NABORS COMPLETION & PRODUCTION SERVICES CO.

# DUAL INDUCTION LOG

| | |
|---|---|
| Company | LOTUS OPERATING COMPANY, LLC. |
| Well | #5 ACHENBACH |
| Field | STRANATHAN |
| County | BARBER |
| State | KANSAS |

Company LOTUS OPERATING COMPANY, LLC.

Well #5 ACHENBACH

Field STRANATHAN

County BARBER State KANSAS

Location: API # : 15-007-24258-0000

1485' FNL & 660' FWL

SEC 1 TWP 35S RGE 13W

Permanent Datum GROUND LEVEL Elevation 1455

Log Measured From KELLY BUSHING 13' A.G.L.

Drilling Measured From KELLY BUSHING

Other Services: CDL/CNL/PE MEL/SON/FF

Elevation: K.B. 1468 D.F. 1466 G.L. 1455

| | | | | |
|---|---|---|---|---|
| Date | 12/11/14 | | | |
| Run Number | ONE | | | |
| Depth Driller | 5670 | | | |
| Depth Logger | 5666 | | | |
| Bottom Logged Interval | 5664 | | | |
| Top Log Interval | 00 | | | |
| Casing Driller | 10 3/4"@300' | | | |
| Casing Logger | 299 | | | |
| Bit Size | 7 7/8" | | | |
| Type Fluid in Hole | CHEMICAL MUD | CHLORIDES 5,000 PPM | | |
| Density / Viscosity | 9.6/48 | | | |
| pH / Fluid Loss | 11.0/8.8 | | | |
| Source of Sample | FLOWLINE | | | |
| Rm @ Meas. Temp | .600@85F | | | |
| Rmf @ Meas. Temp | .450@85F | | | |
| Rmc @ Meas. Temp | .720@85F | | | |
| Source of Rmf / Rmc | MEASUREMENT | | | |
| Rm @ BHT | .389@131F | | | |
| Time Circulation Stopped | 3 HOURS | | | |
| Time Logger on Bottom | 7:00 A.M. | | | |
| Maximum Recorded Temperature | 131F | | | |
| Equipment Number | 4854 | | | |
| Location | HAYS, KANSAS | | | |
| Recorded By | JEFF LUEBBERS | | | |
| Witnessed By | TIM HELLMAN | | | |

<<< Fold Here >>>

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

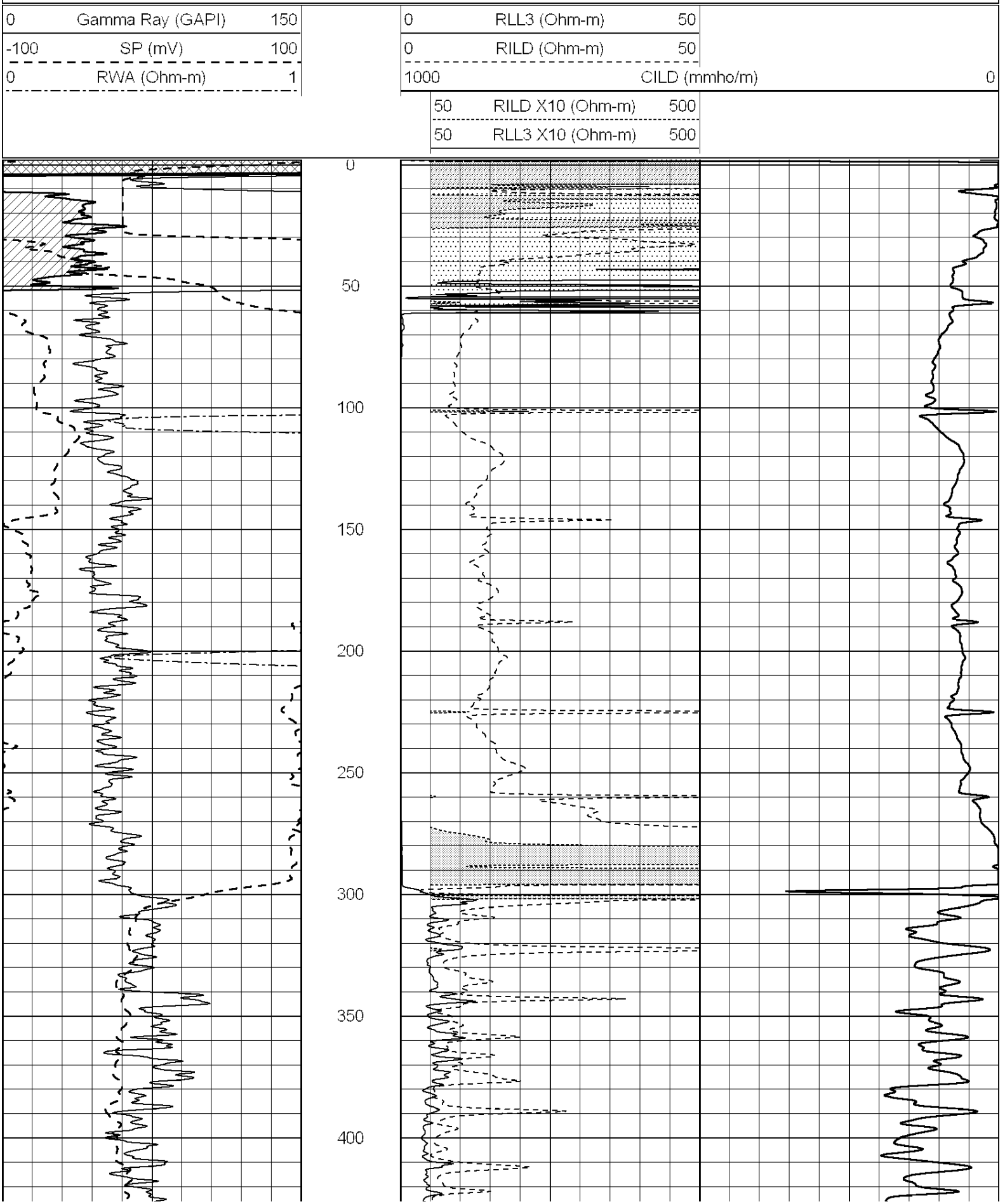
HARDTNER, KS., 2 1/2W. ON BLKTOP TO "GYP HILL RD.", 1N., E. INTO

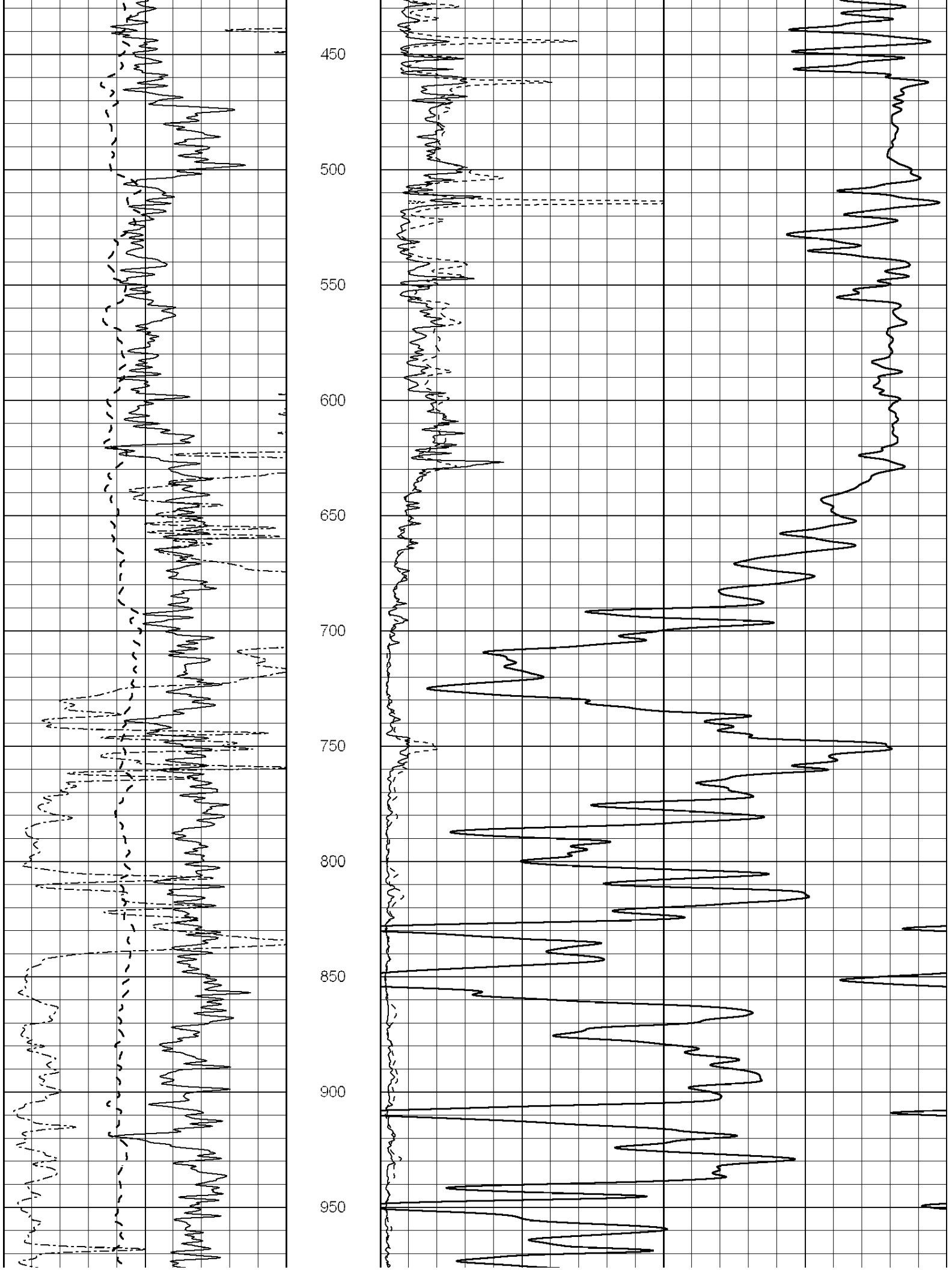
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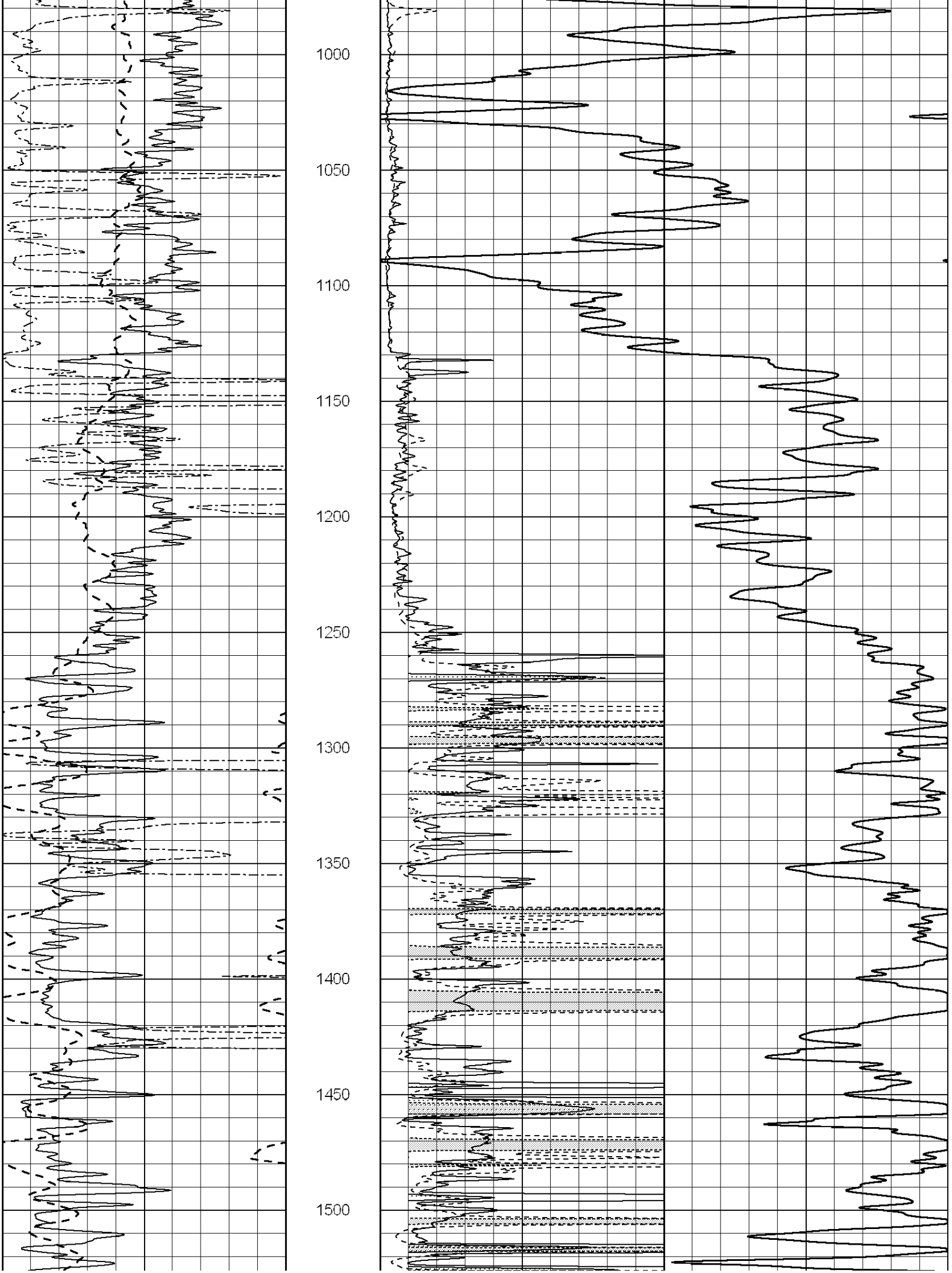
# MAIN SECTION

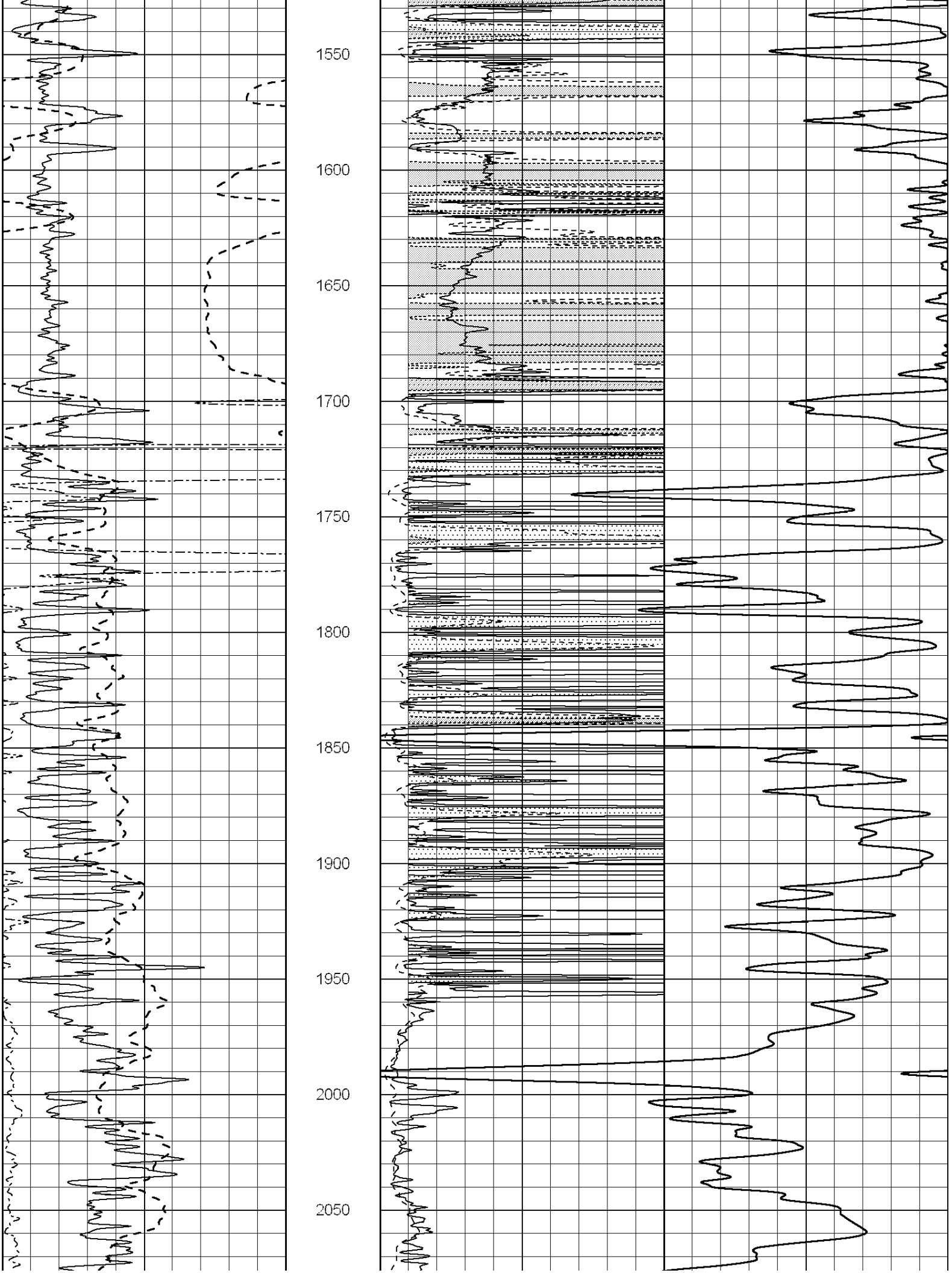
SERVICES CO.

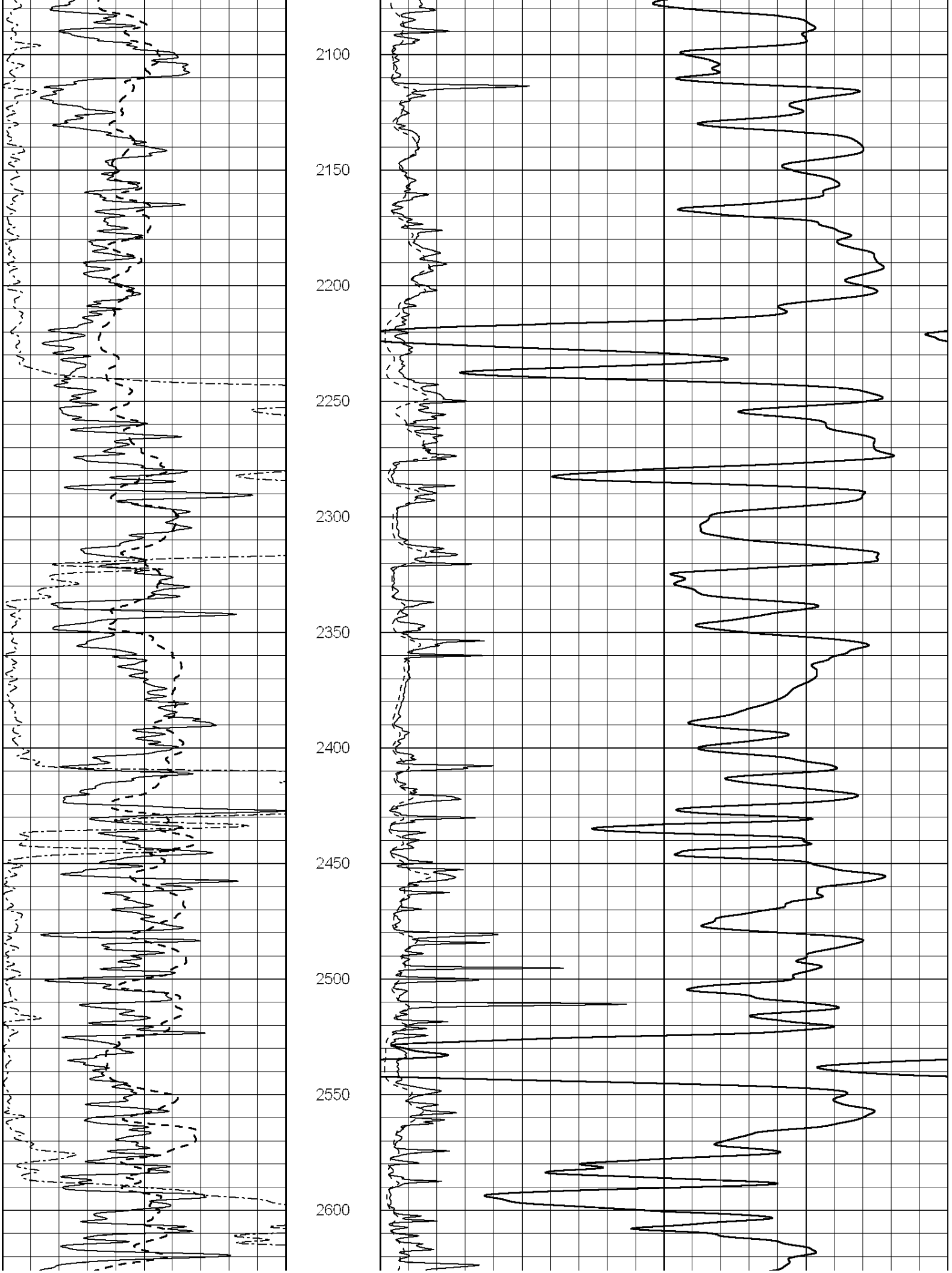
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Dataset Pathname: pass3.3
Presentation Format: dil2
Dataset Creation: Thu Dec 11 08:58:30 2014 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

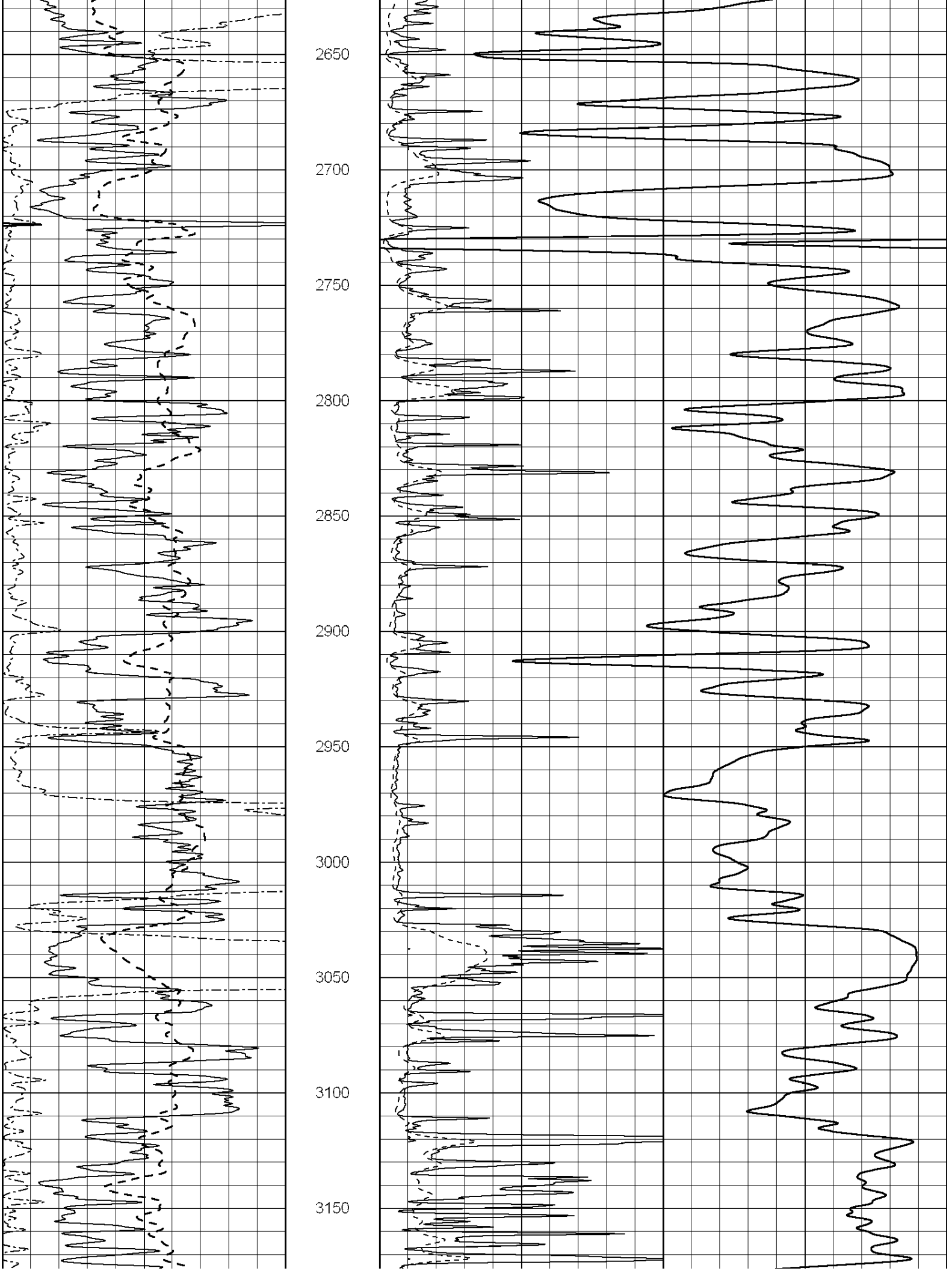


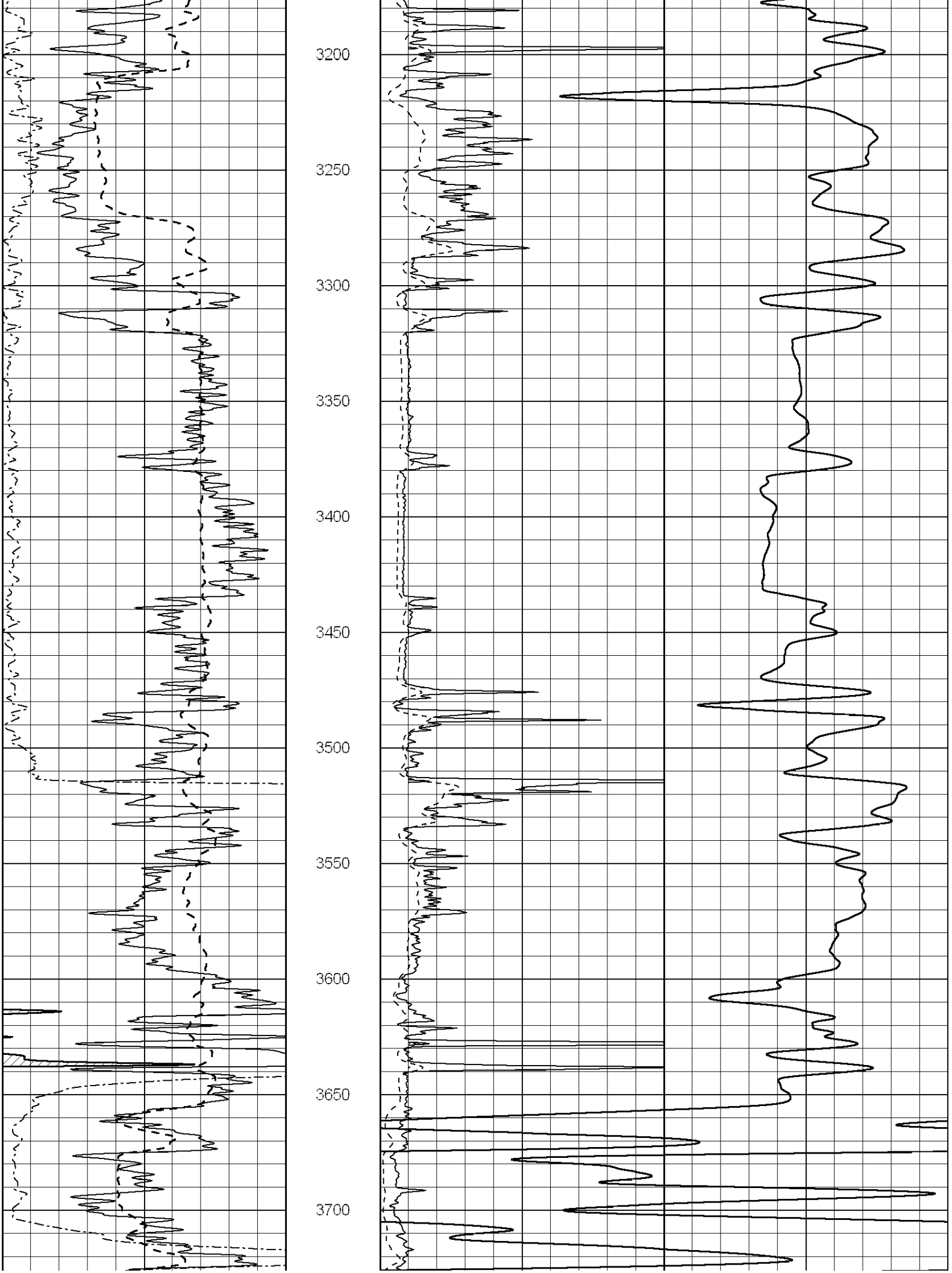

450
500
550
600
650
700
750
800
850
900
950

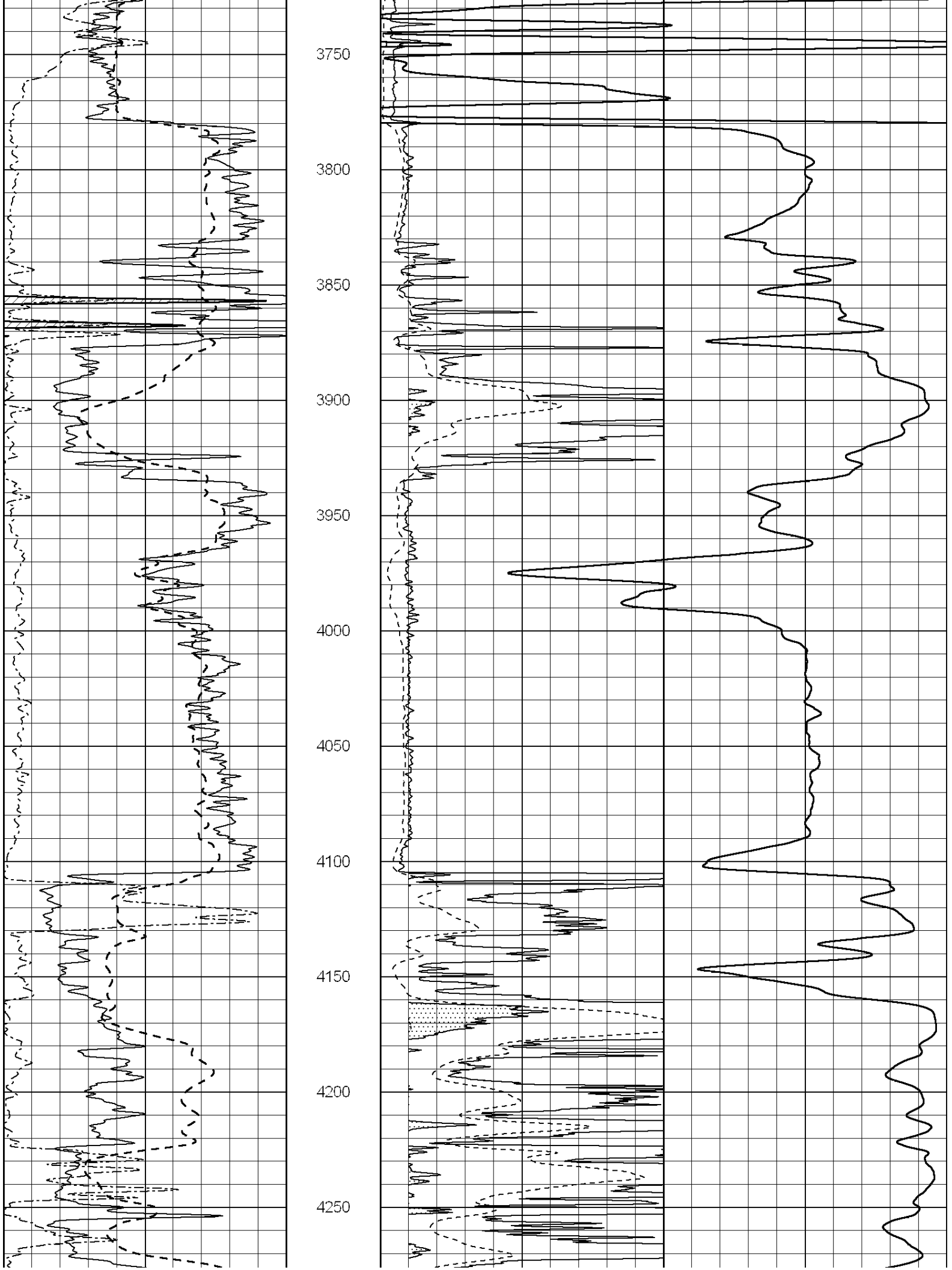

1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

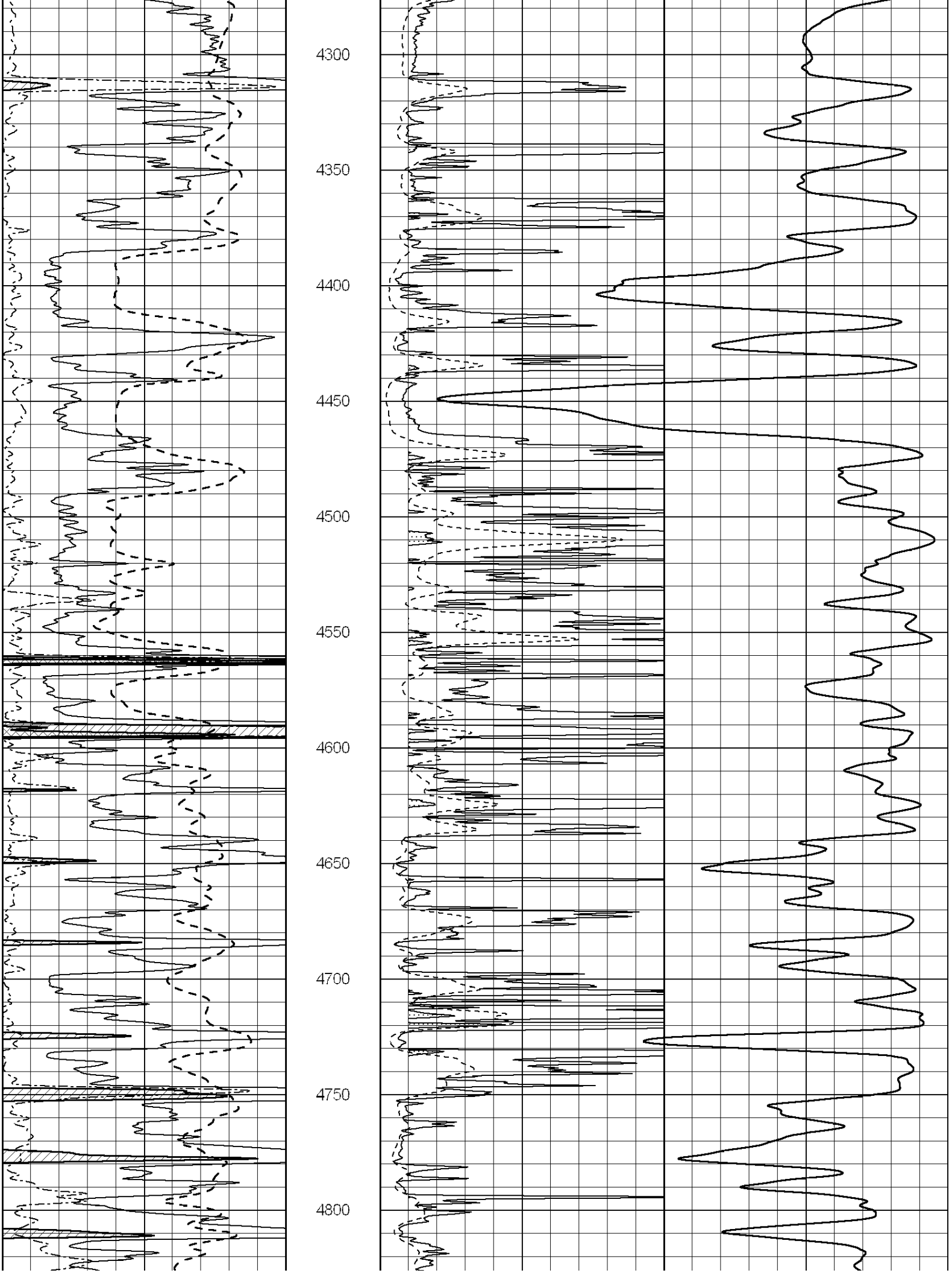

1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050

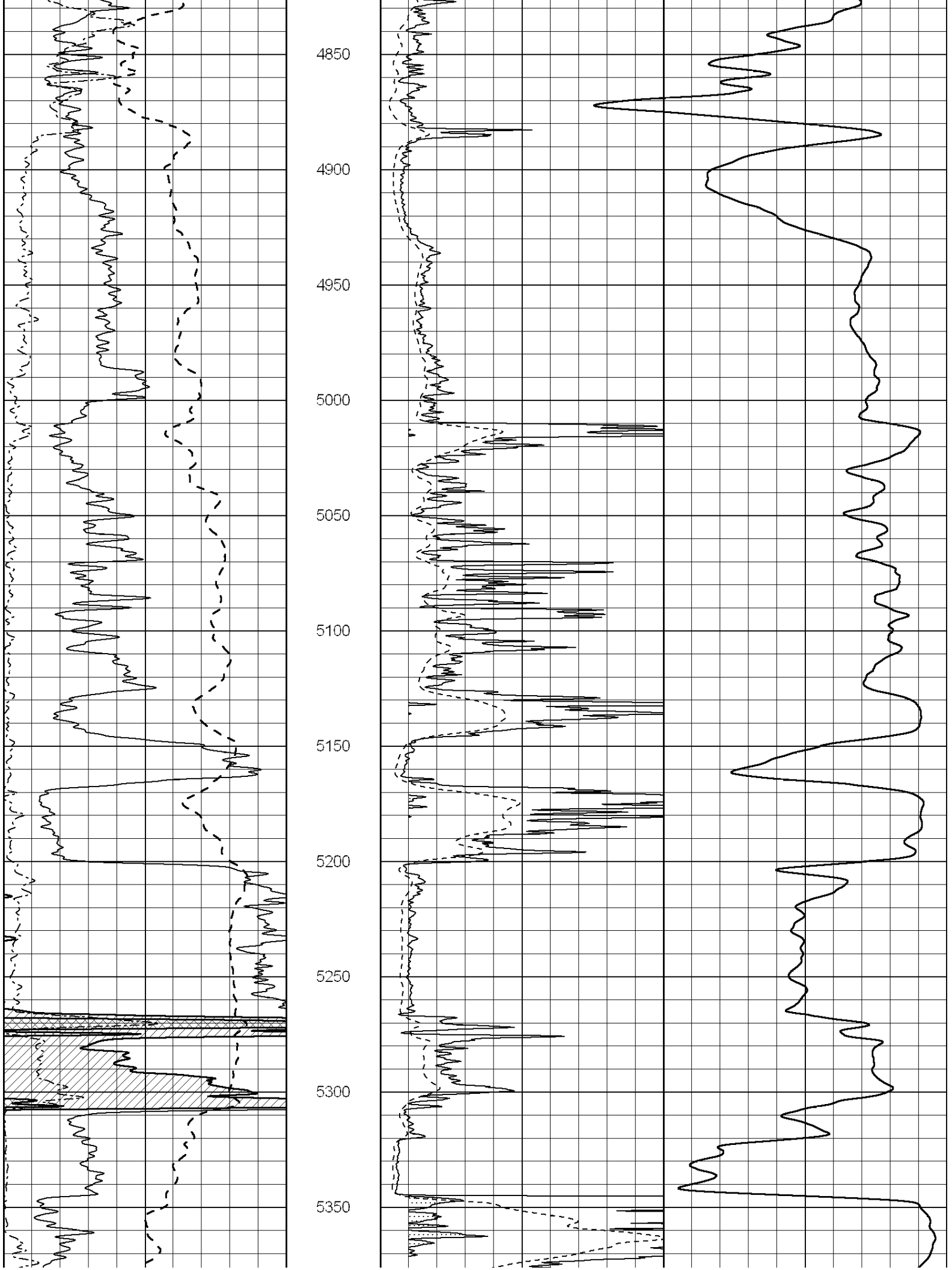

2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600

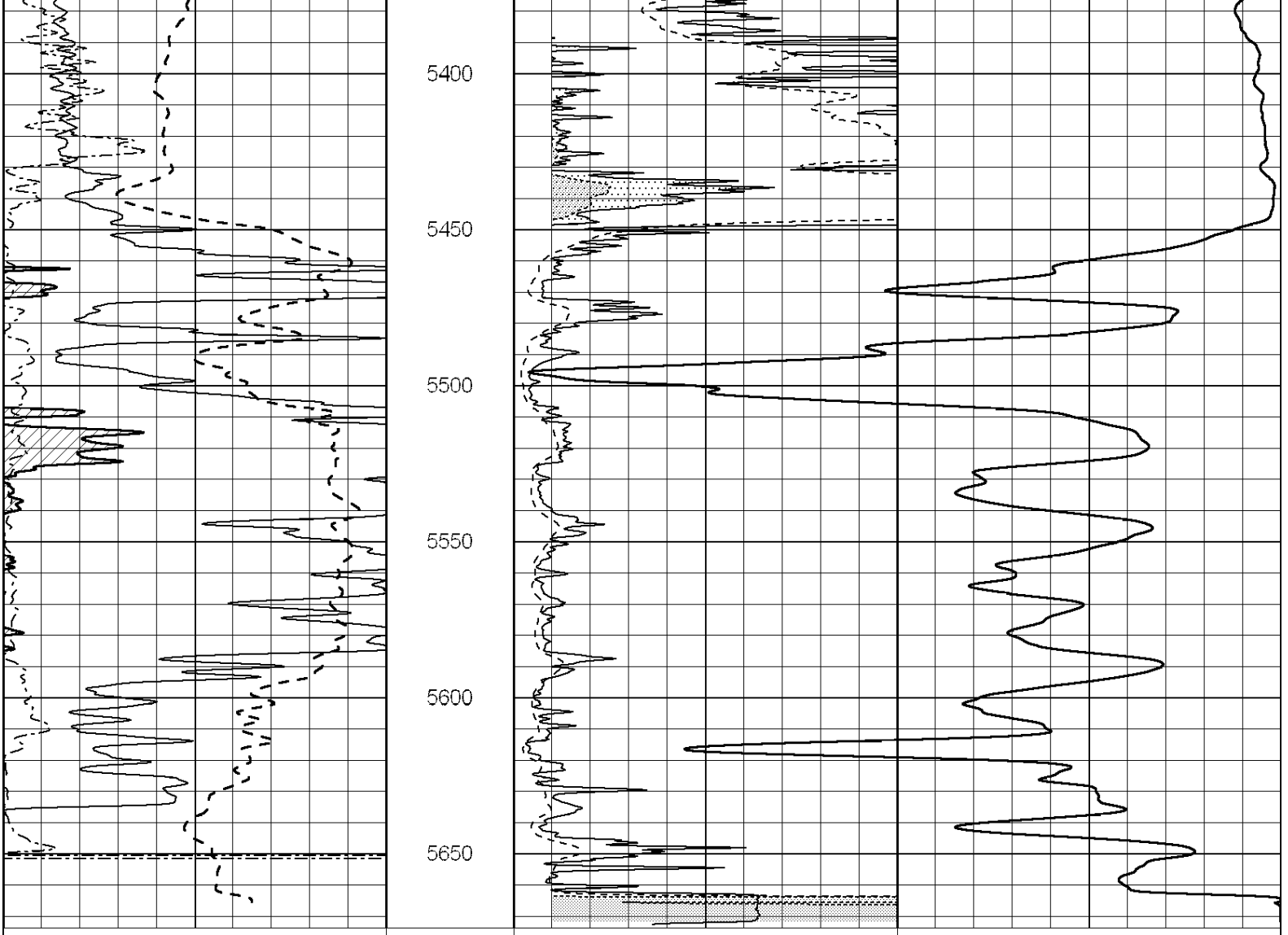

2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150


3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700


3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250


4300
4350
4400
4450
4500
4550
4600
4650
4700
4750
4800


4850
4900
4950
5000
5050
5100
5150
5200
5250
5300
5350




| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| 0 | RWA (Ohm-m) | 1 |

| | | |
|---|---|---|
| 0 | RLL3 (Ohm-m) | 50 |
| 0 | RILD (Ohm-m) | 50 |
| 1000 | CILD (mmho/m) | 0 |
| 50 | RILD X10 (Ohm-m) | 500 |
| 50 | RLL3 X10 (Ohm-m) | 500 |

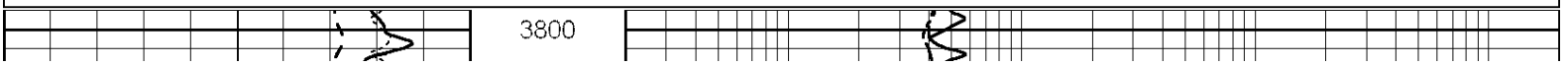
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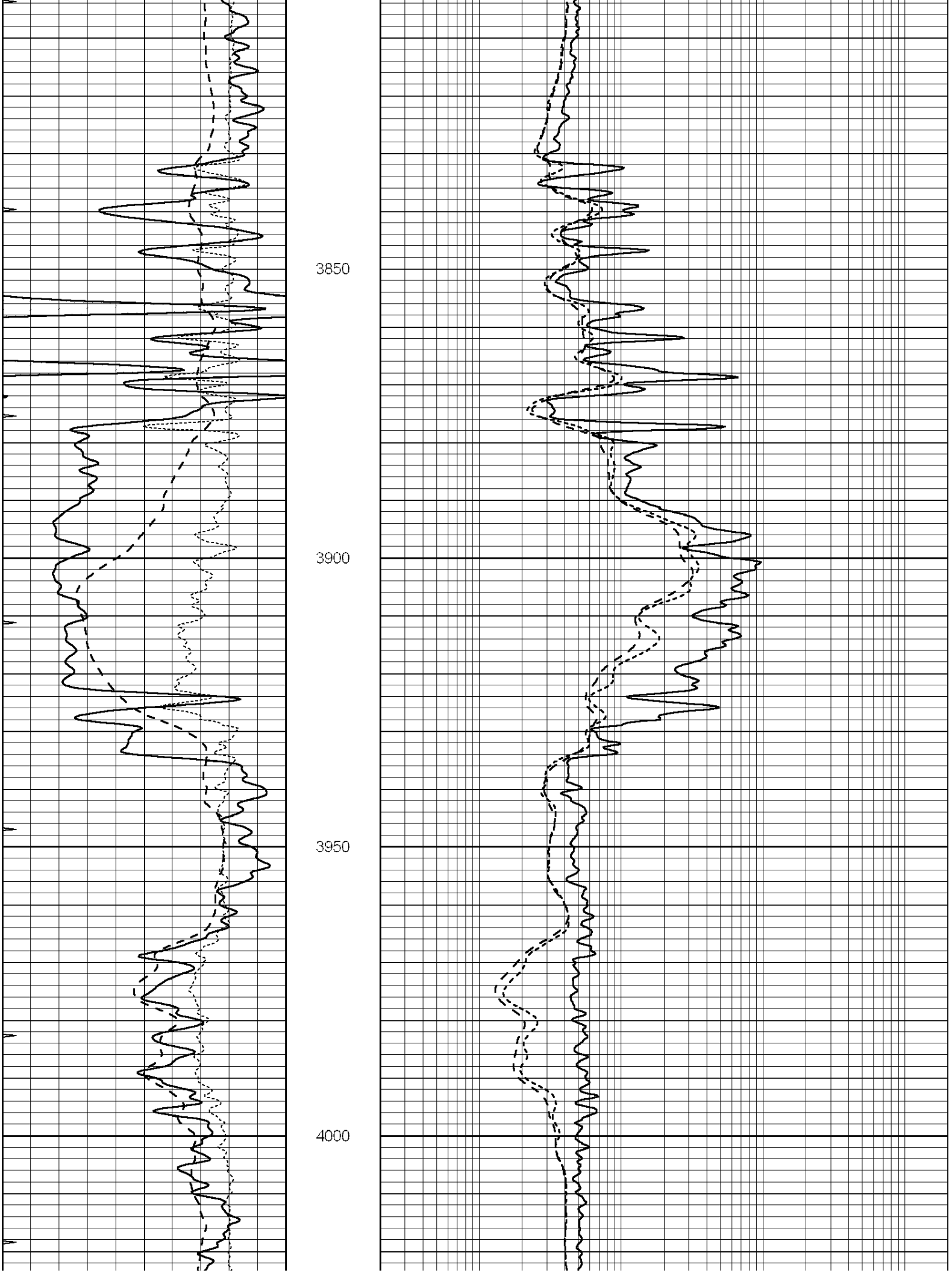
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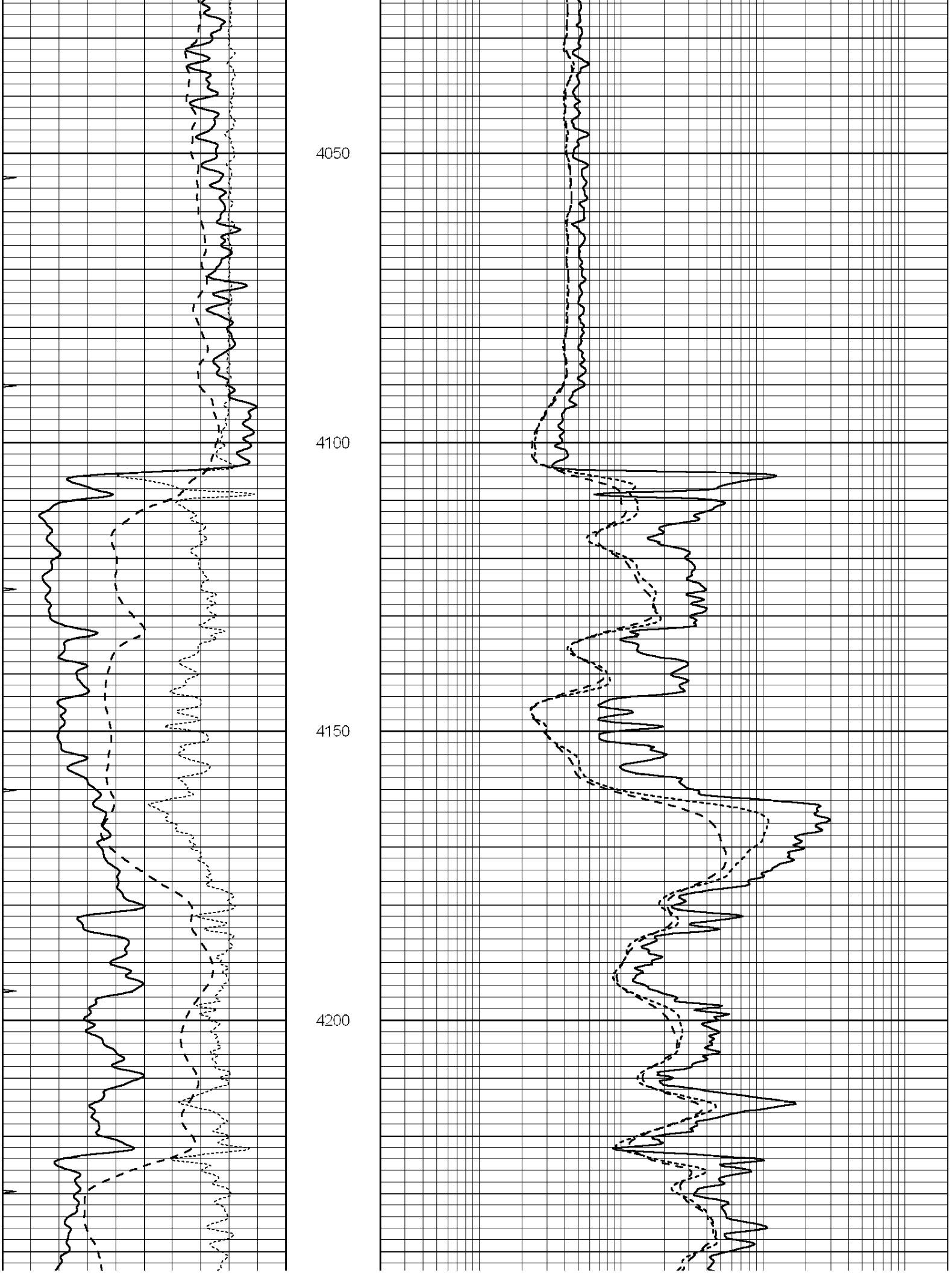
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|---|---|
| Database File: | 26327pe.db |
| Dataset Pathname: | pass3.3 |
| Presentation Format: | _dil |
| Dataset Creation: | Thu Dec 11 08:58:30 2014 by Calc SOC 120430 |
| Charted by: | Depth in Feet scaled 1:240 |

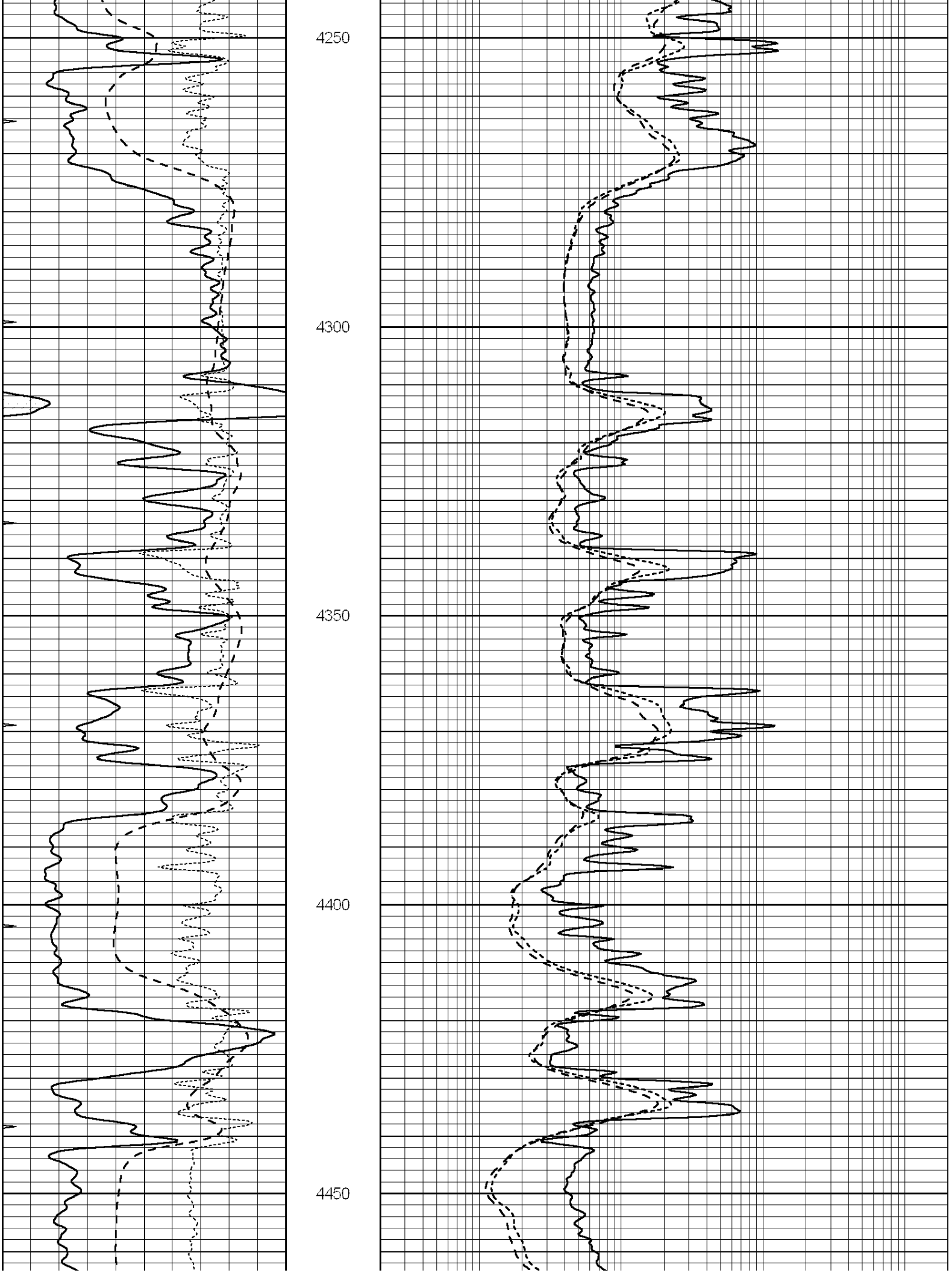
| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

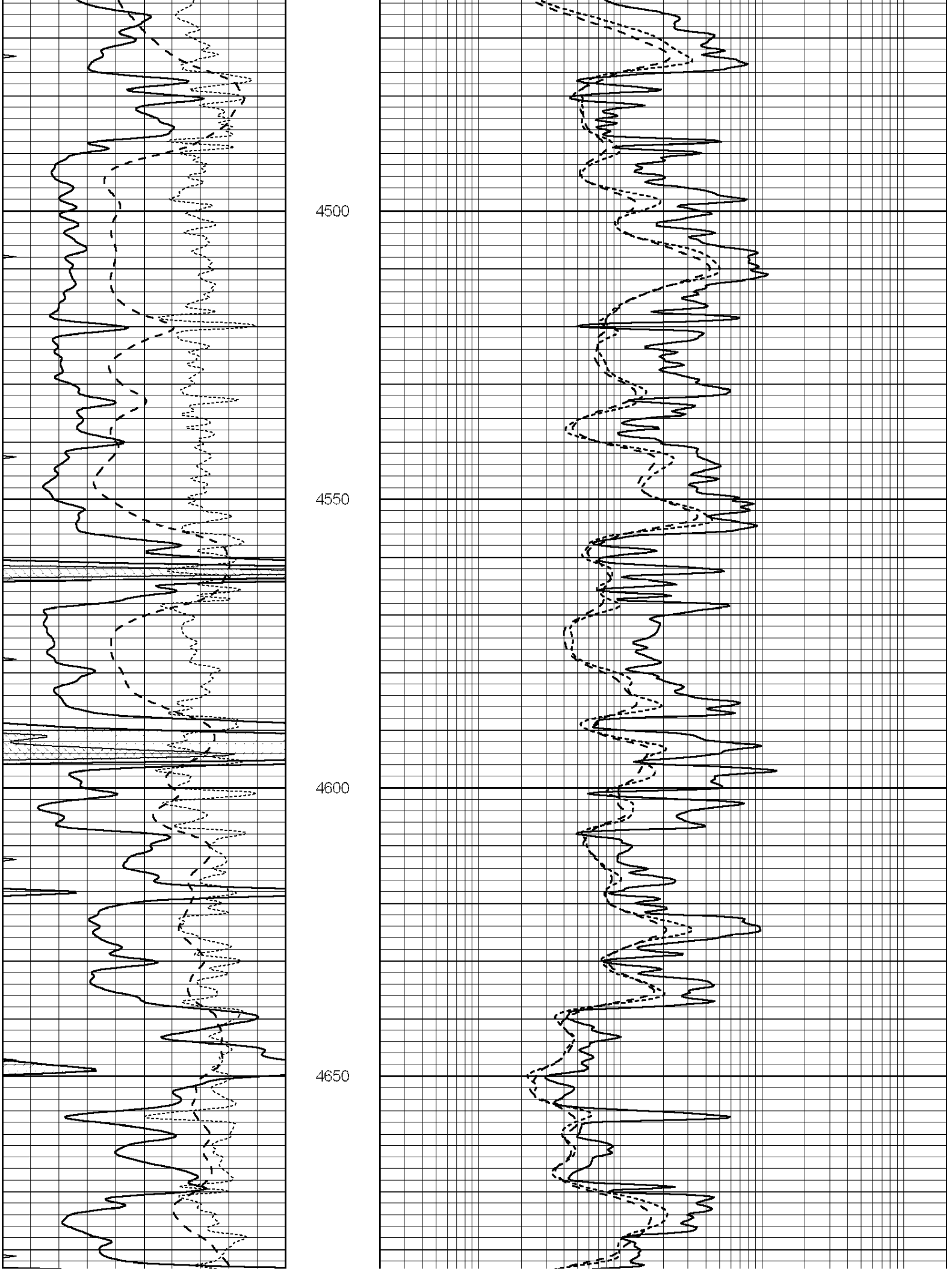
| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

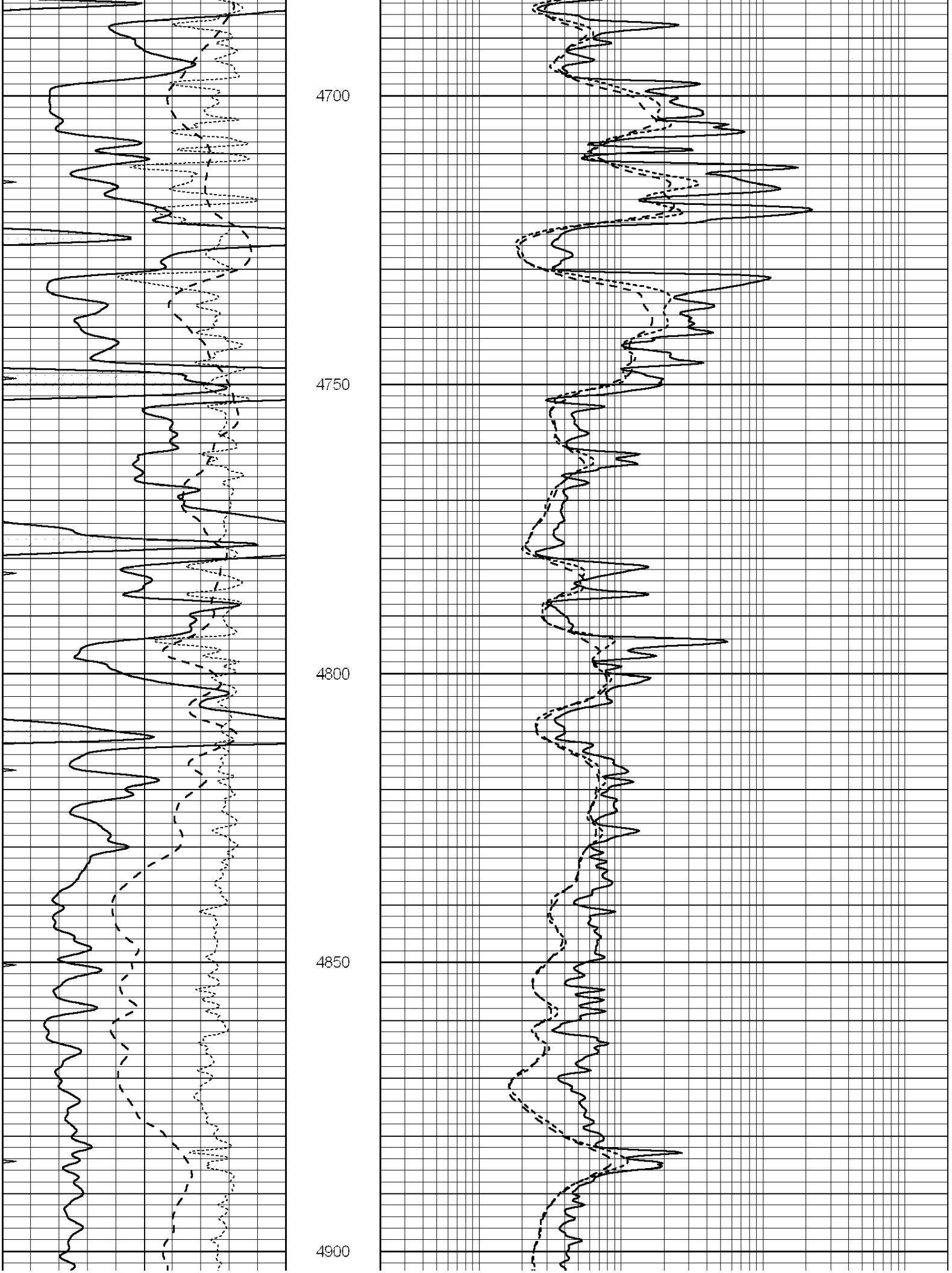


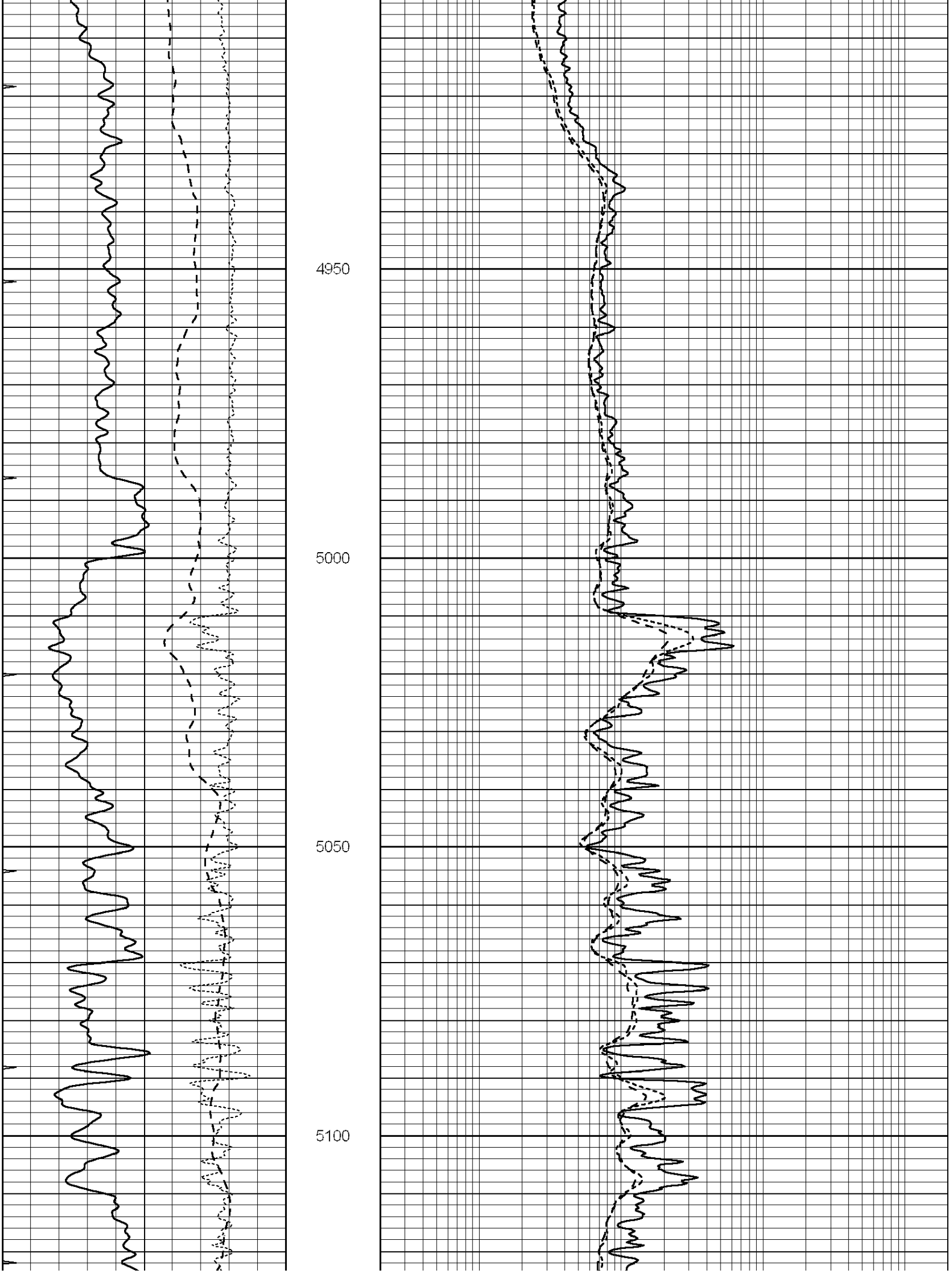

3850
3900
3950
4000

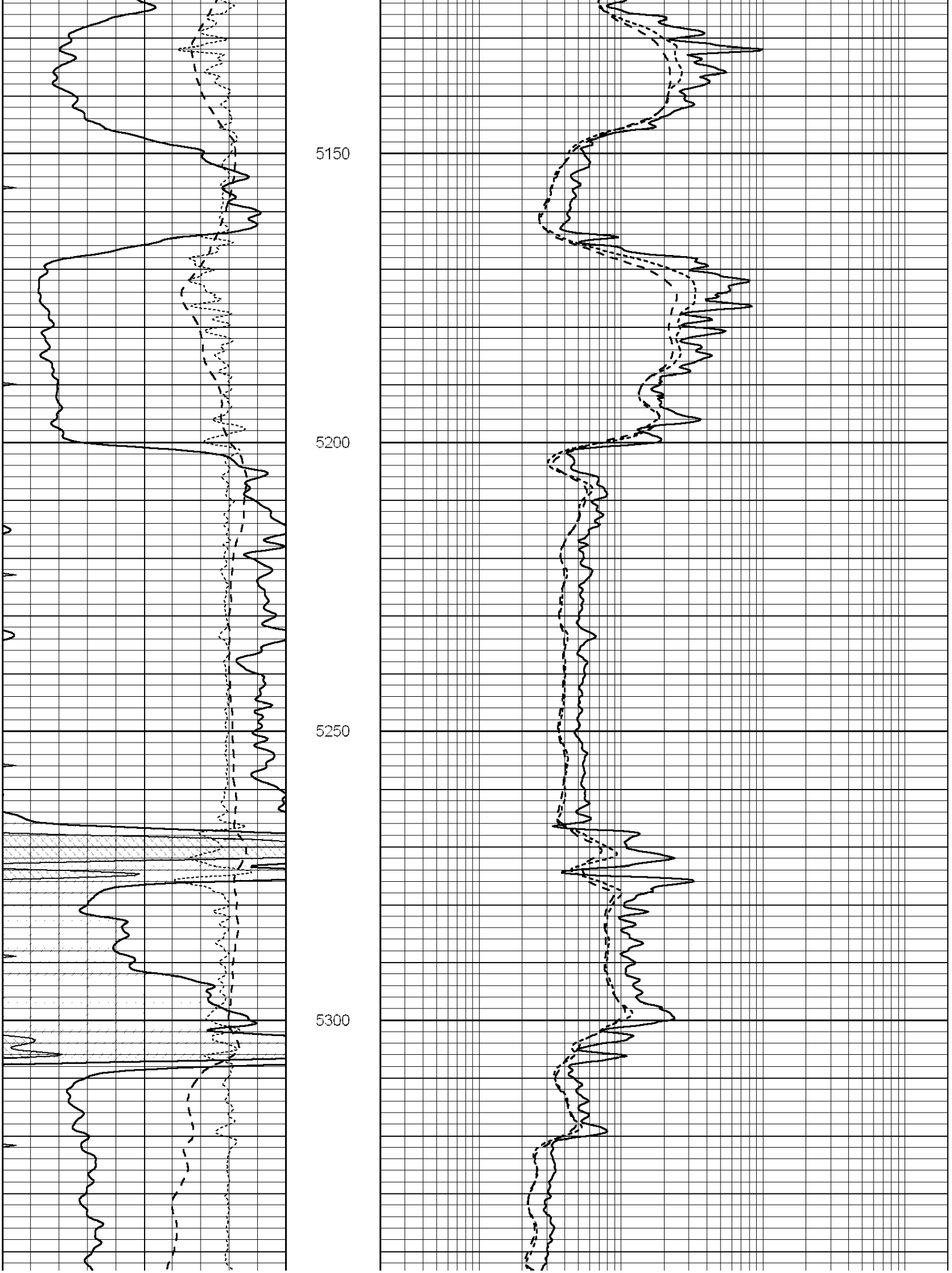

4050
4100
4150
4200

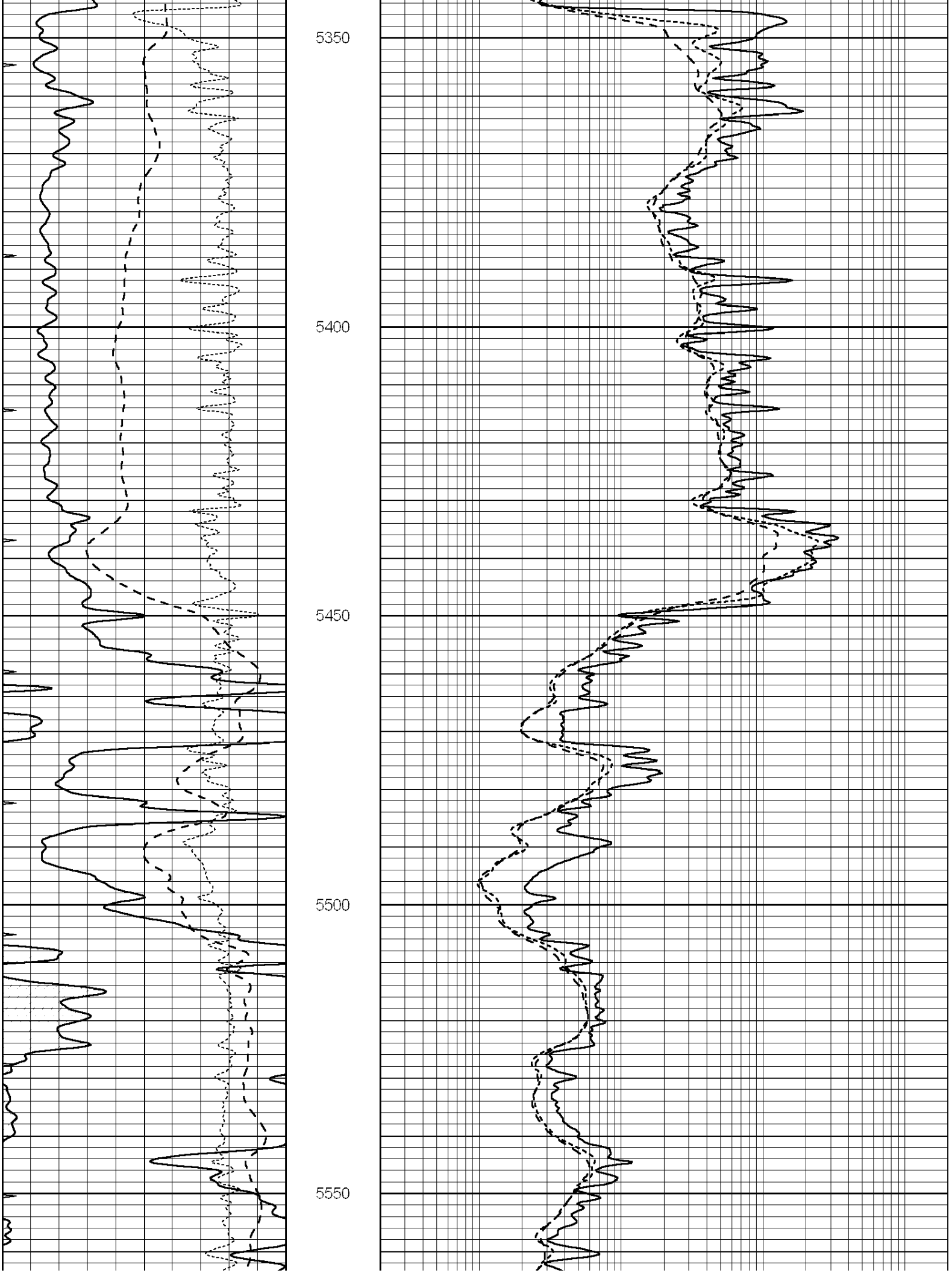

4250
4300
4350
4400
4450

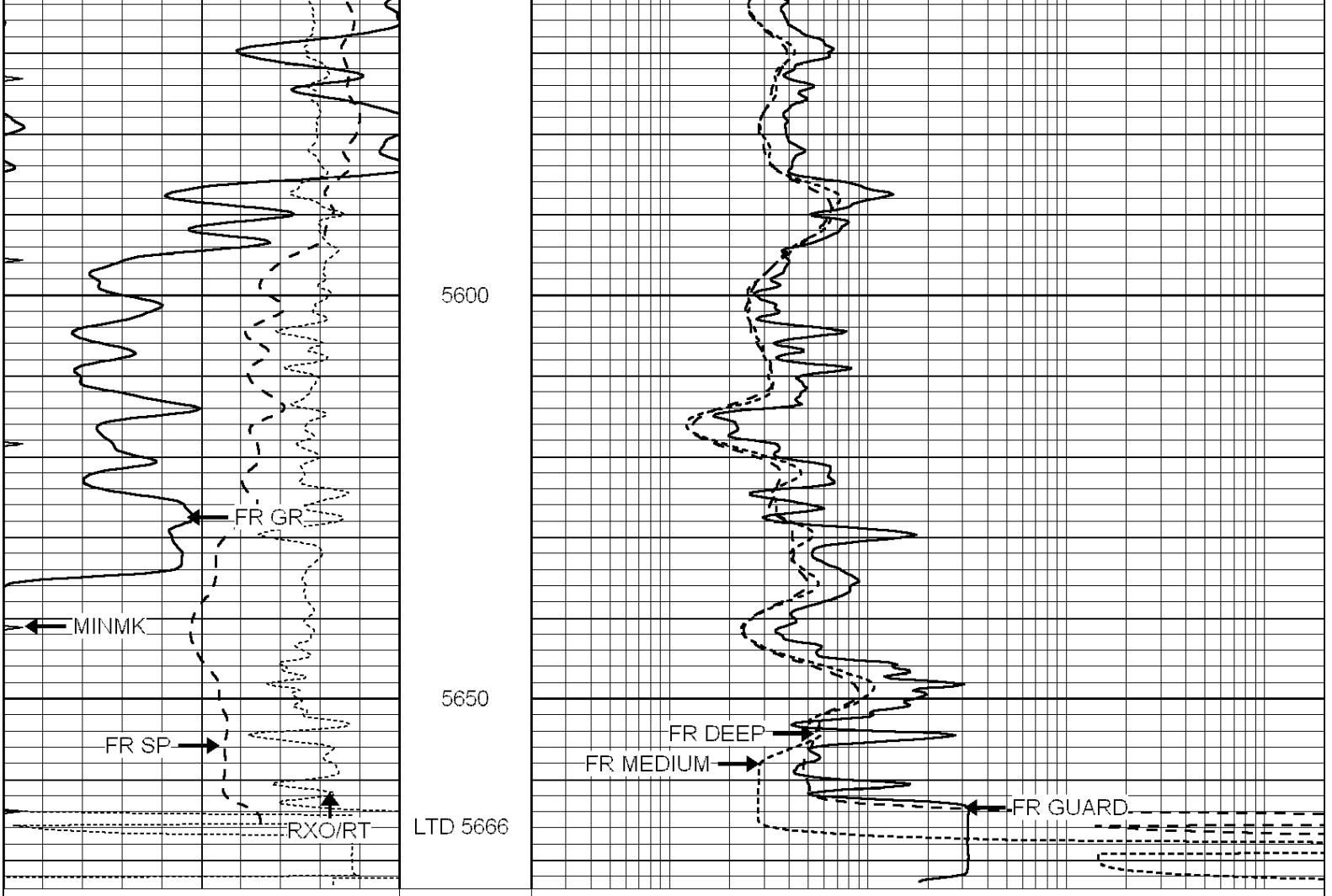

4500
4550
4600
4650


4700
4750
4800
4850
4900


4950
5000
5050
5100


5150
5200
5250
5300


5350
5400
5450
5500
5550




| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

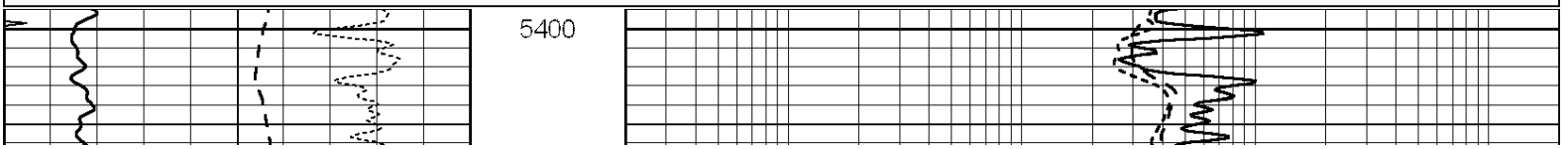
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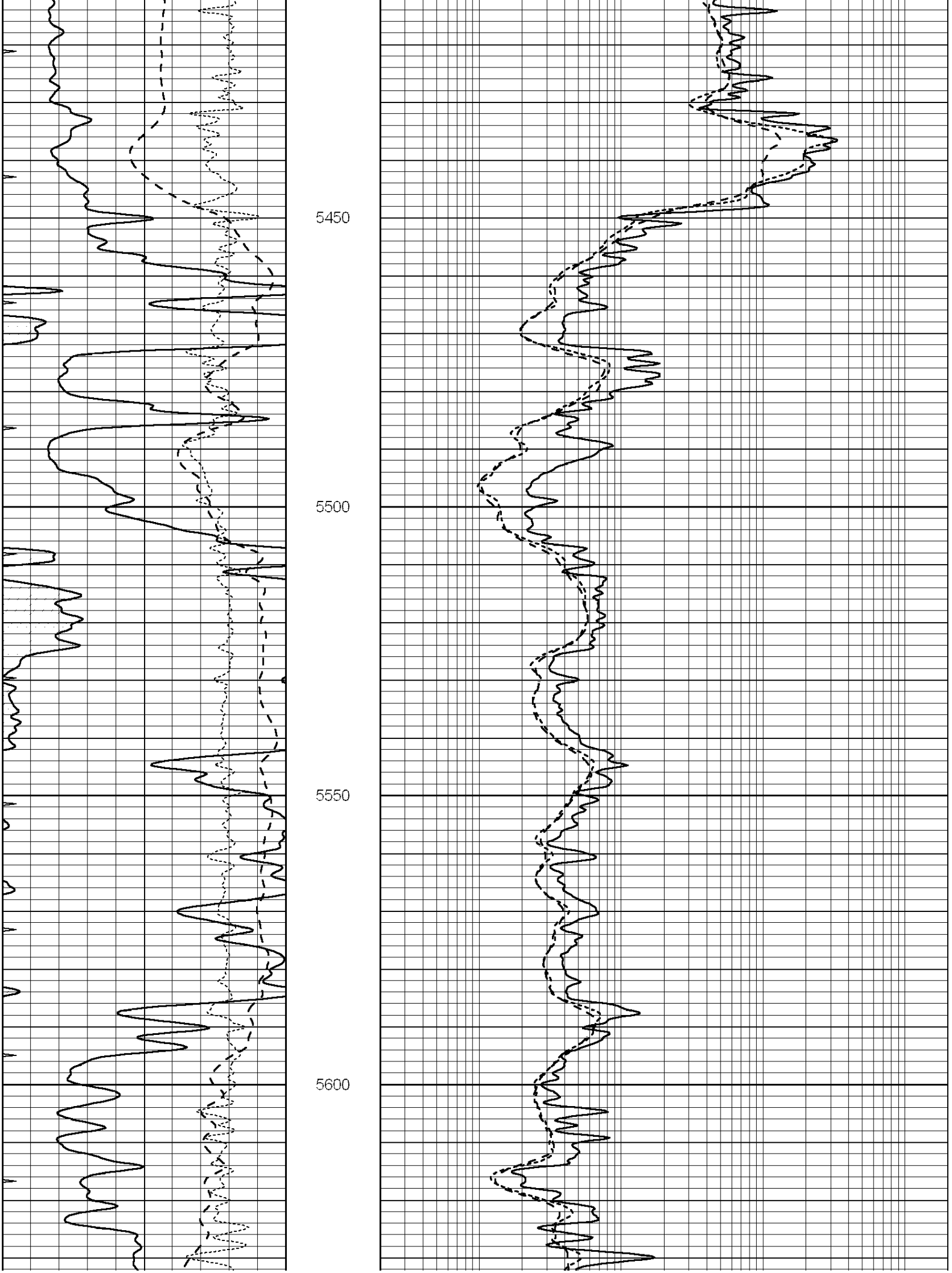
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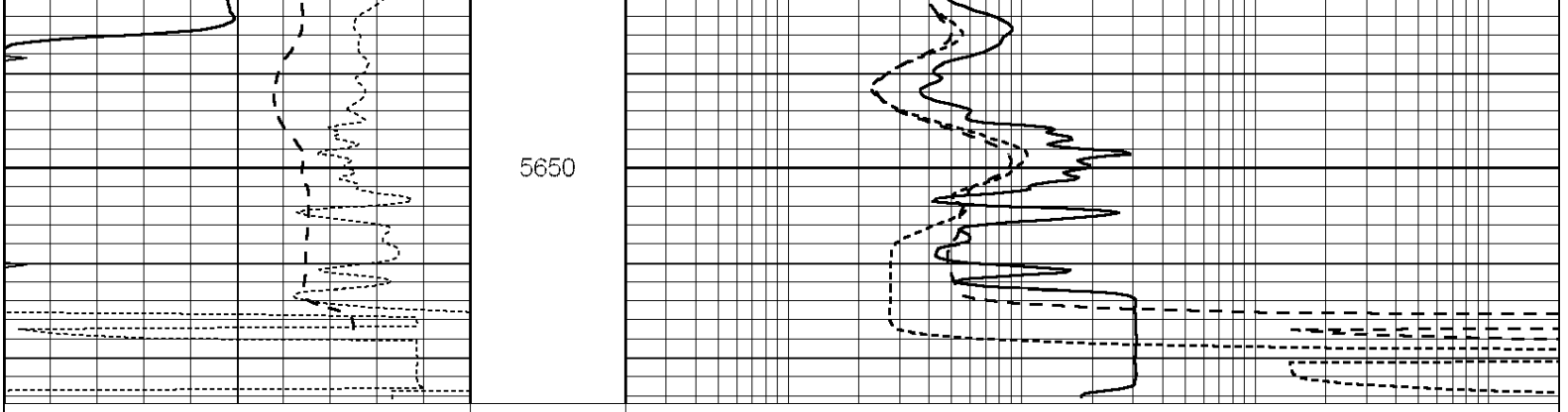
Database File: 26327pe.db
Dataset Pathname: pass2.6
Presentation Format: _dil
Dataset Creation: Thu Dec 11 07:44:51 2014 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |




5450
5500
5550
5600




| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

## Calibration Report

Database File: 26327pe.db
Dataset Pathname: pass3.3
Dataset Creation: Thu Dec 11 08:58:30 2014 by Calc SOC 120430

### Dual Induction Calibration Report

| | |
|---|---|
| Serial-Model: | PROBE9-DILG |
| Surface Cal Performed: | Sat Dec 06 09:31:12 2014 |
| Downhole Cal Performed: | Mon Jul 28 12:02:56 2008 |
| After Survey Verification Performed: | Mon Jul 28 12:02:56 2008 |

Surface 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 | -16.000 |
| Medium | 0.039 | 0.728 | V | 0.000 | 464.000 | mmho/m | 670.000 | -18.000 |
| 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

| | 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 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

| | | | | | |
|---|---|---|---|---|---|
| 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 |

| Long Space | cps | pu | pu |
|---|---|---|---|

## Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 070558 | |
| Tool Model: | OPEN_GR | |
| Performed: | Mon Nov 17 10:01:40 2014 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 0.2800 | GAPI/cps |