



# COMPENSATED DENSITY/NEUTRON PE LOG

Company NEC OPERATING - KANSAS, LLC.

Well GAMBLE #2

Field GARFIELD

County PAWNEE State KANSAS

Location: API #: 15-145-21895-0000

1426 FSL & 2145 FWL  
SW - SE - NE - SW

SEC 8 TWP 23S RGE 17W

DIL/MEL

Other Services

Permanent Datum GROUND LEVEL Elevation 2094  
Log Measured From KELLY BUSHING 13' A.G.L.  
Drilling Measured From KELLY BUSHING

Elevation

K.B. 2107  
D.F. 2105  
G.L. 2094

Date 6/13/24

Run Number ONE

Depth Driller 4625

Depth Logger 4628

Bottom Logged Interval 4604

Top Log Interval 3000

Casing Driller 8.625 @ 800

Casing Logger 811

Bit Size 7.875

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.5/50

pH / Fluid Loss 10.0/9.6

Source of Sample FLOWLINE

Rm @ Meas. Temp .500 @ 80F

Rmf @ Meas. Temp .375 @ 80F

Rmc @ Meas. Temp .600 @ 80F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .328 @ 122F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 9.45 A.M.

Maximum Recorded Temperature 122F

Equipment Number 3802

Location HAYS, KANSAS

Recorded By COLE ROBEN

Witnessed By KEATON JONES

<<< 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:

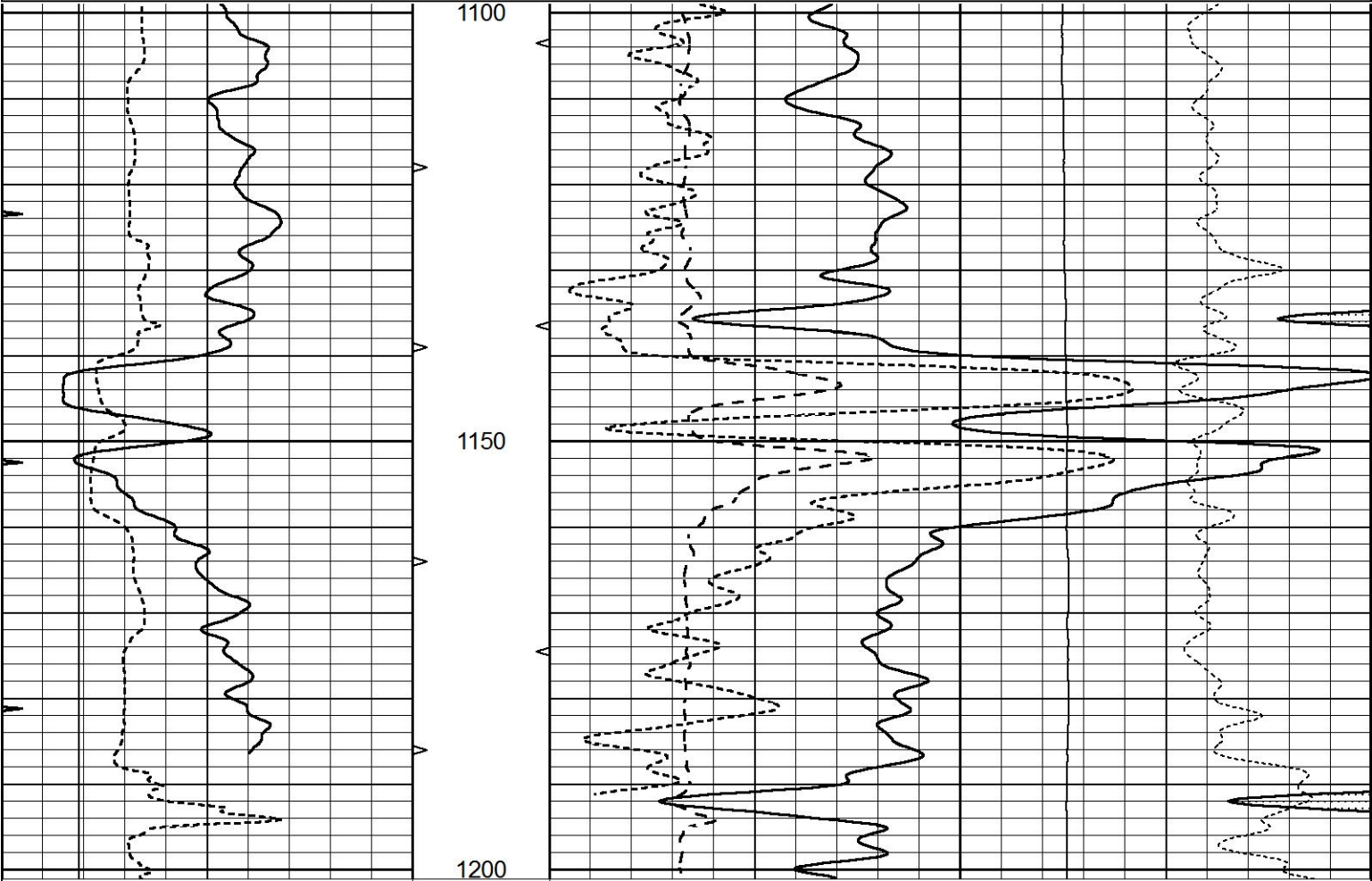
FROM GARFIELD, KANSAS GO SOUTH ON 180TH AVE FOR ONE MILE, EAST INTO 3/4 MILE



# ANHYDRITE REPEAT

|                     |                            |
|---------------------|----------------------------|
| Database File       | 8785pe.db                  |
| Dataset Pathname    | pass2ANHYRPT               |
| Presentation Format | _ldt_neu                   |
| Dataset Creation    | Thu Jun 13 11:05:42 2024   |
| Charted by          | Depth in Feet scaled 1:240 |

|   |                  |     |          |    |                          |                          |           |                   |      |      |
|---|------------------|-----|----------|----|--------------------------|--------------------------|-----------|-------------------|------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 45 | COMPENSATED DENSITY (pu) |                          |           |                   | -15  |      |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0  | 30                       | 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 |



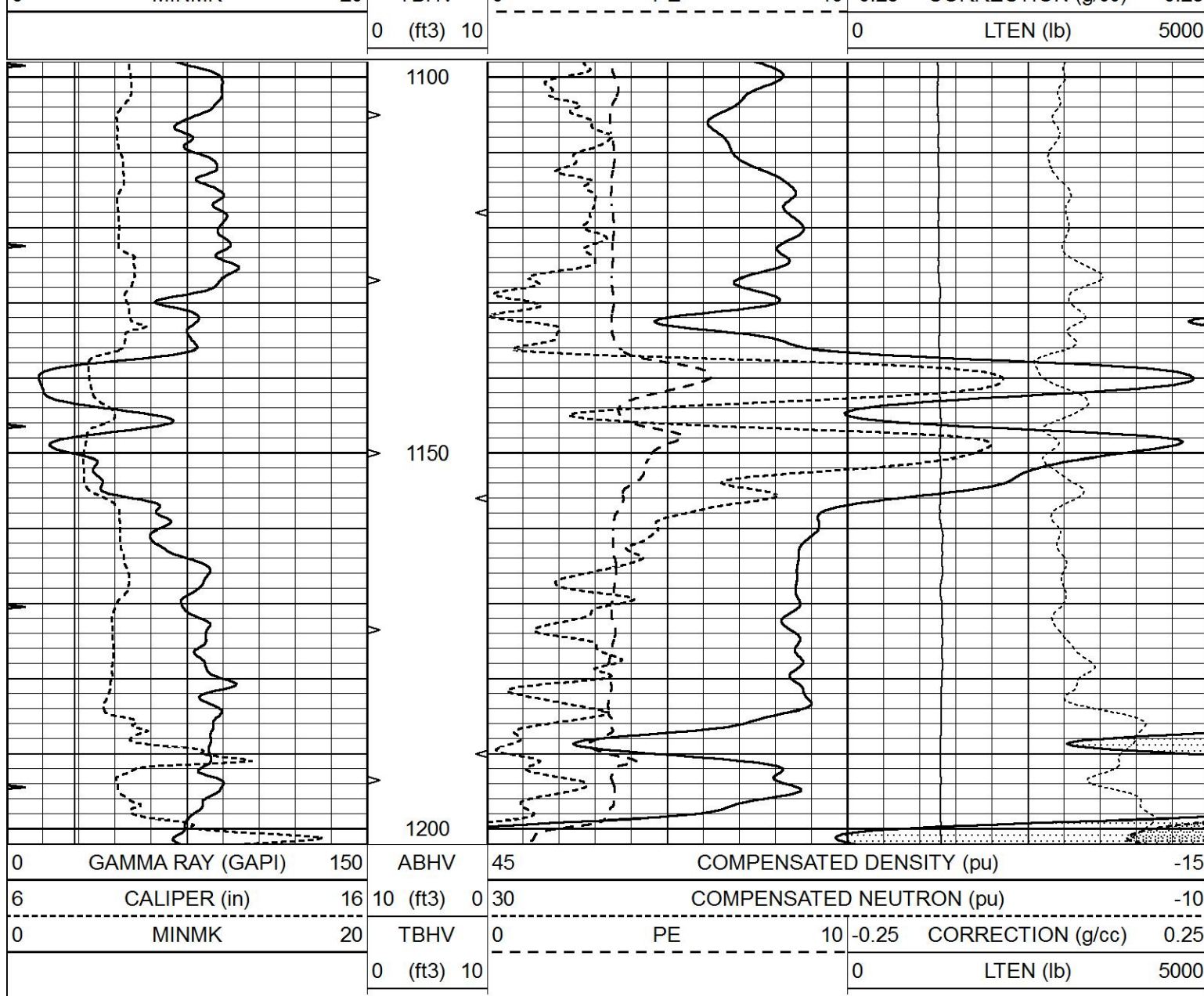
|   |                  |     |          |    |                          |                          |       |                   |      |
|---|------------------|-----|----------|----|--------------------------|--------------------------|-------|-------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 45 | COMPENSATED DENSITY (pu) |                          |       | -15               |      |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0  | 30                       | 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 |



# ANHYDRITE MAIN

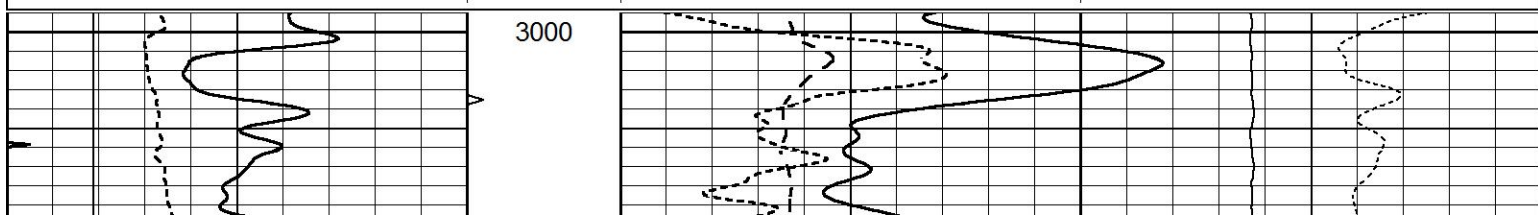
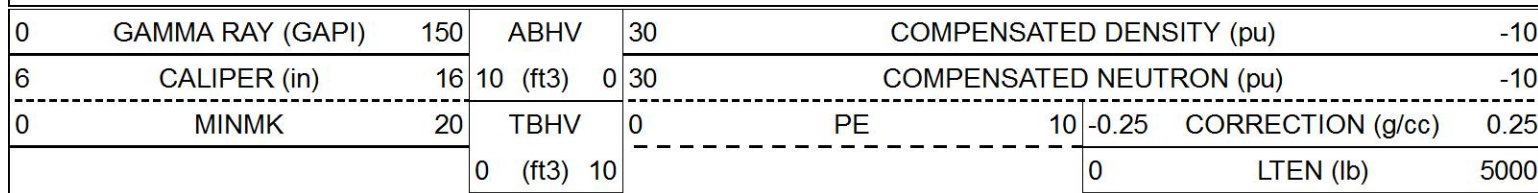
|                     |                            |
|---------------------|----------------------------|
| Database File       | 8785pe.db                  |
| Dataset Pathname    | pass5AM                    |
| Presentation Format | _ldt_neu                   |
| Dataset Creation    | Thu Jun 13 11:42:34 2024   |
| Charted by          | Depth in Feet scaled 1:240 |

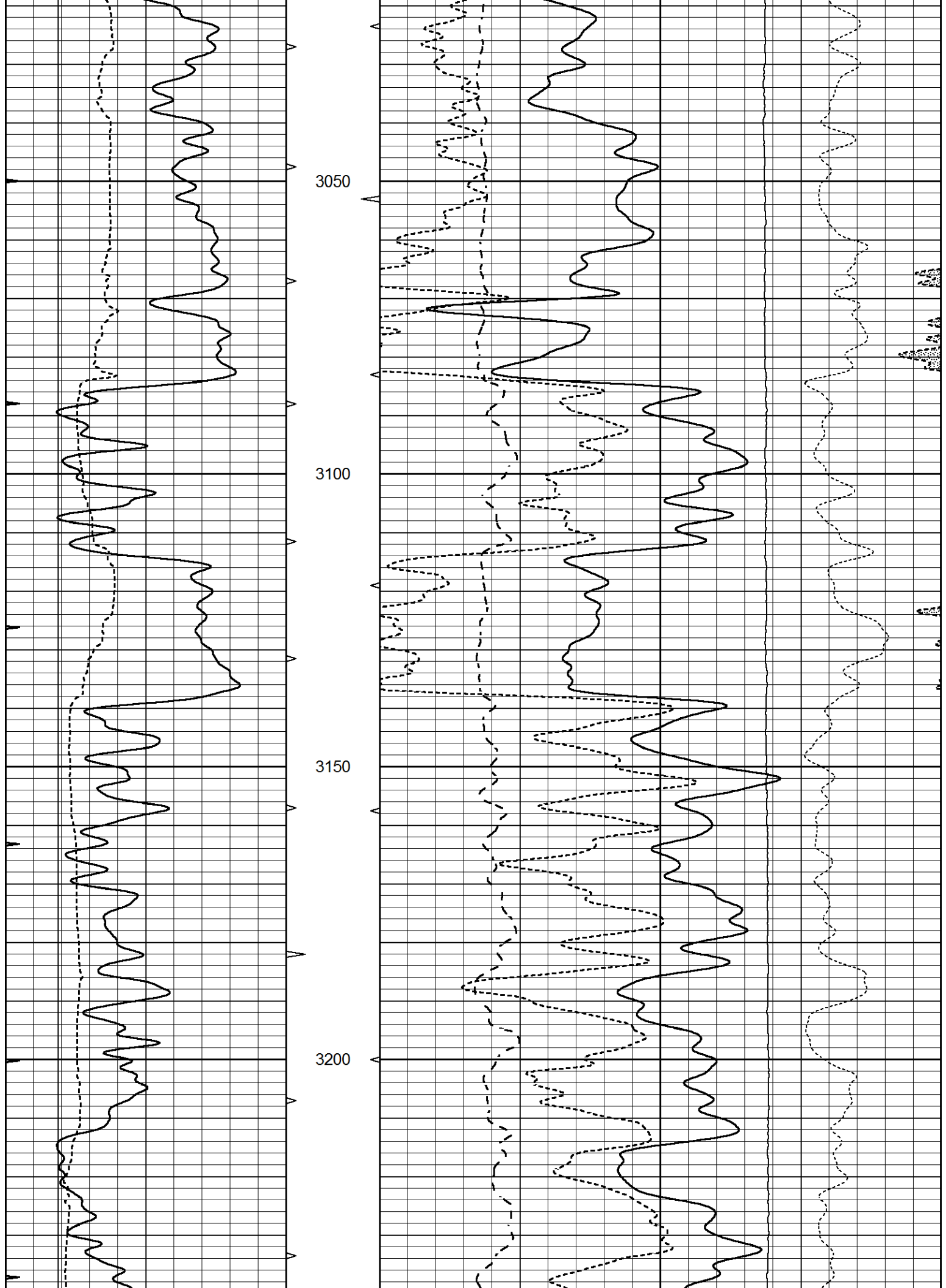
|   |                  |     |          |    |                          |                          |       |                   |      |     |
|---|------------------|-----|----------|----|--------------------------|--------------------------|-------|-------------------|------|-----|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 45 | COMPENSATED DENSITY (pu) |                          |       |                   | -15  |     |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0  | 30                       | COMPENSATED NEUTRON (pu) |       |                   |      | -10 |
| 0 | MINMK            | 20  | TBHV     | 0  | PF                       | 10                       | -0.25 | CORRECTION (g/cc) | 0.25 |     |

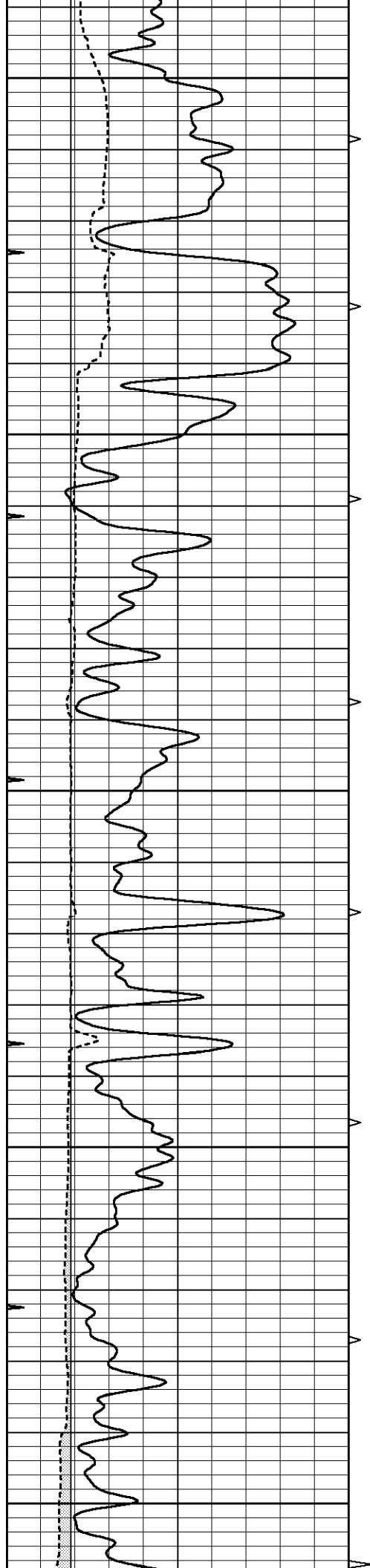


# MAIN SECTION

Database File 8785pe.db  
 Dataset Pathname pass5DT  
 Presentation Format \_ldt\_neu  
 Dataset Creation Thu Jun 13 11:02:32 2024  
 Charted by Depth in Feet scaled 1:240







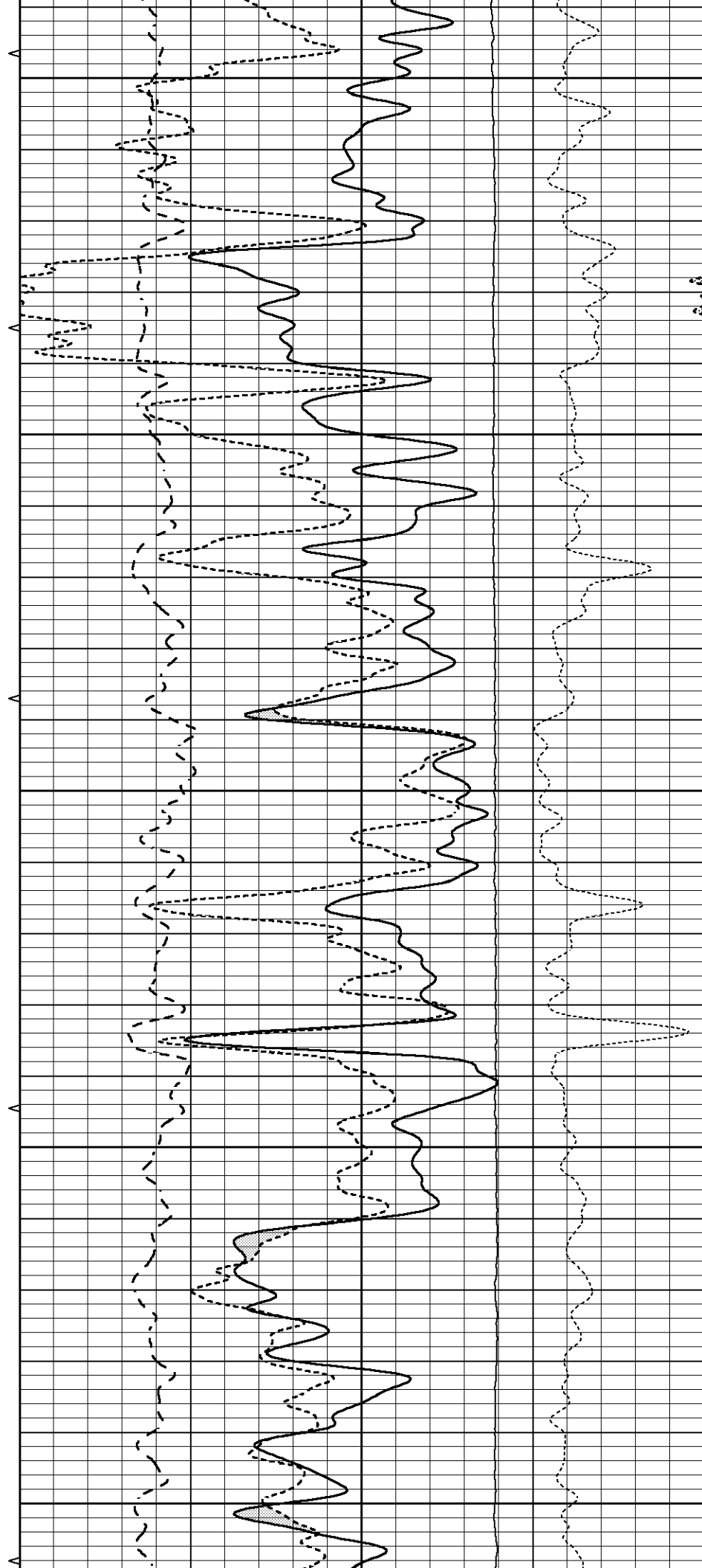
3250

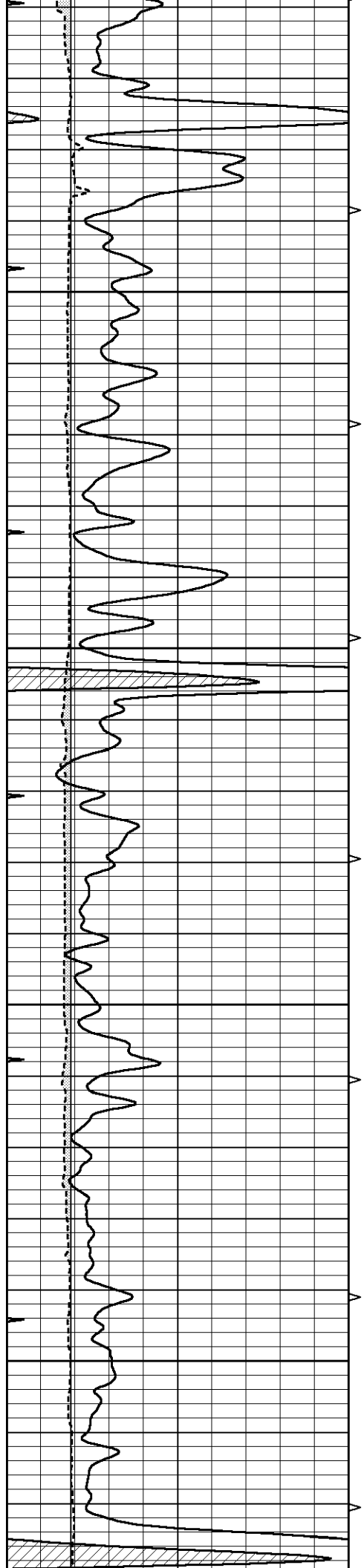
3300

3350

3400

3450



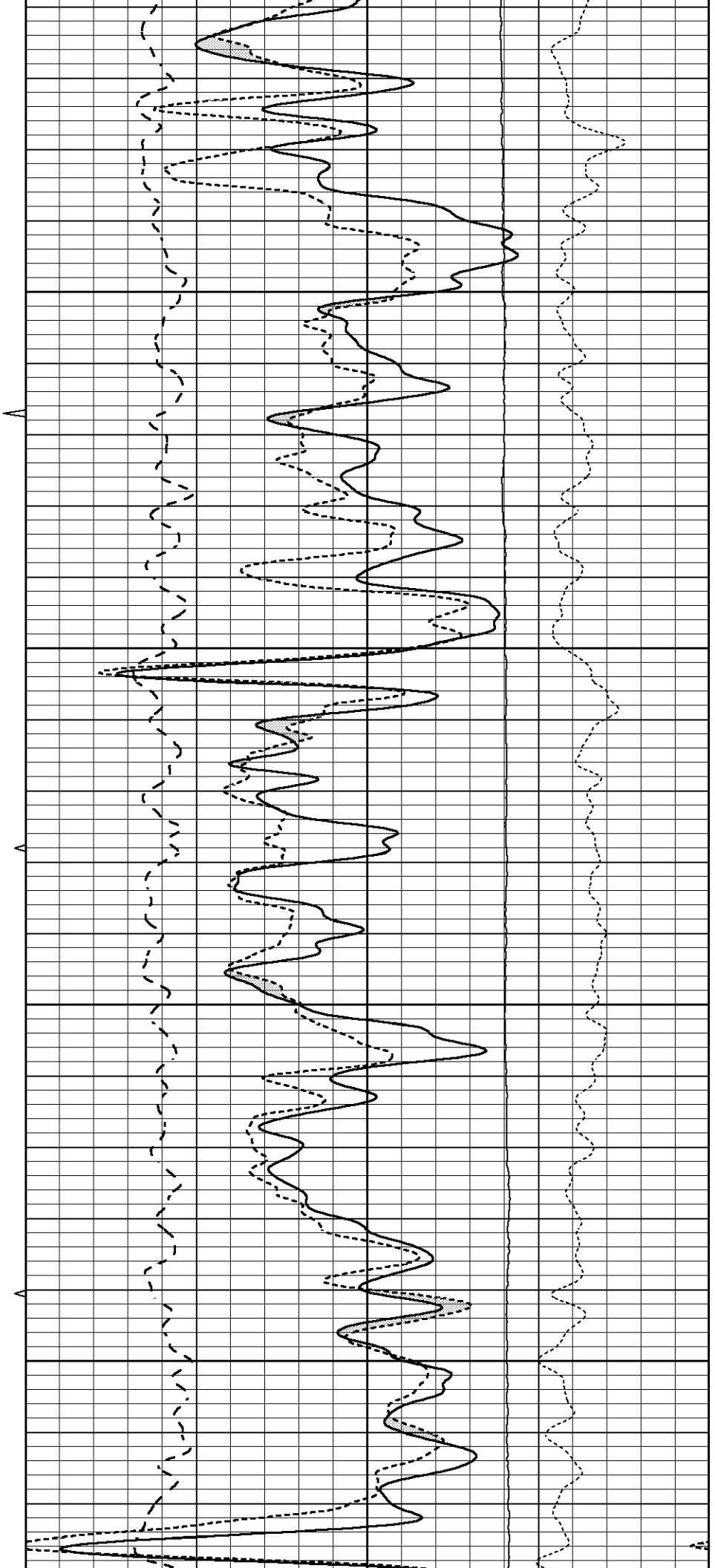


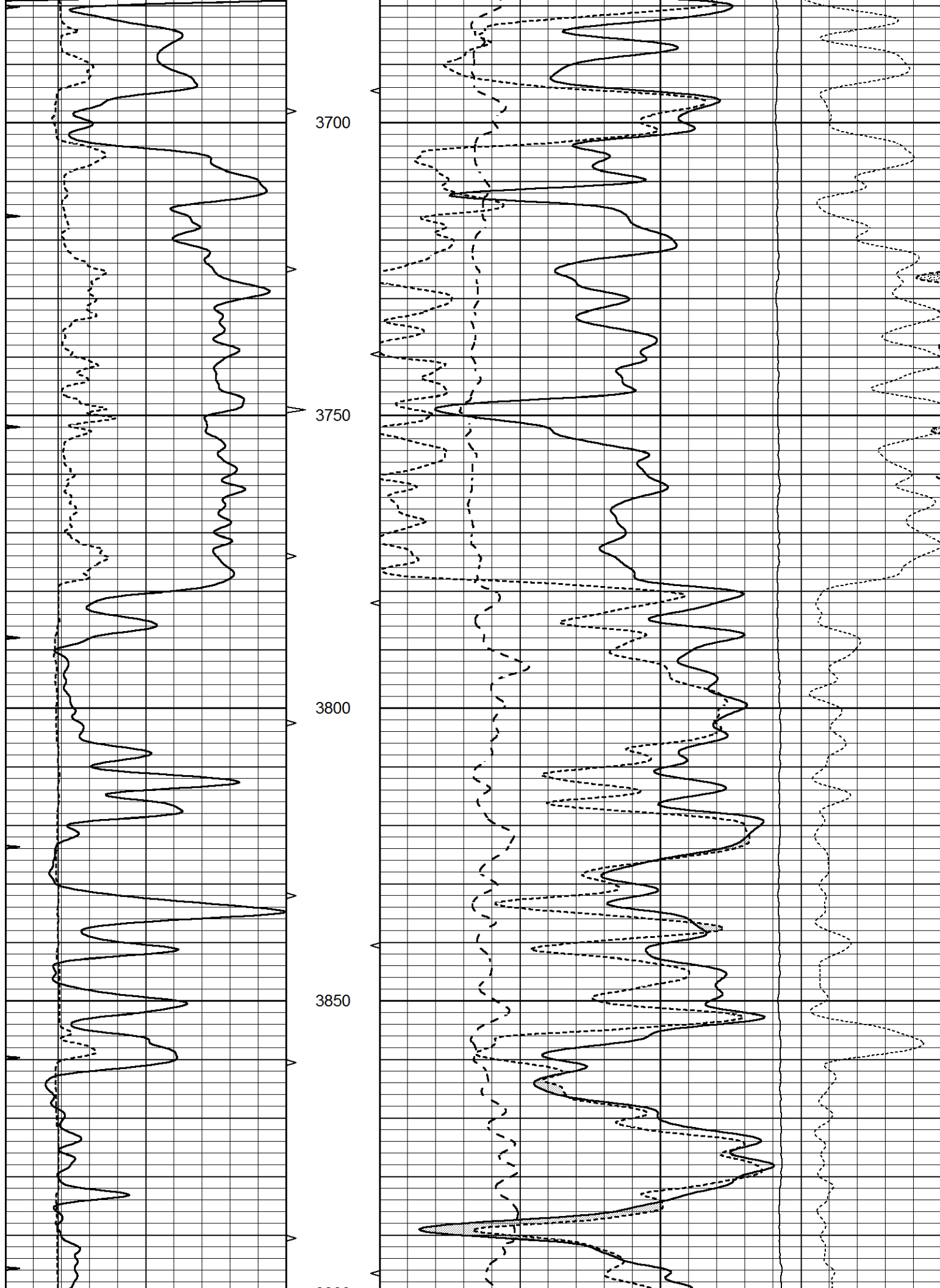
3500

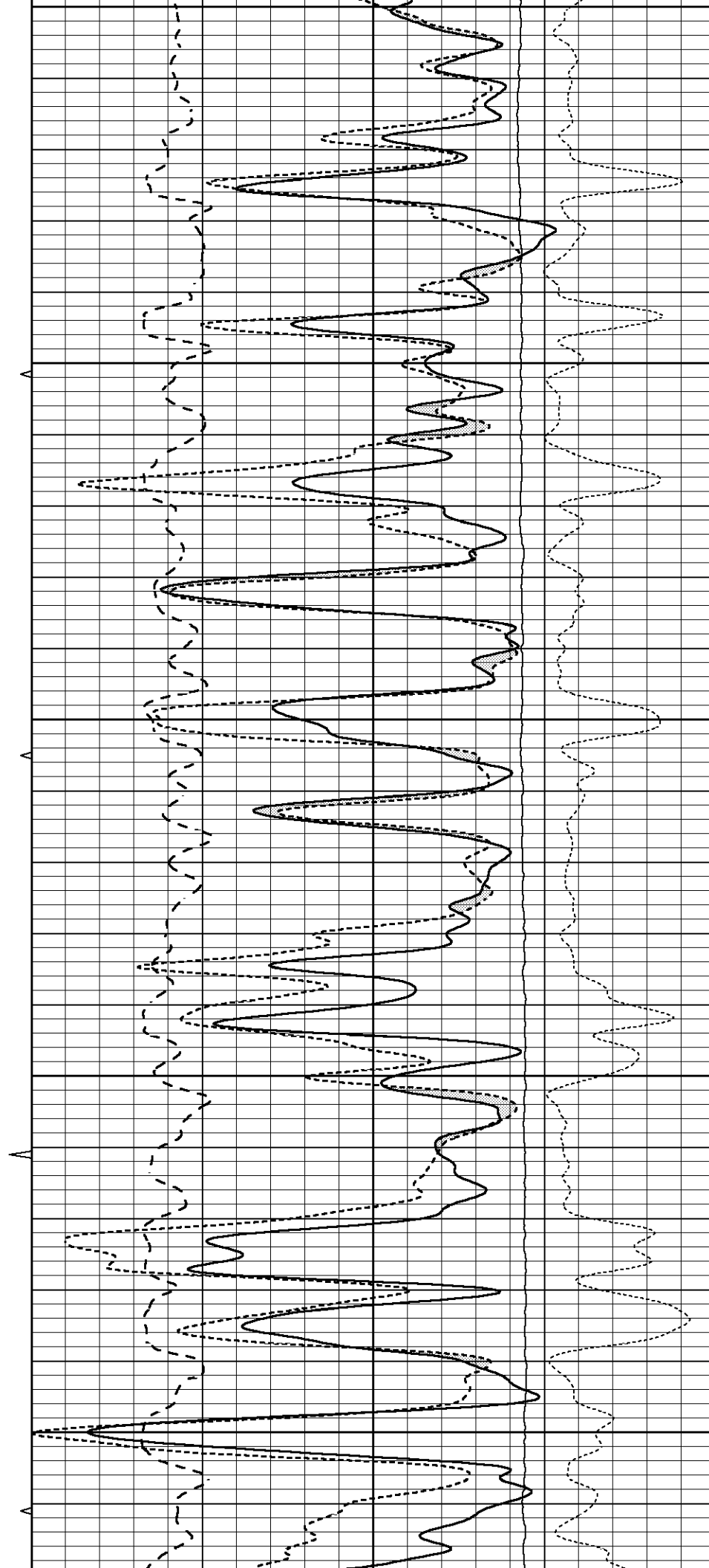
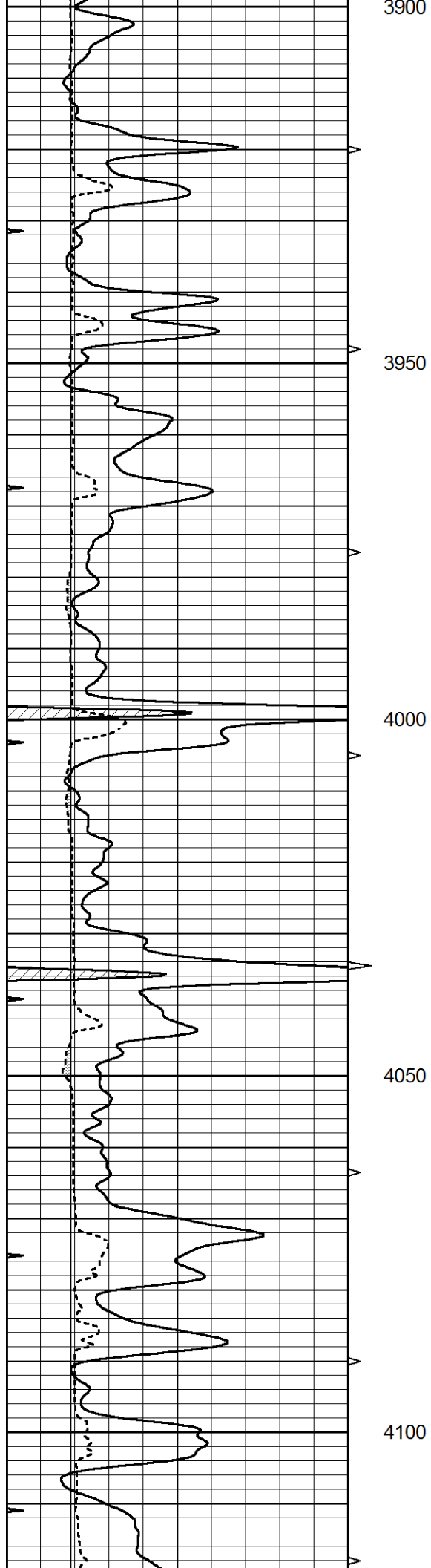
3550

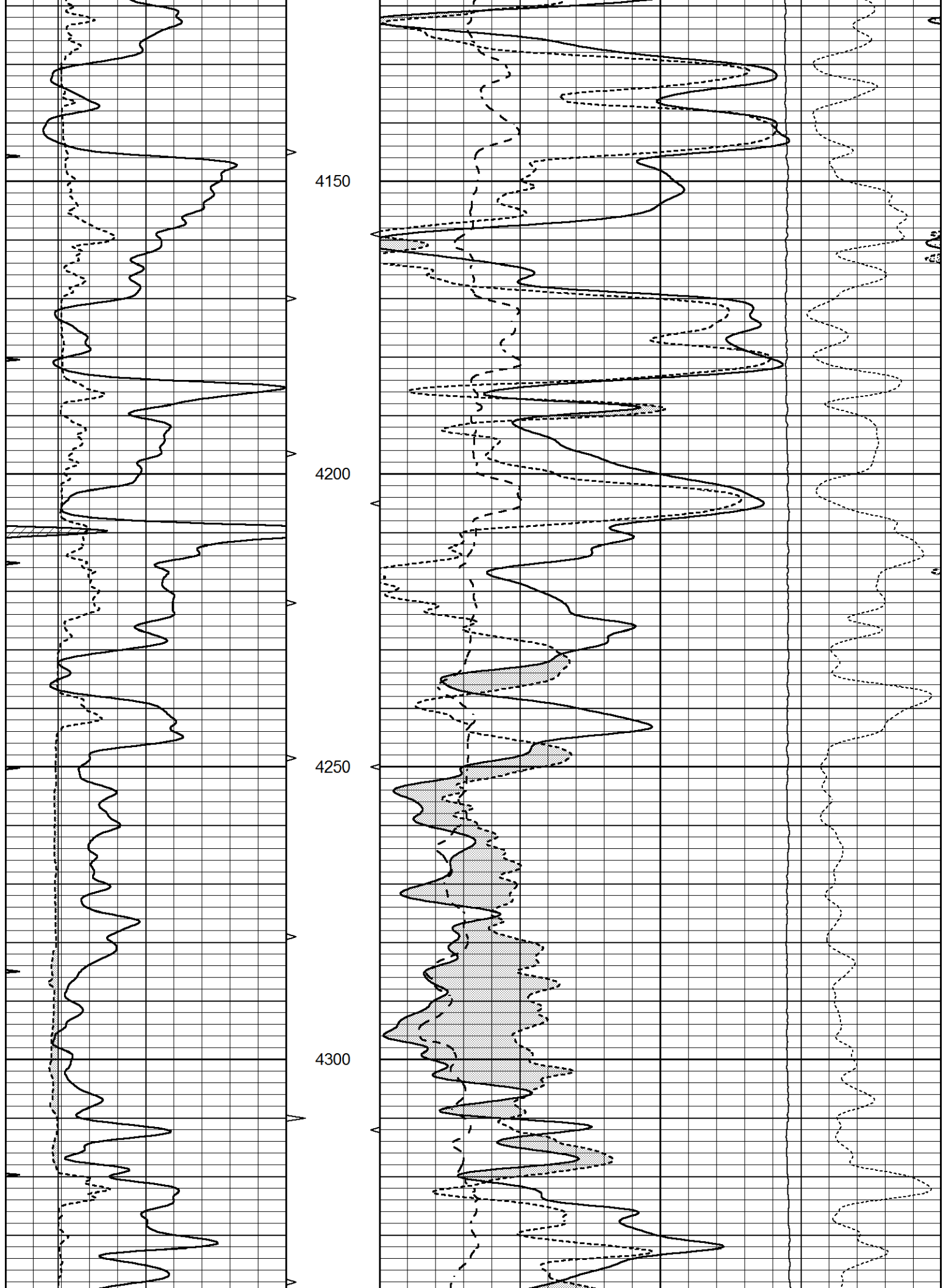
3600

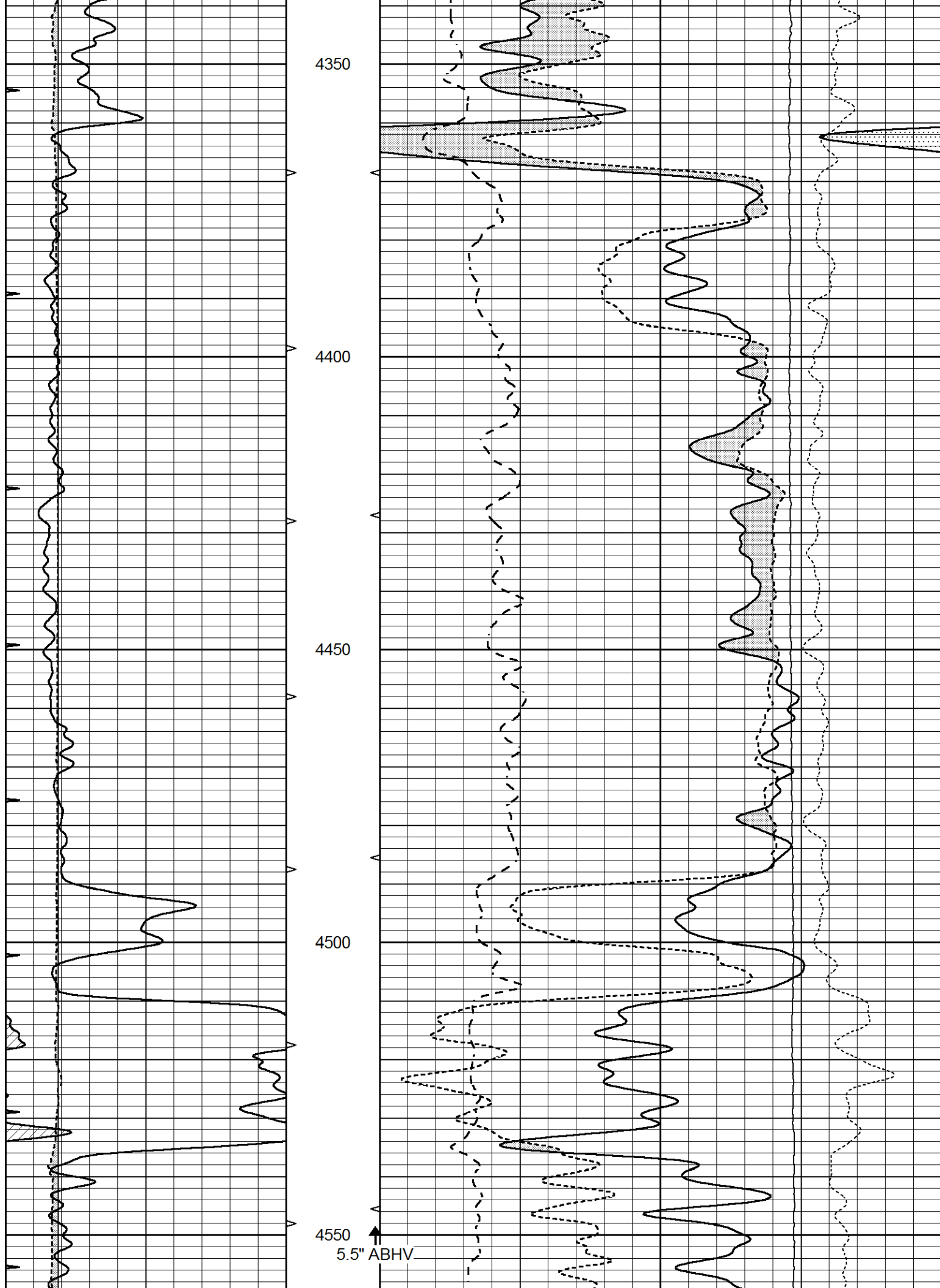
3650

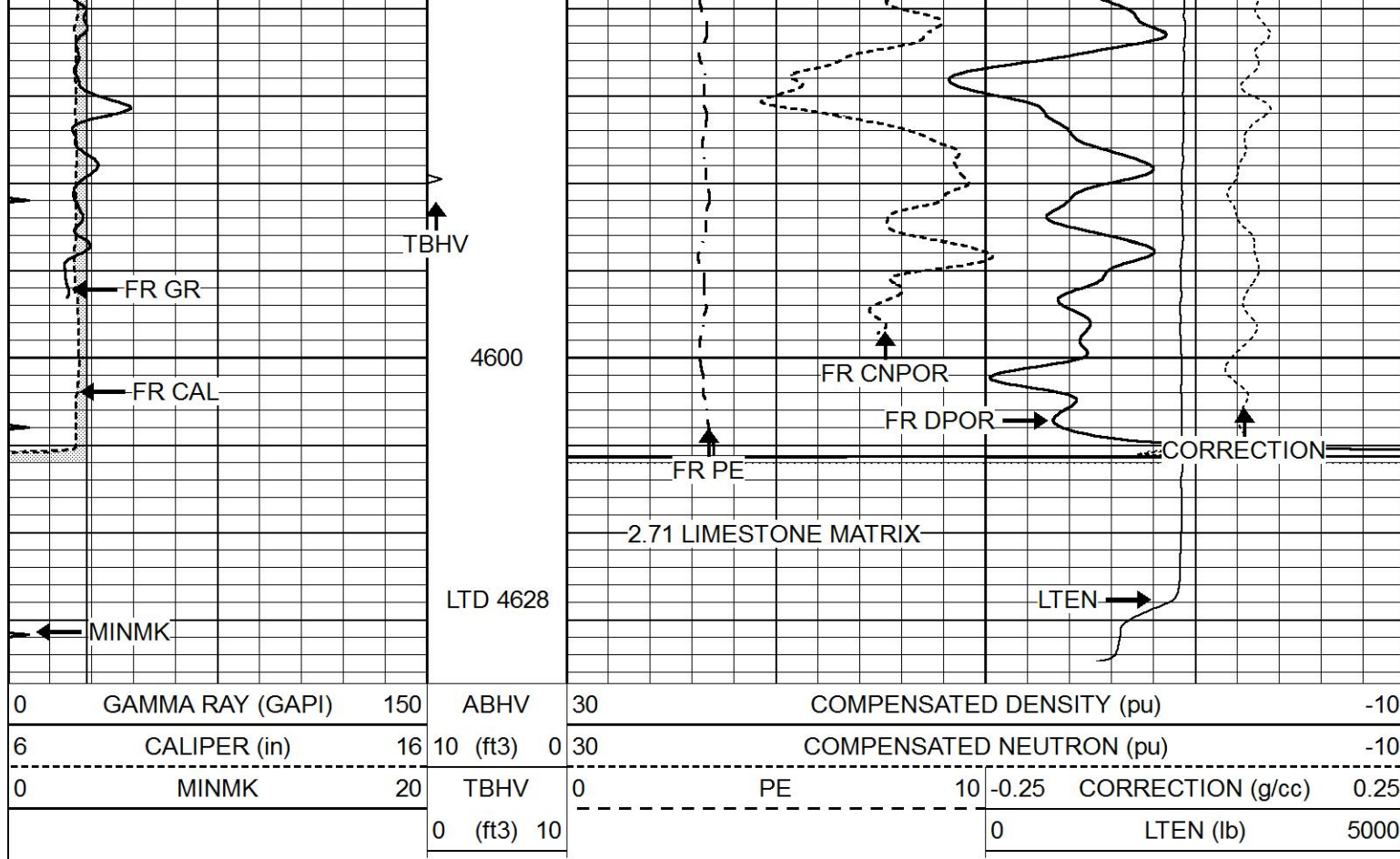








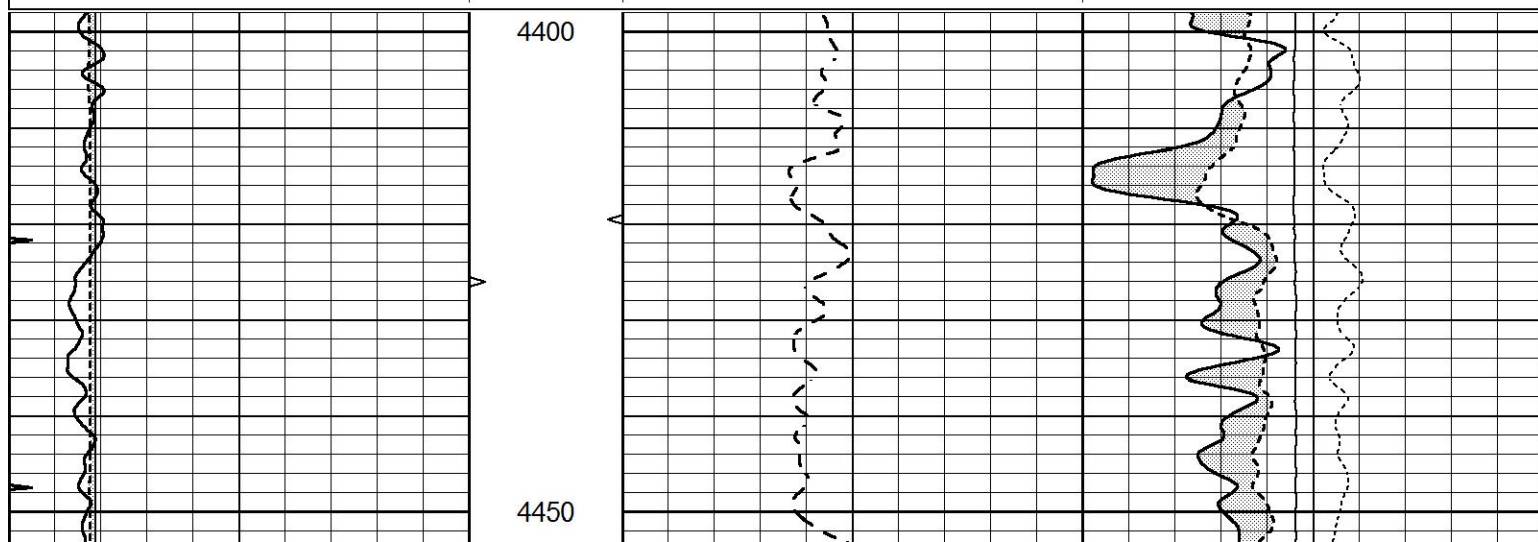


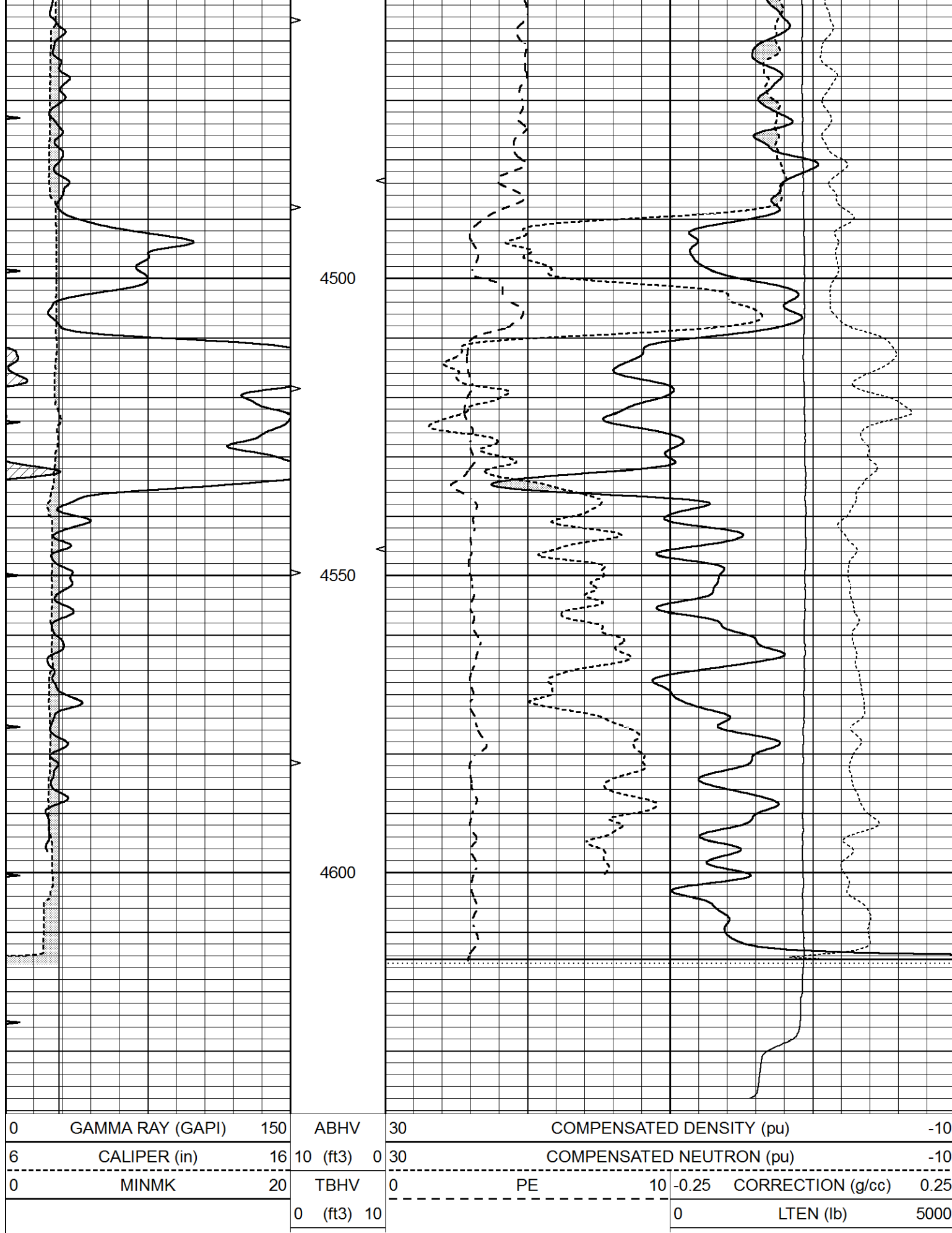


# REPEAT SECTION

Database File 8785pe.db  
 Dataset Pathname pass4R  
 Presentation Format \_ldt\_neu  
 Dataset Creation Thu Jun 13 11:10:27 2024  
 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) |                   |
| 0 | MINMK            | 20  | TBHV     | 0  | 10                       | -0.25                    | CORRECTION (g/cc) |
|   |                  |     | 0 (ft3)  | 10 |                          | 0                        | LTEN (lb)         |
|   |                  |     |          |    |                          |                          | 5000              |





|                                                               |                                                          |
|---------------------------------------------------------------|----------------------------------------------------------|
| Database File                                                 | 0785pe.db                                                |
| Dataset Pathname                                              | pass5DT                                                  |
| Dataset Creation                                              | Thu Jun 13 11:02:32 2024                                 |
| Dual Induction Calibration Report                             |                                                          |
| Serial-Model: FW1410-56-Probe                                 |                                                          |
| Surface Cal Performed: Tue Apr 30 11:10:17 2024               |                                                          |
| Downhole Cal Performed: Tue Jul 25 12:15:37 2017              |                                                          |
| After Survey Verification Performed: Tue Jul 25 12:15:38 2017 |                                                          |
| Surface Calibration                                           |                                                          |
| Readings                                                      |                                                          |
| References                                                    |                                                          |
| Results                                                       |                                                          |
| Loop:                                                         | Air Loop Air Loop m b                                    |
| Deep                                                          | 0.008 0.765 V 1.000 400.000 mmho/m 520.000 19.000        |
| Medium                                                        | -0.056 0.761 V 1.000 464.000 mmho/m 540.000 183.000      |
| Internal:                                                     | Zero Cal Zero Cal m b                                    |
| Deep                                                          | 0.005 0.624 V 0.000 400.000 mmho/m 645.611 -3.034        |
| Medium                                                        | 0.012 0.721 V 0.000 464.000 mmho/m 653.591 -7.532        |
| Downhole Calibration                                          |                                                          |
| Readings                                                      |                                                          |
| References                                                    |                                                          |
| Results                                                       |                                                          |
|                                                               | Zero Cal Zero Cal m' b'                                  |
| Deep                                                          | -0.647 301.329 mmho/m -0.780 336.378 mmho/m 1.117 -0.058 |
| Medium                                                        | 38.256 411.013 mmho/m 39.046 441.706 mmho/m 1.080 -2.280 |
| LL3                                                           | 7.471 V 2500.000 Ohm-m                                   |
|                                                               | 0.001 V 20.000 Ohm-m                                     |
|                                                               | -7.085 V 4000.000 mmho-m                                 |
| After Survey Verification                                     |                                                          |
| Readings                                                      |                                                          |
| Targets                                                       |                                                          |
| Results                                                       |                                                          |
|                                                               | Zero Cal Zero Cal m' b'                                  |
| Deep                                                          | 0.000 0.000 mmho/m -0.647 301.329 mmho/m 1.000 0.000     |
| Medium                                                        | 0.000 0.000 mmho/m 38.256 411.013 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: 002 Model: PRB                                        |                                                          |
| Master Calibration                                            |                                                          |
| Performed Tue Mar 05 14:38:26 2024                            |                                                          |
| Background                                                    |                                                          |
| Magnesium                                                     |                                                          |
| Aluminum                                                      |                                                          |
| Aluminum+Fe                                                   |                                                          |
| Window 1                                                      | 725.2 6706.7 2064.1 1781.5 cps                           |
| Window 2                                                      | 662.7 5683.9 1787.4 1577.3 cps                           |
| Window 3                                                      | 531.1 2851.1 1038.7 963.2 cps                            |
| Window 4                                                      | 159.2 158.7 158.9 156.4 cps                              |
| Long Space                                                    | 0.0 5021.2 1124.6 914.6 cps                              |
| Short Space                                                   | 1.4 1196.9 818.3 680.9 cps                               |
| Rho                                                           | 1.7100 2.5900 0.0000 g/cc                                |
| Pe                                                            | 2.0000 2.7500 5.7900                                     |
| Rib Angle                                                     | : 45.7 Rib Slope : 1.026 Density/Spine Ratio : 0.570     |
| Spine Angle                                                   | : 75.7 Spine Slope : 3.935 Spine Intercept : -19.4       |
| 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:      | 46001                    |          |
| Tool Model:         | Probe1                   |          |
| Performed:          | Thu Apr 20 09:55:57 2023 |          |
| Calibrator Value:   | 1.0                      | GAPI     |
| Background Reading: | 0.0                      | cps      |
| Calibrator Reading: | 1.0                      | cps      |
| Sensitivity:        | 0.4300                   | GAPI/cps |