



# COMPENSATED DENSITY/NEUTRON PE LOG

Company NEC OPERATING - KANSAS, LLC.

Well MARIE ANTOINETTE #A-1

Field GARFIELD

County PAWNEE State KANSAS

Location: API #: 15-145-21893-0000

2300' FSL & 1000' FEL  
SW - NW - NE - SE

SEC 7 TWP 23S RGE 17W

Other Services  
DIL/MEL

Permanent Datum GROUND LEVEL Elevation 2069  
Log Measured From KELLY BUSHING 8' A.G.L.  
Drilling Measured From KELLY BUSHING

Elevation  
K.B. 2077  
D.F. 2075  
G.L. 2069

Date 2/15/24

Run Number ONE

Depth Driller 4625

Depth Logger 4618

Bottom Logged Interval 4594

Top Log Interval 3000

Casing Driller 8.675@809

Casing Logger 809

Bit Size 7.785

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.2/61

pH / Fluid Loss 11.0/8.0

Source of Sample FLOWLINE

Rm @ Meas. Temp .600@72F

Rmf @ Meas. Temp .450@72F

Rmc @ Meas. Temp .648@72F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .354@122F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 11:00 P.M.

Maximum Recorded Temperature 122F

Equipment Number 922339

Location HAYS, KANSAS

Recorded By JEFF LUEBBERS

Witnessed By KEATON JONES

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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.

15-145-21893-0000

Comments

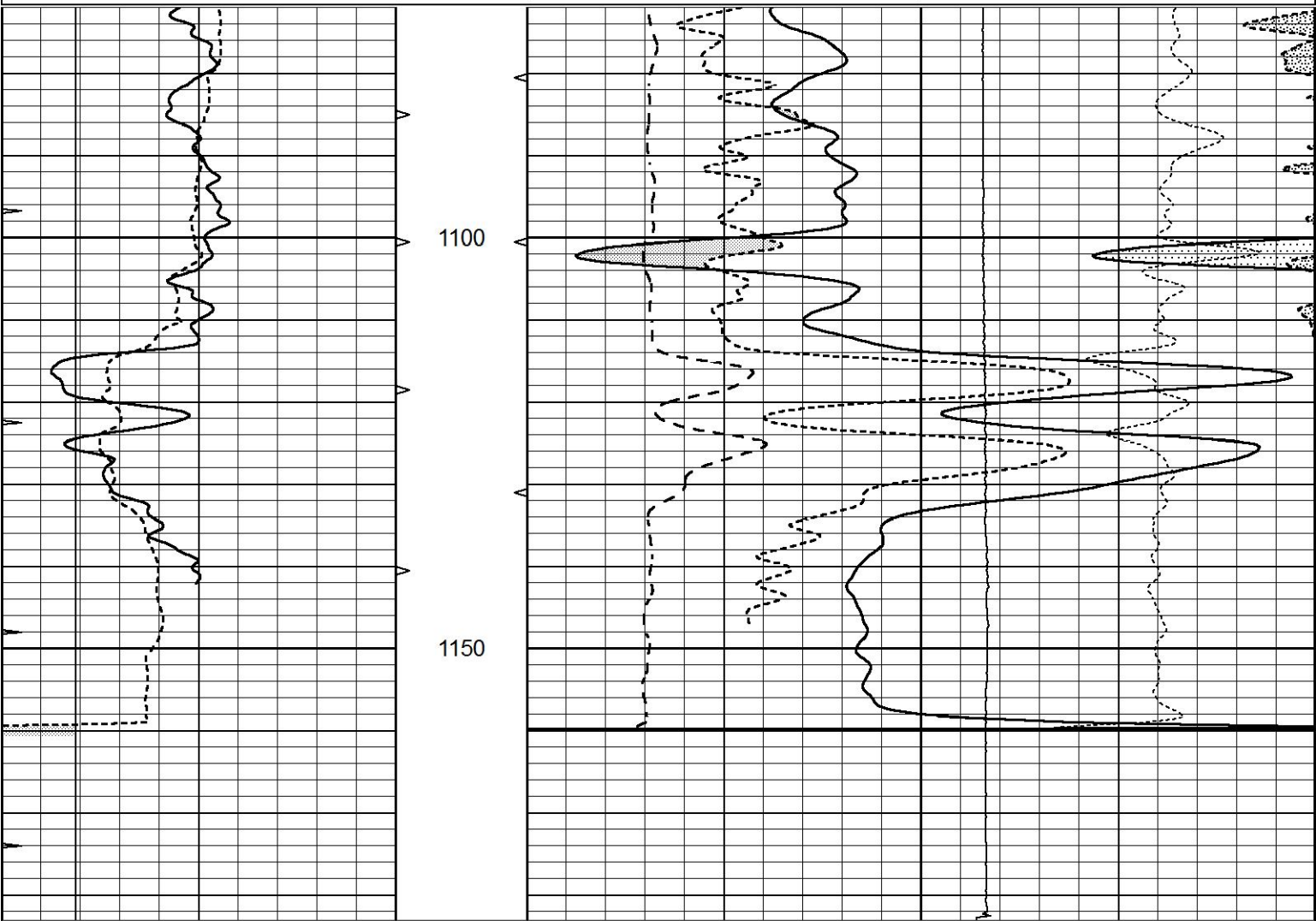
THANK YOU FOR USING ELI WIRELINE HAYS. KANSAS (785) 628-6395  
DIRECTIONS  
GARFIELD, KS. 1 1/2S., E. INTO

# ANHYDRITE REPEAT



|                     |                            |
|---------------------|----------------------------|
| Database File       | 8411pe.db                  |
| Dataset Pathname    | pass2.1A                   |
| Presentation Format | ldt_neu                    |
| Dataset Creation    | Fri Feb 16 00:16:54 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  | COMPENSATED NEUTRON (pu) | -15               |
| 0 | MINMK            | 20  | TBHV     | 0  | PE                       | 10                |
|   |                  |     | 0 (ft3)  | 10 | -0.25                    | CORRECTION (g/cc) |
|   |                  |     |          |    | 0                        | LTEN (lb)         |
|   |                  |     |          |    |                          | 5000              |



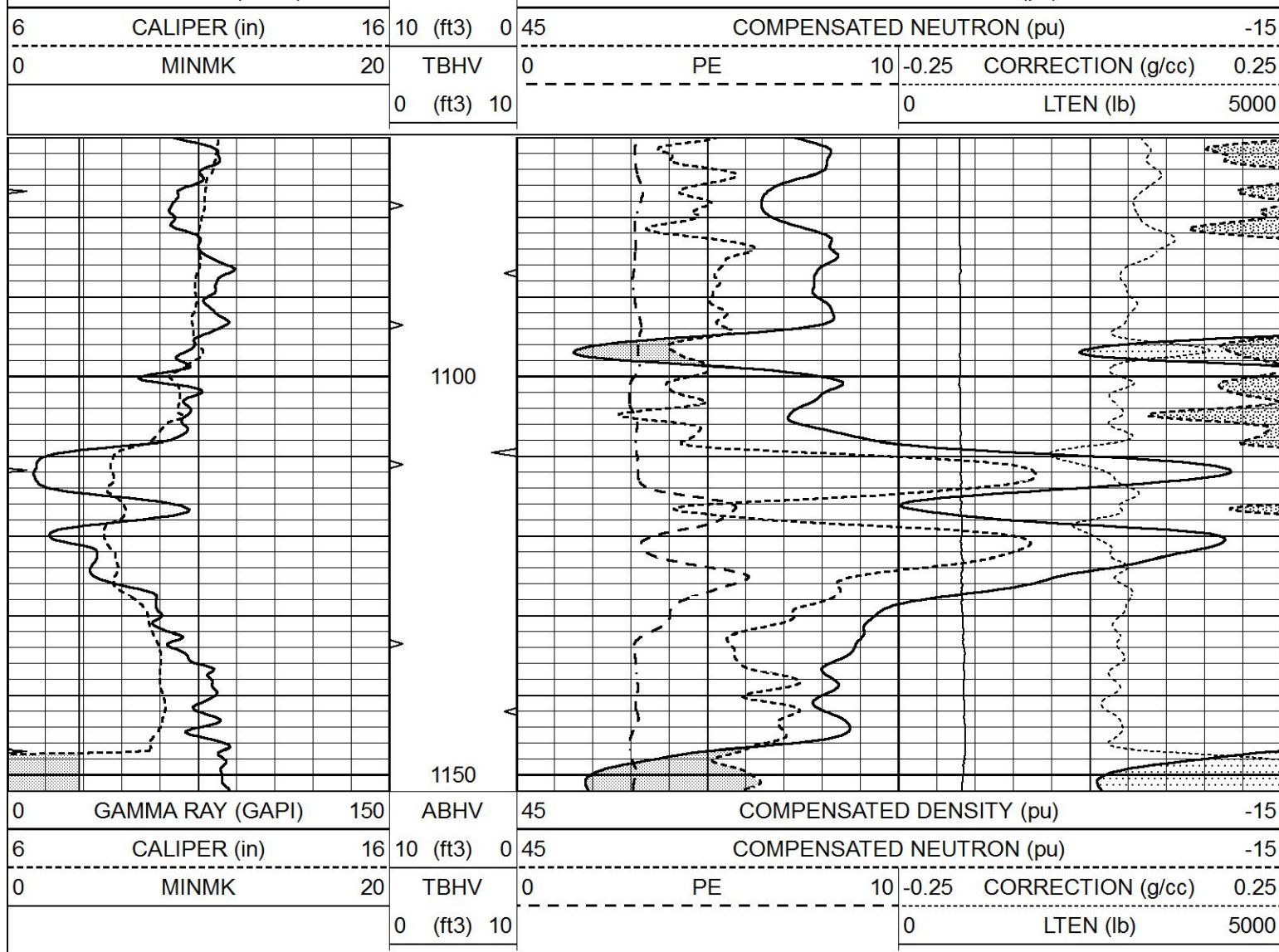
|   |                  |     |          |    |                          |                   |
|---|------------------|-----|----------|----|--------------------------|-------------------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 45 | COMPENSATED DENSITY (pu) | -15               |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0  | COMPENSATED NEUTRON (pu) | -15               |
| 0 | MINMK            | 20  | TBHV     | 0  | PE                       | 10                |
|   |                  |     | 0 (ft3)  | 10 | -0.25                    | CORRECTION (g/cc) |
|   |                  |     |          |    | 0                        | LTEN (lb)         |
|   |                  |     |          |    |                          | 5000              |



# ANHYDRITE MAIN PASS

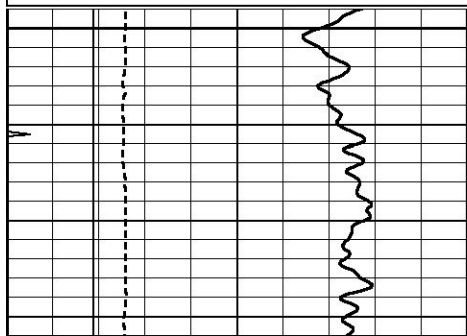
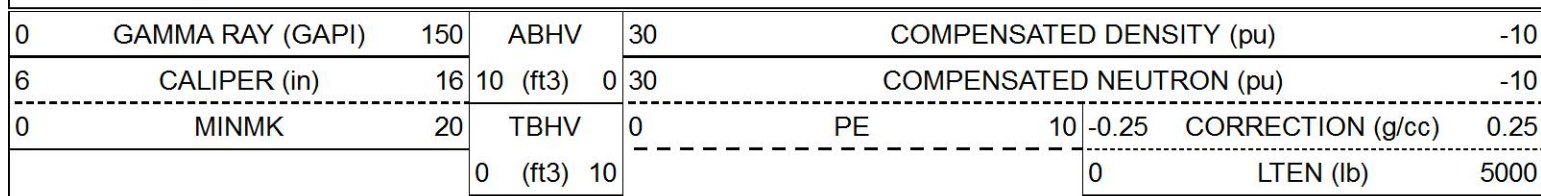
|                     |                            |
|---------------------|----------------------------|
| Database File       | 8411pe.db                  |
| Dataset Pathname    | pass5.2A                   |
| Presentation Format | ldt_neu                    |
| Dataset Creation    | Fri Feb 16 01:23:42 2024   |
| Charted by          | Depth in Feet scaled 1:240 |

|   |                  |     |      |    |                          |     |
|---|------------------|-----|------|----|--------------------------|-----|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 45 | COMPENSATED DENSITY (pu) | -15 |
|---|------------------|-----|------|----|--------------------------|-----|

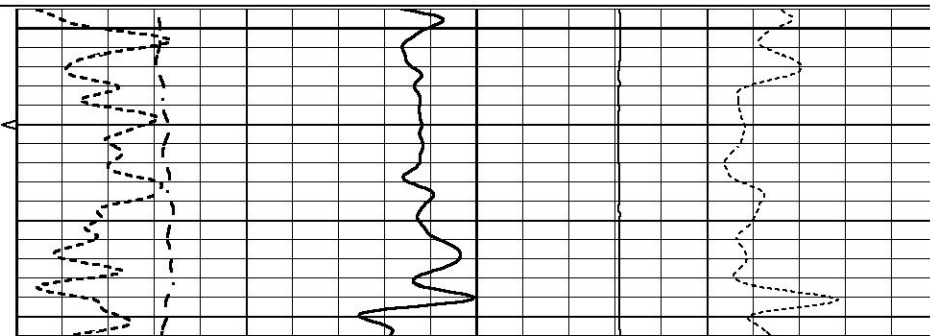


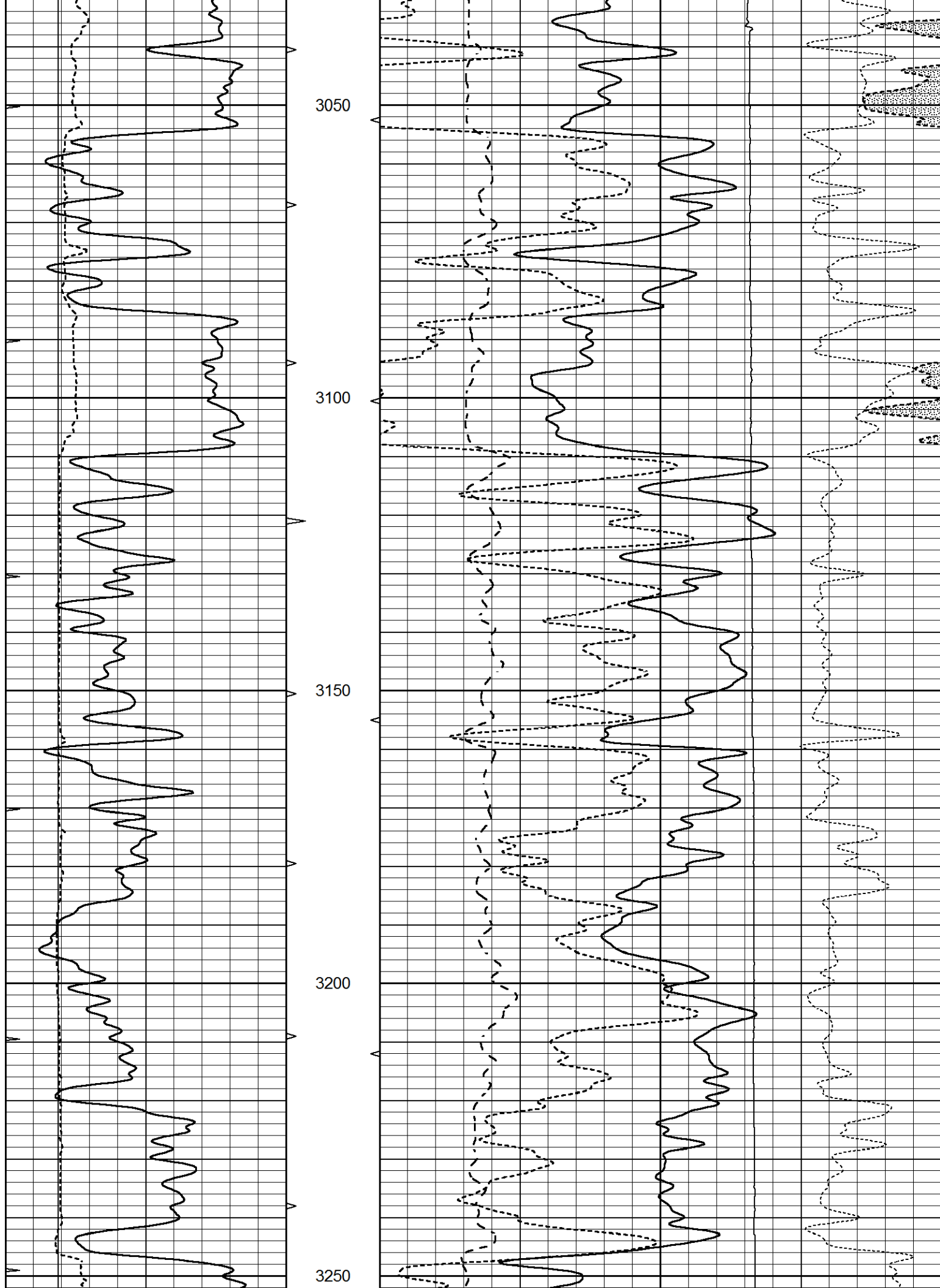
# MAIN SECTION

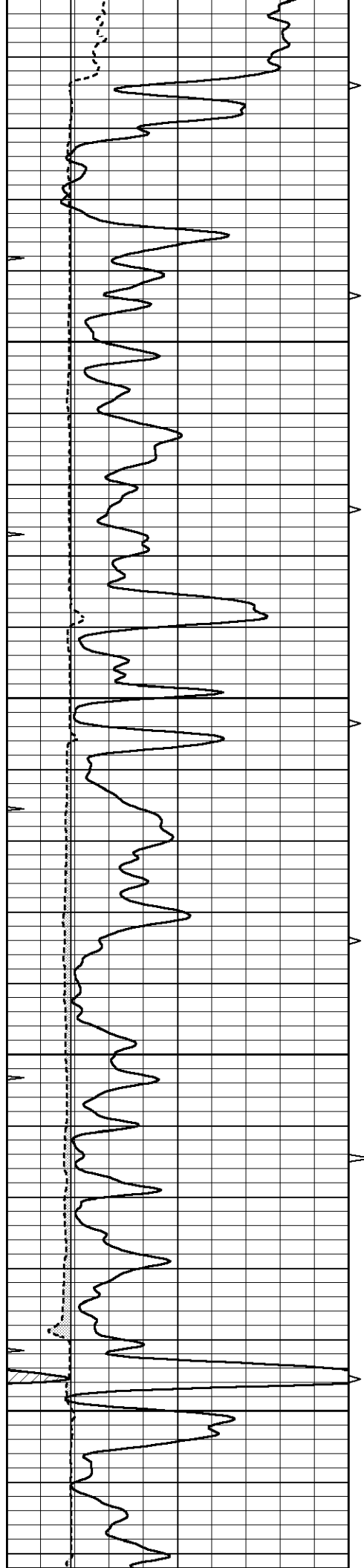
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 Dataset Pathname pass5.1M  
 Presentation Format \_ldt\_neu  
 Dataset Creation Fri Feb 16 01:12:09 2024  
 Charted by Depth in Feet scaled 1:240



3000





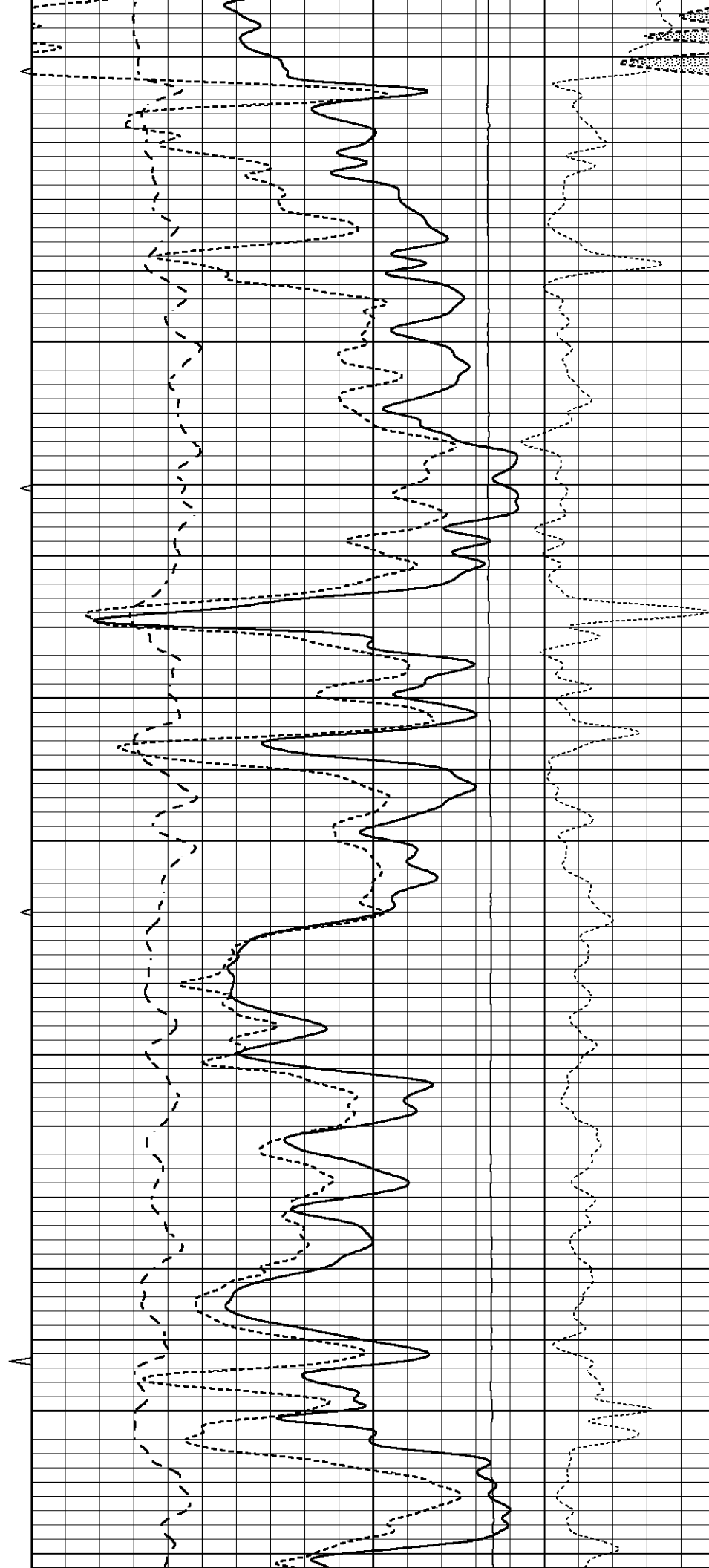


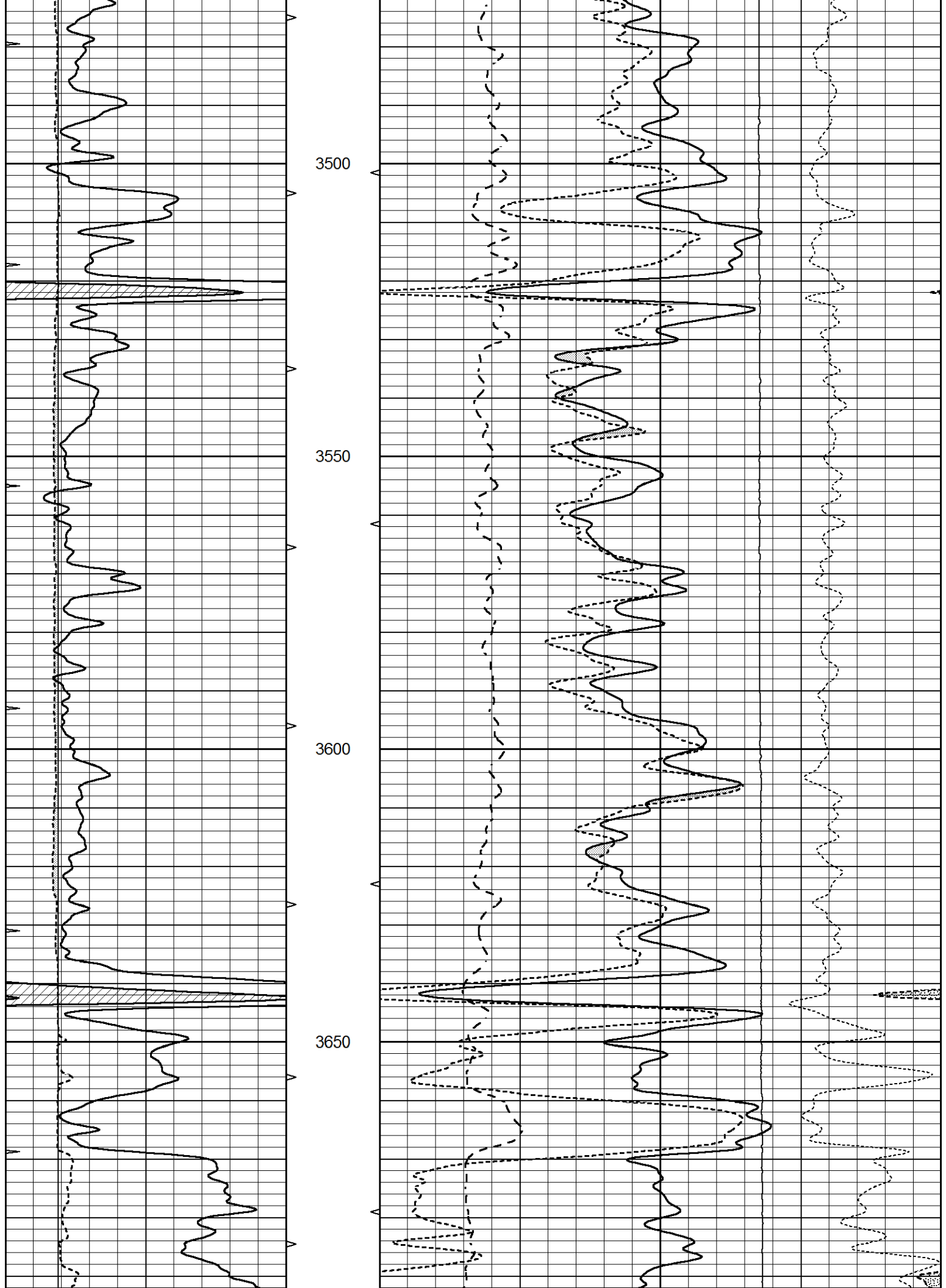
3300

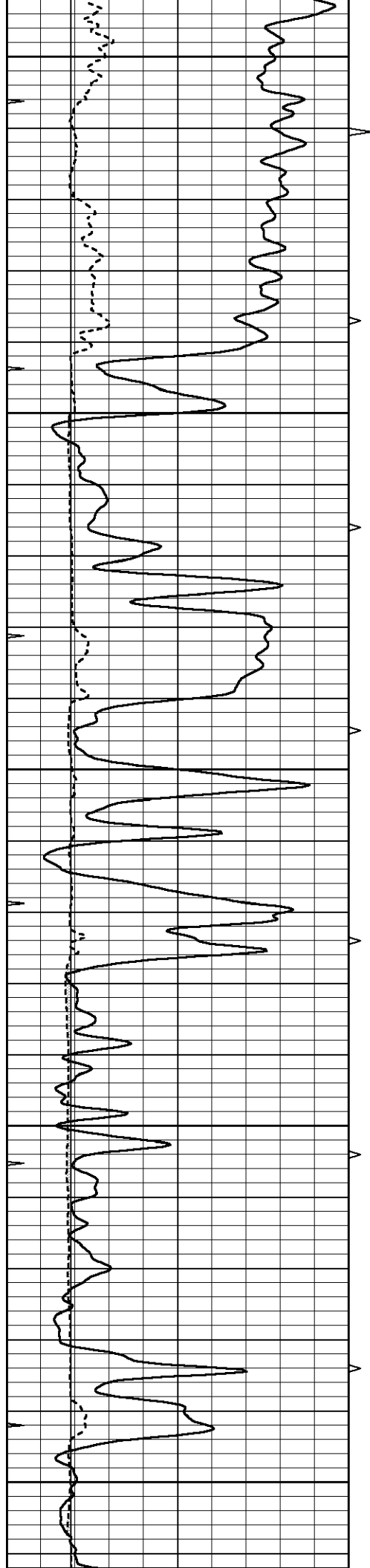
3350

3400

3450







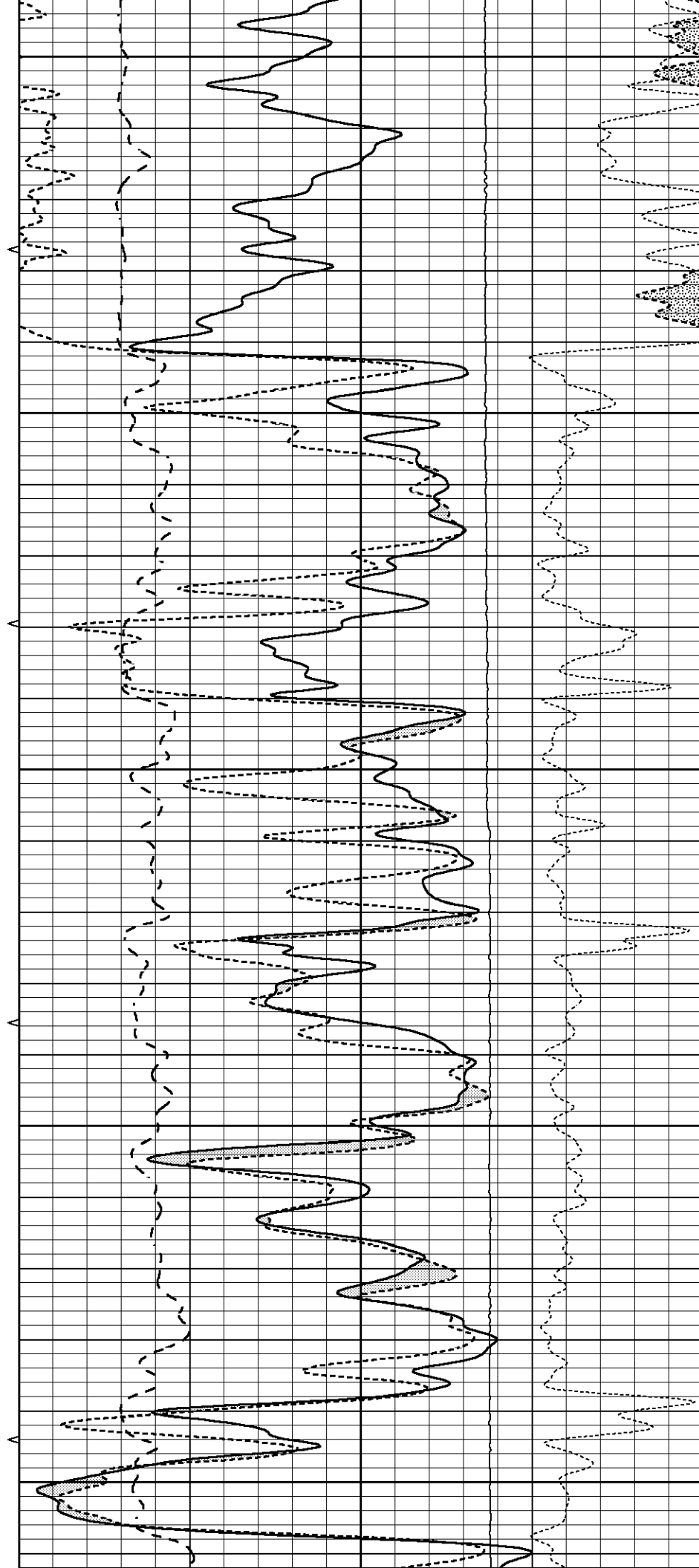
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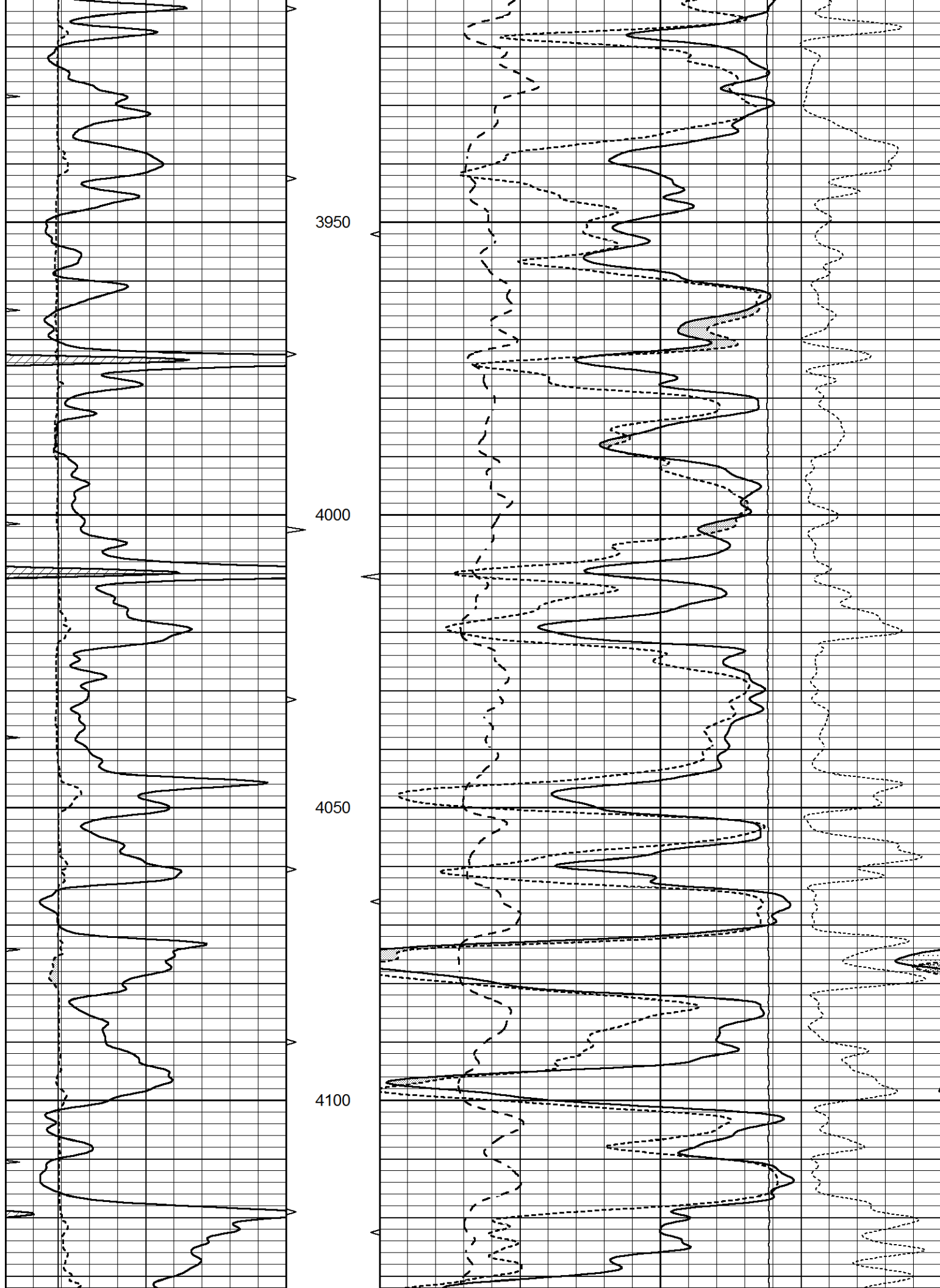
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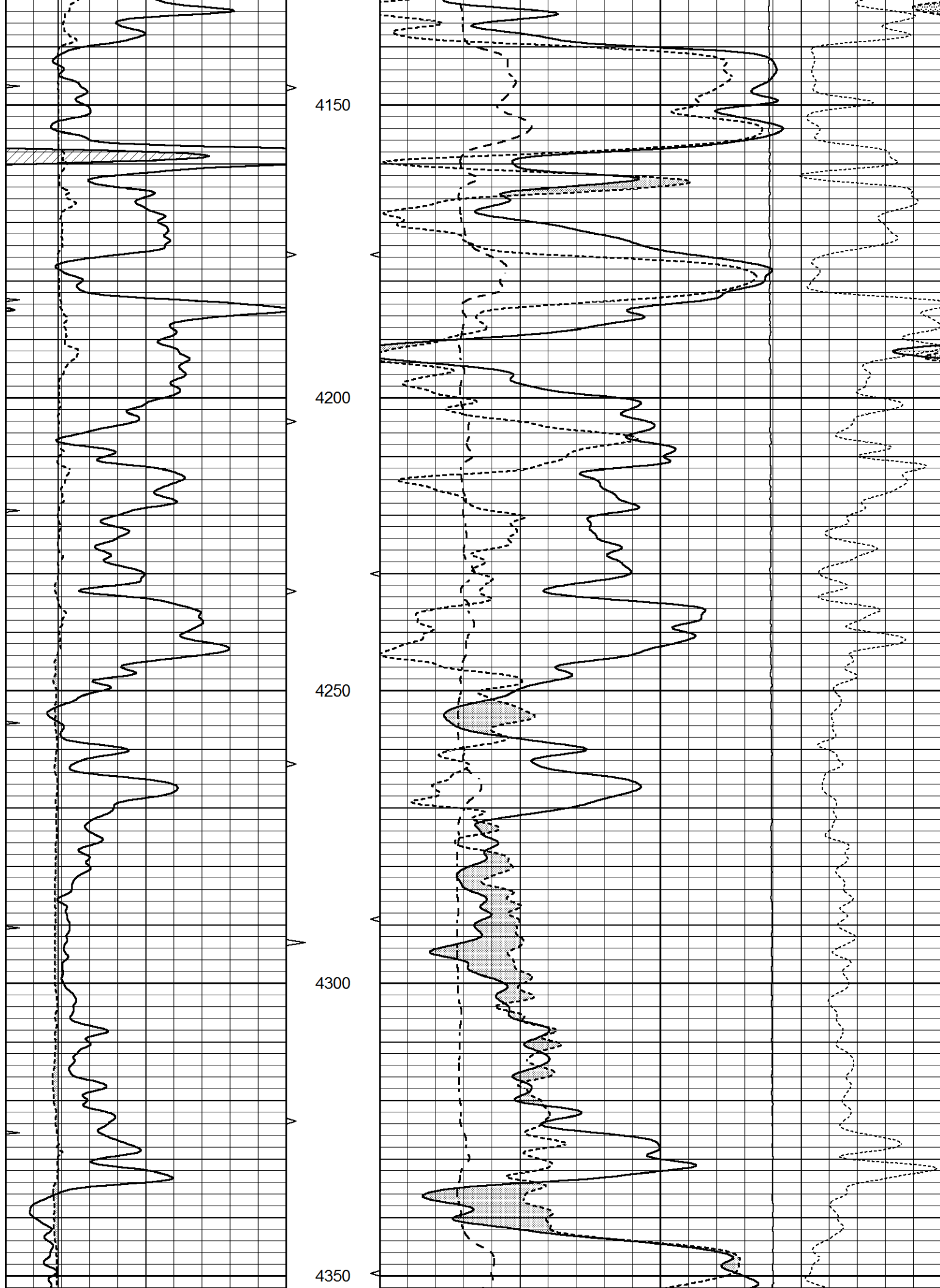
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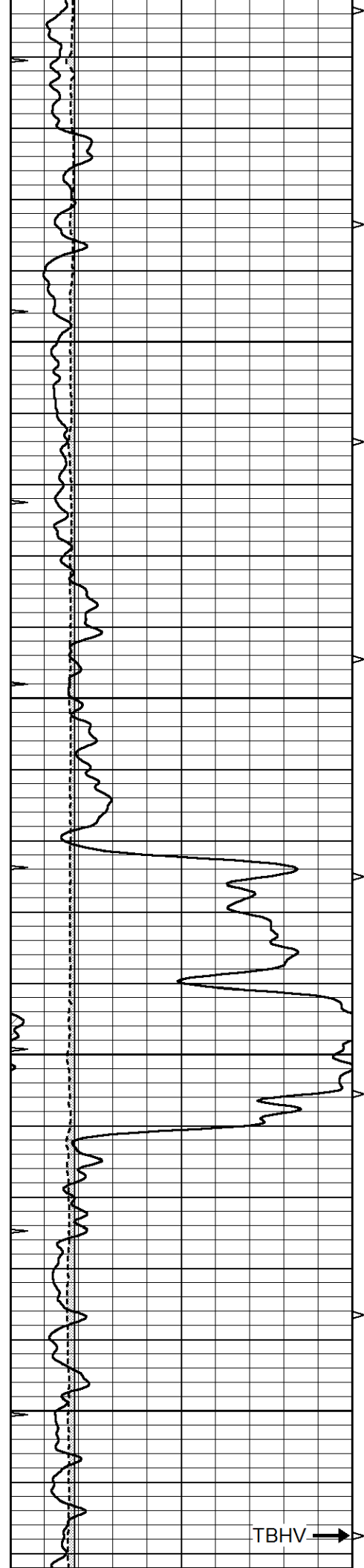
3850

3900









4400

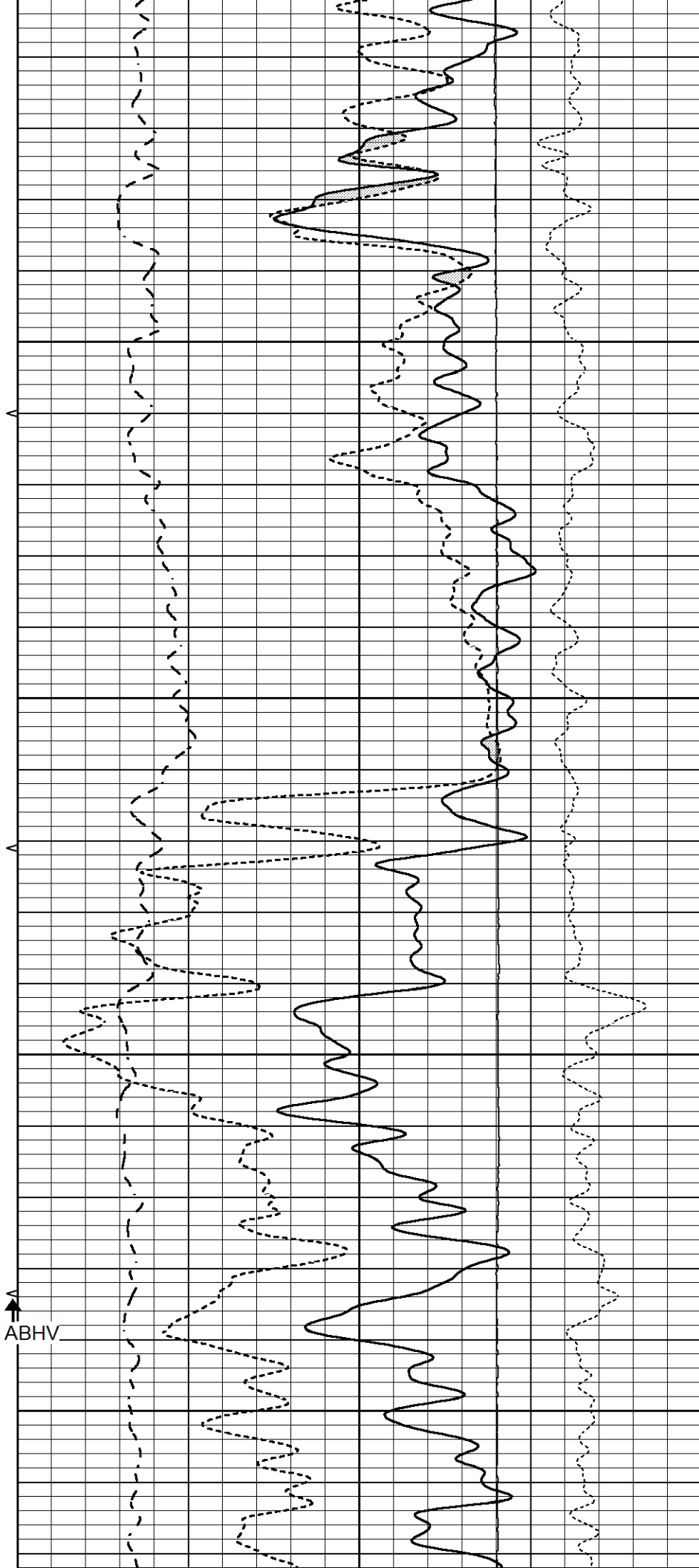
4450

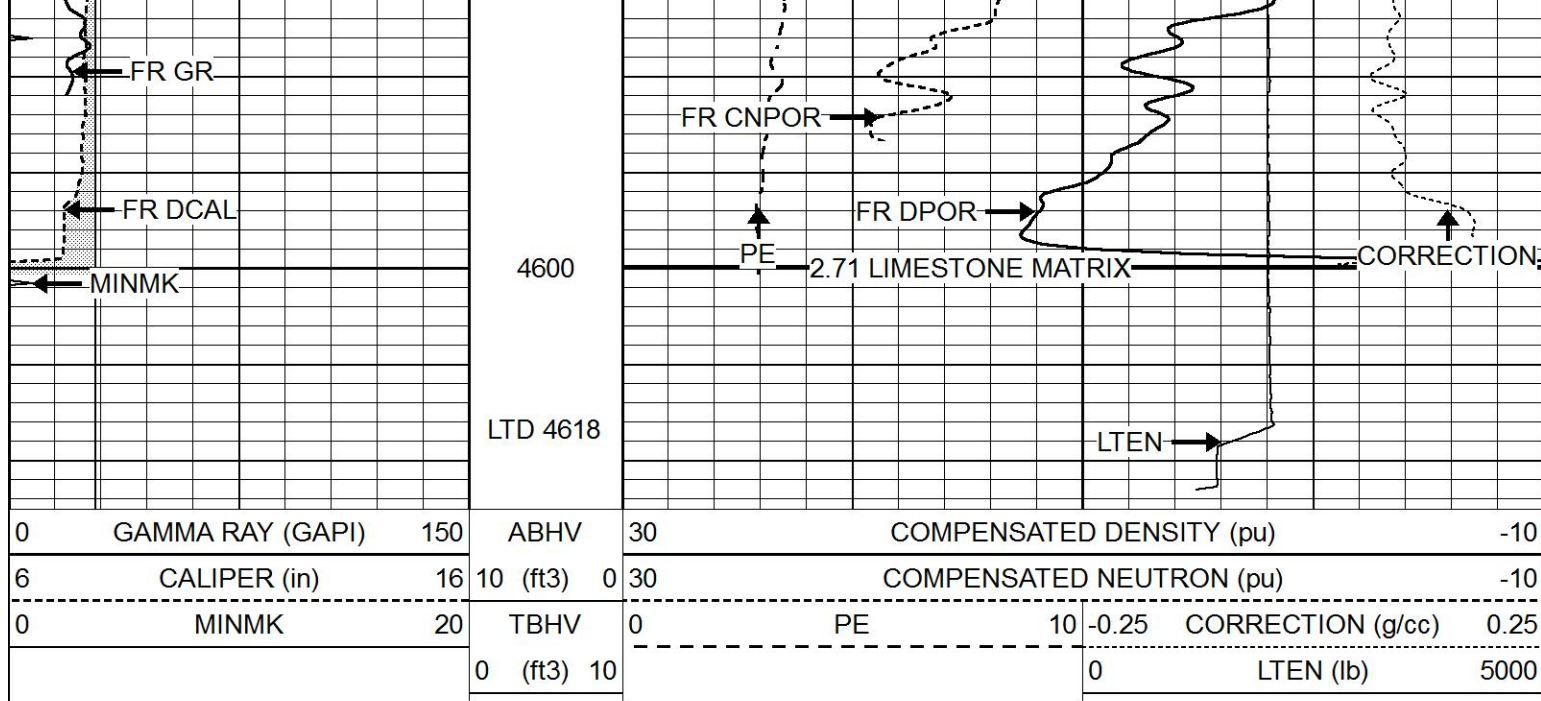
4500

5.5" ABHV

4550

TBHV →

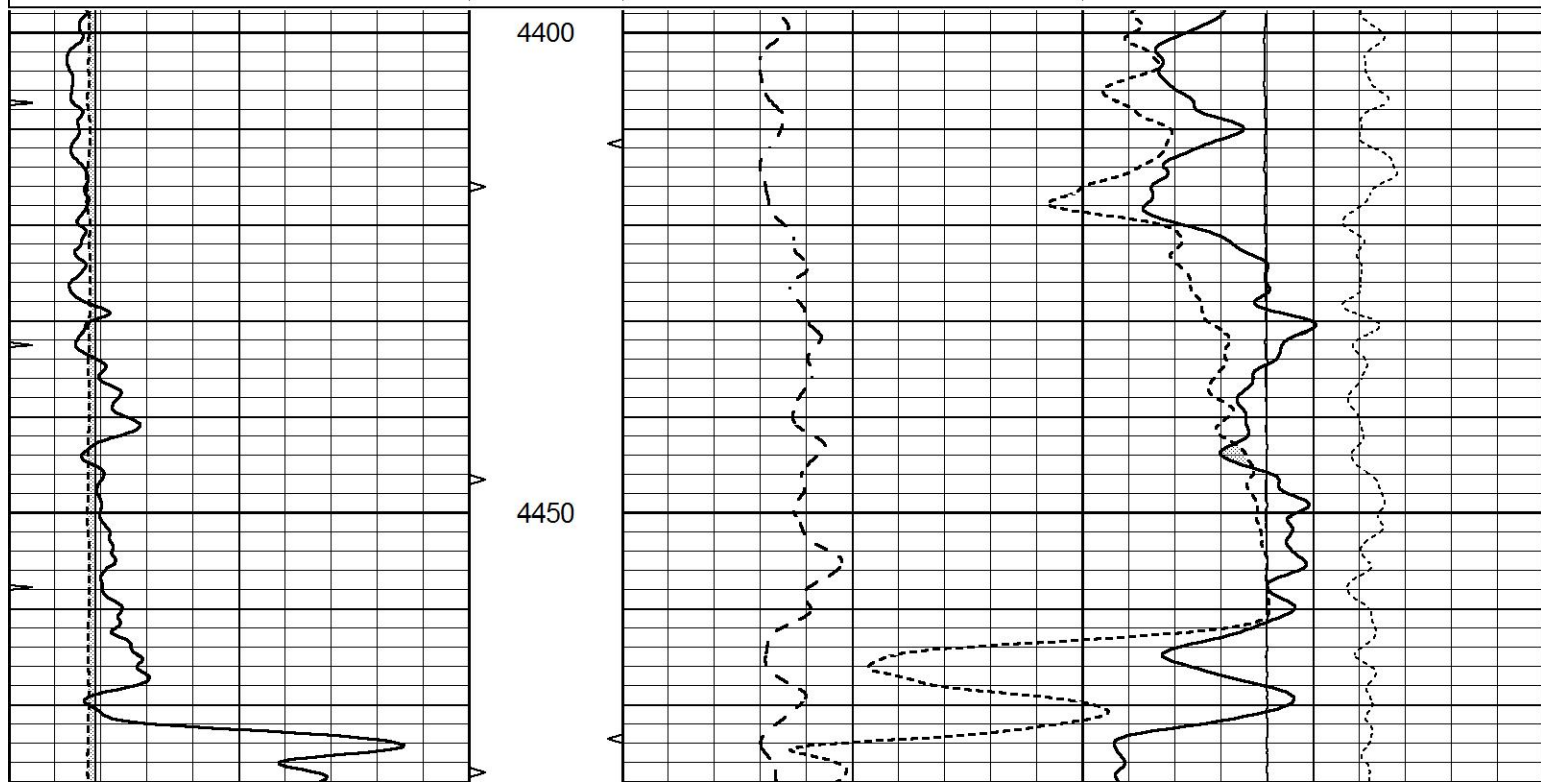


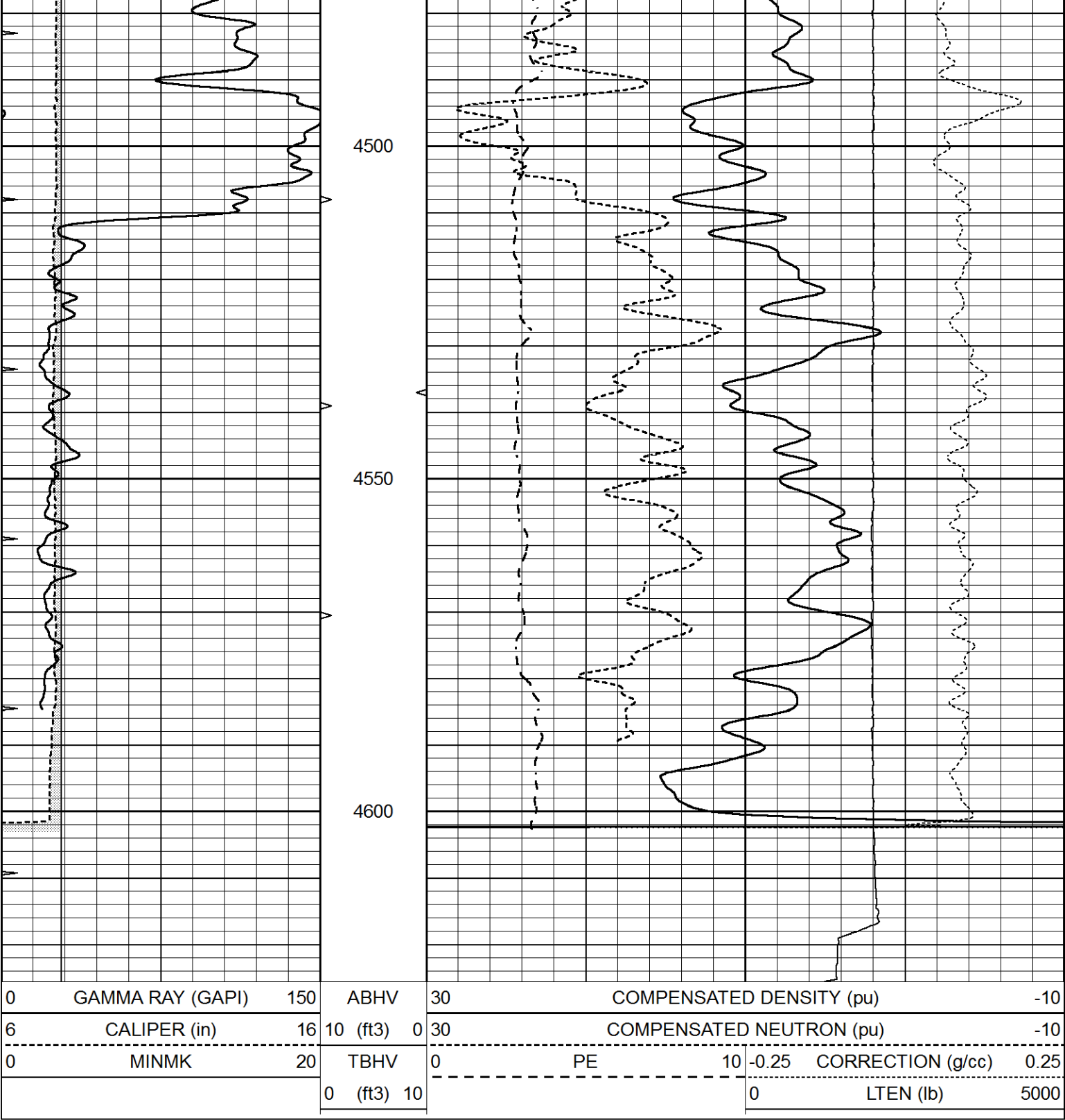


# REPEAT SECTION

Database File 8411pe.db  
 Dataset Pathname pass4.1R  
 Presentation Format \_ldt\_neu  
 Dataset Creation Fri Feb 16 00:15:16 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) |           |       | -10                    |
|   |                  |     |            | ----- |                          |           |       |                        |
| 0 | MINMK            | 20  | TBHV       | 0     | PE                       | 10        | -0.25 | CORRECTION (g/cc) 0.25 |
|   |                  |     |            | ----- |                          |           |       |                        |
|   |                  |     | 0 (ft3) 10 |       | 0                        | LTEN (lb) |       | 5000                   |





|                                      |  |                          |  |                    |  |
|--------------------------------------|--|--------------------------|--|--------------------|--|
| Database File                        |  | 8411pe.db                |  | Calibration Report |  |
| Dataset Pathname                     |  | pass5.1M                 |  |                    |  |
| Dataset Creation                     |  | Fri Feb 16 01:12:09 2024 |  |                    |  |
| Dual Induction Calibration Report    |  |                          |  |                    |  |
| Serial-Model:                        |  | PROBE8-DILG              |  |                    |  |
| Surface Cal Performed:               |  | Thu Feb 15 23:44:37 2024 |  |                    |  |
| Downhole Cal Performed:              |  | Mon Aug 14 00:39:25 2023 |  |                    |  |
| After Survey Verification Performed: |  | Mon Jul 28 11:08:27 2008 |  |                    |  |

|                     |          |            |         |
|---------------------|----------|------------|---------|
| Surface Calibration | Readings | References | Results |
|---------------------|----------|------------|---------|

| Loop:     | Air   | Loop  |   | Air   | Loop    |        | m       | b       |
|-----------|-------|-------|---|-------|---------|--------|---------|---------|
| Deep      | 0.015 | 0.648 | V | 0.000 | 400.000 | mmho/m | 660.000 | 10.000  |
| Medium    | 0.029 | 0.796 | V | 0.000 | 464.000 | mmho/m | 650.000 | -7.000  |
| Internal: | Zero  | Cal   |   | Zero  | Cal     |        | m       | b       |
| Deep      | 0.017 | 0.657 | V | 0.000 | 400.000 | mmho/m | 625.153 | -10.619 |
| Medium    | 0.016 | 0.757 | V | 0.000 | 464.000 | mmho/m | 625.992 | -9.739  |

| Downhole Calibration |       |        |            |       |          |         |       |       |
|----------------------|-------|--------|------------|-------|----------|---------|-------|-------|
| Readings             |       |        | References |       |          | Results |       |       |
|                      | Zero  | Cal    |            | Zero  | Cal      |         | m'    | b'    |
| Deep                 | 0.000 | 0.000  | mmho/m     | 2.011 | 405.777  | mmho/m  | 1.000 | 0.000 |
| Medium               | 0.000 | 0.000  | mmho/m     | 7.590 | 503.393  | mmho/m  | 1.000 | 0.000 |
| LL3                  |       | 7.500  | V          |       | 1500.000 | Ohm-m   |       |       |
|                      |       | 0.000  | V          |       | 20.000   | Ohm-m   |       |       |
|                      |       | -7.200 | V          |       | 3800.000 | 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: 001                      |  |  | Model: PRB |  |  |  |  |  |

| Master Calibration |            |             |         | Performed Tue Aug 02 14:54:49 2022 |             |  |         |      |
|--------------------|------------|-------------|---------|------------------------------------|-------------|--|---------|------|
|                    | Background | Magnesium   |         | Aluminum                           | Aluminum+Fe |  |         |      |
| Window 1           | 1540.1     | 9840.1      |         | 3279.8                             | 3001.8      |  |         | cps  |
| Window 2           | 1435.6     | 8495.4      |         | 2920.3                             | 2720.3      |  |         | cps  |
| Window 3           | 1167.4     | 4527.9      |         | 1868.6                             | 1810.1      |  |         | cps  |
| Window 4           | 344.6      | 343.5       |         | 346.7                              | 342.3       |  |         | cps  |
| Long Space         | 0.0        | 7059.8      |         | 1484.8                             | 1284.7      |  |         | cps  |
| Short Space        | 3.3        | 2502.7      |         | 1618.3                             | 1368.5      |  |         | cps  |
| Rho                |            | 1.7100      |         | 2.5900                             | 0.0000      |  |         | g/cc |
| Pe                 |            | 2.0000      |         | 2.7500                             | 5.7900      |  |         |      |
| Rib Angle          | : 44.4     | Rib Slope   | : 0.979 | Density/Spine Ratio                |             |  | : 0.544 |      |
| Spine Angle        | : 74.4     | Spine Slope | : 3.576 | Spine Intercept                    |             |  | : -19.1 |      |

| 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: 070808PMC  
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: 070558  
Tool Model: OPEN\_GR  
Performed: Wed Dec 20 03:59:02 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps