



SUPERIOR
Hays,
Kansas

COMPENSATED
NEUTRON/DENSITY
PE LOG

Company MULL DRILLING COMPANY, INC.
Well THOR UNIT #1-27
Field WILDCAT
County KIOWA
State COLORADO

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Field WILDCAT
County KIOWA State COLORADO

Location: API # : 05-061-06841-0000
2636' FNL & 939' FEL
SEC 27 TWP 18S RGE 45W
Permanent Datum GROUND LEVEL Elevation 3913
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL/MEL
SONIC
Elevation
K.B. 3926
D.F. 3924
G.L. 3913

| | | | |
|------------------------------|-------------------|--------------------|--|
| Date | 4-30-10 | | |
| Run Number | CNE | | |
| Depth Driller | 4990 | | |
| Depth Logger | 4990 | | |
| Bottom Logged Interval | 4966 | | |
| Top Log Interval | 3400 | | |
| Casing Driller | 8 5/8" @ 315 | | |
| Casing Logger | 314 | | |
| Bit Size | 7 7/8 | | |
| Type Fluid in Hole | CHEMICAL MUD | CHLORIDES 3800 PPM | |
| Density / Viscosity | 9.0/65 | | |
| pH / Fluid Loss | 10.0/9.6 | | |
| Source of Sample | FLOWLINE | | |
| Rm @ Meas. Temp | .65 @ 87F | | |
| Rmf @ Meas. Temp | .48 @ 87F | | |
| Rmc @ Meas. Temp | .76 @ 87F | | |
| Source of Rmf / Rmc | MEASURED | | |
| Rm @ BHT | .45 @ 125F | | |
| Time Circulation Stopped | 2 HOURS | | |
| Time Logger on Bottom | | | |
| Maximum Recorded Temperature | 125F | | |
| Equipment Number | 680 | | |
| Location | HAYS, KS. | | |
| Recorded By | JASON CAPPELLUCCI | | |
| Witnessed By | PHIL ASKEY | | |

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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 SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
EAST EDGE OF BRANDON CO. - 1 1/2 N. - 1/2 W. INTO

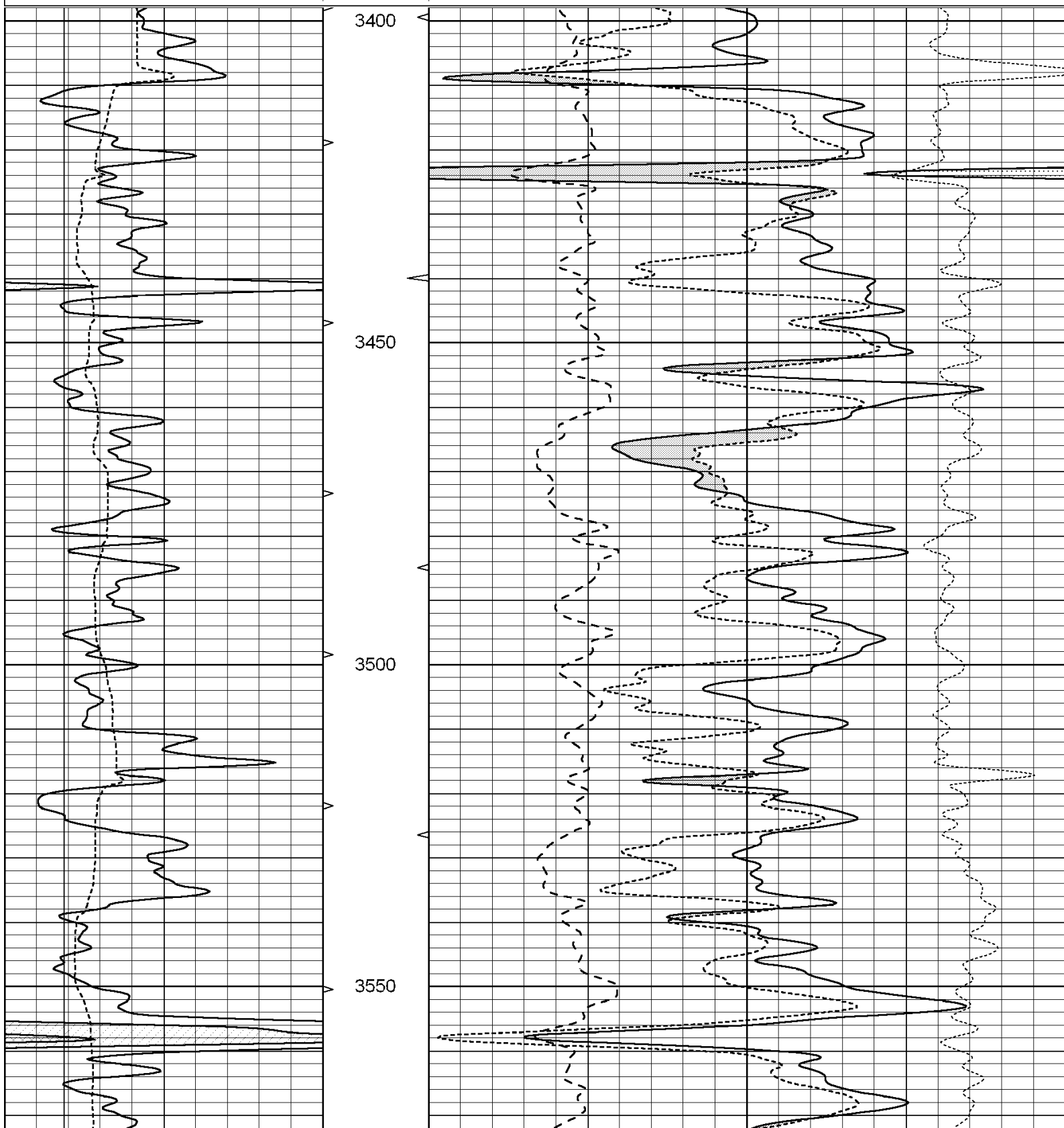


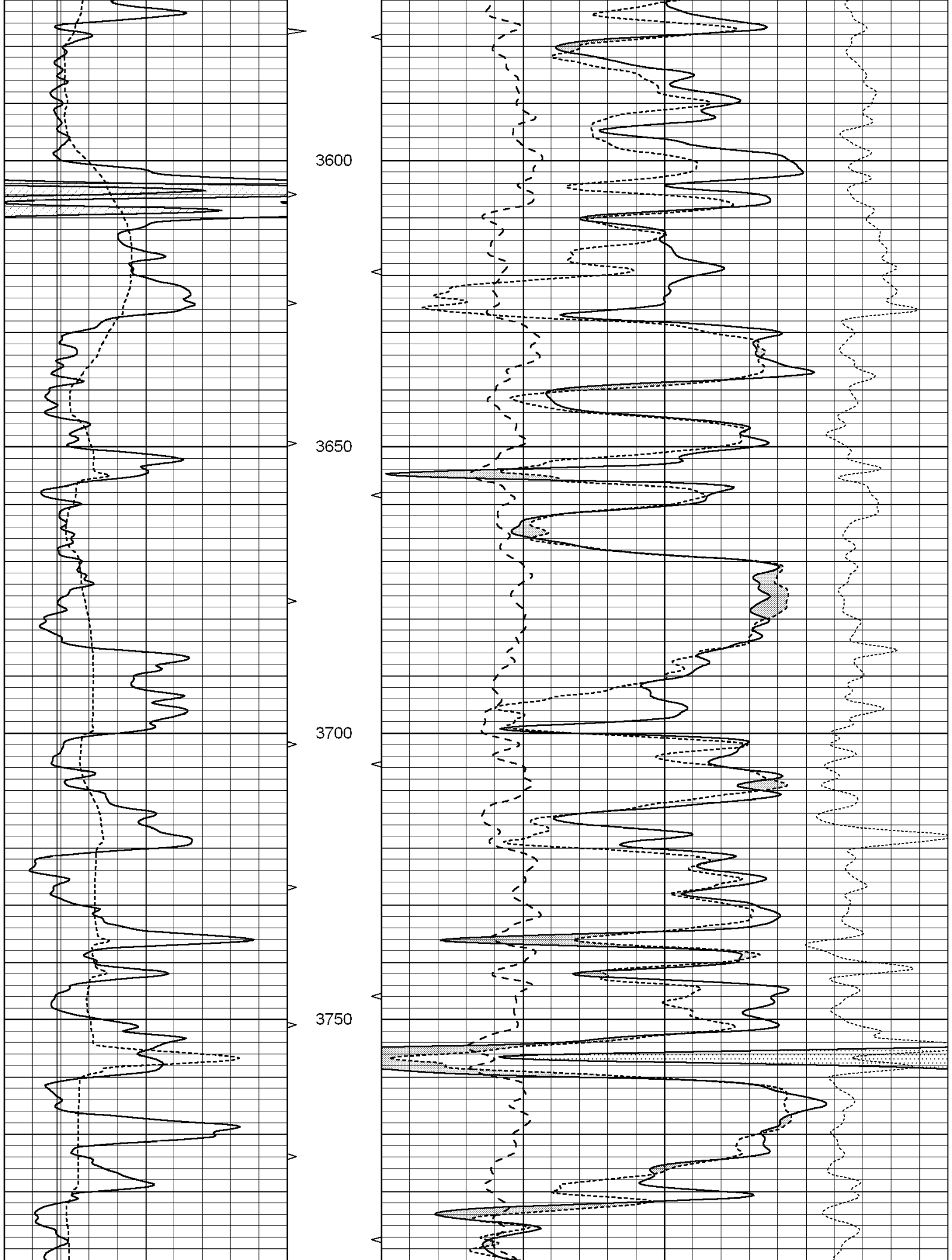
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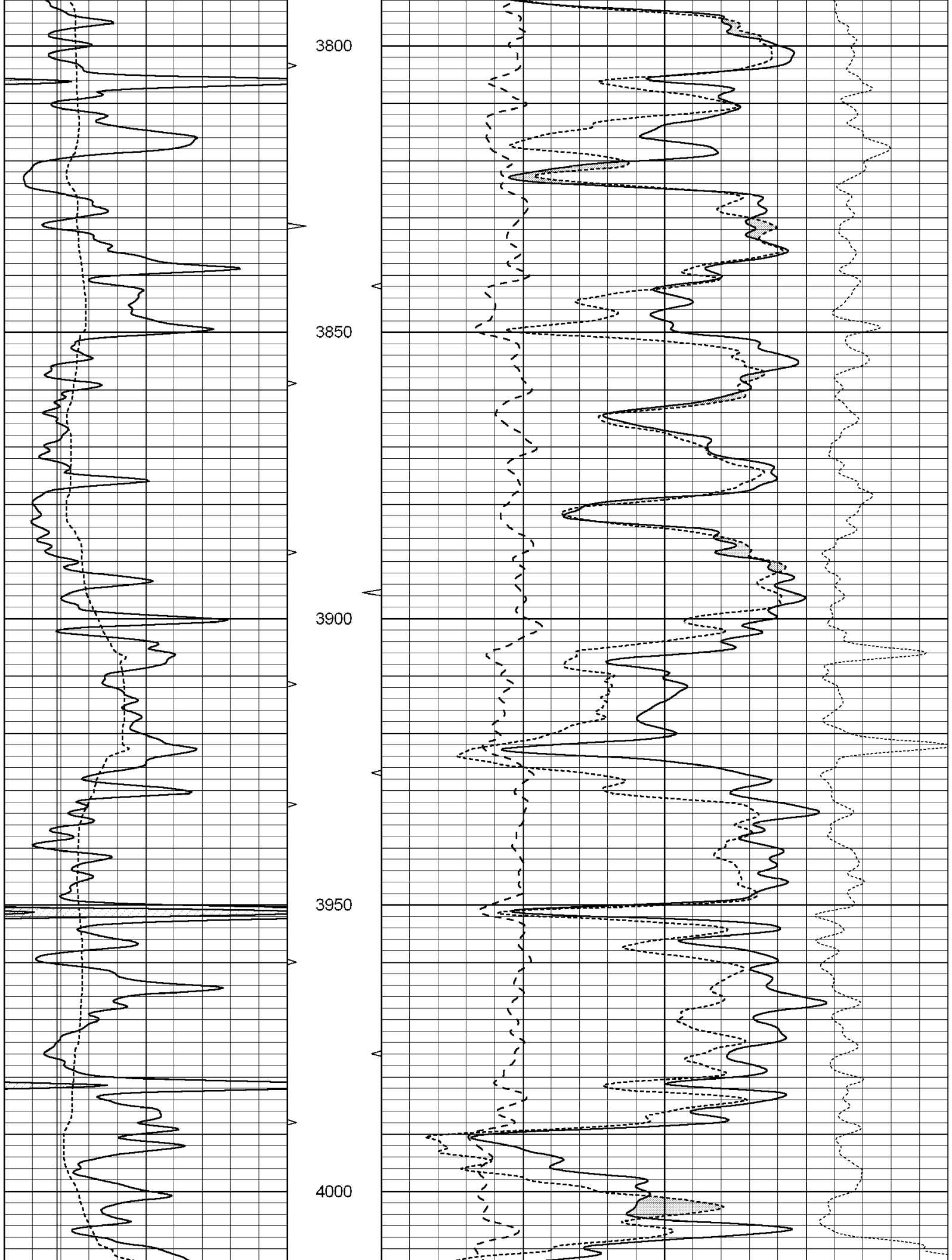
MAIN SECTION

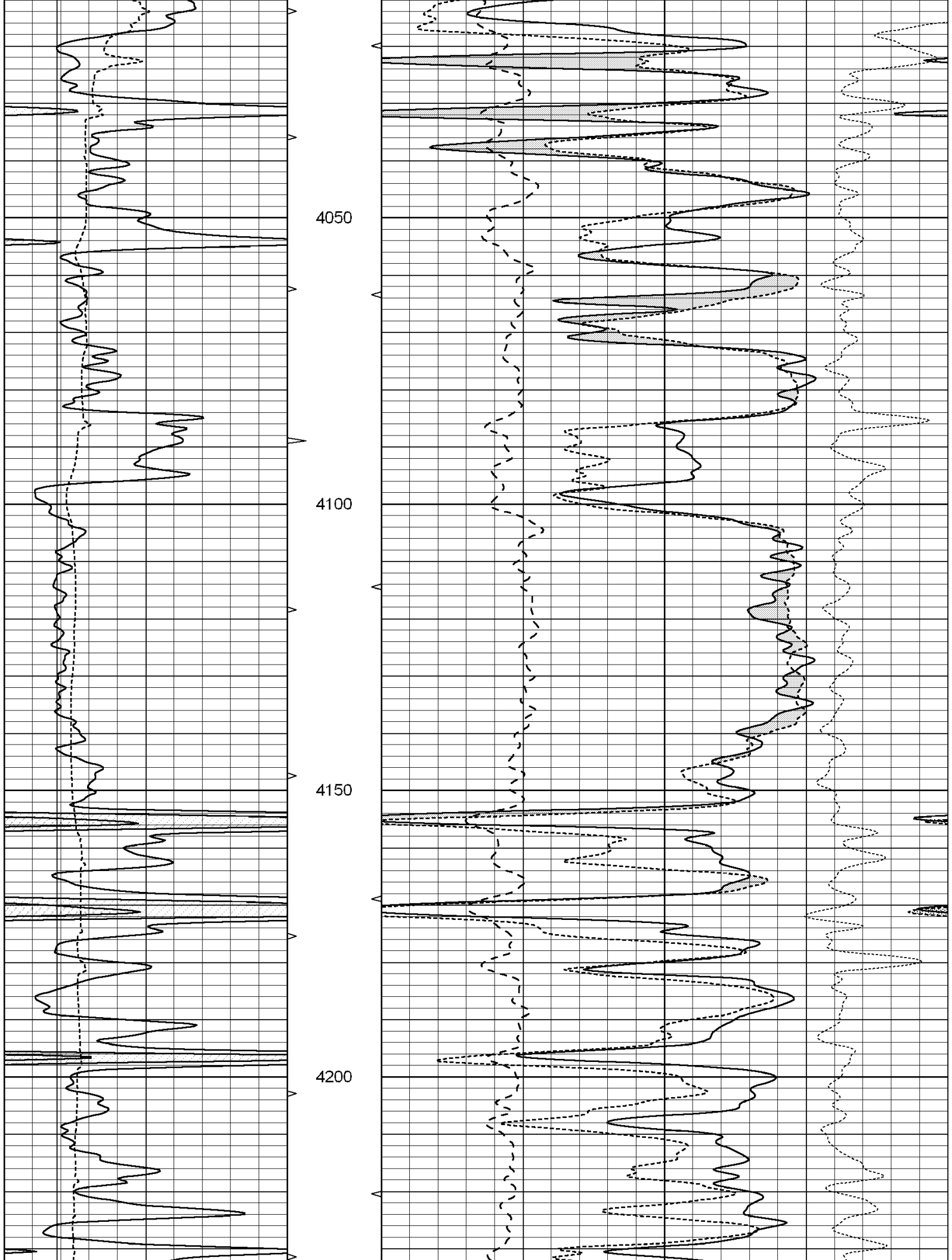
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Dataset Pathname: pass3.1
Presentation Format: _ldt_neu
Dataset Creation: Fri Apr 30 23:15:53 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

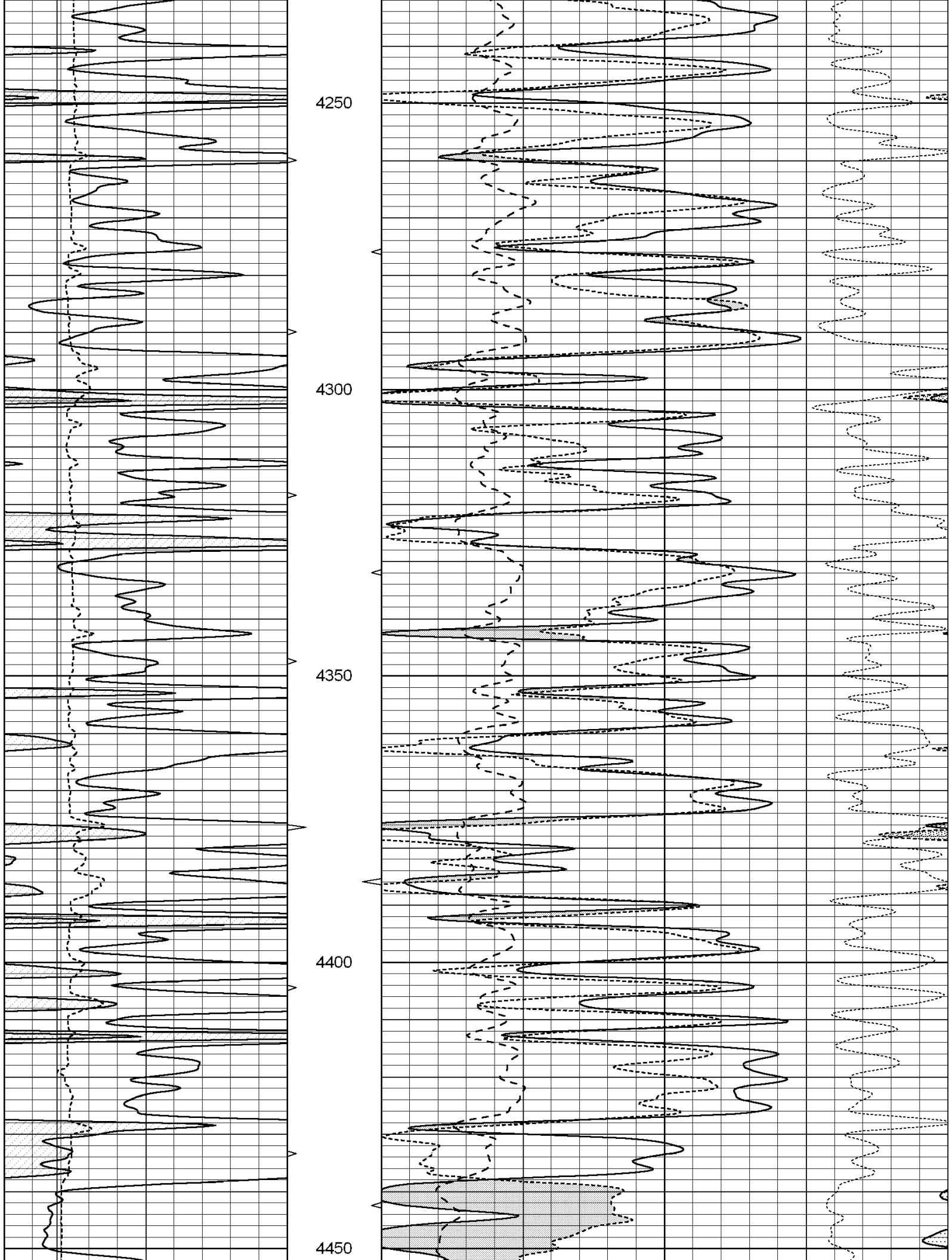
| | | | | | | |
|---|------------------|-----|------------|----|--------------------------|---------------------------------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | -10 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 | COMPENSATED NEUTRON (pu) | -10 |
| | | | TBHV | 0 | PE | 10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

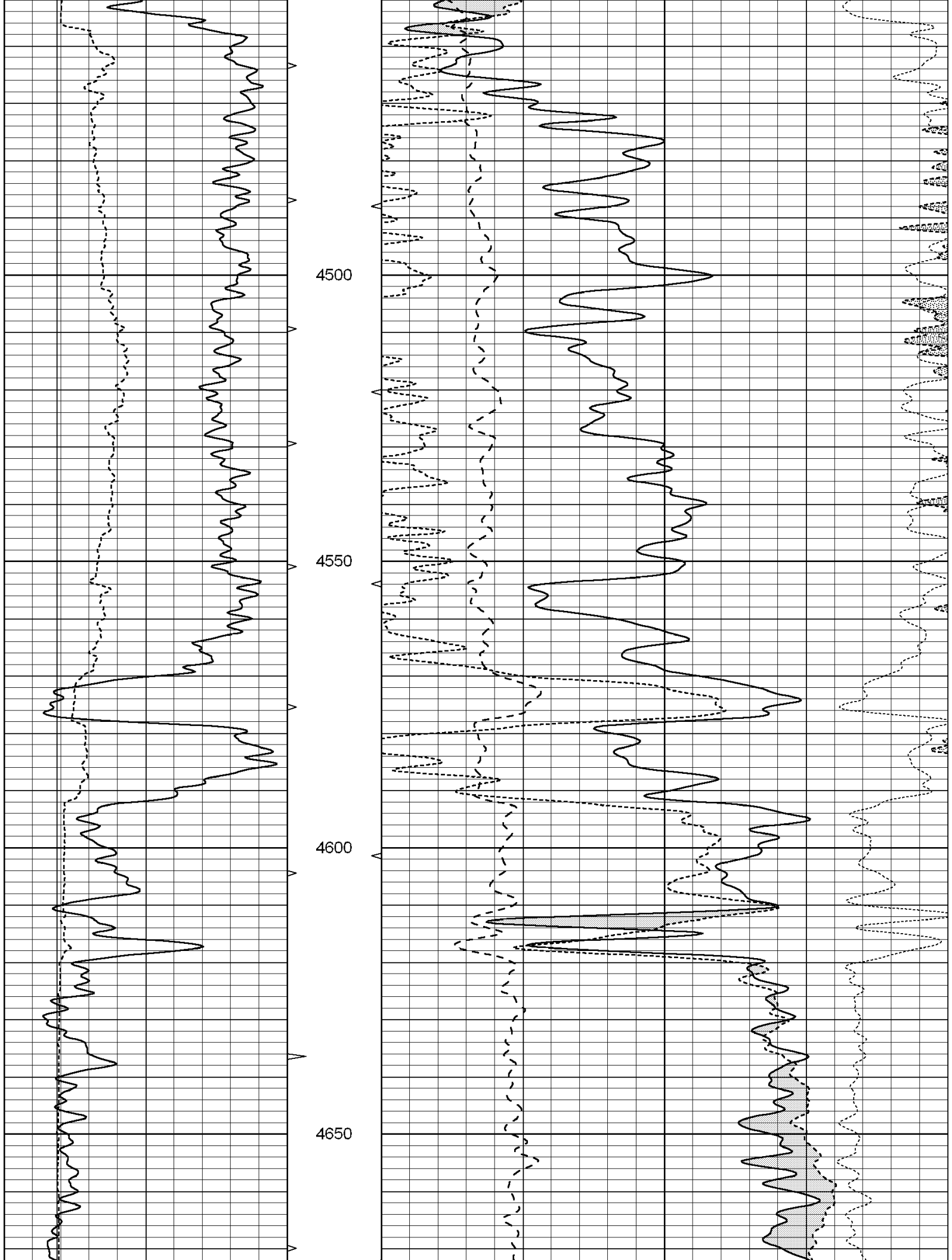


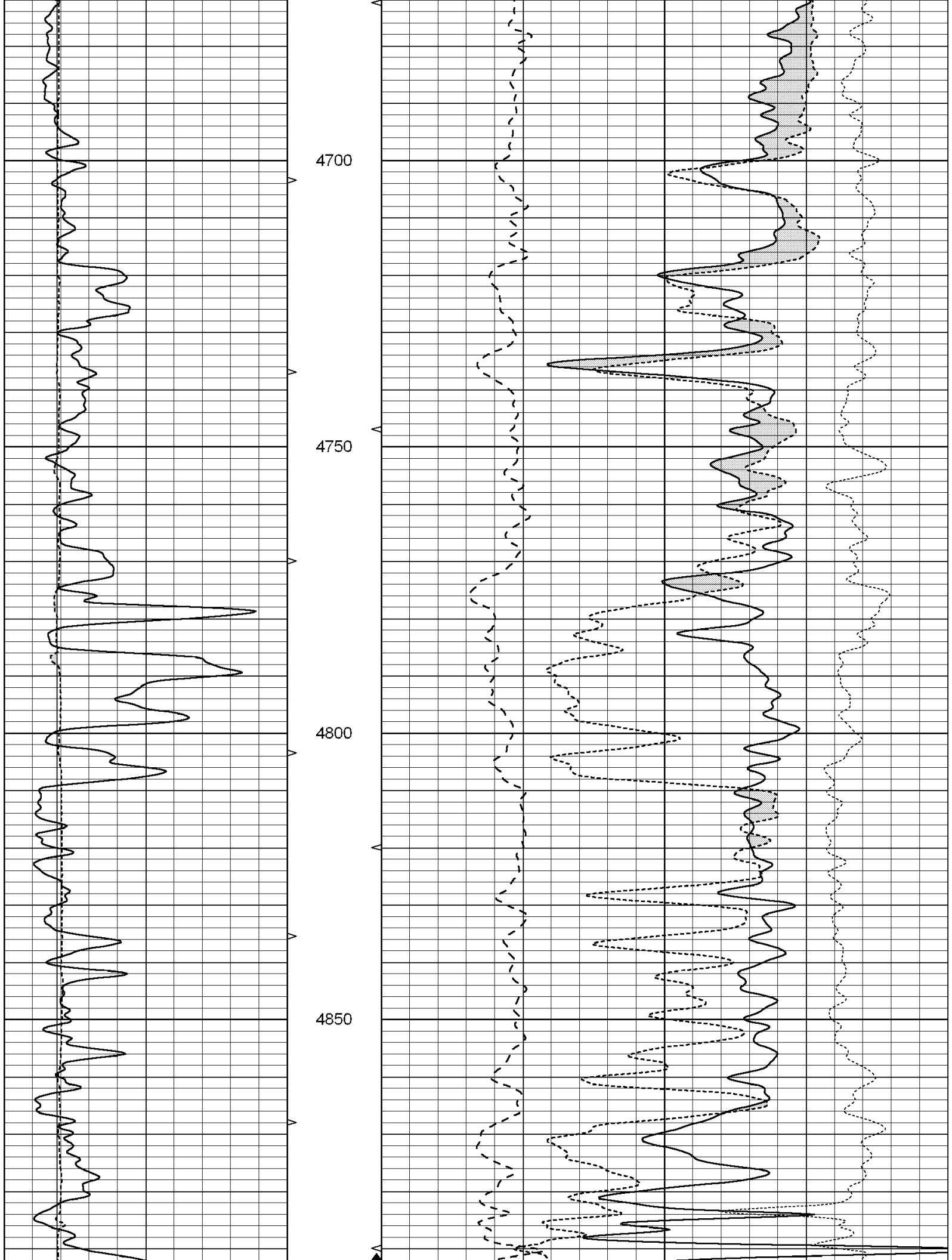


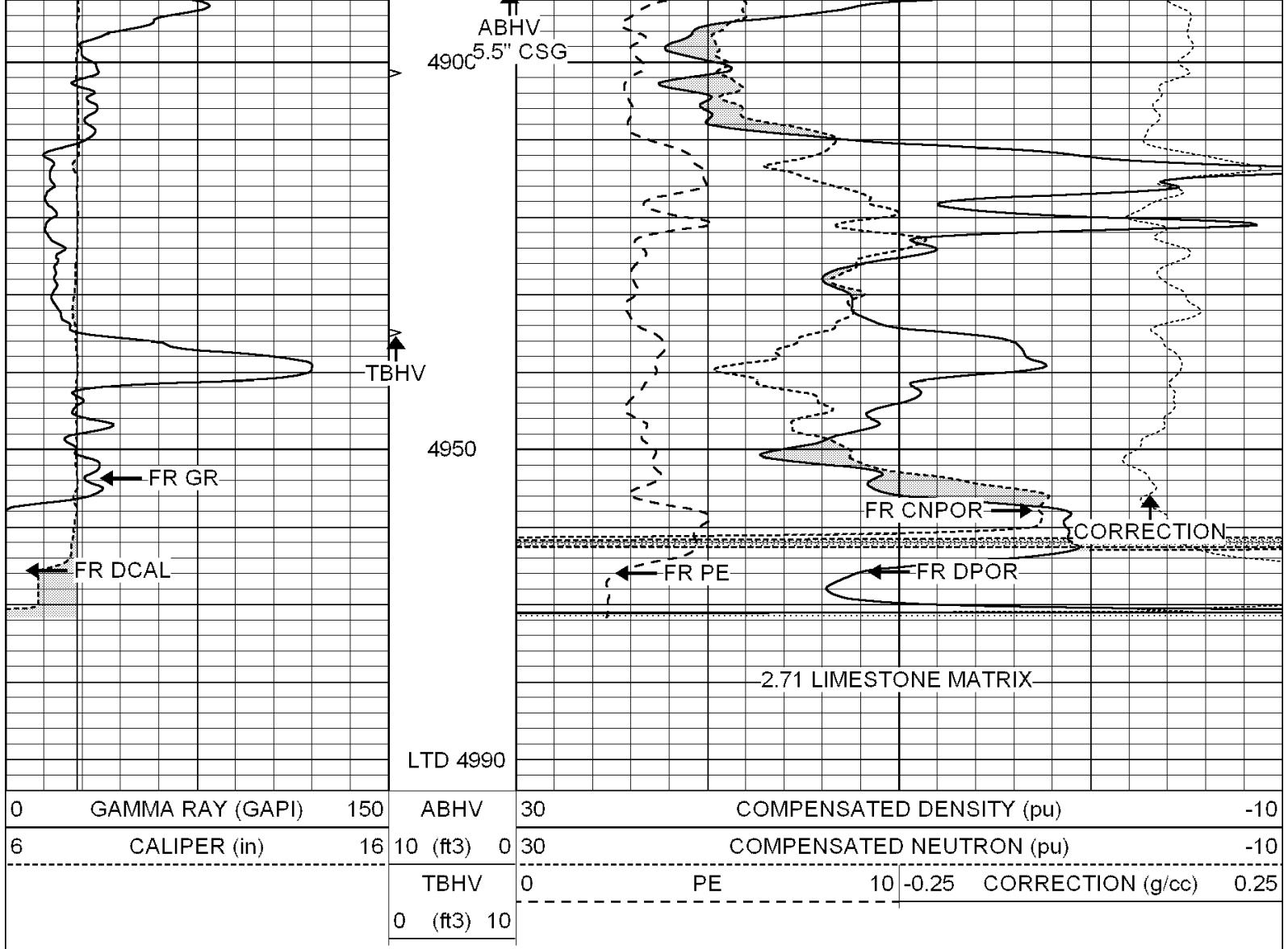










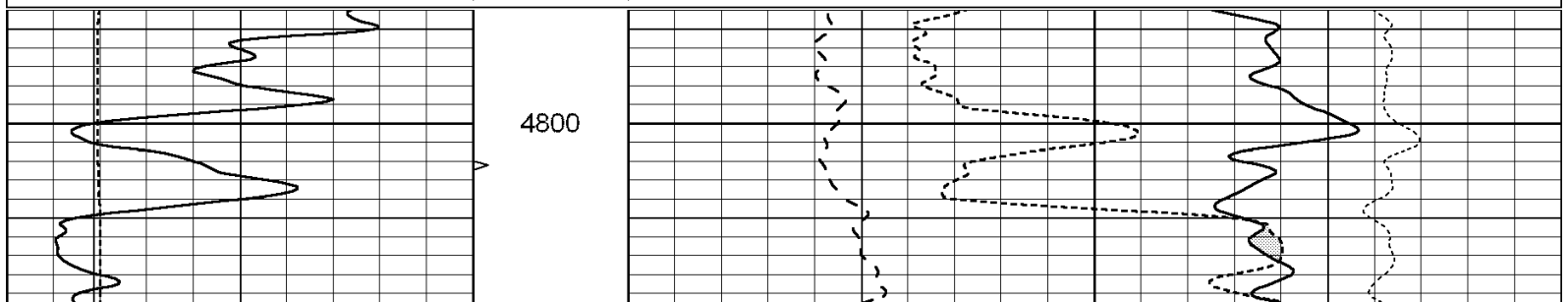


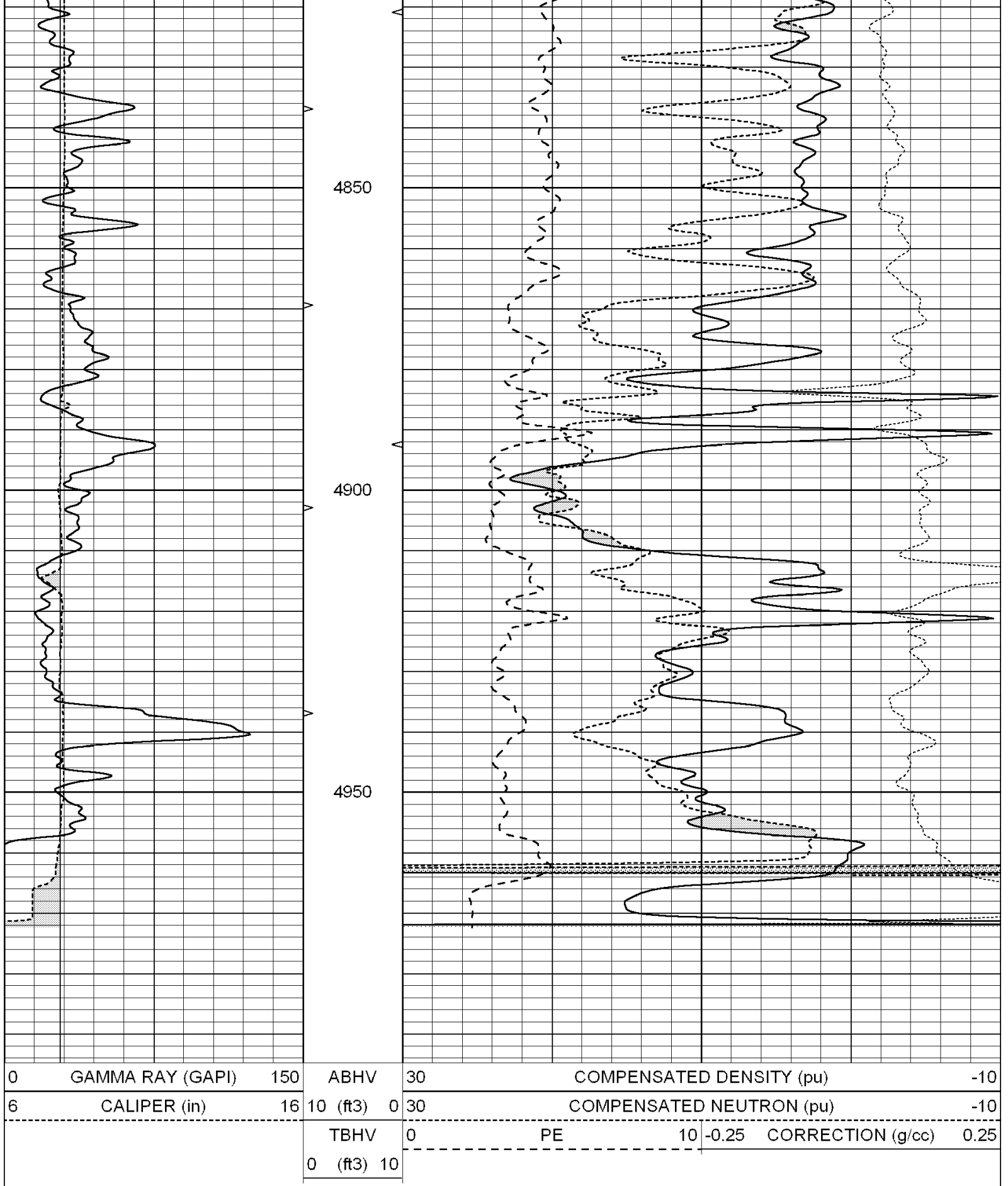
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REPEAT SECTION

Database File: 005122pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _ldt_neu
 Dataset Creation: Fri Apr 30 22:53:30 2010 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 |
| | | | TBHV | 0 | PE | 10 | -0.25 | CORRECTION (g/cc) | 0.25 | |
| | | | 0 (ft3) | 10 | | | | | | |





Calibration Report

Database File: 005122pe.db
Dataset Pathname: pass3.1
Dataset Creation: Fri Apr 30 23:15:53 2010 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Fri Aug 01 06:33:19 2008
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

| Readings | | | | References | | | Results | |
|-----------|-------|-------|---|------------|---------|--------|---------|---------|
| Loop: | Air | Loop | | Air | Loop | | m | b |
| Deep | 0.015 | 0.648 | V | 0.000 | 400.000 | mmho/m | 632.616 | -9.730 |
| Medium | 0.029 | 0.796 | V | 0.000 | 464.000 | mmho/m | 605.049 | -17.680 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.017 | 0.657 | V | 0.000 | 400.000 | mmho/m | 625.153 | -10.619 |
| Medium | 0.016 | 0.757 | V | 0.000 | 464.000 | mmho/m | 625.992 | -9.739 |

Downhole Calibration

| Readings | | | | References | | | Results | |
|----------|-------|--------|--------|------------|----------|--------|---------|-------|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | 2.011 | 405.777 | mmho/m | 1.000 | 0.000 |
| Medium | 0.000 | 0.000 | mmho/m | 7.590 | 503.393 | mmho/m | 1.000 | 0.000 |
| LL3 | | 7.500 | V | | 1500.000 | Ohm-m | | |
| | | 0.000 | V | | 20.000 | Ohm-m | | |
| | | -6.500 | V | | 3800.000 | mmho-m | | |

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: 002 Model: PRB
 Performed Mon Oct 29 15:40:49 2007

Litho Density Calibration

| | Background | Magnesium | Aluminum | Sandstone | |
|-------------|------------|-------------|----------|---------------------|---------|
| Window 1 | 1056.3 | 9118.0 | 2809.7 | 10378.4 | cps |
| Window 2 | 969.9 | 7671.9 | 2431.6 | 8565.8 | cps |
| Window 3 | 683.8 | 2939.8 | 1161.0 | 3161.8 | cps |
| Window 4 | 231.4 | 231.6 | 226.7 | 230.8 | cps |
| Long Space | 0.0 | 6702.0 | 1461.7 | 7595.9 | cps |
| Short Space | 1.2 | 1433.6 | 959.4 | 1568.6 | cps |
| Rho | | 1.7100 | 2.5900 | 1.3800 | g/cc |
| Pe | | | 2.5700 | 1.5500 | |
| Rib Angle | : 45.2 | Rib Slope | : 1.008 | Density/Spine Ratio | : 0.559 |
| Spine Angle | : 75.2 | Spine Slope | : 3.791 | Spine Intercept | : -18.7 |

Caliper

| | Readings | Reference | |
|-----------|----------|-----------|-------------|
| Low Ref | 3.1 | 8.0 | |
| High Ref | 5.4 | 14.0 | |
| Gain: 2.5 | | | Offset: 1.1 |

| Compensated Neutron Calibration Report | | | | | | |
|--|--|--------------------------|----------|--------|-----|---------------|
| Serial Number: | | | 5I | | | |
| 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: | | GR6 | | | | |
| Tool Model: | | OPEN | | | | |
| Performed: | | Tue Nov 10 08:32:36 2009 | | | | |
| Calibrator Value: | | 150.0 | GAPI | | | |
| Background Reading: | | 0.0 | cps | | | |
| Calibrator Reading: | | 276.0 | cps | | | |
| Sensitivity: | | 0.5535 | GAPI/cps | | | |