



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
LOG**

|                                            |                            |                  |                |
|--------------------------------------------|----------------------------|------------------|----------------|
| Company                                    | NOR-WEST KS OIL, LLC.      |                  |                |
| Well                                       | NIGHTENGALE #2             |                  |                |
| Field                                      | ISBEL NORTH                |                  |                |
| County                                     | SCOTT                      | State            | KANSAS         |
| Location:                                  | API # : 15-171-20997-00-00 |                  | Other Services |
| 2150' FSL & 2245' FEL<br>SE - NW - NW - SE |                            | DIL              |                |
| SEC 22 TWP 17S RGE 34W                     |                            | Elevation        |                |
| Permanent Datum                            | GROUND LEVEL               | Elevation        | K.B. 3075      |
| Log Measured From                          | KELLY BUSHING 5' A.G.L.    |                  | D.F. 3073      |
| Drilling Measured From                     | KELLY BUSHING              |                  | G.L. 3070      |
| Date                                       | 11/20/13                   |                  |                |
| Run Number                                 | ONE                        |                  |                |
| Depth Driller                              | 4910                       |                  |                |
| Depth Logger                               | 4912                       |                  |                |
| Bottom Logged Interval                     | 4888                       |                  |                |
| Top Log Interval                           | 3800                       |                  |                |
| Casing Driller                             | 8 5/8 " @ 252'             |                  |                |
| Casing Logger                              | 252'                       |                  |                |
| Bit Size                                   | 7.875                      |                  |                |
| Type Fluid in Hole                         | CHEMICAL MUD               | CHLORIDES 10,000 |                |
| Density / Viscosity                        | 9.1 / 47                   |                  |                |
| pH / Fluid Loss                            | 10.0 / 9.6                 |                  |                |
| Source of Sample                           | FLOWLINE                   |                  |                |
| Rim @ Meas. Temp                           | 0.40 @ 80F                 |                  |                |
| Rmf @ Meas. Temp                           | 0.30 @ 80F                 |                  |                |
| Rmc @ Meas. Temp                           | 0.48 @ 80F                 |                  |                |
| Source of Rmf / Rmc                        | MEASURED                   |                  |                |
| Rim @ BHT                                  | 0.26 @ 124F                |                  |                |
| Time Circulation Stopped                   | 2 HOURS                    |                  |                |
| Time Logger on Bottom                      |                            |                  |                |
| Maximum Recorded Temperature               | 124F                       |                  |                |
| Equipment Number                           | 860                        |                  |                |
| Location                                   | HAYS, KS.                  |                  |                |
| Recorded By                                | JEFF GRONEWEG              |                  |                |
| Witnessed By                               | SEAN DEENIHAN              |                  |                |

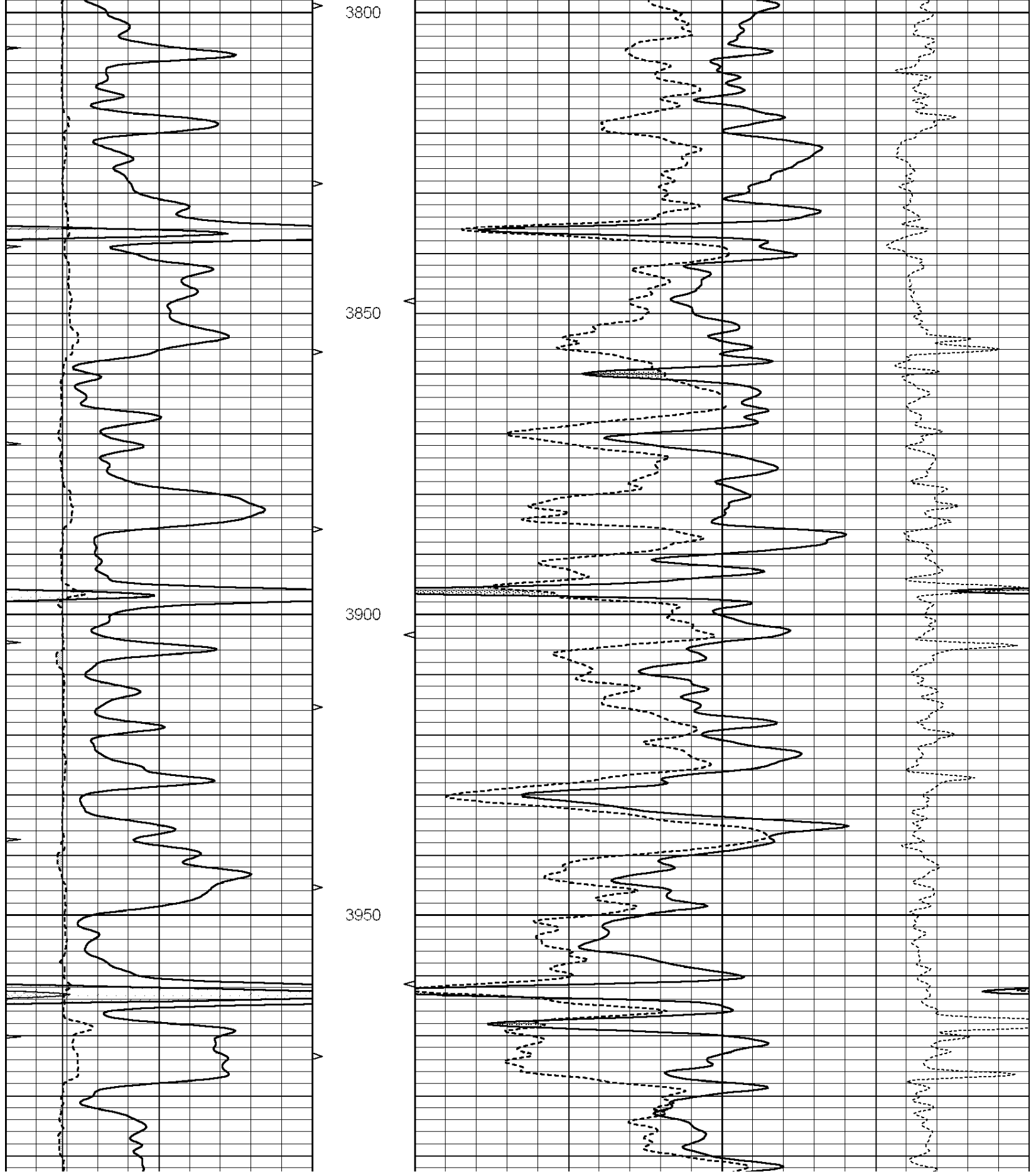
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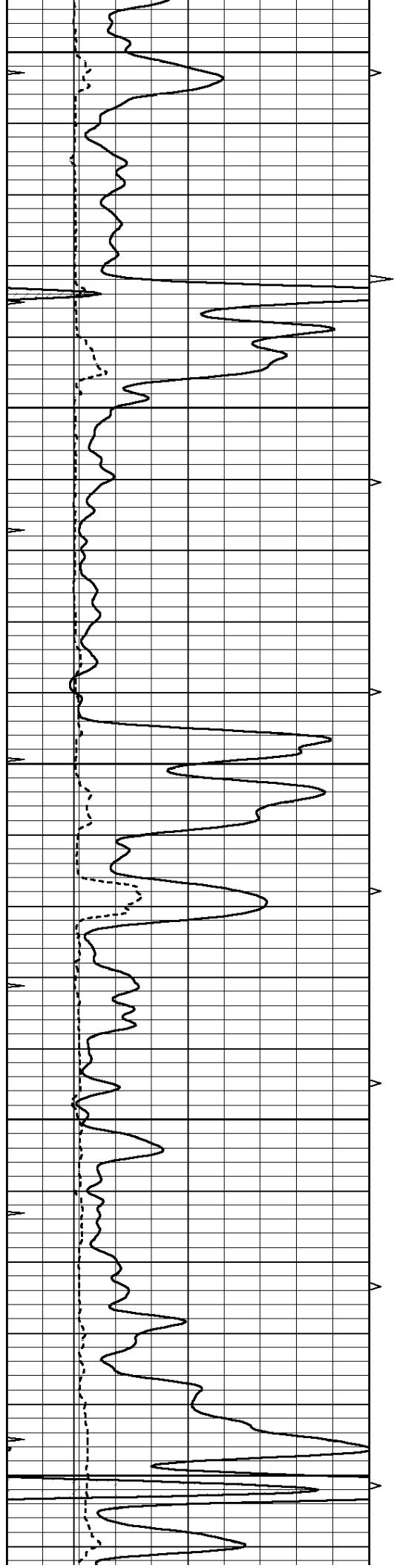
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

NABORS COMPLETION & PRODUCTION SERVICES  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: SCOTT CITY, KS - 3 MILES NORTH TO RD 190  
9 MILES WEST TO CHEROKEE RD - 1 1/2 MILES NORTH - EAST INTO

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





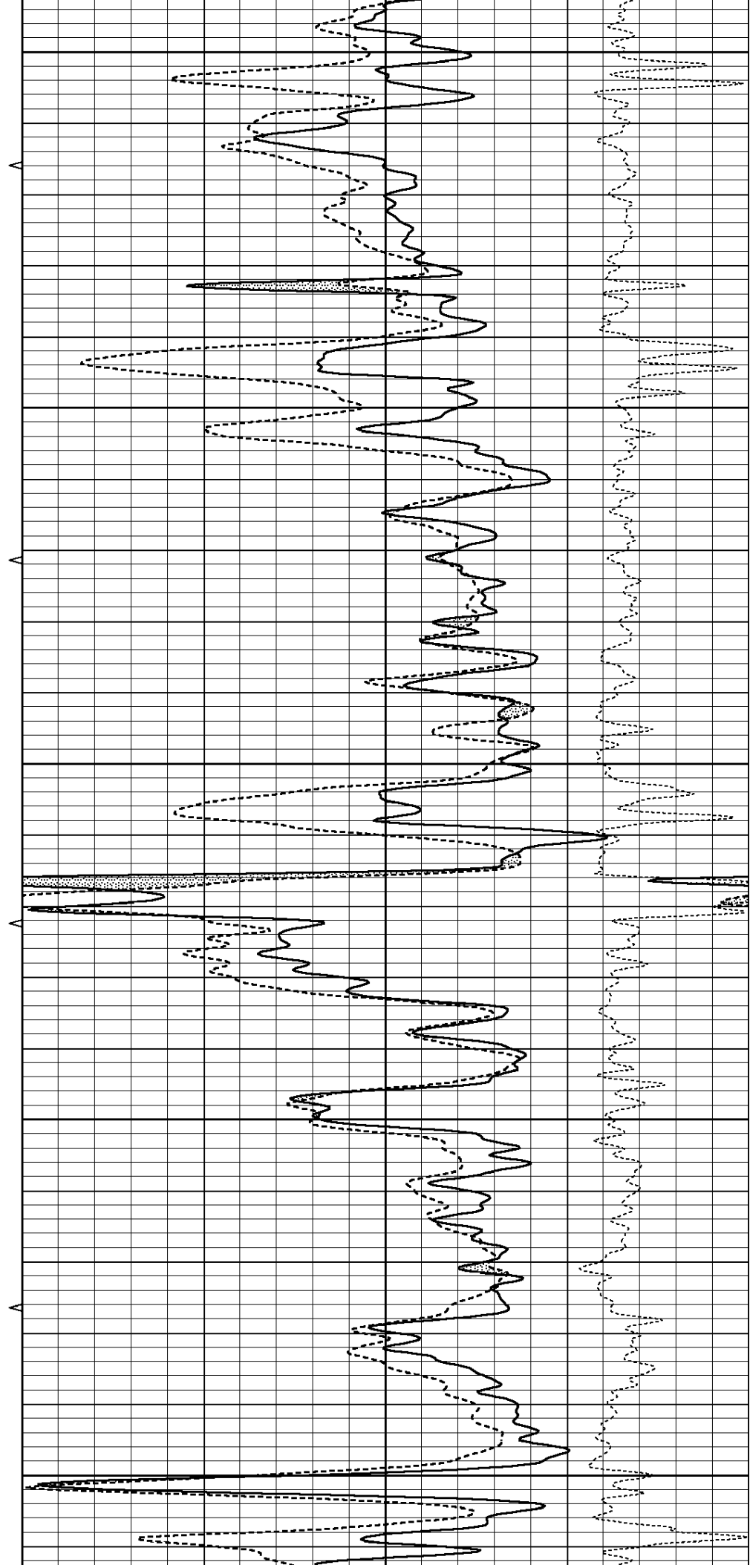
4000

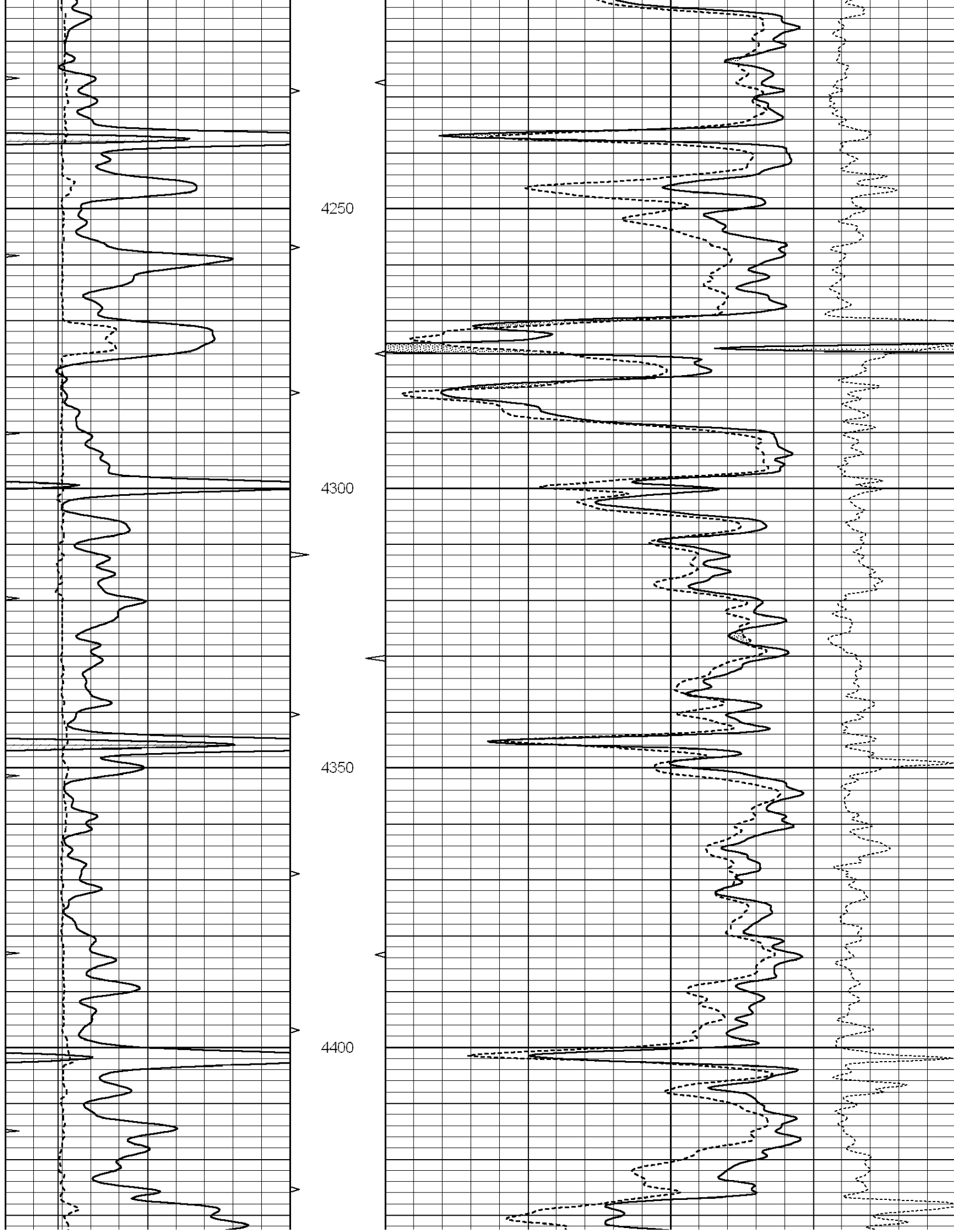
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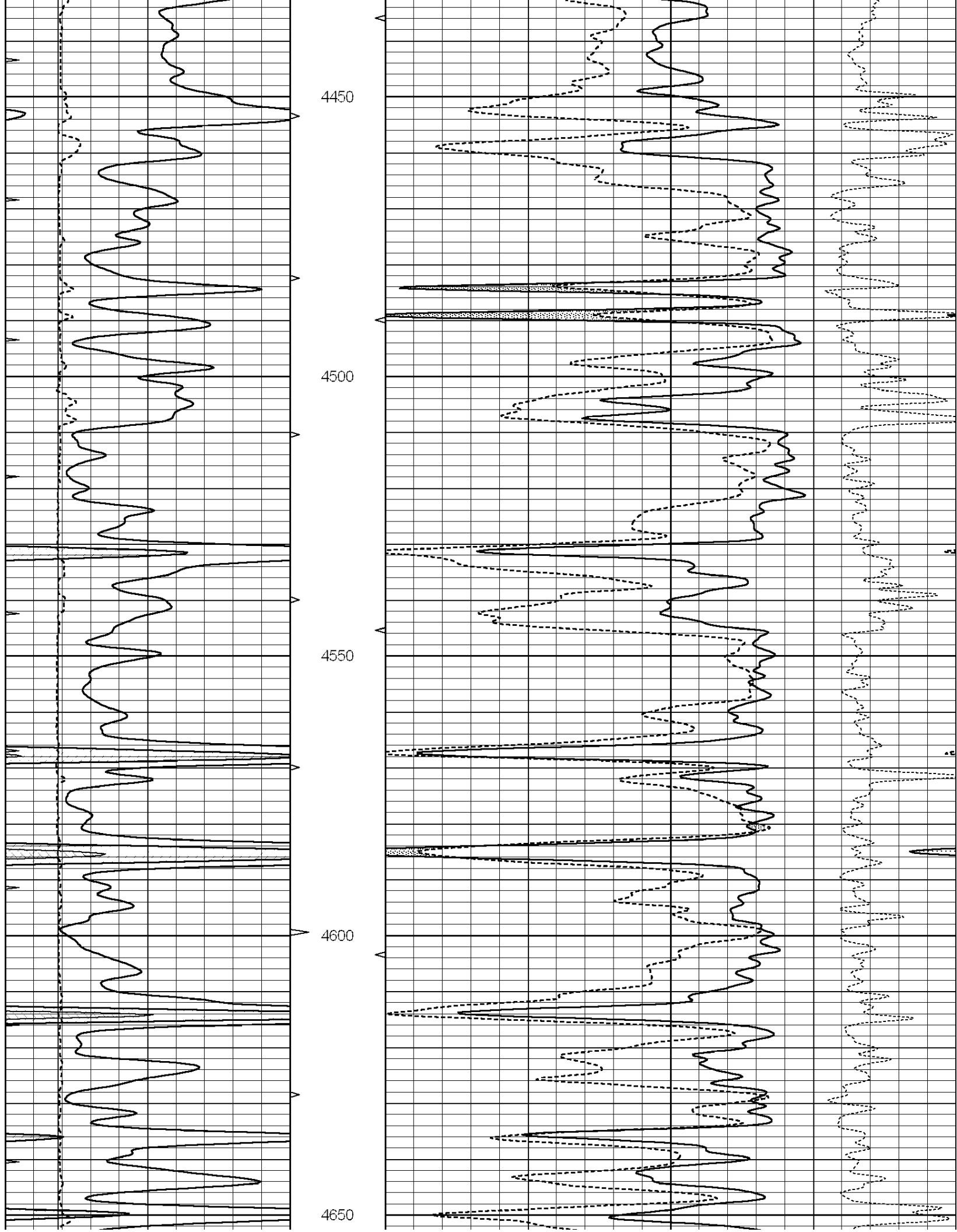
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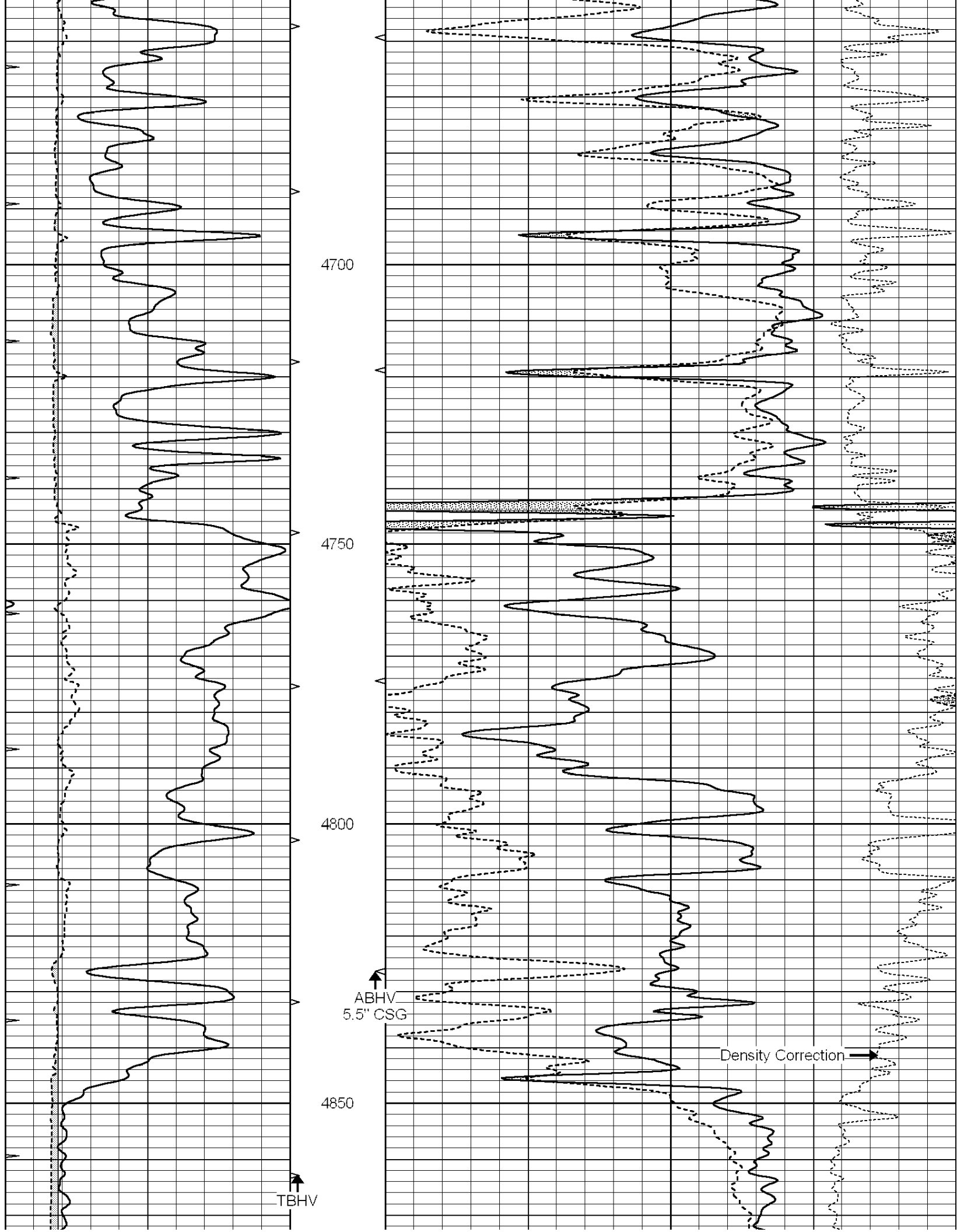
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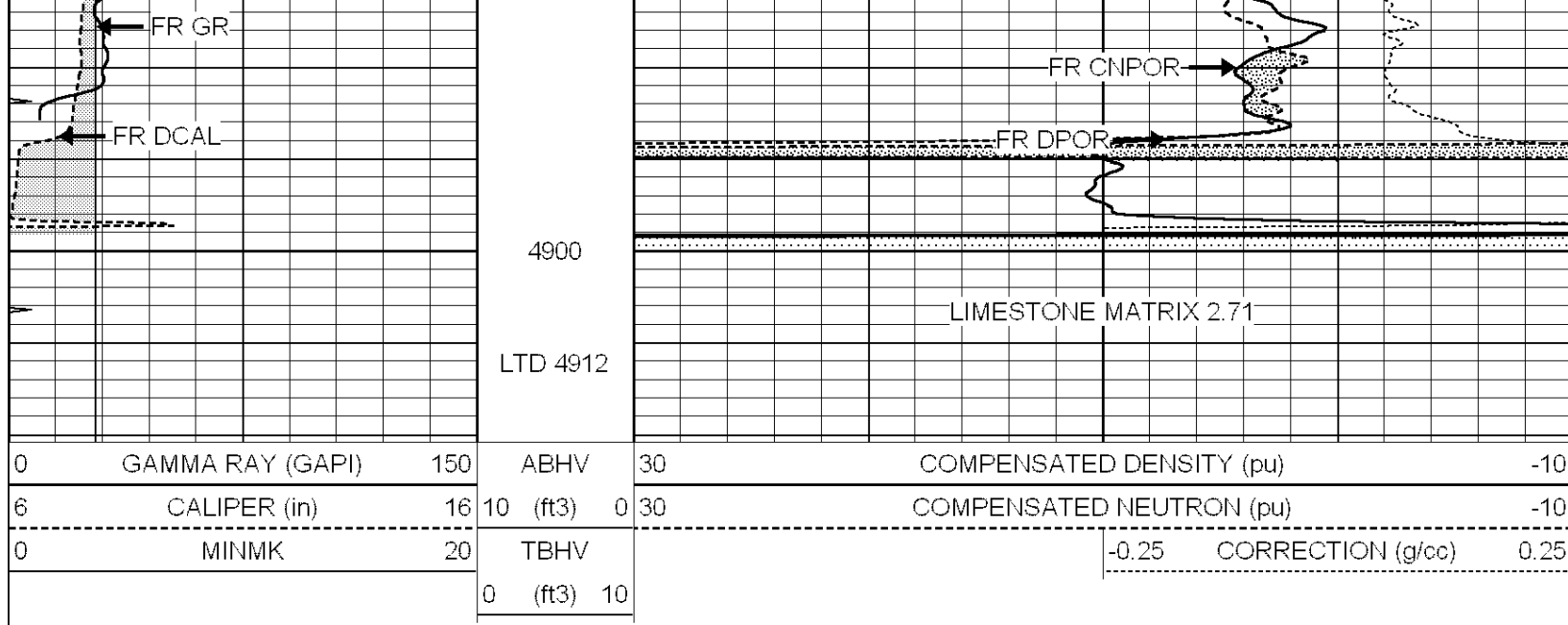
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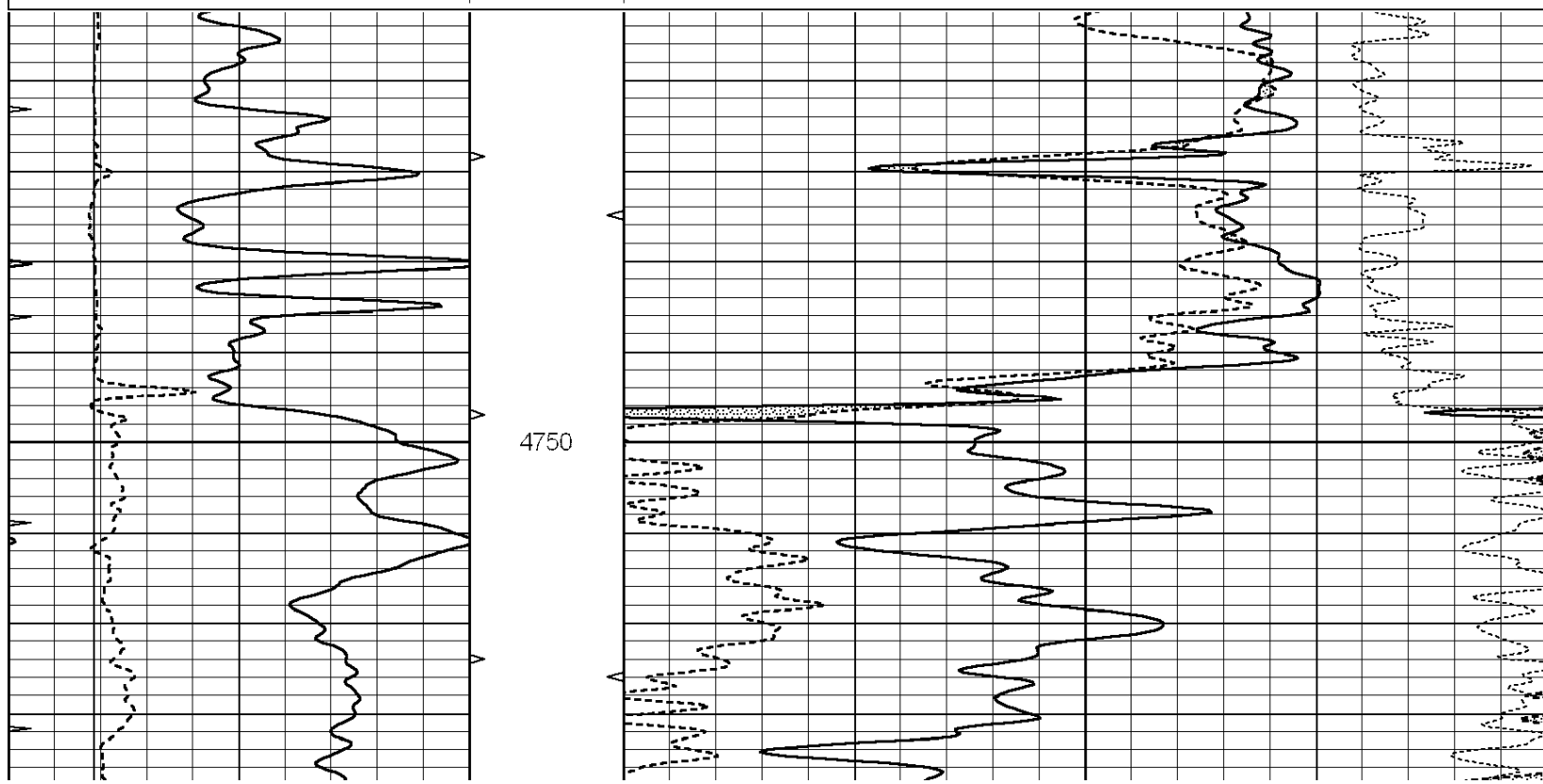


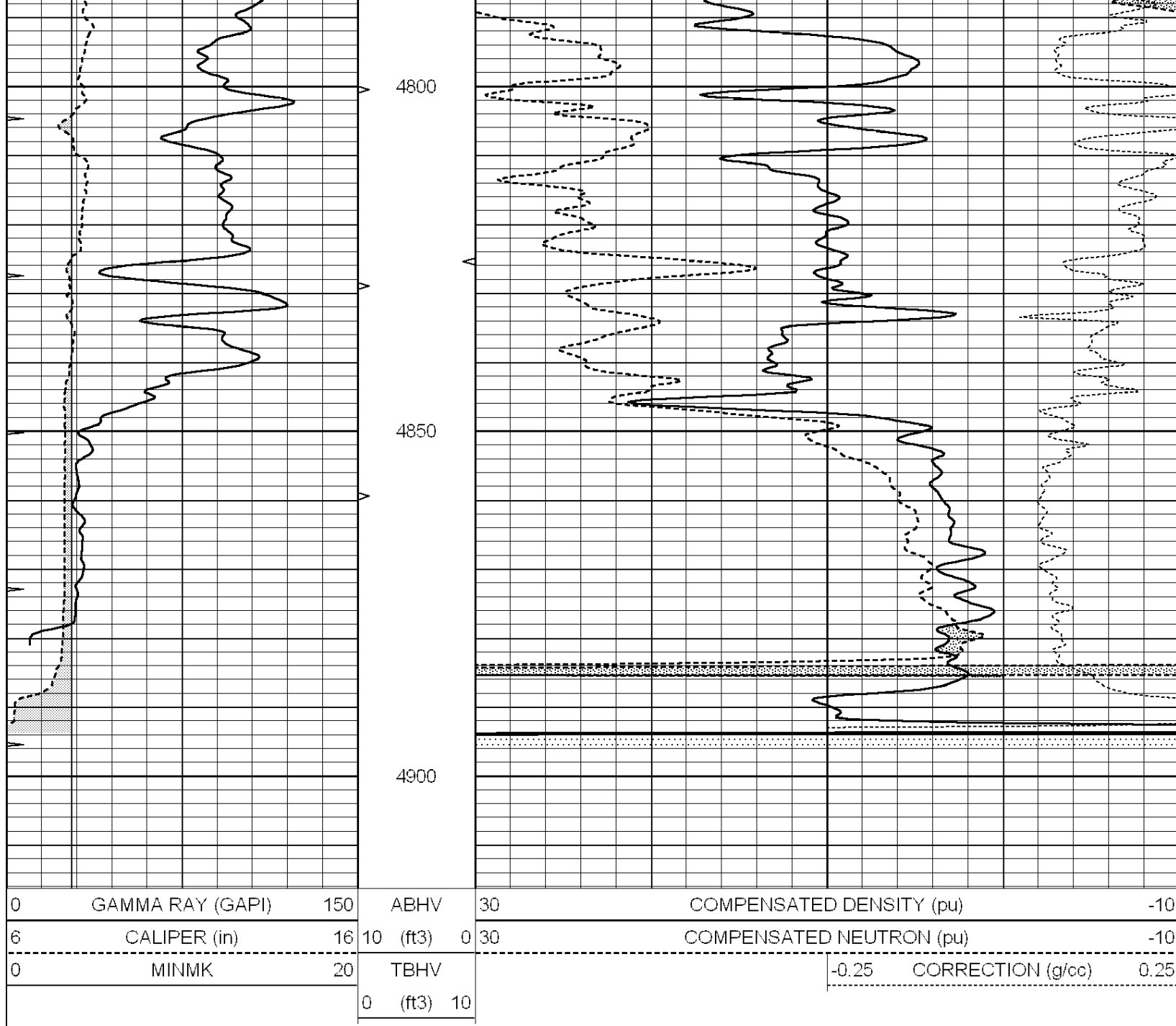


# REPEAT SECTION

Database File: 012042ddn.db  
 Dataset Pathname: pass2.3  
 Presentation Format: \_den\_neu  
 Dataset Creation: Wed Nov 20 19:00:18 2013 by Calc Open-Cased 090629  
 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: 012042ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Wed Nov 20 19:37:50 2013 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model:  
 Performed:

DIL3-GEAR  
 Tue Nov 19 01:01:52 2013

| Readings  |       |       |   | References |         |        | Results |        |
|-----------|-------|-------|---|------------|---------|--------|---------|--------|
| Loop:     | Air   | Loop  |   | Air        | Loop    |        | m       | b      |
| Deep      | 0.011 | 0.656 | V | 0.000      | 400.000 | mmho/m | 540.000 | 12.000 |
| Medium    | 0.013 | 0.740 | V | 0.000      | 462.500 | mmho/m | 640.000 | 0.000  |
| Internal: | Zero  | Cal   |   | Zero       | Cal     |        | m       | b      |
| Deep      | 0.002 | 0.645 | V | 0.000      | 400.000 | mmho/m | 560.000 | -1.071 |



Medium 0.007 0.740 V 0.000 462.500 mmho/m 540.000 -4.000

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART  
Source / Verifier: 147 / 147  
Master Calibration Performed: Fri Nov 08 14:16:27 2013

Master Calibration

|                     | Density |      | Far Detector                | Near Detector |     |
|---------------------|---------|------|-----------------------------|---------------|-----|
| Magnesium           | 1.710   | g/cc | 1205.77                     | 610.74        | cps |
| Aluminum            | 2.580   | g/cc | 271.21                      | 419.72        | cps |
| Spine Angle = 75.89 |         |      | Density/Spine Ratio = 0.566 |               |     |
|                     | Size    |      | Reading                     |               |     |
| Small Ring          | 8.20    | in   | 4.83                        | V             |     |
| Large Ring          | 14.00   | in   | 7.01                        | V             |     |

Compensated Neutron Calibration Report

Serial Number: NEU\_4I  
Tool Model: G

CALIBRATION

| Detector    | Readings |     | Target |     | Normalization |
|-------------|----------|-----|--------|-----|---------------|
| Short Space | 1.00     | cps | 1.00   | cps | 1.0000        |
| Long Space  | 1.00     | cps | 1.00   | cps | 1.0000        |

Gamma Ray Calibration Report

|                     |                          |
|---------------------|--------------------------|
| Serial Number:      | GR5                      |
| Tool Model:         | OPEN                     |
| Performed:          | Tue Nov 19 02:10:14 2013 |
| Calibrator Value:   | 1.0 GAPI                 |
| Background Reading: | 0.0 cps                  |
| Calibrator Reading: | 1.0 cps                  |
| Sensitivity:        | 0.9000 GAPI/cps          |