



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company RICHILAN DRILLING
Well SCHNEWEIS #10
Field
County BARTON State KANSAS

Company RICHILAN DRILLING
Well SCHNEWEIS #10
Field
County BARTON
State KANSAS

Location: 330' FSL & 2310' FWL
API #: 15-009-25820
SEC 5 TWP 17S RGE 11W
Other Services
DIL
Elevation
K.B. 1906
D.F.
G.L. 1899

| | | | |
|------------------------------|---------------|--|--|
| Date | 3-18-13 | | |
| Run Number | ONE | | |
| Depth Driller | 3381 | | |
| Depth Logger | 3358 | | |
| Bottom Logged Interval | 3356 | | |
| Top Log Interval | 00 | | |
| Casing Driller | 472 | | |
| Casing Logger | 472 | | |
| Bit Size | 7.875 | | |
| Type Fluid in Hole | CHEMICAL MUD | | |
| Density / Viscosity | 9.2 / 46 | | |
| pH / Fluid Loss | 10.5 / 7.6 | | |
| Source of Sample | FLOWLINE | | |
| Rm @ Meas. Temp | 0.65 @ 70F | | |
| Rmf @ Meas. Temp | 0.49 @ 70F | | |
| Rmc @ Meas. Temp | 0.78 @ 70F | | |
| Source of Rmf / Rmc | MEASURED | | |
| Rm @ BHT | .420 @ 109F | | |
| Time Circulation Stopped | 12:00 P.M. | | |
| Time Logger on Bottom | 12:45 P.M. | | |
| Maximum Recorded Temperature | 109F | | |
| Equipment Number | 860 | | |
| Location | HAYS, KS. | | |
| Recorded By | RUPP | | |
| Witnessed By | BOB SCHREIBER | | |

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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: HITCHMAN, 1/2E, 1S, 1/2E, N INTO.
COMMENT: HIT A BRIDGE AT 3358, COULD NOT REACH TD AND LOGGED UP FROM THERE.

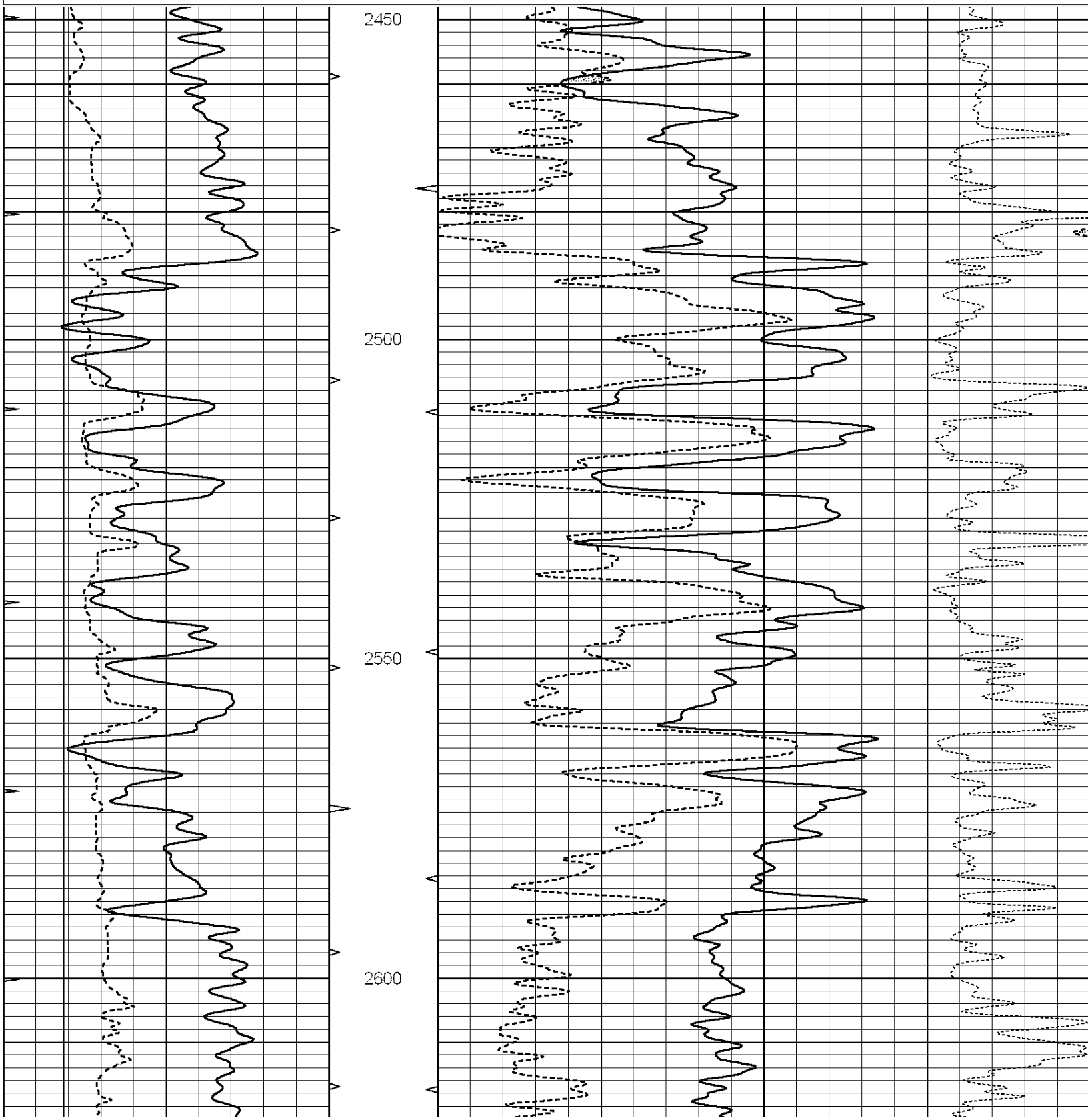


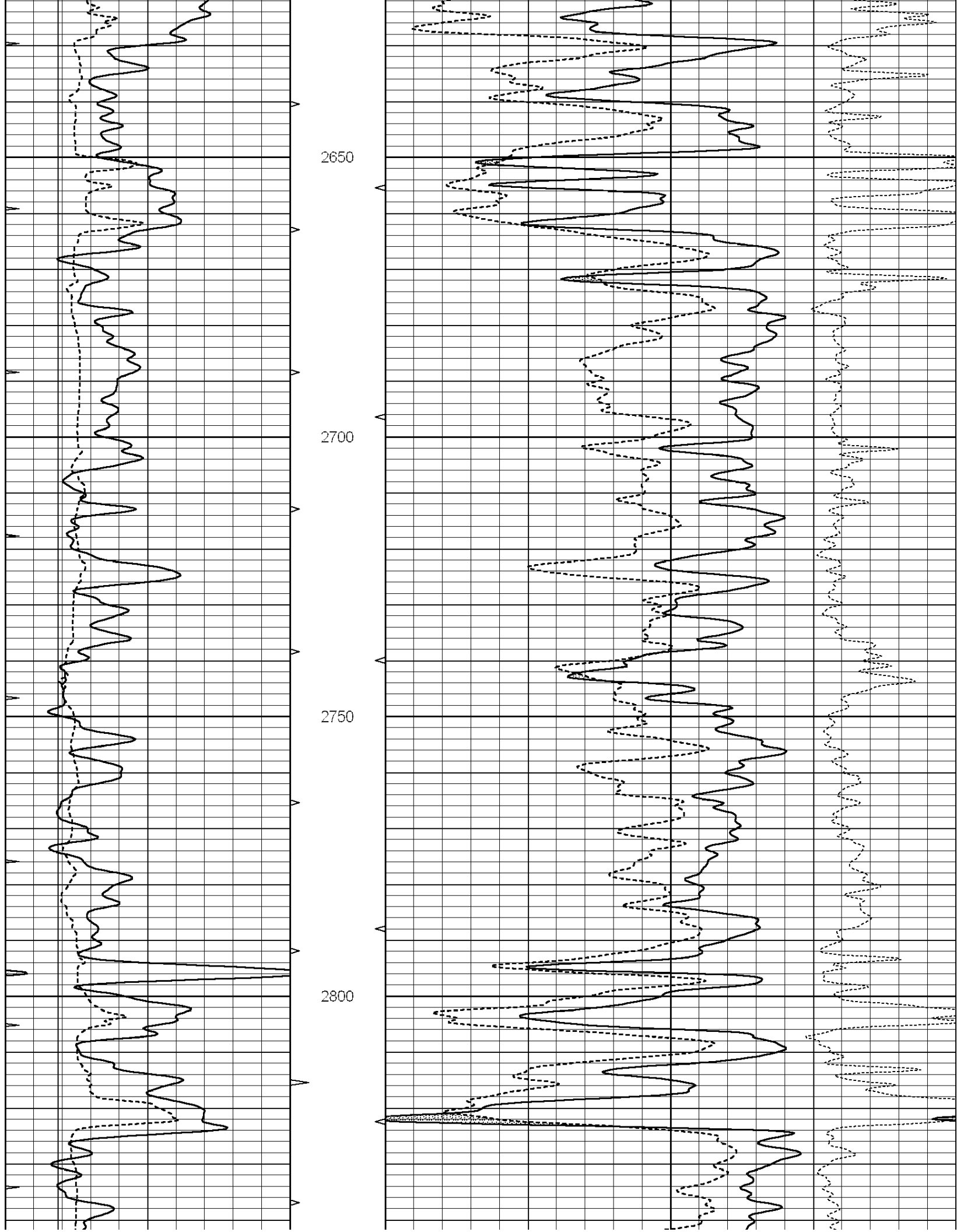
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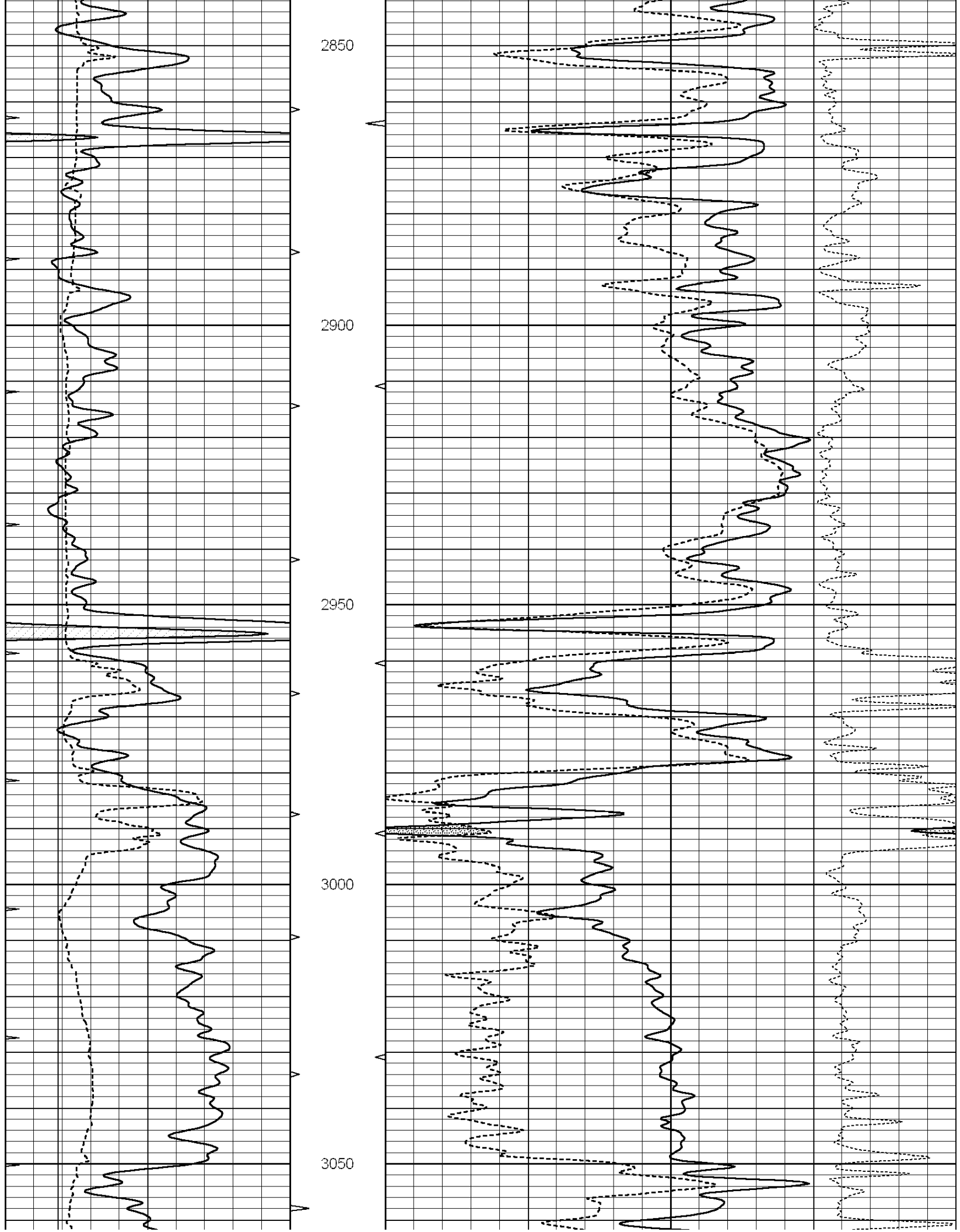
MAIN SECTION

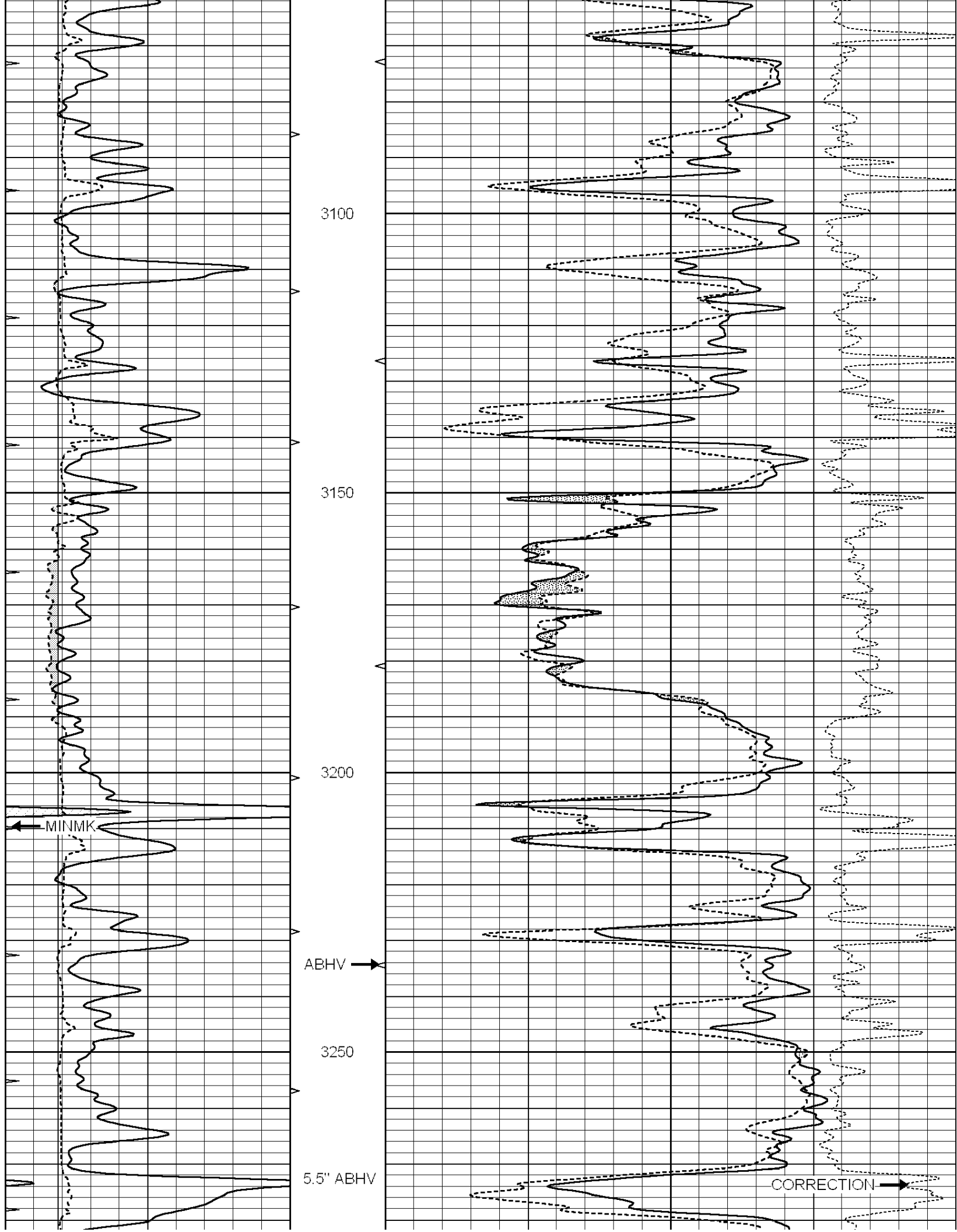
Database File: 010838ddn.db
 Dataset Pathname: pass3A
 Presentation Format: den_neu
 Dataset Creation: Mon Mar 18 14:45:17 2013
 Charted by: Depth in Feet scaled 1:240

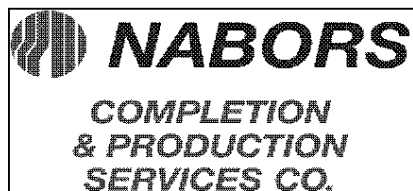
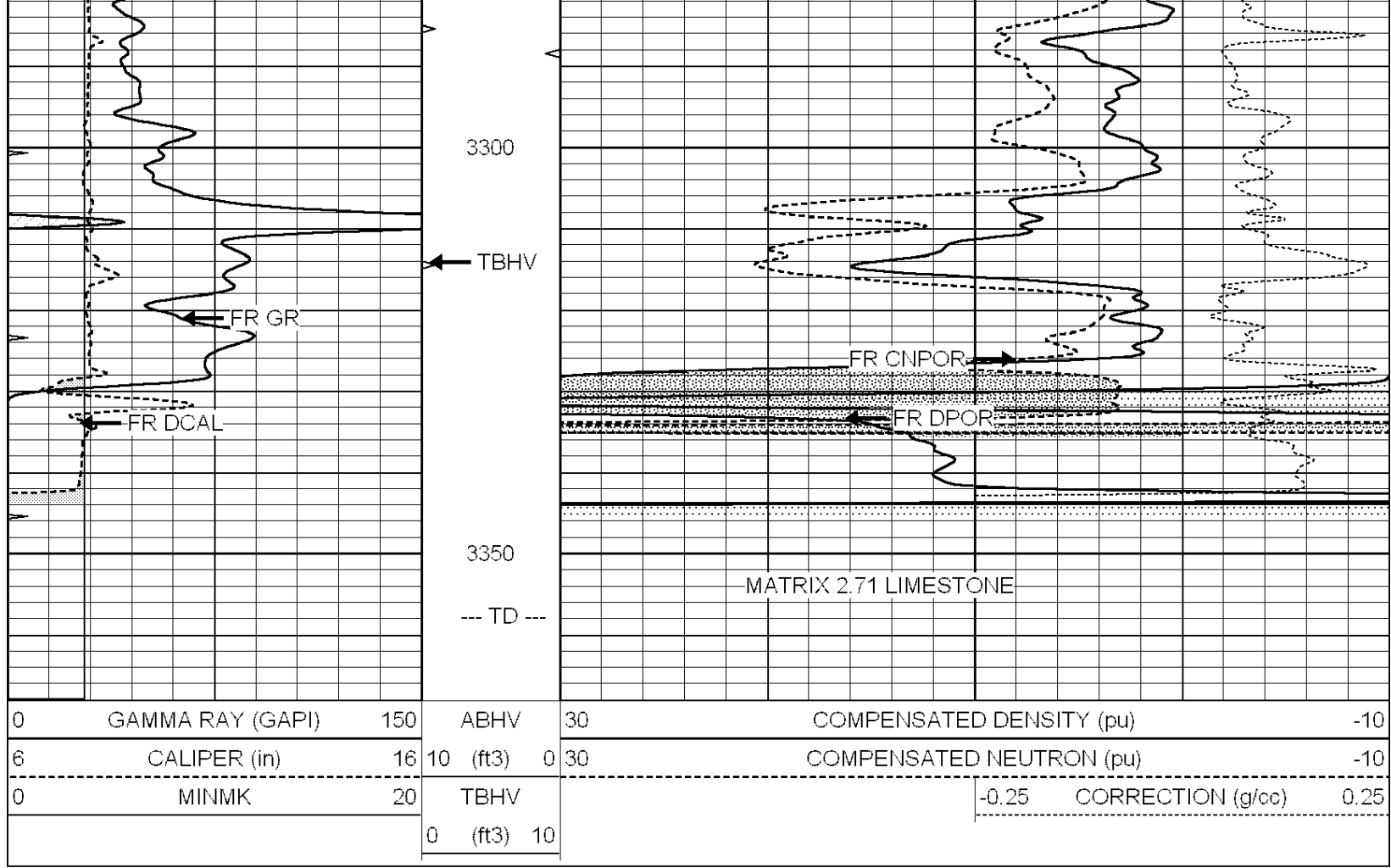
| | | | | | | | |
|---|------------------|-----|----------|----|--------------------------|--------------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | -10 | |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 | 30 | COMPENSATED NEUTRON (pu) | -10 |
| 0 | MINMK | 20 |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







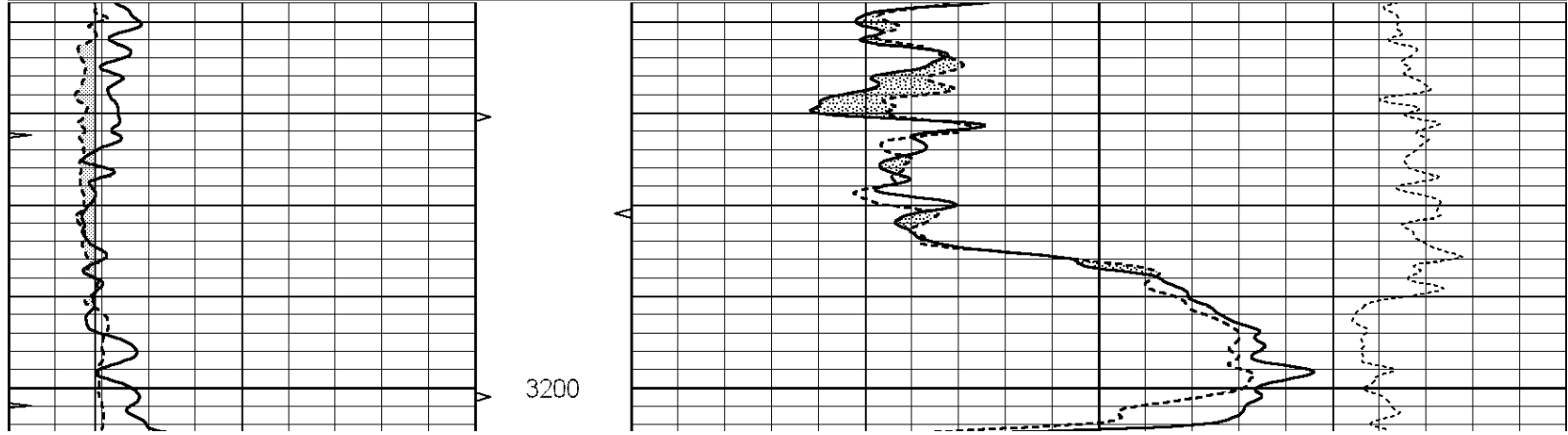


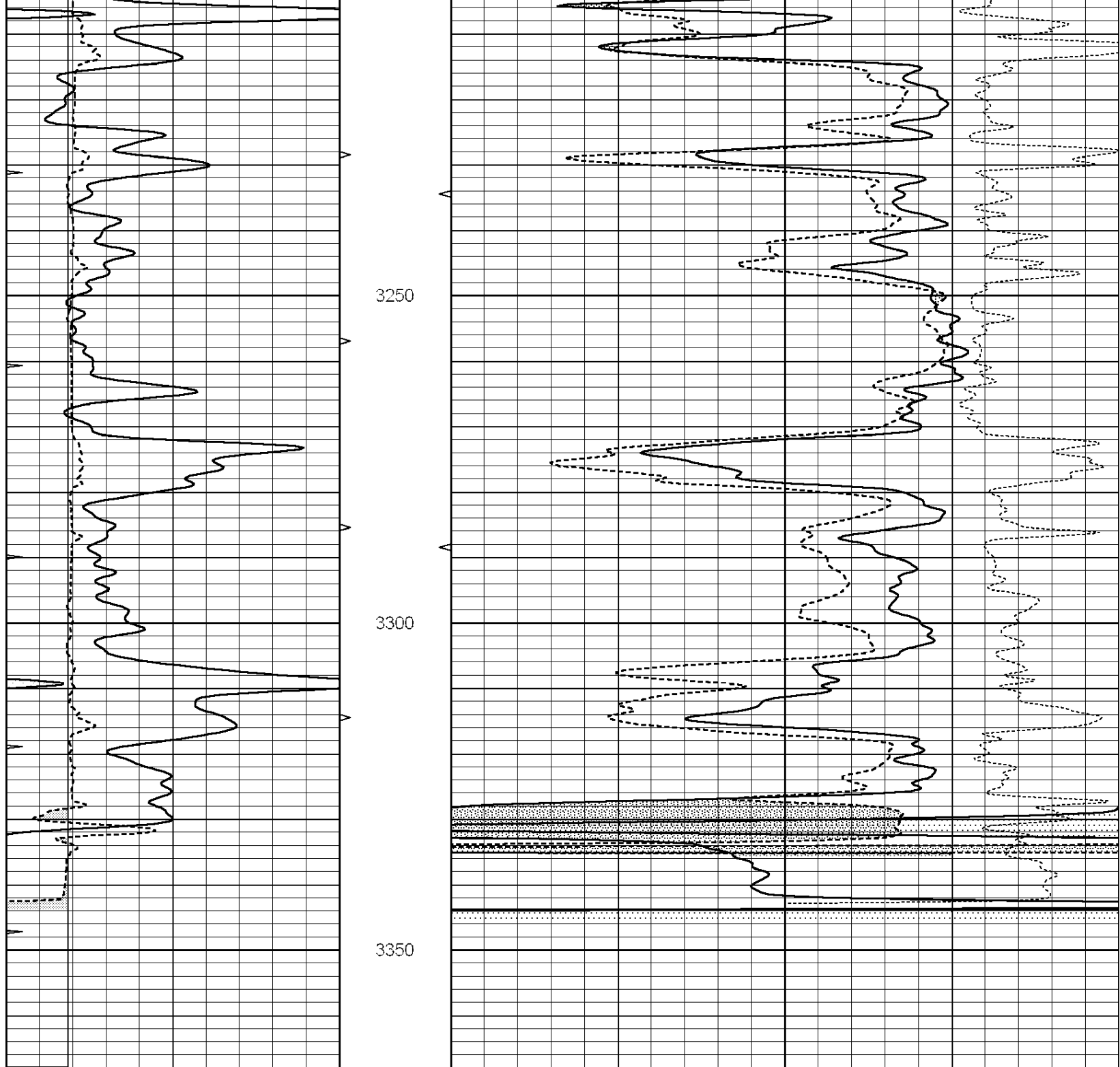


REPEAT SECTION

Database File: 010838ddn.db
 Dataset Pathname: pass2A
 Presentation Format: den_neu
 Dataset Creation: Mon Mar 18 14:33:15 2013
 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 | | |





| | | | | | | |
|---|------------------|-----|----------|------|--------------------------|-------------------|
| 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 (ft3) | 10 | | 0.25 |

Calibration Report

Database File: 010838ddn.db
 Dataset Pathname: pass3A
 Dataset Creation: Mon Mar 18 14:45:17 2013

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Mon Mar 18 14:10:33 2013

| Surface Calibration | | | | | | | | |
|---------------------|-------|-------|---|------------|---------|--------|---------|---------|
| Readings | | | | References | | | Results | |
| Loop: | Air | Loop | | Air | Loop | | m | b |
| Deep | 0.793 | 0.790 | V | 0.000 | 400.000 | mmho/m | 600.000 | 2.000 |
| Medium | 0.992 | 1.002 | V | 0.000 | 464.000 | mmho/m | 680.000 | -50.000 |
| 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: Mon Mar 18 13:37:57 2013

| Master Calibration | | | | | | | | |
|---------------------|---------|------|--|-----------------------------|---|---------------|-----|--|
| | Density | | | Far Detector | | Near Detector | | |
| Magnesium | 1.710 | g/cc | | 1205.77 | | 610.74 | cps | |
| Aluminum | 2.590 | g/cc | | 271.21 | | 419.72 | cps | |
| Spine Angle = 75.89 | | | | Density/Spine Ratio = 0.572 | | | | |
| | Size | | | Reading | | | | |
| Small Ring | 7.40 | 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: | Mon Mar 18 14:11:36 2013 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 2.3000 | GAPI/cps |