



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company: DOUBLE D'S, LLC.
Well: GOTTSCHALK #1
Field: STADELMAN
County: ELLIS
State: KANSAS

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Location: API # : 15-051-26645-0000
1952' FSL & 924' FEL
NE - SW - NE - SE
SEC 10 TWP 14S RGE 19W
Permanent Datum: GROUND LEVEL Elevation: 2200
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING
Other Services: DIL/MEL SONIC
Elevation: K.B. 2207 D.F. 2205 G.L. 2200

| | |
|------------------------------|--------------------|
| Date | 12/19/13 |
| Run Number | ONE |
| Depth Driller | 3860 |
| Depth Logger | 3860 |
| Bottom Logged Interval | 3836 |
| Top Log Interval | 3000 |
| Casing Driller | 8 5/8" @ 222' |
| Casing Logger | 218 |
| Bit Size | 7 7/8" |
| Type Fluid in Hole | CHEMICAL MUD |
| Density / Viscosity | 9.1/56 |
| pH / Fluid Loss | 10.5/6.0 |
| Source of Sample | FLOWLINE |
| Rim @ Meas. Temp | 1.10 @ 72F |
| Rmf @ Meas. Temp | .825 @ 72F |
| Rmc @ Meas. Temp | 1.32 @ 72F |
| Source of Rmf / Rmc | MEASUREMENT |
| Rim @ BHT | .689 @ 115F |
| Time Circulation Stopped | 2 HOURS |
| Time Logger on Bottom | 10:15 A.M. |
| Maximum Recorded Temperature | 115F |
| Equipment Number | 4854 |
| Location | HAYS, KANSAS |
| Recorded By | JEFF LUEBBERS |
| Witnessed By | AL DOWNING |
| | DUANE "DOC" BIEKER |

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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

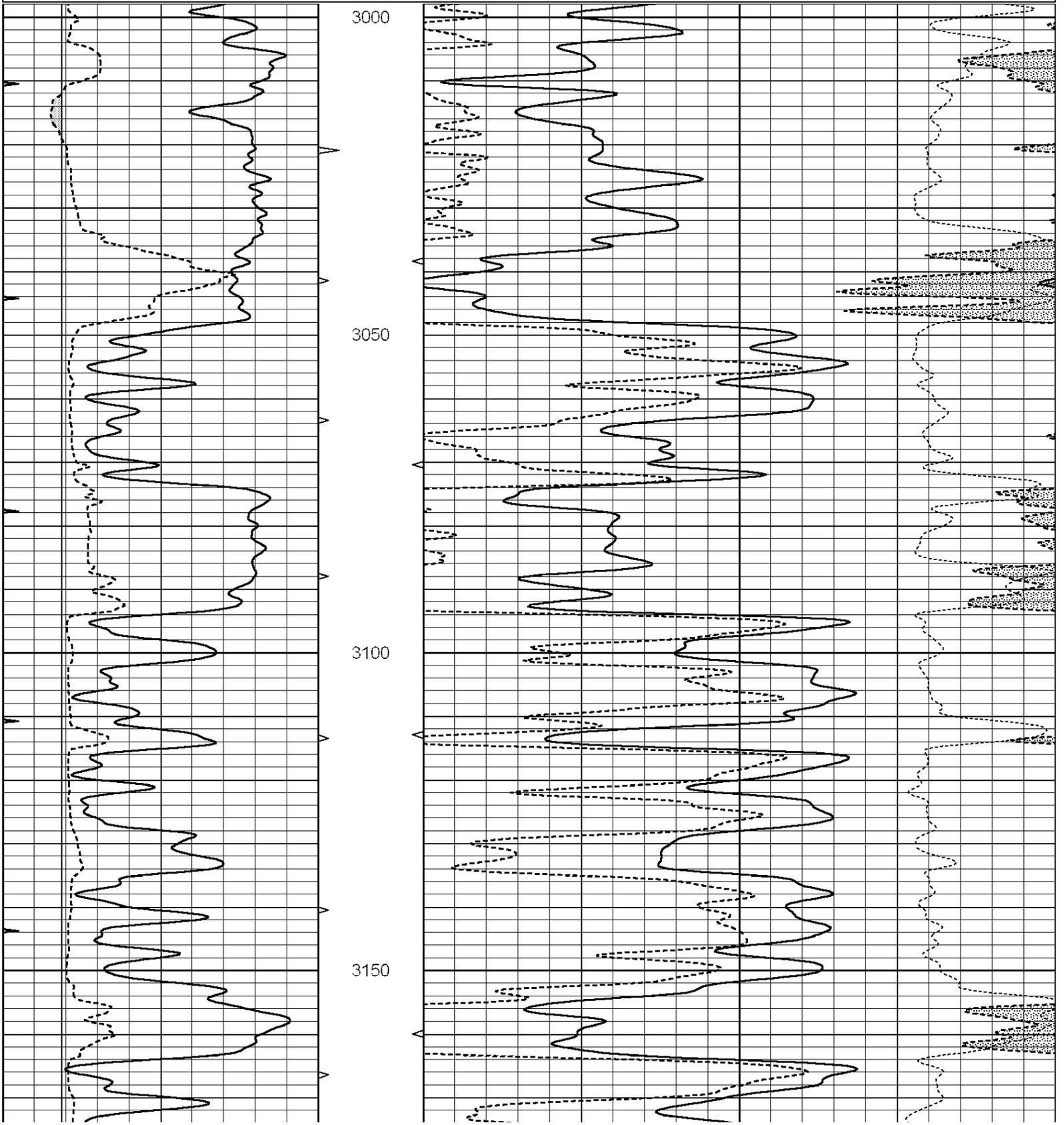
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
HAYS, KANSAS., 3W. ON "GOLF COURSE RD.", 1/2S., W. INTO @CATTLE PENS

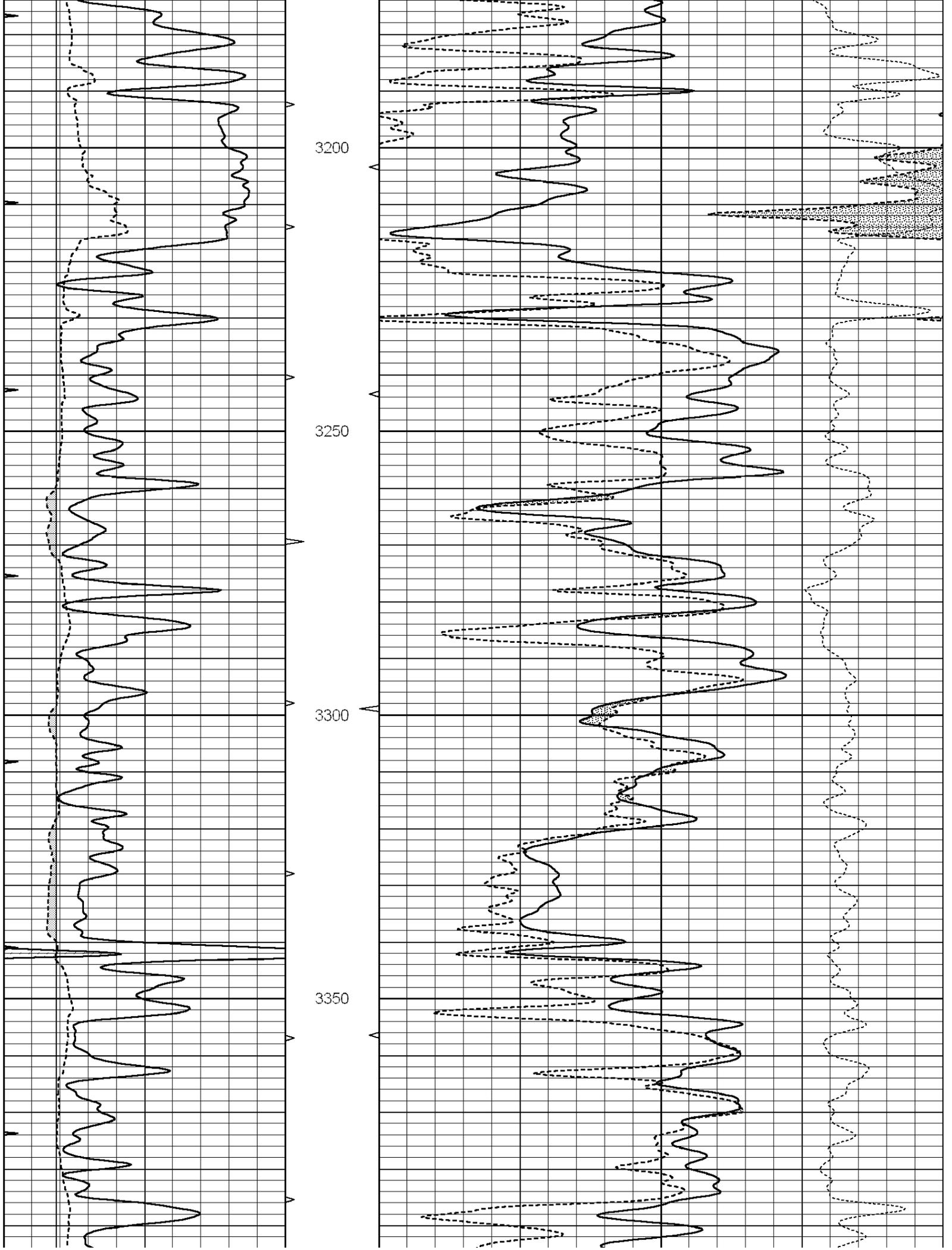


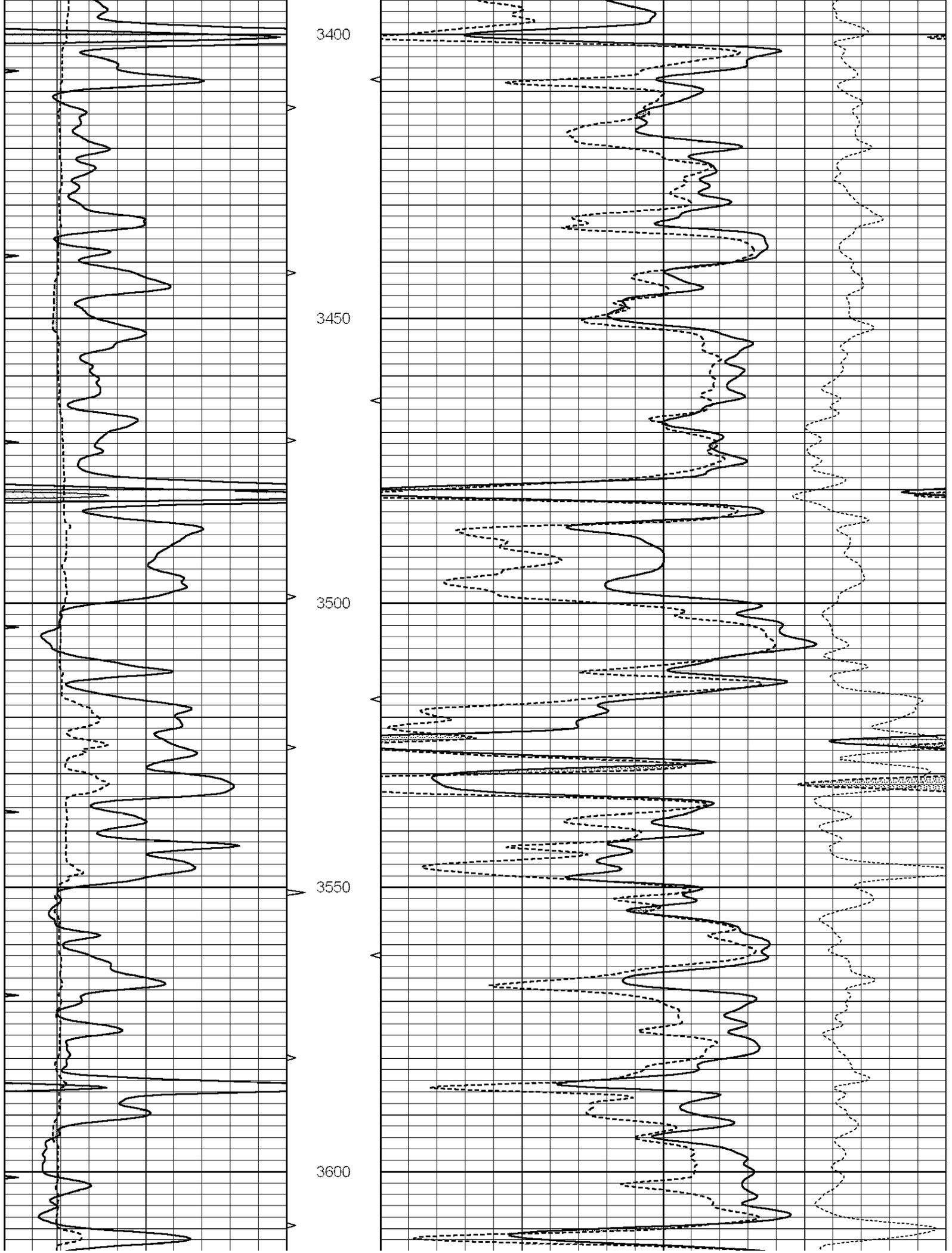
MAIN SECTION

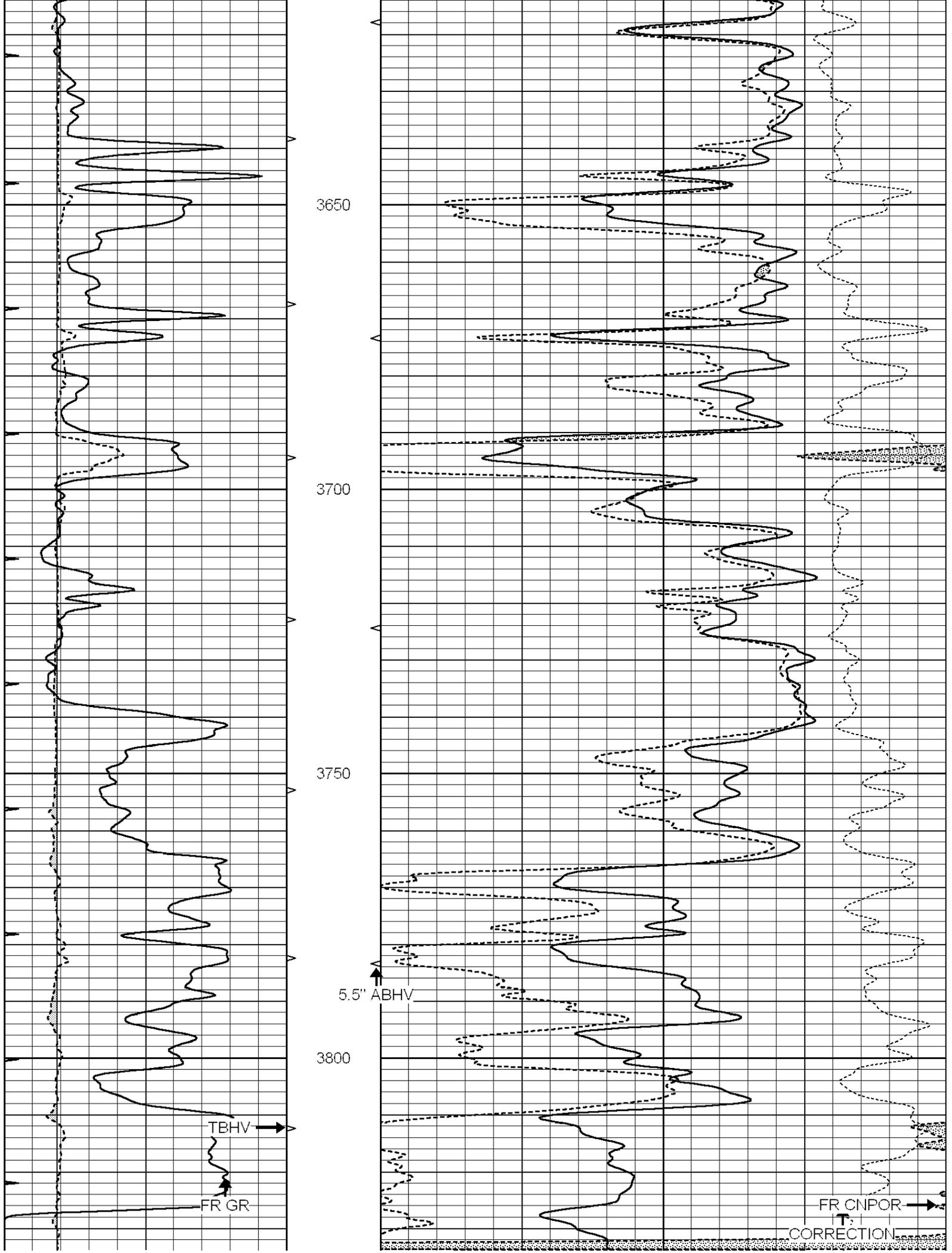
Database File: 22226ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: den_neu
 Dataset Creation: Thu Dec 19 11:33:59 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

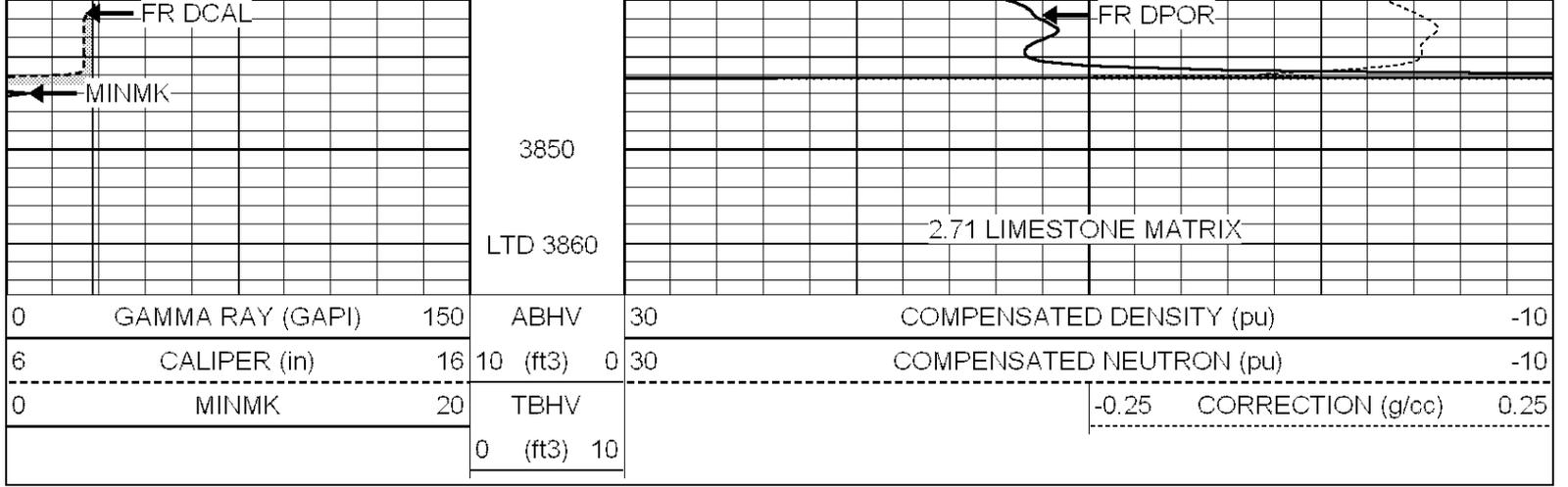
| | | | | | | |
|---|------------------|-----|----------|------|--------------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | -10 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 30 | COMPENSATED NEUTRON (pu) | -10 |
| 0 | MINMK | 20 | TBHV | | -0.25 CORRECTION (g/cc)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







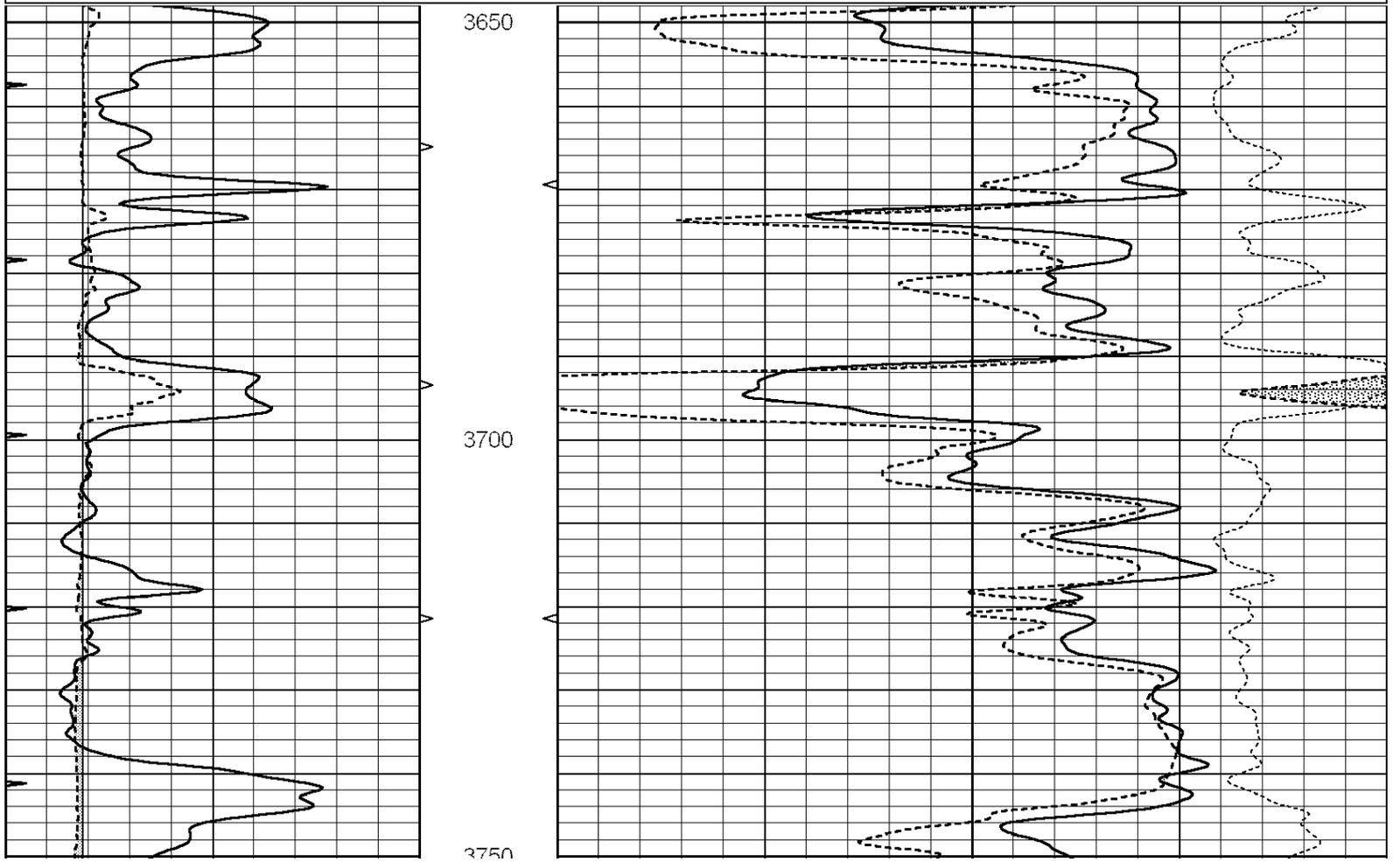


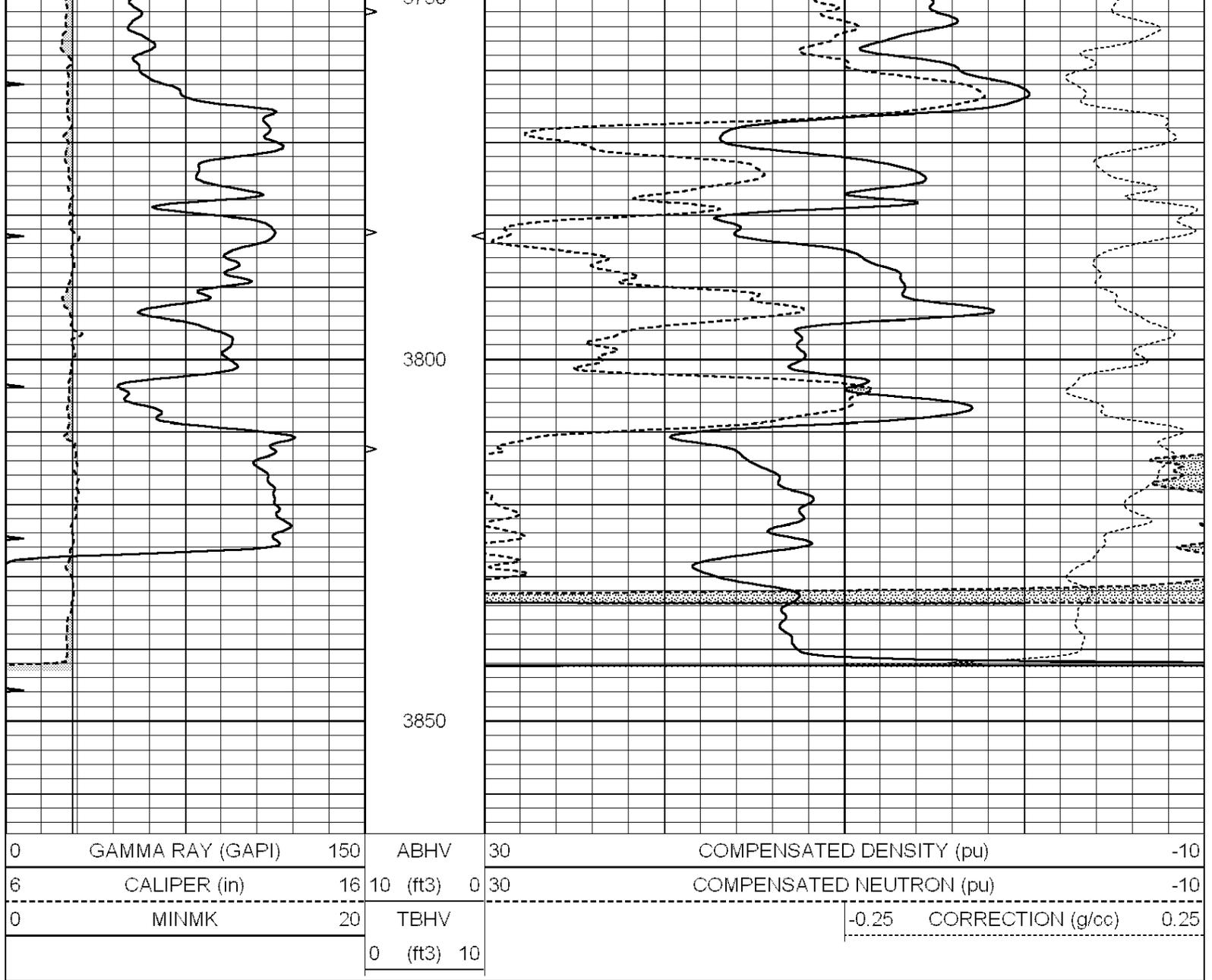


REPEAT SECTION

Database File: 22226ddn.db
 Dataset Pathname: pass2.4
 Presentation Format: den_neu
 Dataset Creation: Thu Dec 19 10:34:11 2013 by Calc SOC 120430
 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: 22226ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Thu Dec 19 11:33:59 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Thu Dec 19 09:00:56 2013
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

| Loop: | Readings | | | | References | | Results | |
|-----------|----------|-------|---|-------|------------|--------|---------|--------|
| | Air | Loop | V | | Air | Loop | m | b |
| Deep | -0.014 | 0.629 | V | 0.000 | 400.000 | mmho/m | 650.000 | -4.000 |
| Medium | 0.039 | 0.728 | V | 0.000 | 464.000 | mmho/m | 640.000 | -8.000 |
| Internal: | 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 | | | 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 | | | 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 Mon Jun 03 09:36:56 2013 | | | |
|--------------------|------------|------------------------------------|----------|---------------------|---------|
| | Background | Magnesium | Aluminum | Sandstone | |
| Window 1 | 1417.6 | 10391.4 | 3464.6 | 11537.5 | cps |
| Window 2 | 1295.0 | 8959.7 | 3050.1 | 9816.4 | cps |
| Window 3 | 1105.1 | 5464.2 | 2051.0 | 5838.8 | cps |
| Window 4 | 315.0 | 317.7 | 312.9 | 319.8 | cps |
| Long Space | 0.0 | 7664.6 | 1755.0 | 8521.3 | cps |
| Short Space | 1.8 | 1582.4 | 1040.8 | 1699.4 | cps |
| Rho | | 1.7100 | 2.5900 | 1.3800 | g/cc |
| Pe | | 0.0000 | 2.5700 | 1.5500 | |
| Rib Angle | : 44.1 | Rib Slope | : 0.970 | Density/Spine Ratio | : 0.574 |
| Spine Angle | : 74.1 | Spine Slope | : 3.519 | Spine Intercept | : -17.0 |

| 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 | |

| After 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

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: 070559
Tool Model: OPEN_GR
Performed: Thu Dec 19 09:01:02 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps