



**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company GRAND MESA OPERATING COMPANY
Well YORK #1-4
Field UNNAMED
County LANE
State KANSAS

Company GRAND MESA OPERATING COMPANY
Well YORK #1-4
Field UNNAMED
County LANE State KANSAS

Location: API #: 15-101-22673-0000
577' FSL & 2489' FEL
NW - SW - SW - SE
SEC 4 TWP 16S RGE 29W
Permanent Datum GROUND LEVEL Elevation 2619
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DILMEL
SONIC
Elevation
K.B. 2630
D.F. 2628
G.L. 2619

| | |
|------------------------------|--------------|
| Date | 9/28/22 |
| Run Number | ONE |
| Depth Driller | 4440 |
| Depth Logger | 4441 |
| Bottom Logged Interval | 4417 |
| Top Log Interval | 200 |
| Casing Driller | 8 5/8" @ 227 |
| Casing Logger | 227 |
| Bit Size | 7 7/8 |
| Type Fluid in Hole | CHEMICAL MUD |
| Density / Viscosity | 9.2/50 |
| PH / Fluid Loss | 10.5/7.2 |
| Source of Sample | FLOWLINE |
| Rm @ Meas. Temp | 1.50 @ 78F |
| Rmt @ Meas. Temp | 1.13 @ 78F |
| Rmc @ Meas. Temp | 1.80 @ 78F |
| Source of Rmf / Rmc | MEASUREMENT |
| Rm @ BHT | .975 @ 120F |
| Time Circulation Stopped | 2 HOURS |
| Time Logger on Bottom | 11:00 P.M. |
| Maximum Recorded Temperature | 120F |
| Equipment Number | 3802 |
| Location | HAYS, KANSAS |
| Recorded By | COLE ROBBEN |
| Witnessed By | GARET DINKEL |

<<< Fold Here >>>

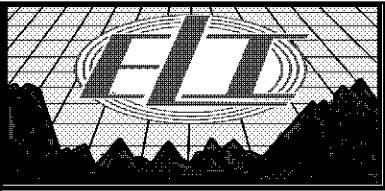
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395

DIRECTIONS:

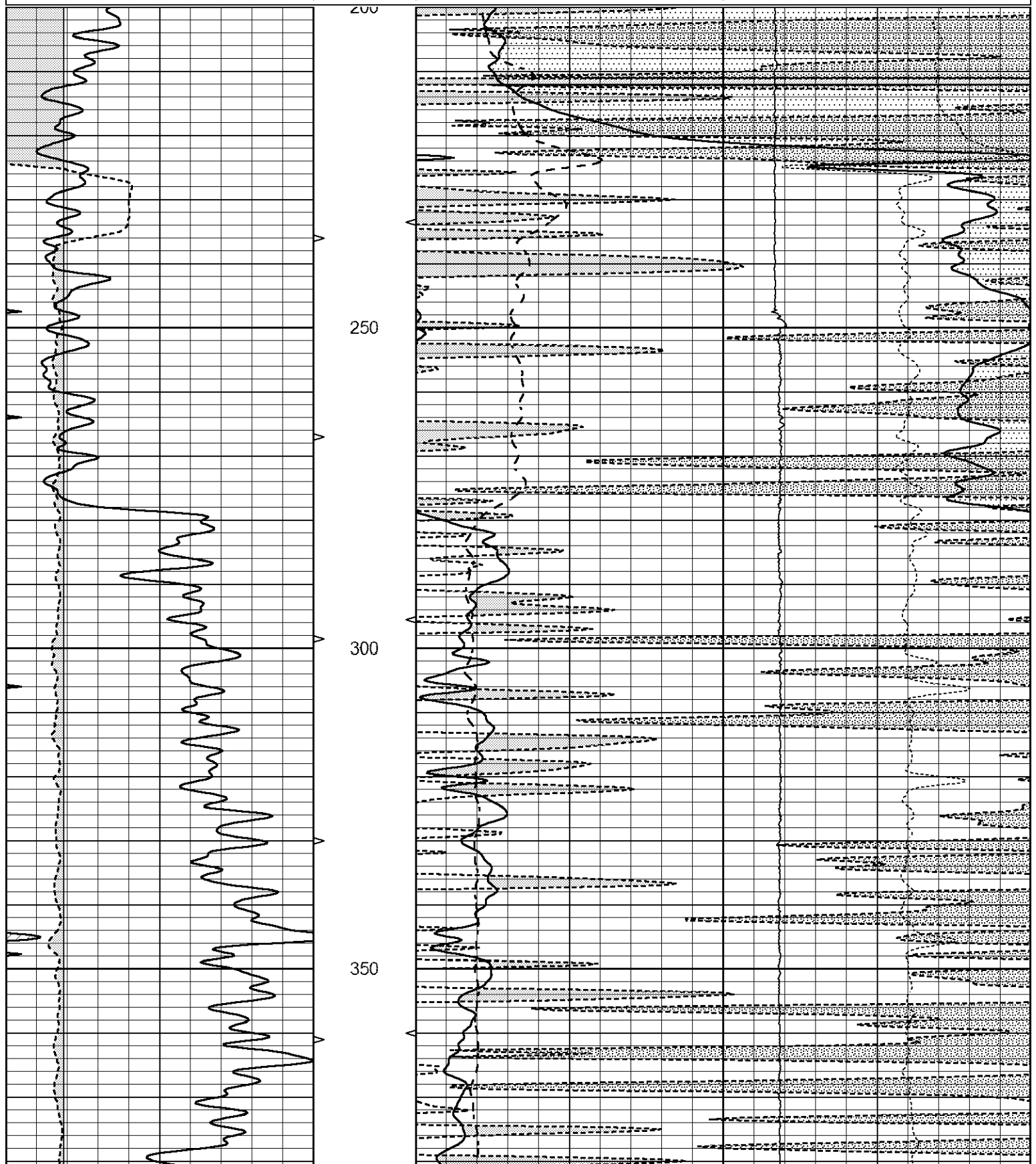
FROM HIGHWAY 4/23 INTERSECTION NORTH 6 MILES TO LANE GOVE RD., 2 MILES WEST TO N HICKOCK RD., SOUTH 3/4 MILES AND WEST INTO, FOLLOW LEASE ROAD NORTHEAST

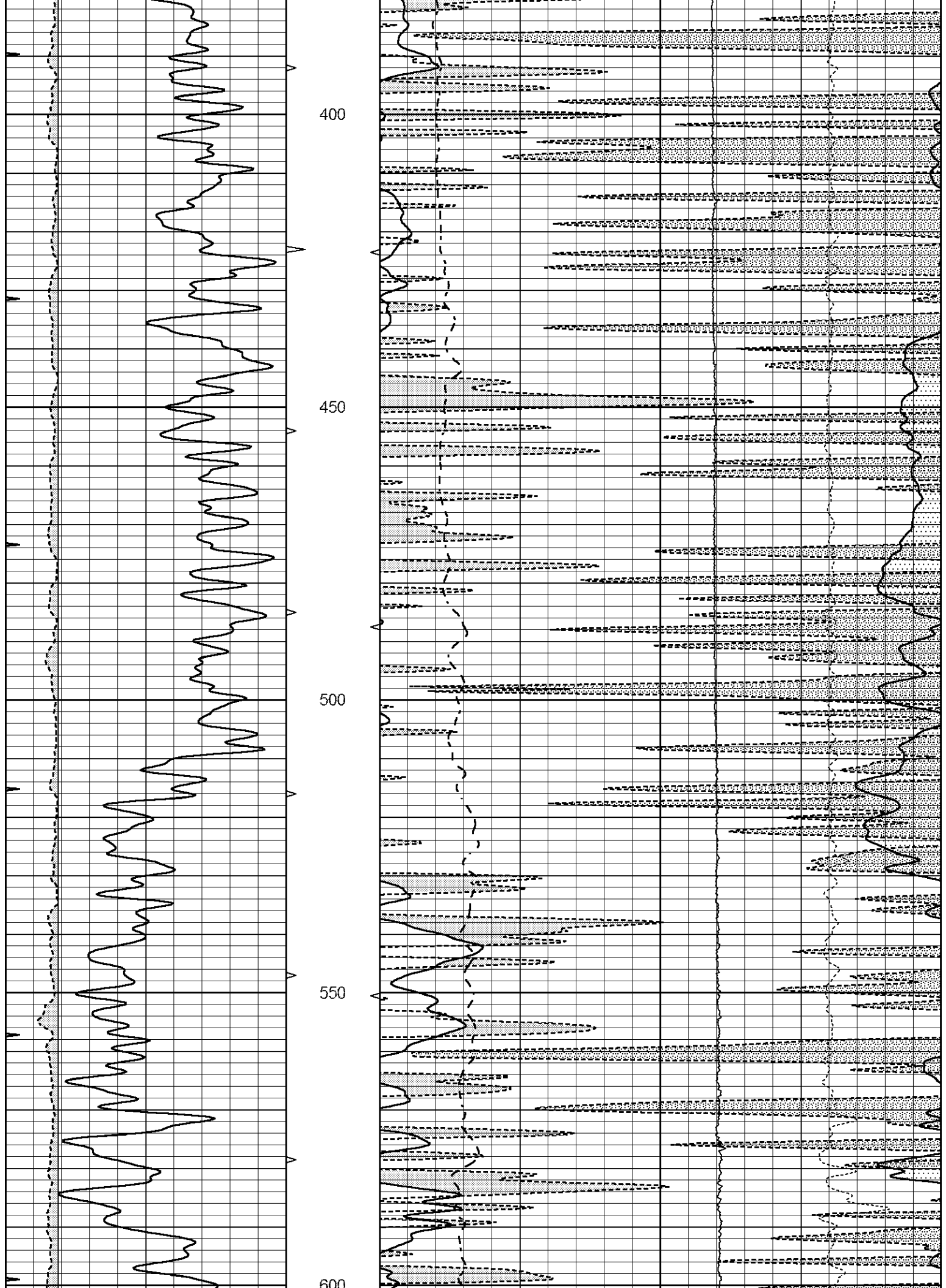


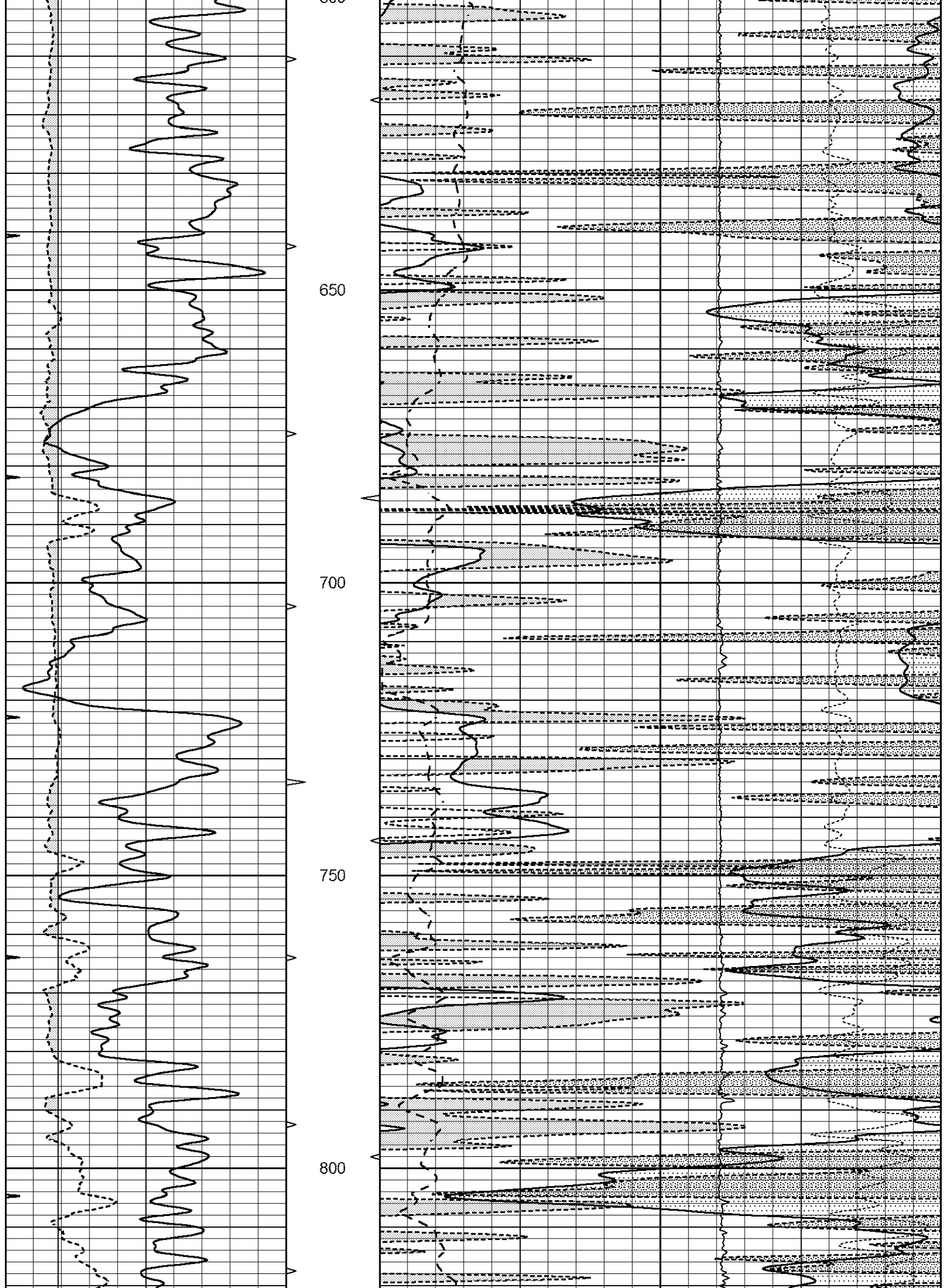
MAIN SECTION

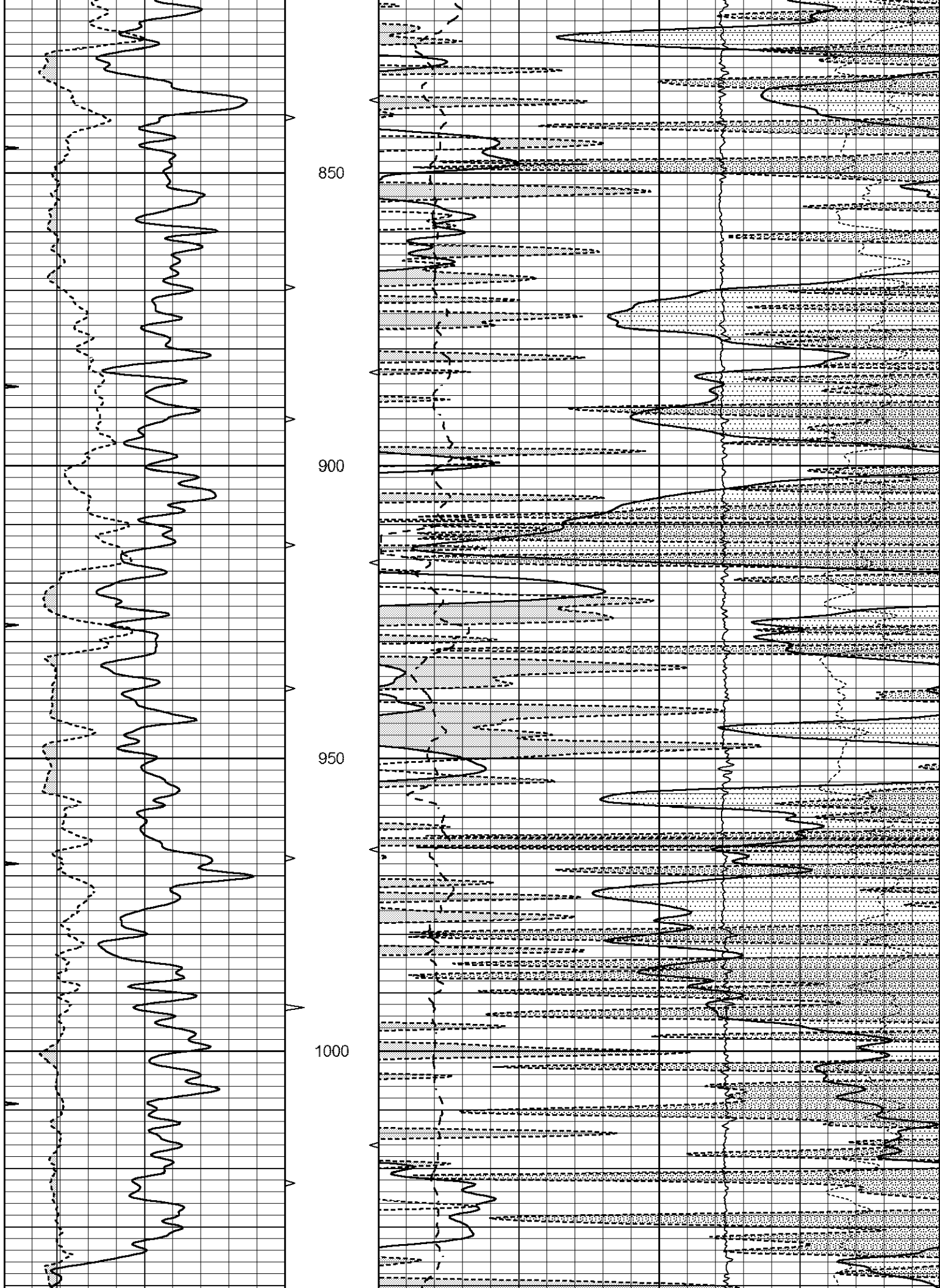
Database File 7024pe.db
 Dataset Pathname pass3M
 Presentation Format _ldt_neu
 Dataset Creation Thu Sep 29 02:01:13 2022
 Charted by Depth in Feet scaled 1:240

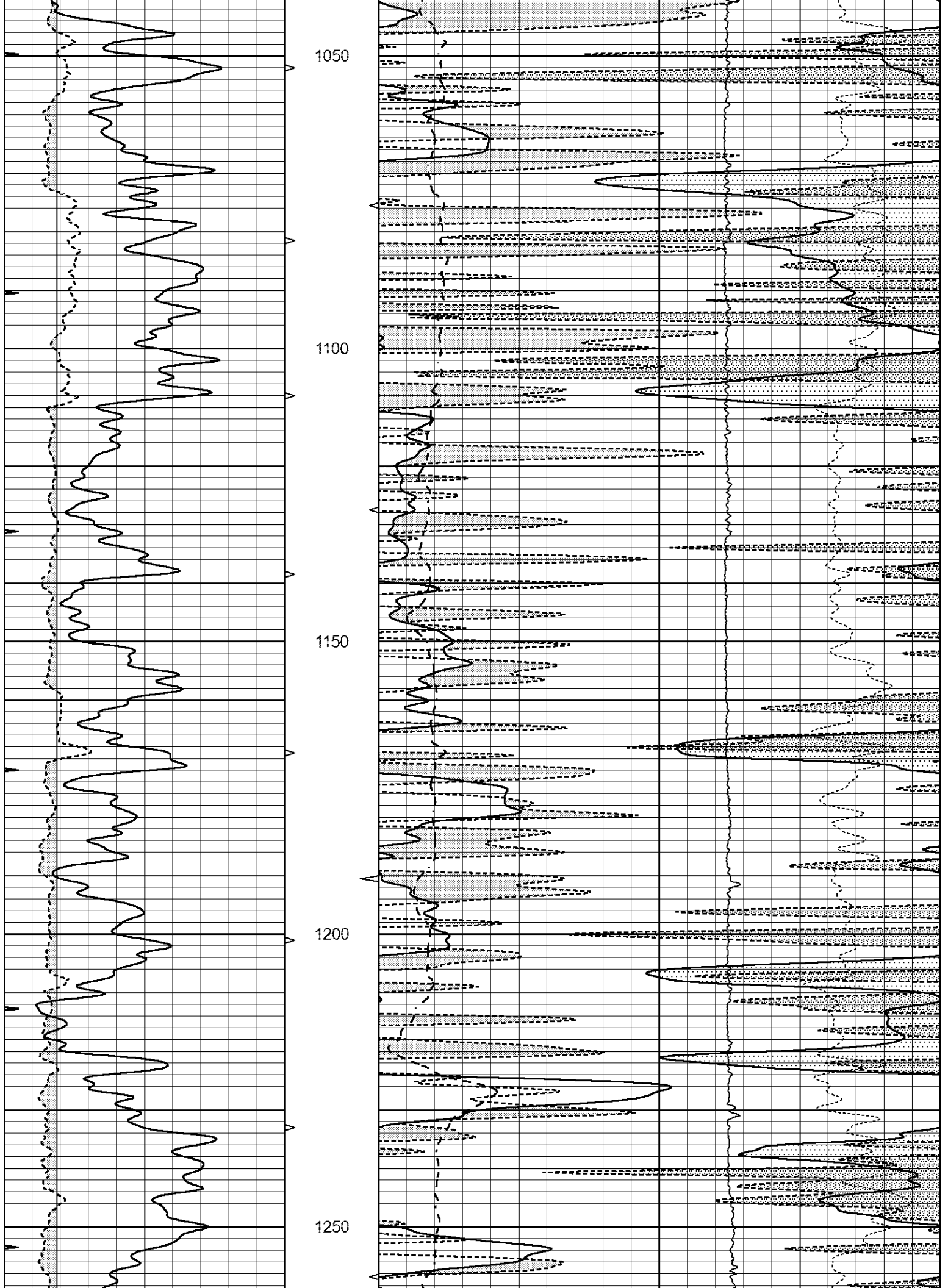
| | | | | | | | |
|---|------------------|-----|----------|----|--------------------------|----|------------------------------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 30 | COMPENSATED DENSITY (pu) | | -10 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 | COMPENSATED NEUTRON (pu) | | -10 |
| 0 | MINMK | 20 | TBHV | 0 | PE | 10 | -0.25 CORRECTION (g/cc) 0.25 |
| | | | 0 (ft3) | 10 | | 0 | LTEN (lb) 5000 |

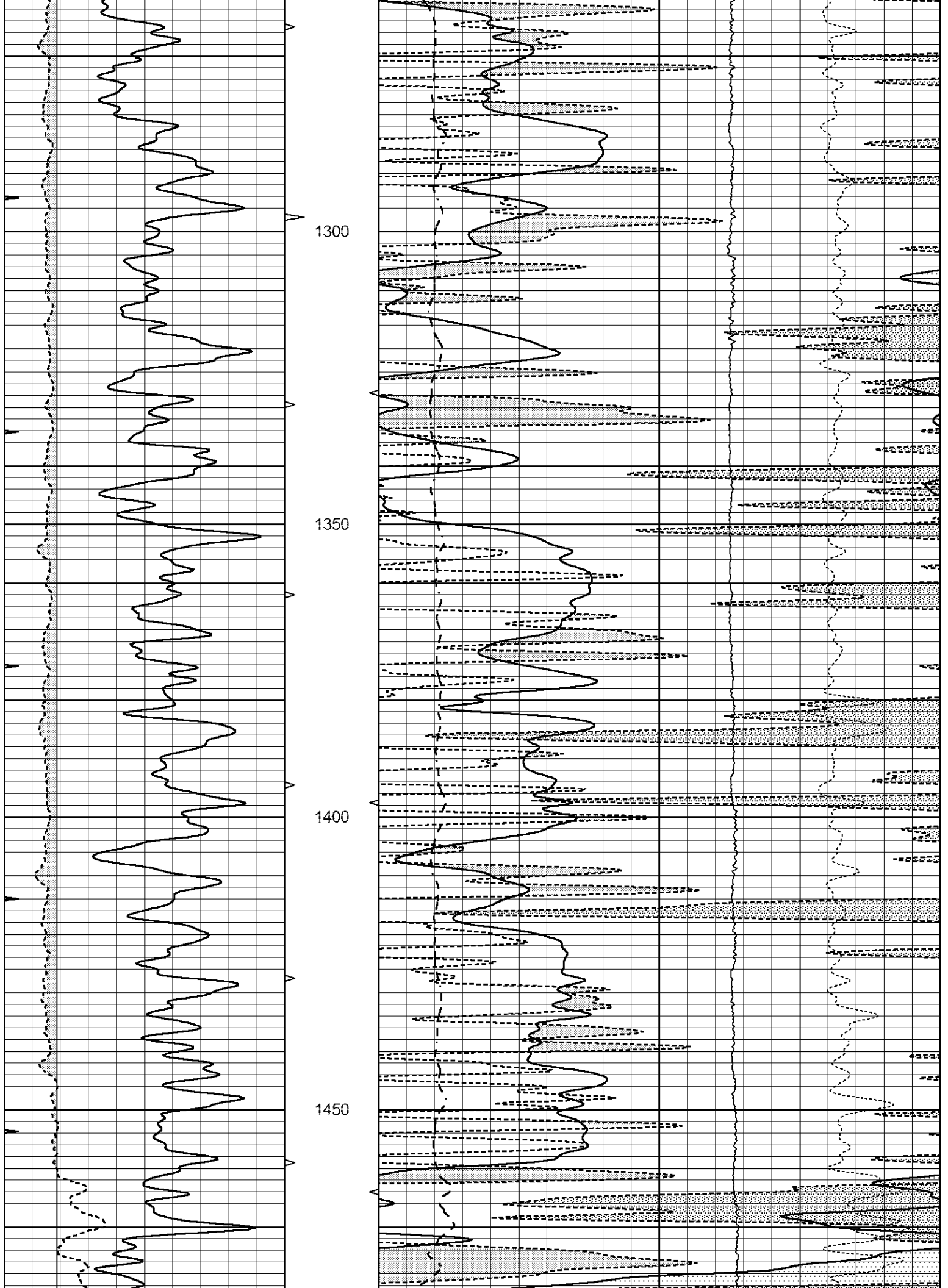


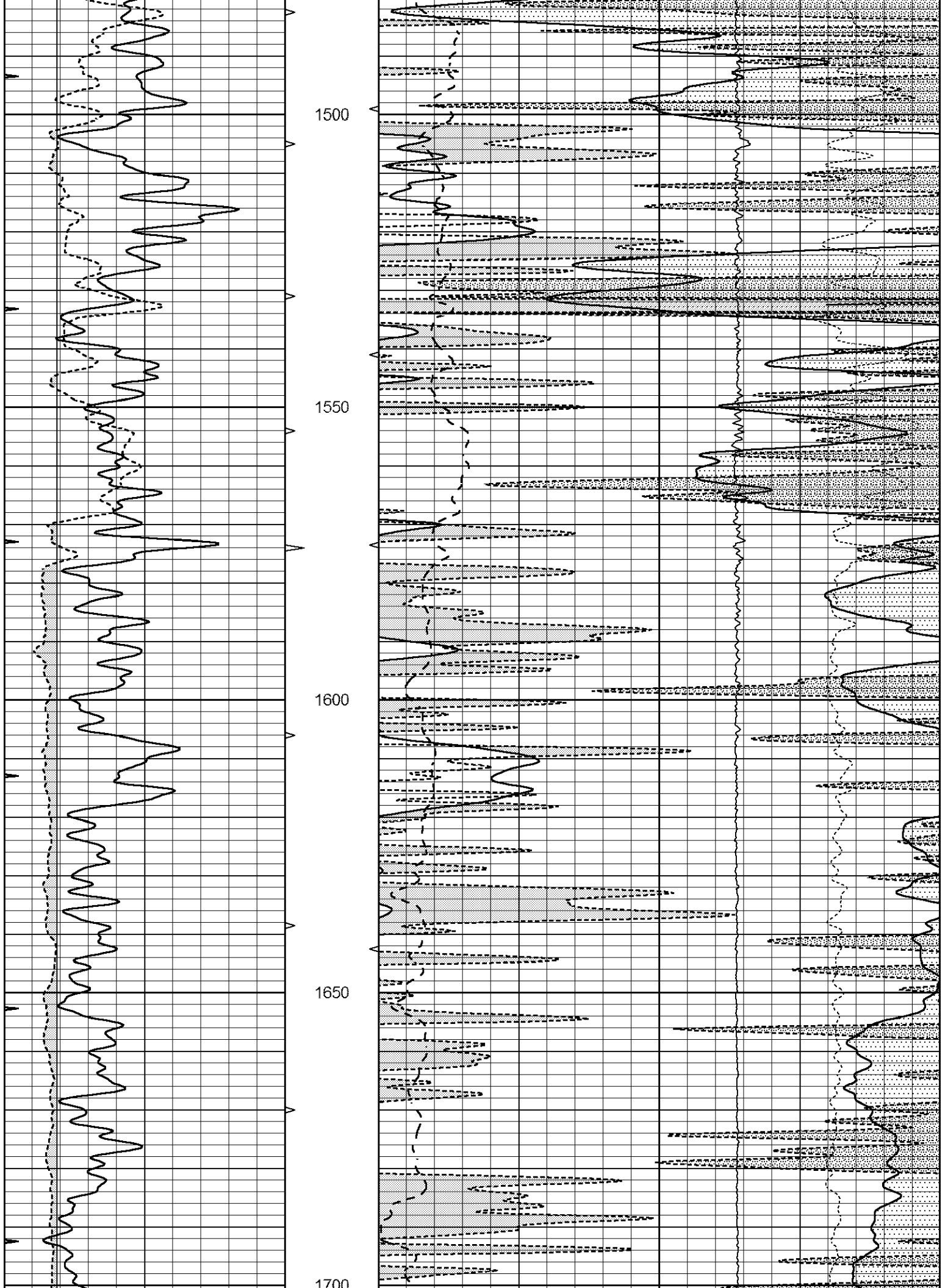


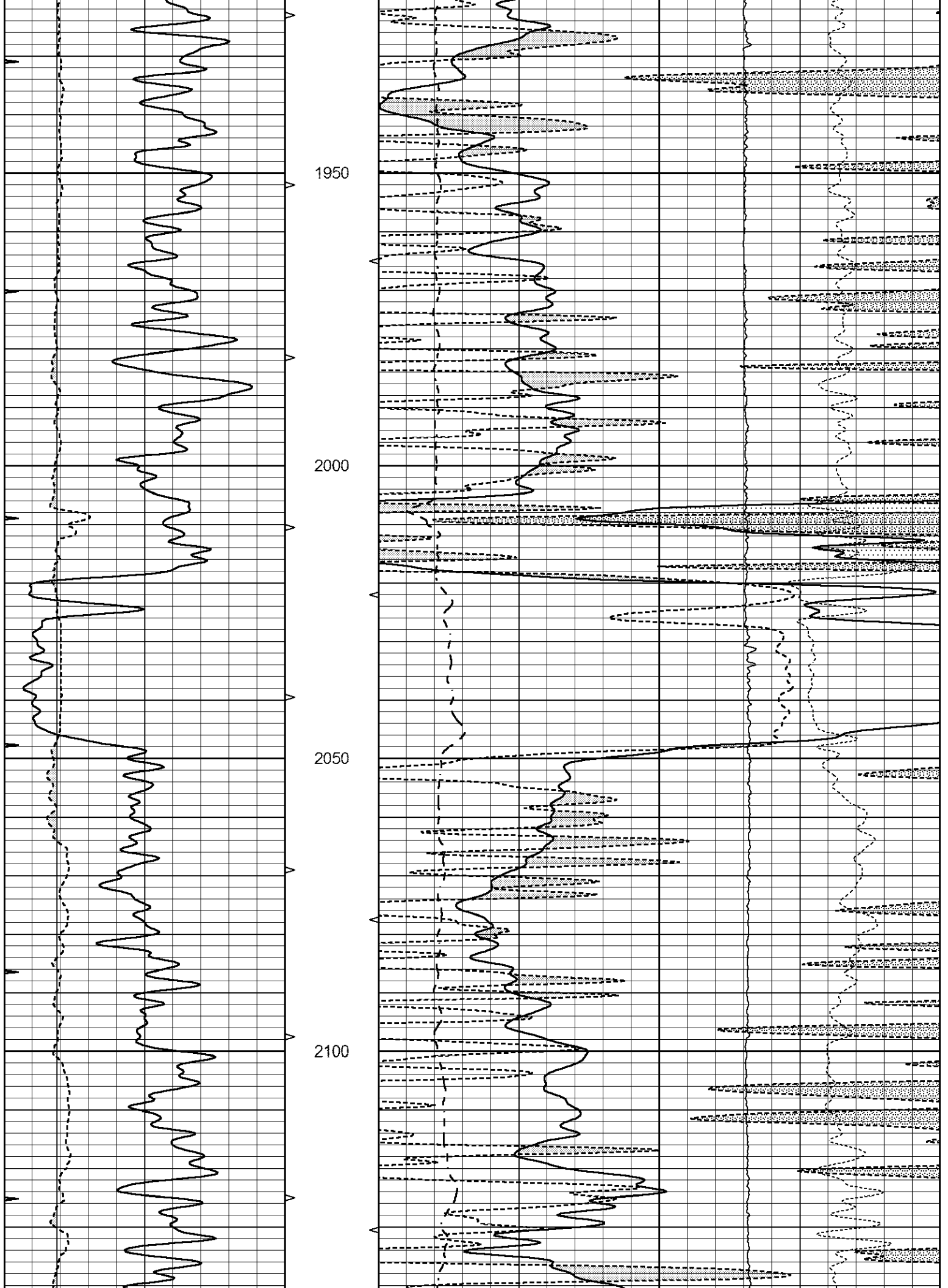


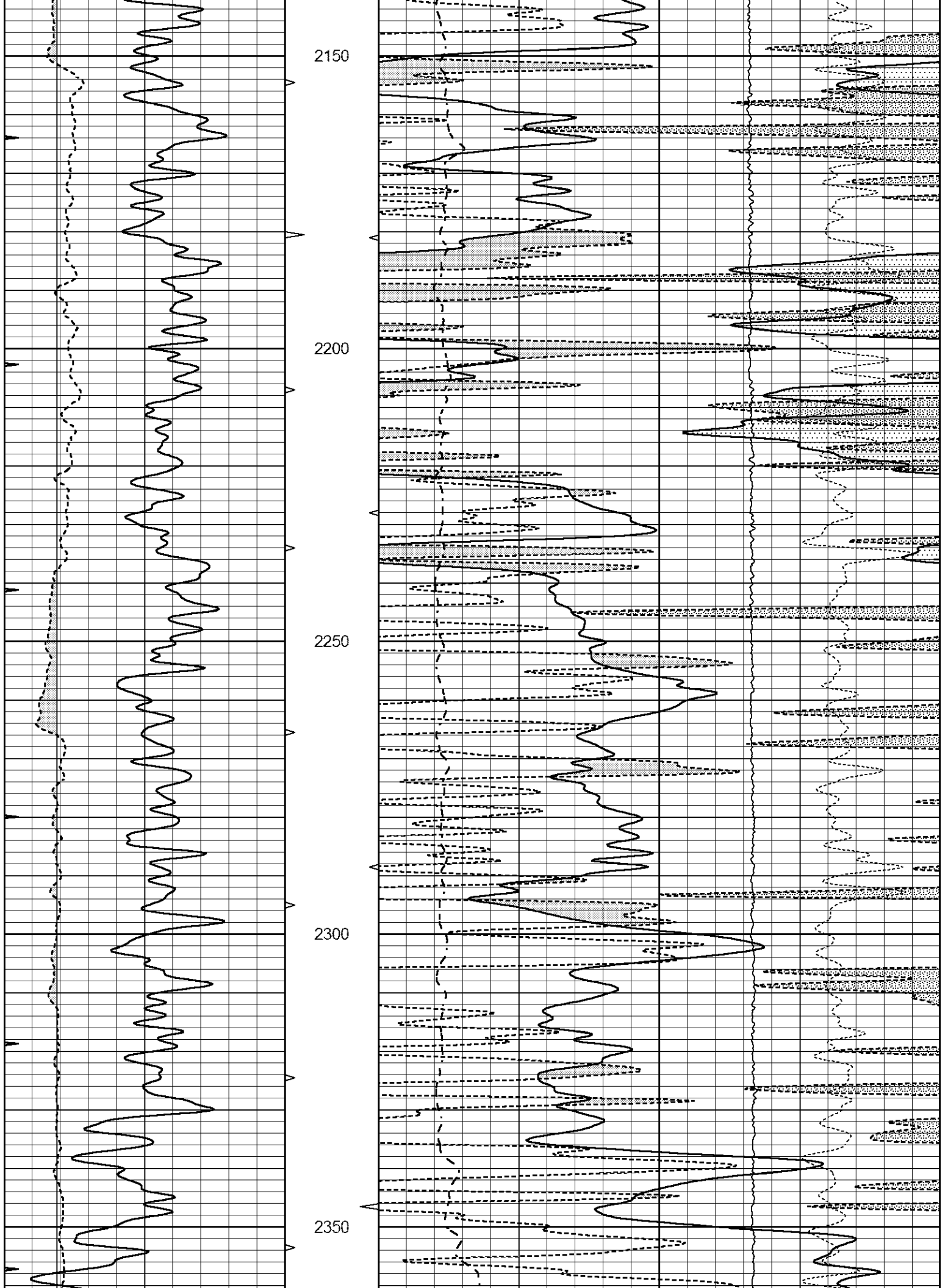


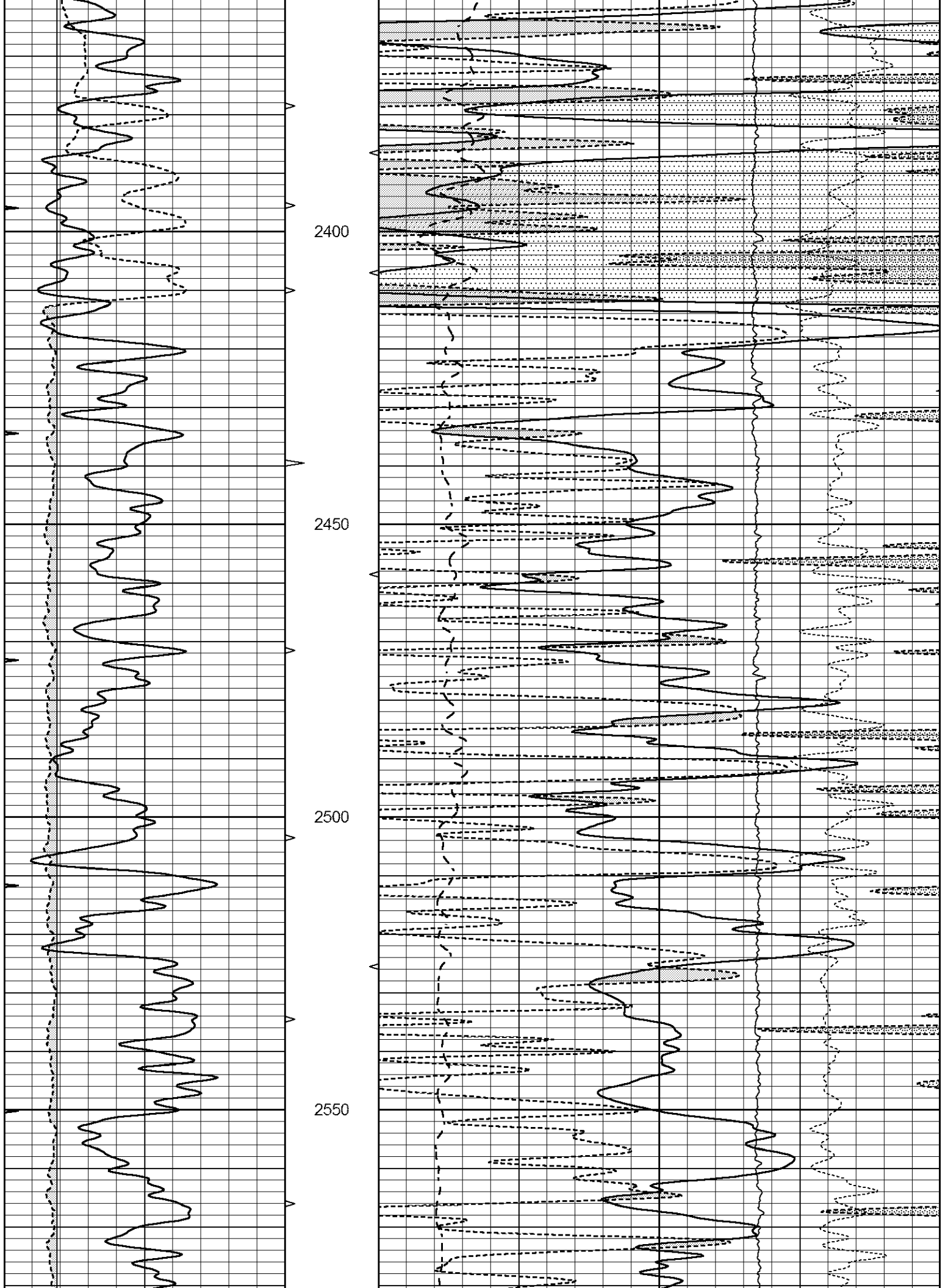


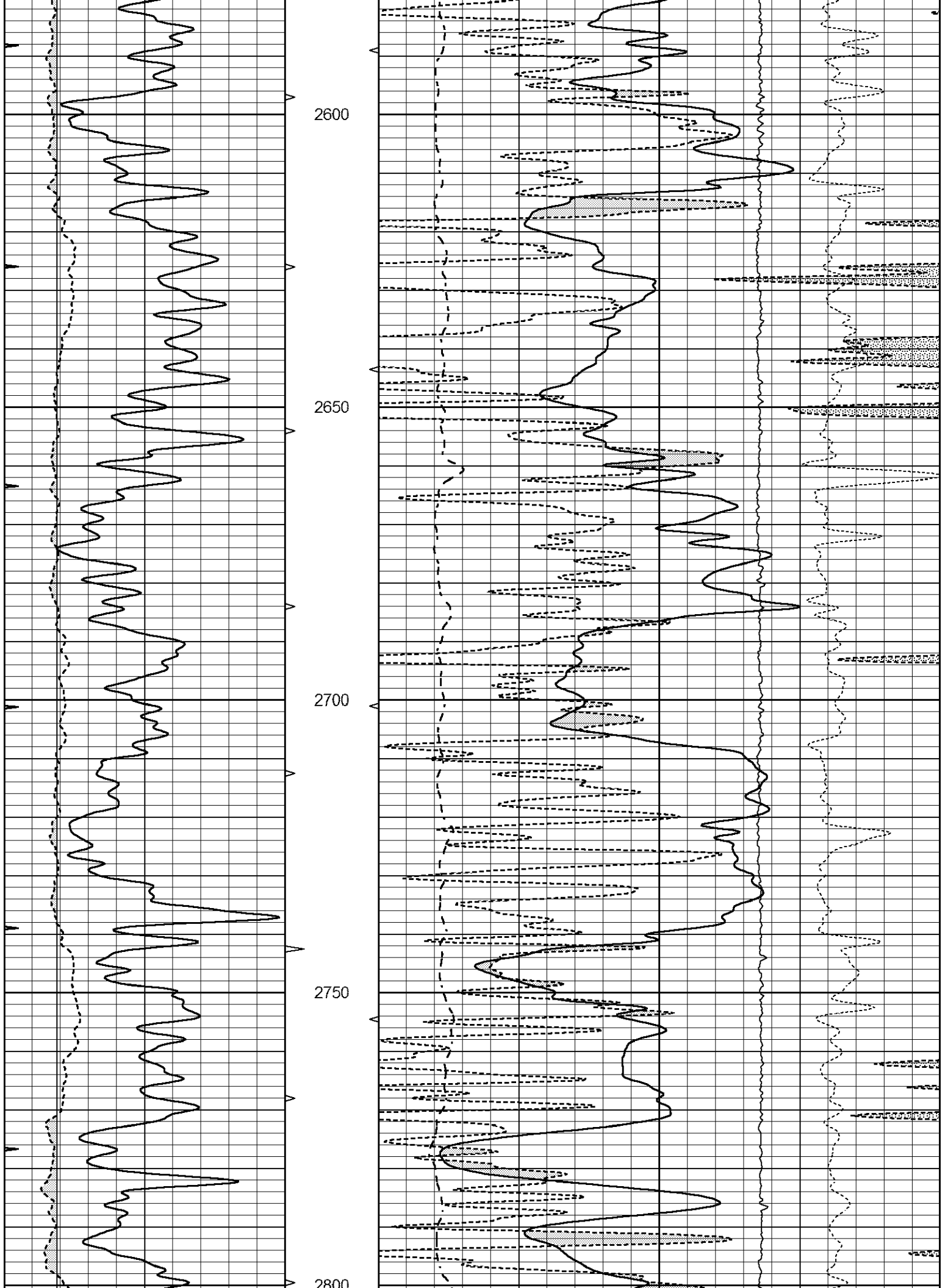


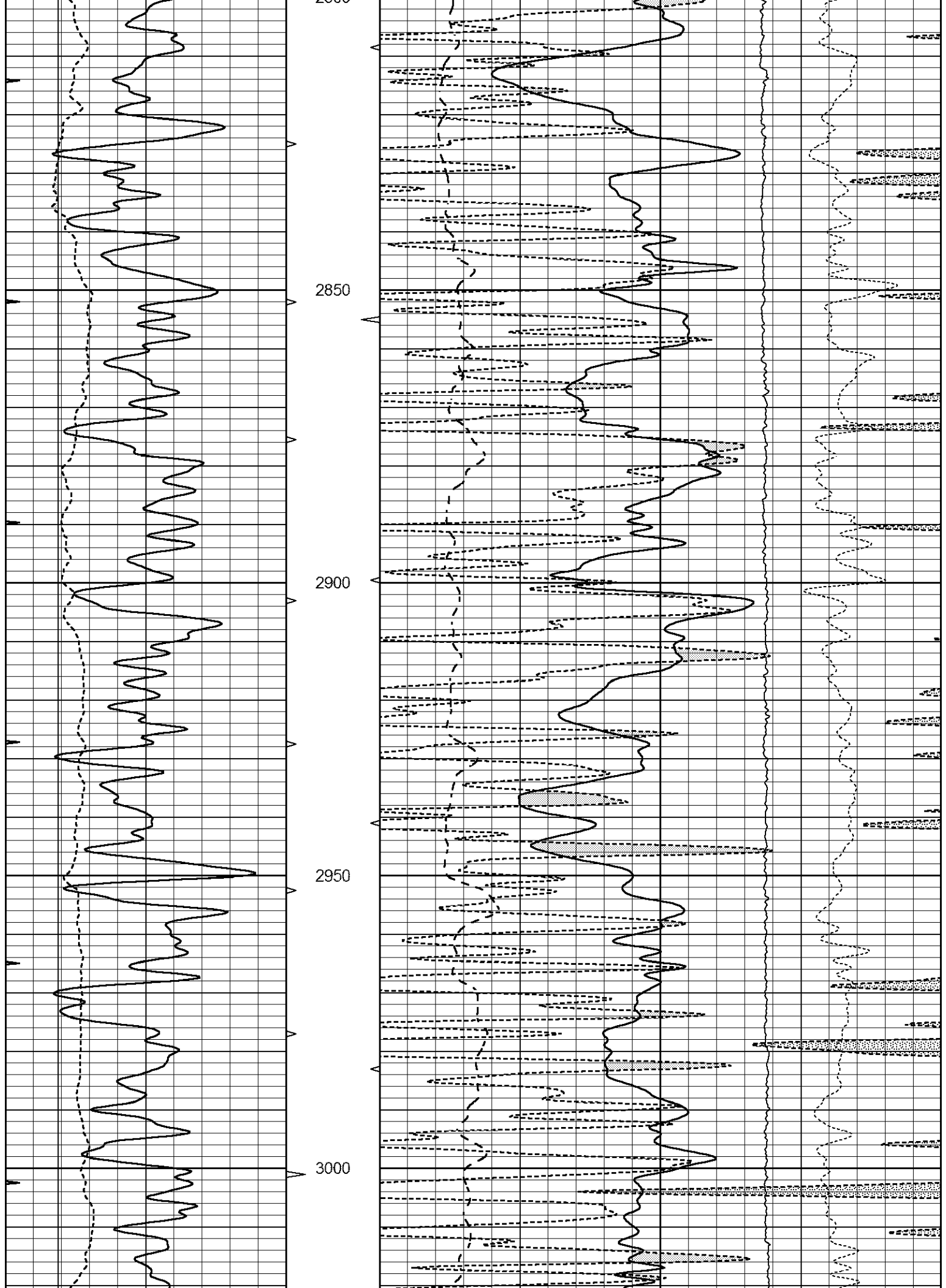


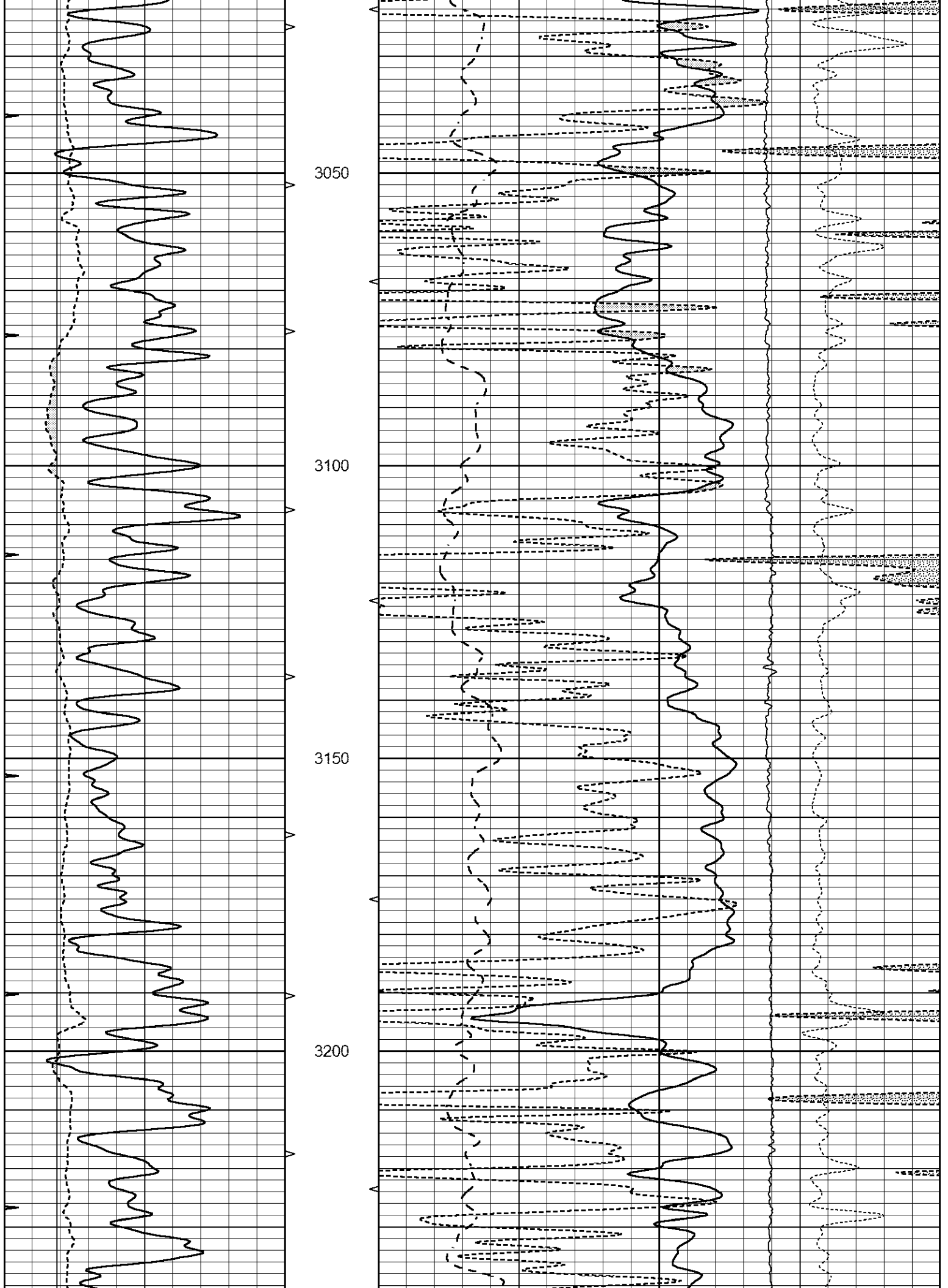


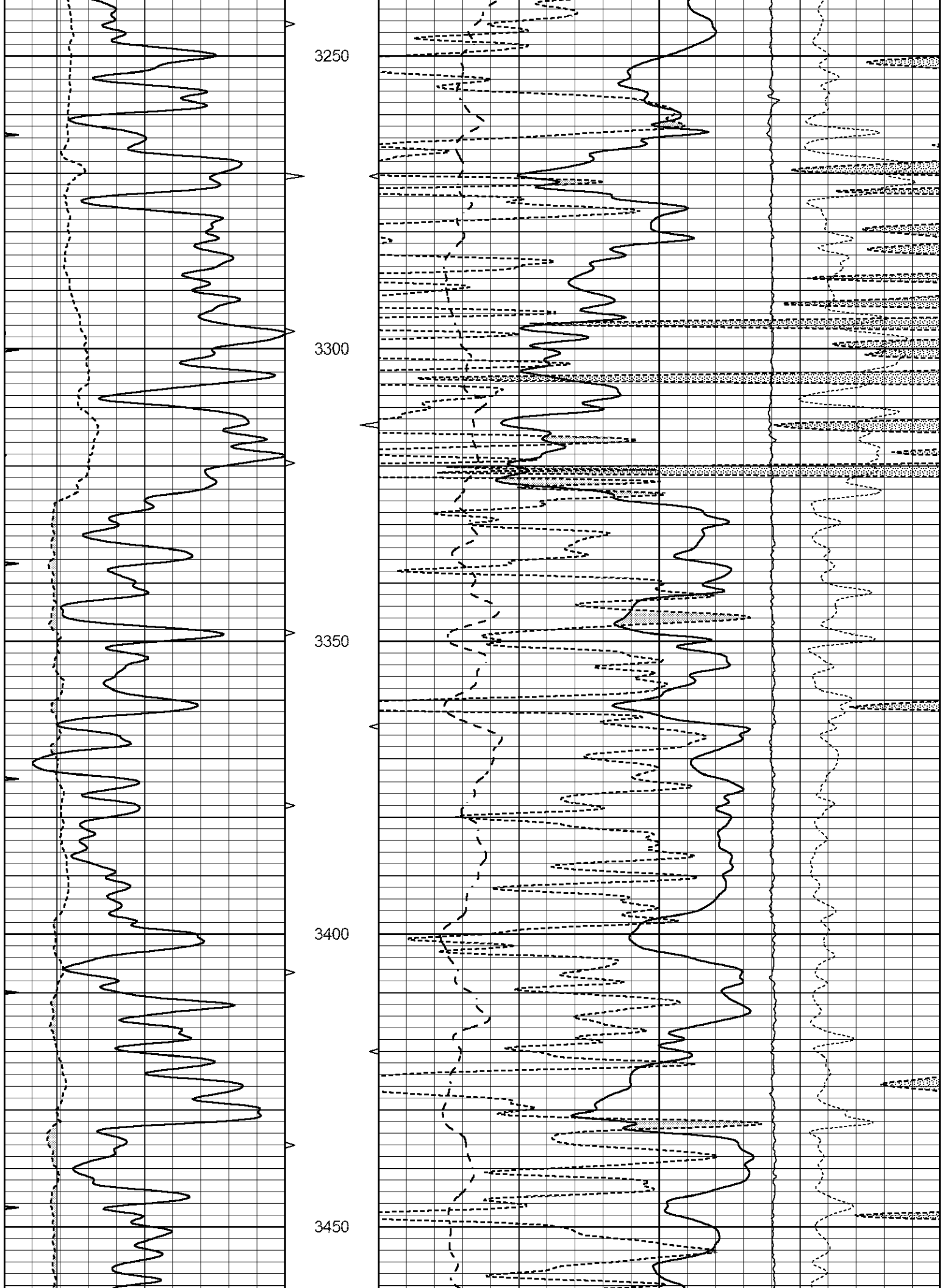


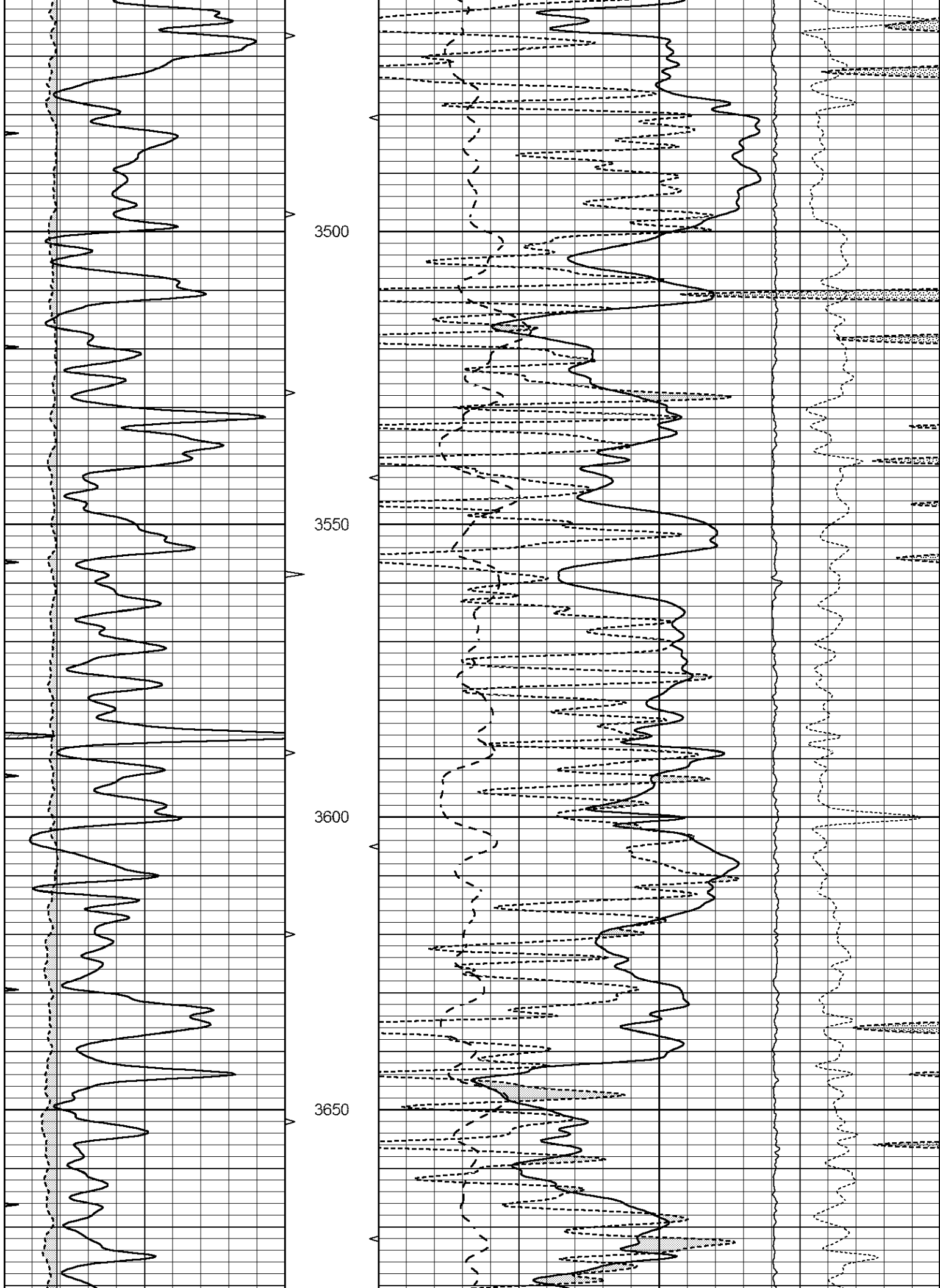


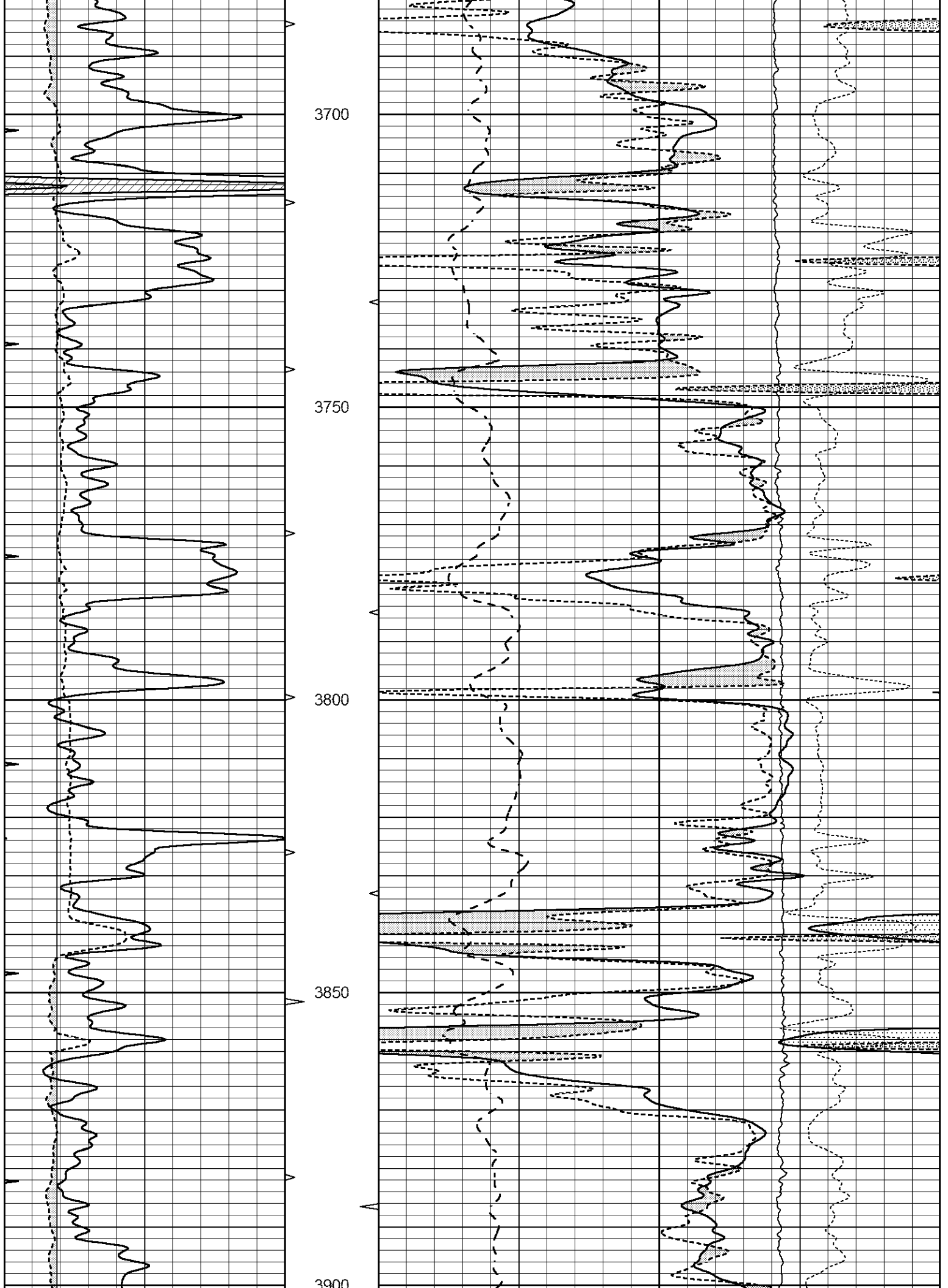


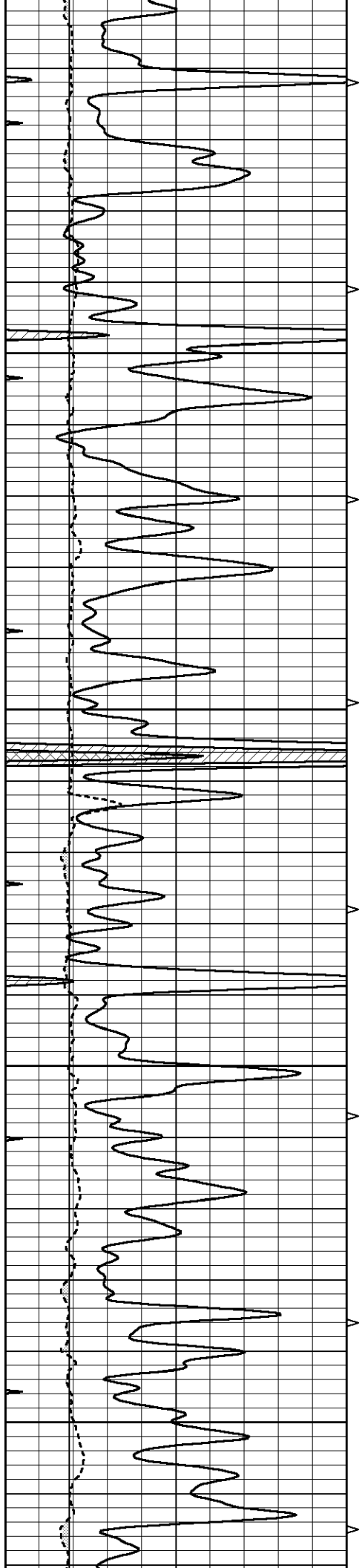




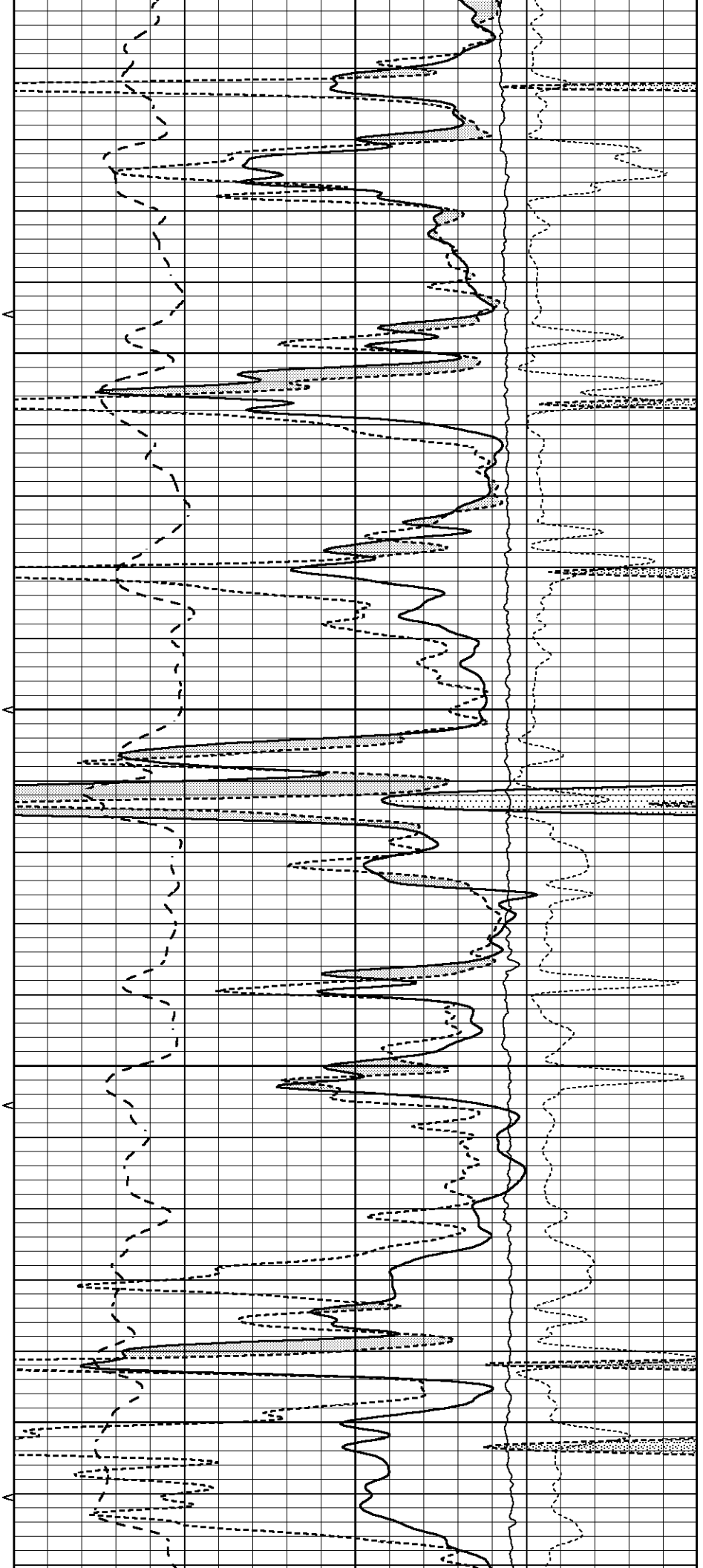


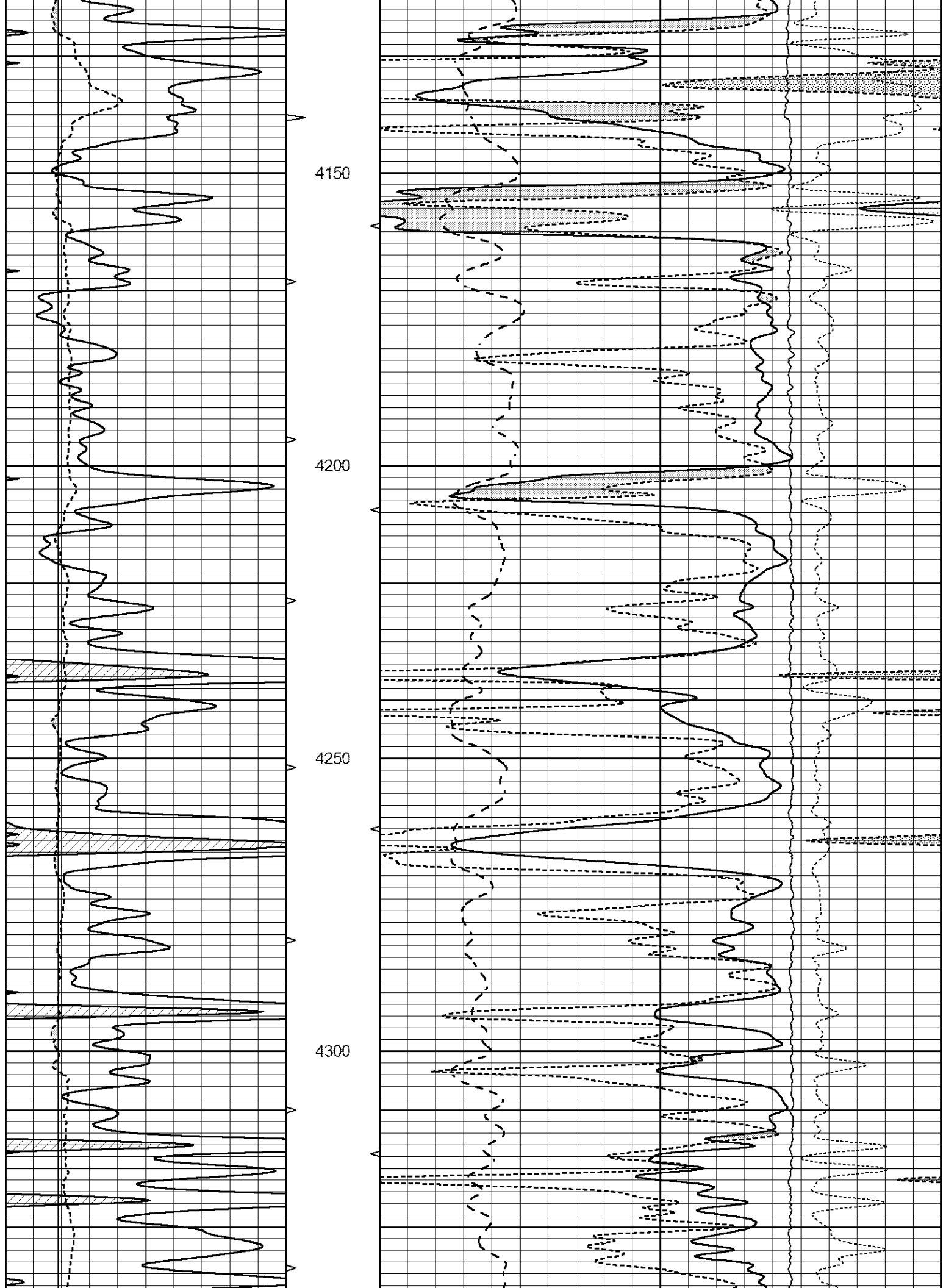


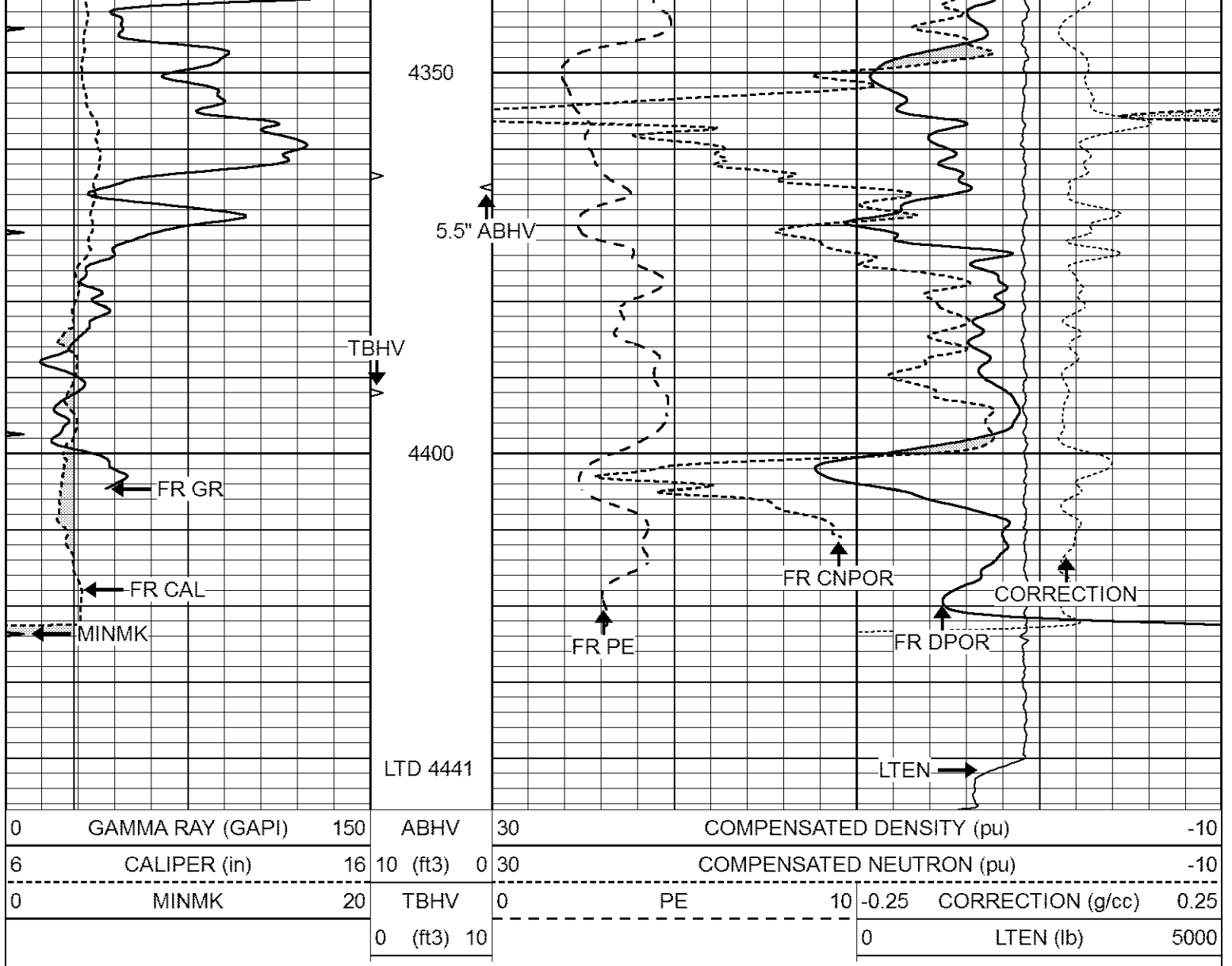




3900
3950
4000
4050
4100



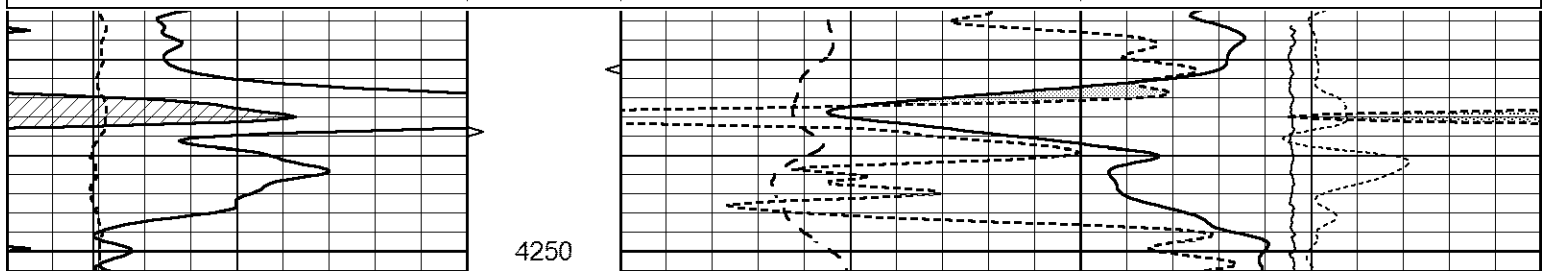


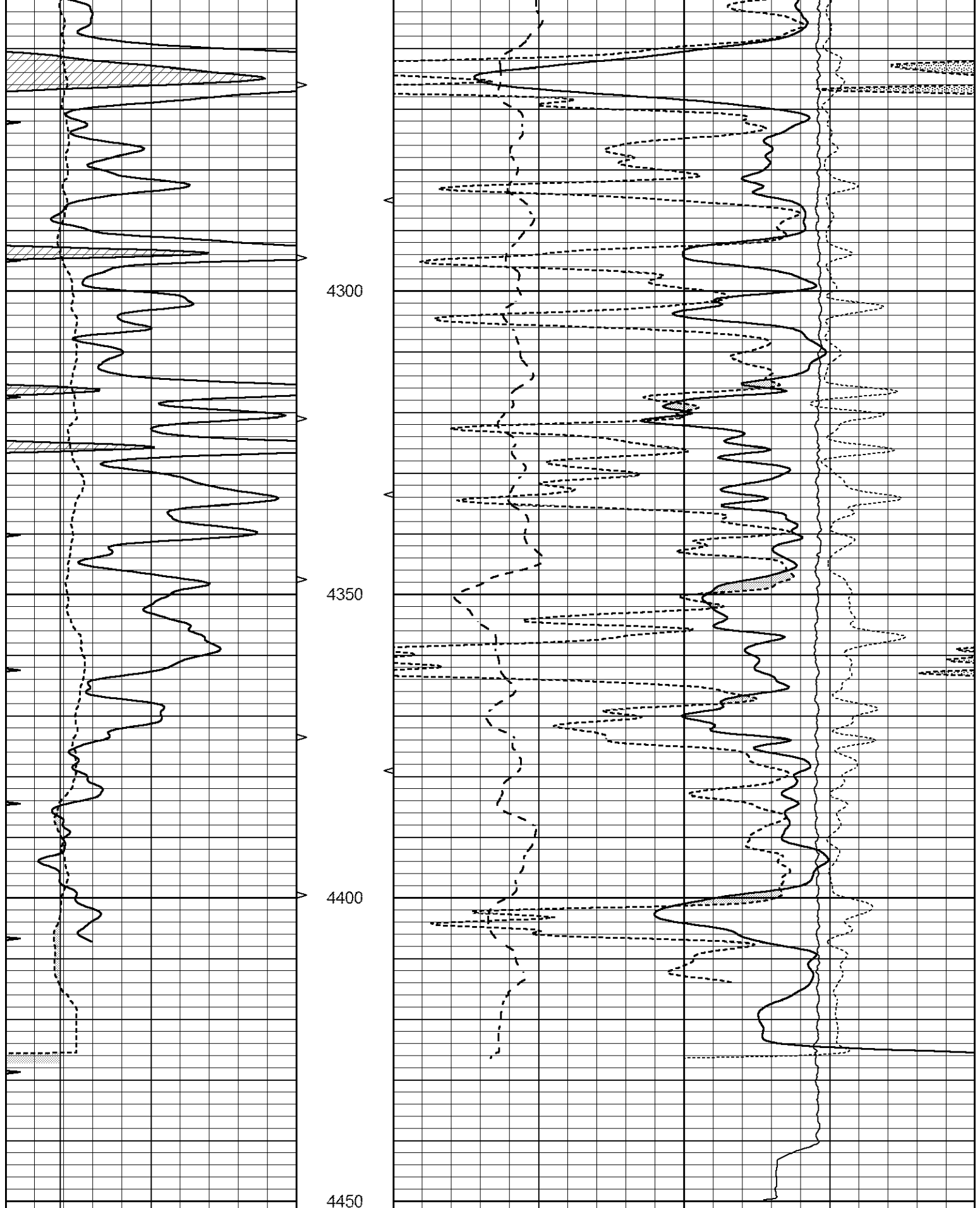


REPEAT SECTION

Database File 7024pe.db
 Dataset Pathname pass2R
 Presentation Format _ldt_neu
 Dataset Creation Thu Sep 29 00:14:51 2022
 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 | PE | 10 -0.25 | | |
| | | | 0 (ft3) | 10 | | CORRECTION (g/cc) | 0.25 | |
| | | | | | | 0 | LTEN (lb) | 5000 |





| | | | | | | |
|---|------------------|-----|----------|------|--------------------------|------------------------|
| 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 | PE | 10 -0.25 |
| | | | 0 (ft3) | 10 | | CORRECTION (g/cc) 0.25 |
| | | | | | | 0 LTEN (lb) 5000 |

Calibration Report

Database File 7024pe.db
 Dataset Pathname pass3M
 Dataset Creation Thu Sep 29 02:01:13 2022

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Thu Jun 30 01:48:00 2022
 Downhole Cal Performed: Tue Feb 19 11:44:24 2019
 After Survey Verification Performed: Tue Feb 19 11:44:27 2019

Surface Calibration

| Loop: | Readings | | | References | | | Results | |
|-----------|----------|-------|---|------------|---------|--------|---------|--------|
| | Air | Loop | V | Air | Loop | mmho/m | m | b |
| Deep | 0.011 | 0.656 | V | 1.000 | 400.000 | mmho/m | 650.000 | -3.000 |
| Medium | -0.000 | 0.731 | V | 1.000 | 464.000 | mmho/m | 632.856 | -5.000 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.007 | 0.649 | V | 0.000 | 400.000 | mmho/m | 623.784 | -4.595 |
| Medium | 0.004 | 0.743 | V | 0.000 | 464.000 | mmho/m | 627.284 | -2.251 |

Downhole Calibration

| | Readings | | | References | | | Results | |
|--------|----------|---------|--------|------------|----------|--------|---------|--------|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | -0.824 | 395.917 | mmho/m | -0.976 | 397.550 | mmho/m | 1.004 | -0.149 |
| Medium | 3.565 | 471.327 | mmho/m | 3.468 | 471.590 | mmho/m | 1.001 | -0.099 |
| LL3 | | 7.503 | V | | 1500.000 | Ohm-m | | |
| | | 0.001 | V | | 20.000 | Ohm-m | | |
| | | -7.481 | V | | 3745.000 | mmho-m | | |

After Survey Verification

| | Readings | | | Targets | | | Results | |
|--------|----------|-------|--------|---------|----------|--------|---------|-------|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | -0.824 | 395.917 | mmho/m | 1.000 | 0.000 |
| Medium | 0.000 | 0.000 | mmho/m | 3.565 | 471.327 | mmho/m | 1.000 | 0.000 |
| LL3 | | 0.000 | Ohm-m | | 1500.000 | Ohm-m | | |
| | | 0.000 | Ohm-m | | 20.000 | Ohm-m | | |
| | | 0.000 | mmho-m | | 3745.000 | mmho-m | | |

Litho Density Calibration Report
 Serial: 005 Model: Litho_Ver3

Master Calibration

Performed Fri May 13 13:54:56 2022

| | Background | Magnesium | Aluminum | Aluminum+Fe | |
|-------------|------------|-------------|----------|---------------------|---------|
| Window 1 | 1363.1 | 46477.8 | 11515.9 | 9589.9 | cps |
| Window 2 | 1239.4 | 36488.4 | 9270.1 | 7998.9 | cps |
| Window 3 | 1044.3 | 20488.1 | 5500.7 | 4913.3 | cps |
| Window 4 | 315.7 | 358.7 | 321.5 | 319.5 | cps |
| Long Space | 0.0 | 35249.0 | 8030.7 | 6759.4 | cps |
| Short Space | 1.4 | 9675.7 | 6523.4 | 5391.9 | cps |
| Rho | | 1.7100 | 2.5900 | 0.0000 | g/cc |
| Pe | | 2.0000 | 2.7500 | 5.7900 | |
| Rib Angle | : 45.1 | Rib Slope | : 1.003 | Density/Spine Ratio | : 0.575 |
| Spine Angle | : 75.1 | Spine Slope | : 3.752 | Spine Intercept | : -24.0 |

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: 080621PMC
Tool Model: NABORS

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: 7
 Tool Model: Probe1
 Performed: Thu May 26 08:56:46 2022

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.5500 GAPI/cps