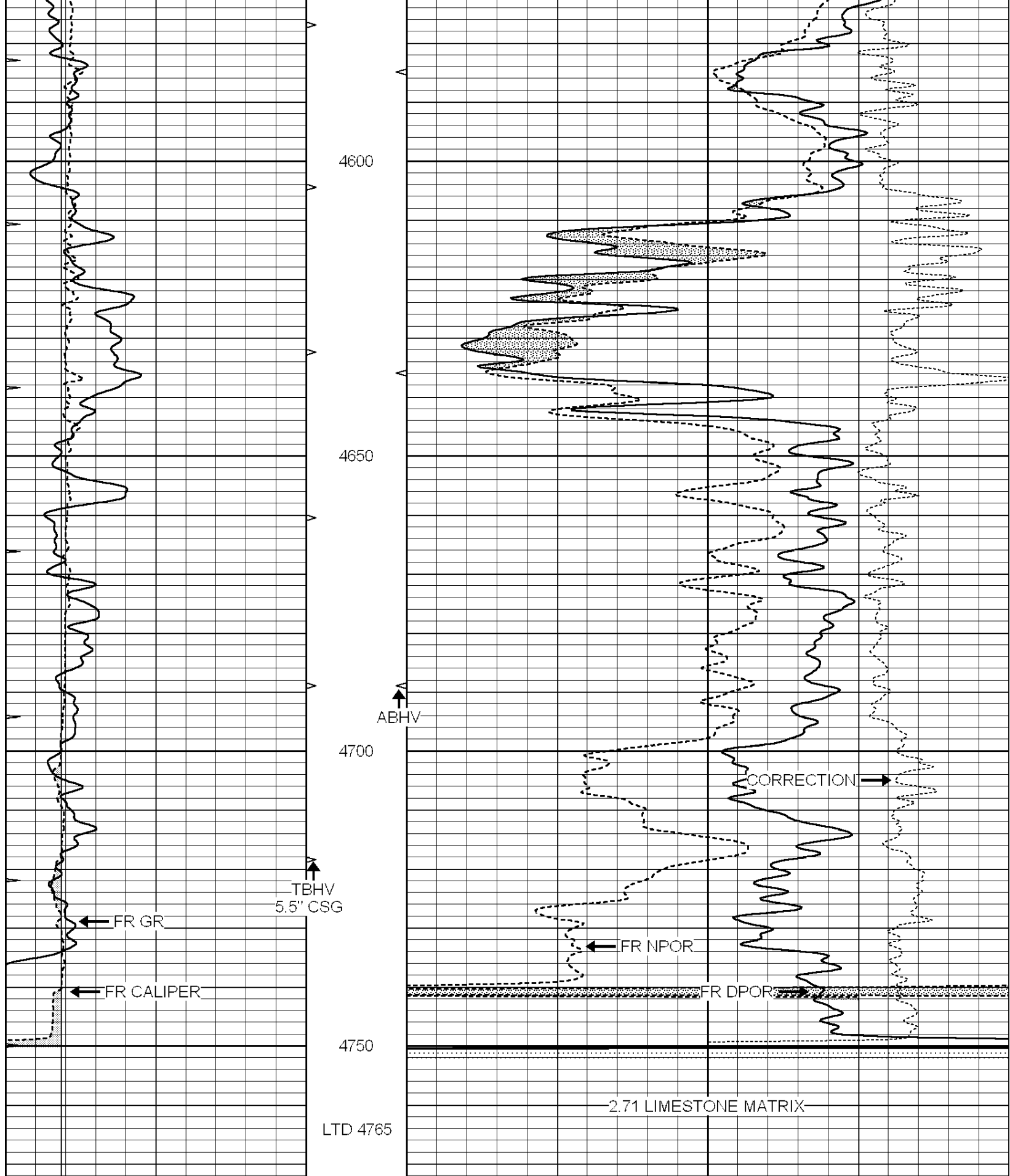










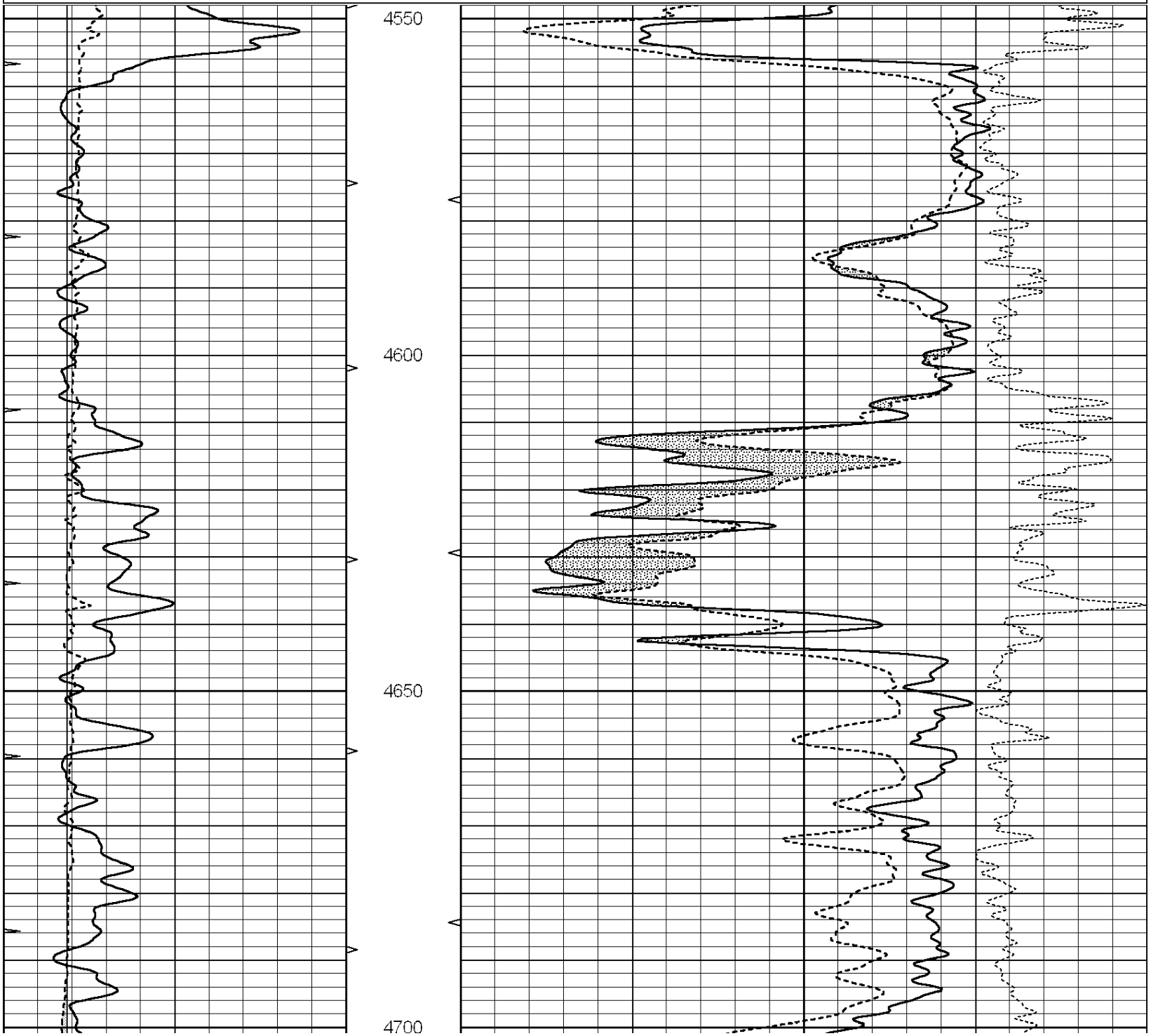


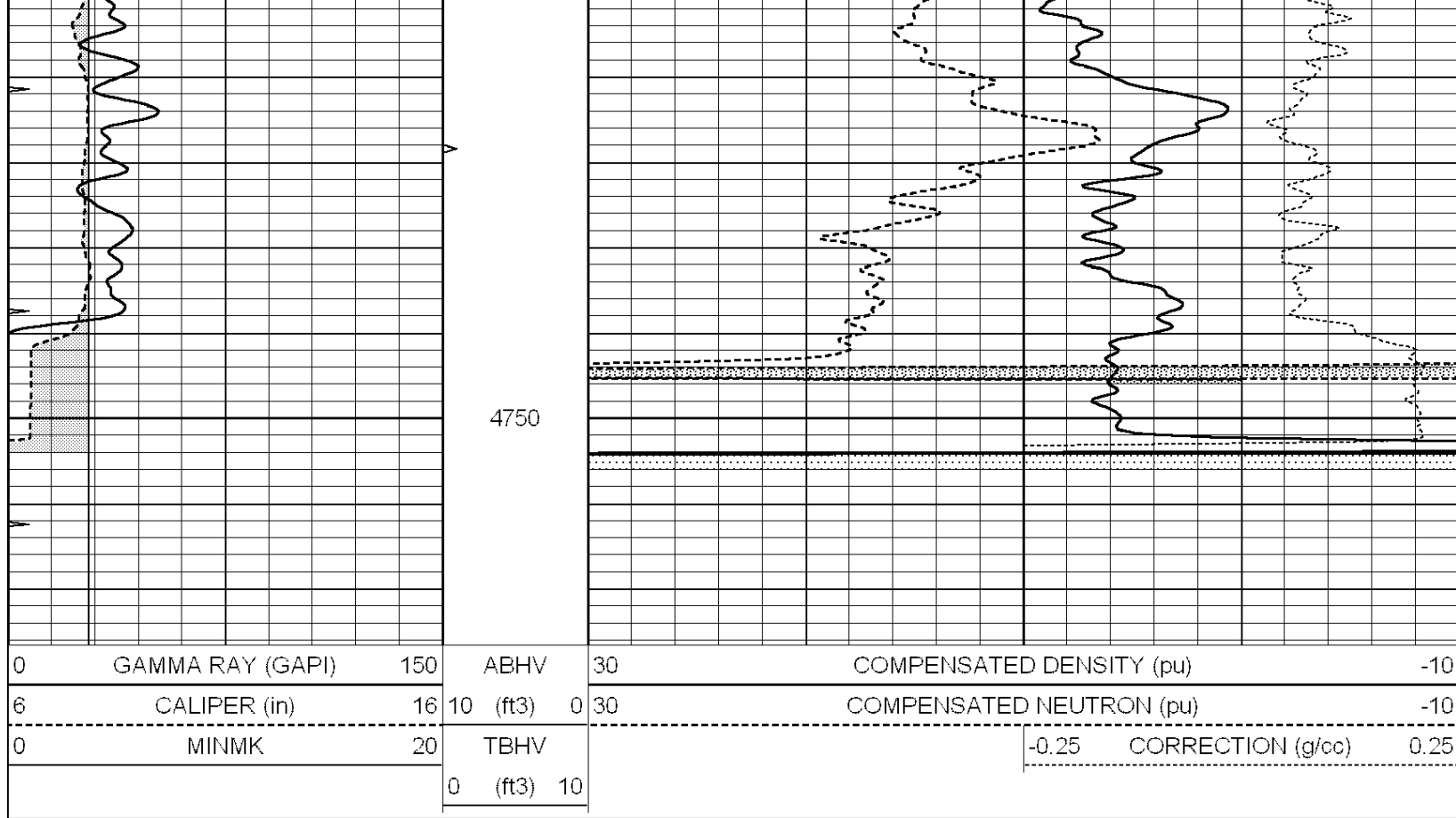
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|---|------------------|-----|----------|------|--------------------------|-------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | -10 | |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 30 | COMPENSATED NEUTRON (pu)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

REPEAT SECTION

Database File: 010998ddn.db
 Dataset Pathname: pass2.3
 Presentation Format: _den_neu
 Dataset Creation: Tue May 07 13:37:03 2013 by Calc Open-Cased 090629
 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 | | |





Calibration Report

Database File: 010998ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Tue May 07 14:24:08 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Thu Apr 25 07:54:19 2013
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

Surface Calibration

| Loop: | Readings | | | References | | | Results | |
|-----------|----------|-------|---|------------|---------|--------|---------|---------|
| | Air | Loop | | Air | Loop | | m | b |
| Deep | 0.793 | 0.790 | V | 0.000 | 400.000 | mmho/m | 620.000 | 4.000 |
| Medium | 0.992 | 1.002 | V | 0.000 | 464.000 | mmho/m | 680.000 | -42.000 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.041 | 0.642 | V | 0.000 | 400.000 | mmho/m | 664.874 | -27.011 |
| Medium | 0.035 | 0.802 | V | 0.000 | 464.000 | mmho/m | 604.936 | -21.367 |

Downhole Calibration

| | Readings | | | References | | | Results | |
|--------|------------|-----------|--------|------------|-----------|--------|---------|---------|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 135384.000 | 27094.500 | mmho/m | 135400.000 | 27082.400 | mmho/m | 1.000 | -19.259 |
| Medium | -47330.100 | -9381.740 | mmho/m | -47327.100 | -9389.280 | mmho/m | 1.000 | -10.154 |
| LL3 | | 7.322 | V | | 1400.000 | Ohm-m | | |
| | | 0.038 | V | | 20.000 | Ohm-m | | |
| | | -7.273 | V | | 4000.000 | mmho-m | | |

After Survey Verification

| | Readings | | | Targets | | | Results | |
|--------|----------|-------|--------|------------|-----------|--------|---------|-------|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | 135384.000 | 27094.500 | mmho/m | 1.000 | 0.000 |
| Medium | 0.000 | 0.000 | mmho/m | -47330.100 | -9381.740 | mmho/m | 1.000 | 0.000 |
| LL3 | | 0.000 | Ohm-m | | 1400.000 | Ohm-m | | |
| | | 0.000 | Ohm-m | | 20.000 | Ohm-m | | |
| | | 0.000 | mmho-m | | 4000.000 | mmho-m | | |

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART
 Source / Verifier: 147 / 147
 Master Calibration Performed: Thu Apr 25 08:46:02 2013

Master Calibration

| | Density | | Far Detector | Near Detector | |
|---------------------|---------|------|-----------------------------|---------------|-----|
| Magnesium | 1.710 | g/cc | 1205.77 | 610.74 | cps |
| Aluminum | 2.600 | g/cc | 271.21 | 419.72 | cps |
| Spine Angle = 75.89 | | | Density/Spine Ratio = 0.579 | | |
| | Size | | Reading | | |
| Small Ring | 7.60 | in | 4.69 | V | |
| Large Ring | 14.00 | in | 6.52 | V | |

Compensated Neutron Calibration Report

Serial Number: NEU_4I
 Tool Model: G

CALIBRATION

| Detector | Readings | | Target | | Normalization |
|-------------|----------|-----|--------|-----|---------------|
| Short Space | 1.00 | cps | 1.00 | cps | 1.0000 |
| Long Space | 1.00 | cps | 1.00 | cps | 1.0000 |

Gamma Ray Calibration Report

Serial Number: GR5
 Tool Model: OPEN
 Performed: Tue May 07 11:41:40 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 3.0000 GAPI/cps