

**NABORS****COMPLETION  
& PRODUCTION  
SERVICES CO.****DUAL INDUCTION  
LOG**

|                              |                           |                      |                                     |
|------------------------------|---------------------------|----------------------|-------------------------------------|
| Company                      | RITCHIE EXPLORATION, INC. |                      |                                     |
| Well                         | #1 SCHUMACHER             |                      |                                     |
| Field                        | WILDCAT                   |                      |                                     |
| County                       | LOGAN                     | State                | KANSAS                              |
| Location:                    | API # : 15-109-21399-0000 |                      | Other Services                      |
|                              | 2125' FNL & 400' FWL      |                      | CDL/CDL                             |
|                              | SEC 25 TWP 15S RGE 36W    |                      |                                     |
| Permanent Datum              | GROUND LEVEL              | Elevation            | 3214                                |
| Log Measured From            | KELLY BUSHING 5' A.G.L.   |                      |                                     |
| Drilling Measured From       | KELLY BUSHING             | Elevation            | K.B. 3219<br>D.F. 3217<br>G.L. 3214 |
| Date                         | 4/21/15                   |                      |                                     |
| Run Number                   | ONE                       |                      |                                     |
| Depth Driller                | 4870                      |                      |                                     |
| Depth Logger                 | 4871                      |                      |                                     |
| Bottom Logged Interval       | 4869                      |                      |                                     |
| Top Log Interval             | 00                        |                      |                                     |
| Casing Driller               | 8 5/8"@22'                |                      |                                     |
| Casing Logger                | 218                       |                      |                                     |
| Bit Size                     | 7 7/8"                    |                      |                                     |
| Type Fluid in Hole           | CHEMICAL MUD              | CHLORIDES 10,000 PPM |                                     |
| Density / Viscosity          | 8.9/57                    |                      |                                     |
| pH / Fluid Loss              | 9.5/9.6                   |                      |                                     |
| Source of Sample             | FLOWLINE                  |                      |                                     |
| Rin @ Meas. Temp             | .400@80F                  |                      |                                     |
| Rinf @ Meas. Temp            | .300@80F                  |                      |                                     |
| Rinc @ Meas. Temp            | .420@80F                  |                      |                                     |
| Source of Rinf / Rinc        | MEASUREMENT               |                      |                                     |
| Rin @ BHT                    | .258@124F                 |                      |                                     |
| Time Circulation Stopped     | 2.5 HOURS                 |                      |                                     |
| Time Logger on Bottom        | 11:15 A.M.                |                      |                                     |
| Maximum Recorded Temperature | 124F                      |                      |                                     |
| Equipment Number             | 4854                      |                      |                                     |
| Location                     | HAYS, KANSAS              |                      |                                     |
| Recorded By                  | JEFF LUEBBERS             |                      |                                     |
| Witnessed By                 | BOB PETERSON              |                      |                                     |

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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

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
PENCE, KS., 10W. TO "RD. 18", 3N. TO CURVE, JOG W., 2N., 1W., S. INTO

Database File:

26511ddn.db

Dataset Pathname:

pass3.6

Presentation Format:

dil2

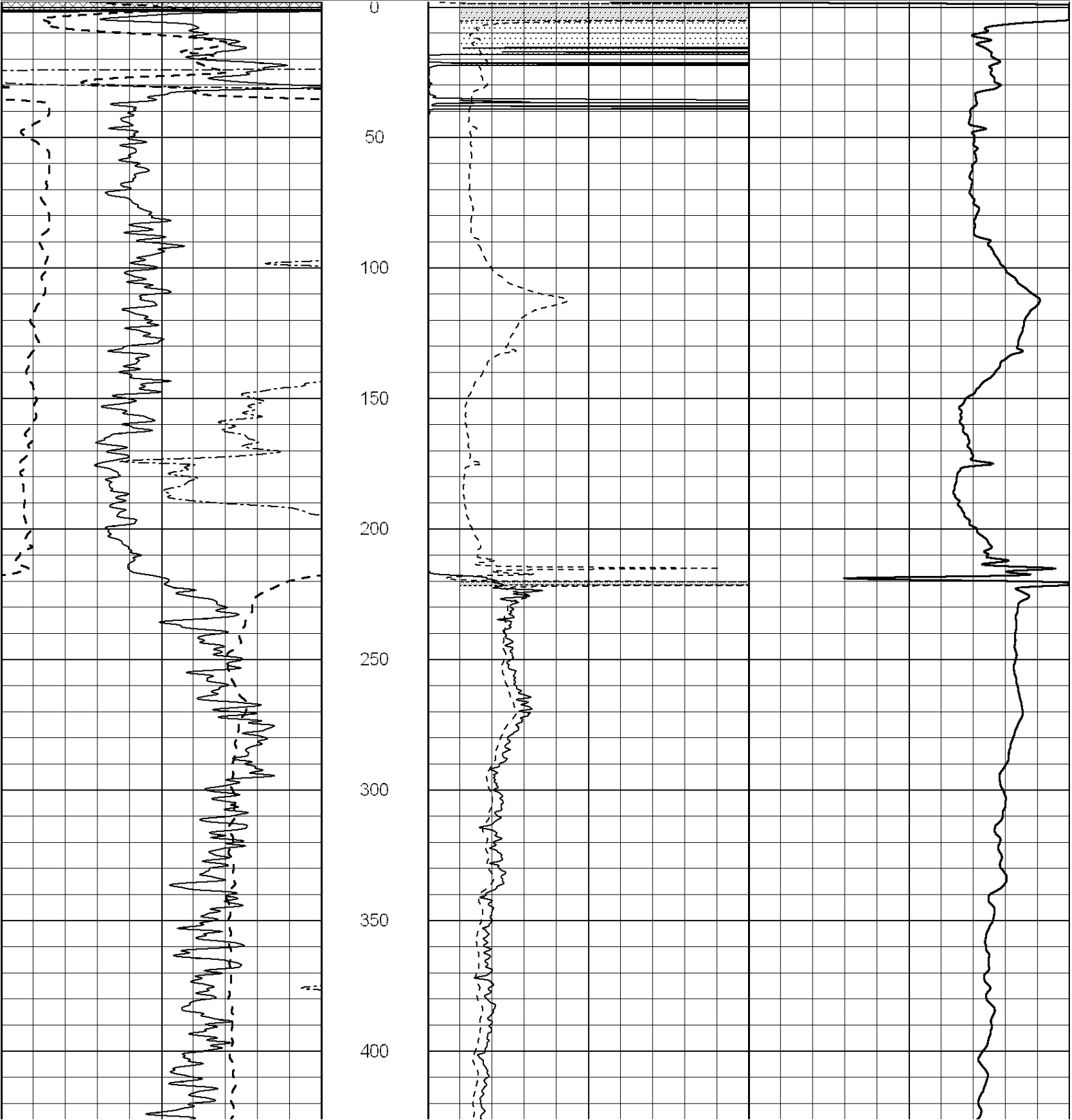
Dataset Creation:

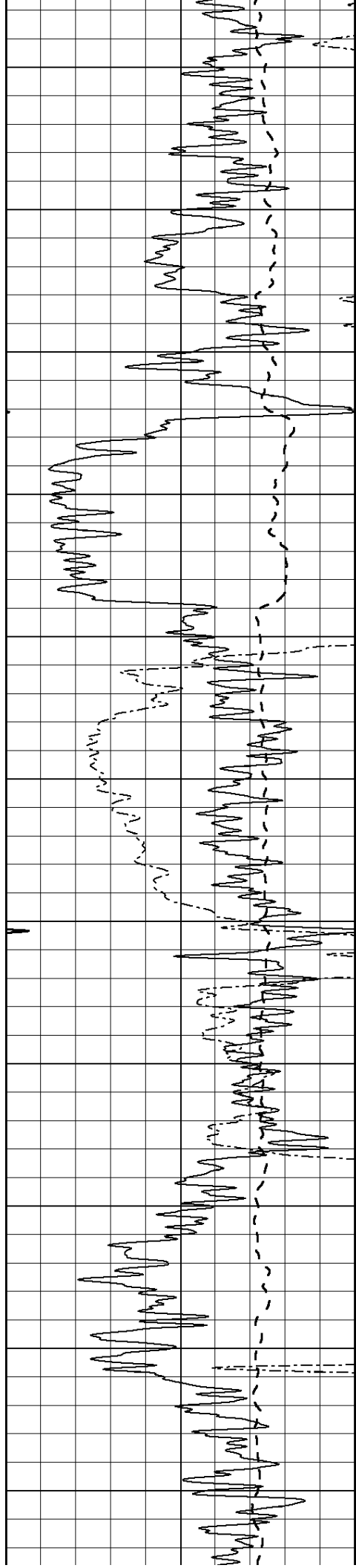
Tue Apr 21 12:49:07 2015

Charted by:

Depth in Feet scaled 1:600

|      |                  |     |      |                  |     |
|------|------------------|-----|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 | 0    | RLL3 (Ohm-m)     | 50  |
| -100 | SP (mV)          | 100 | 0    | RILD (Ohm-m)     | 50  |
| 0    | RWA (Ohm-m)      | 1   | 1000 | CILD (mmho/m)    | 0   |
|      |                  |     | 50   | RILD X10 (Ohm-m) | 500 |
|      |                  |     | 50   | RLL3 X10 (Ohm-m) | 500 |





450

500

550

600

650

700

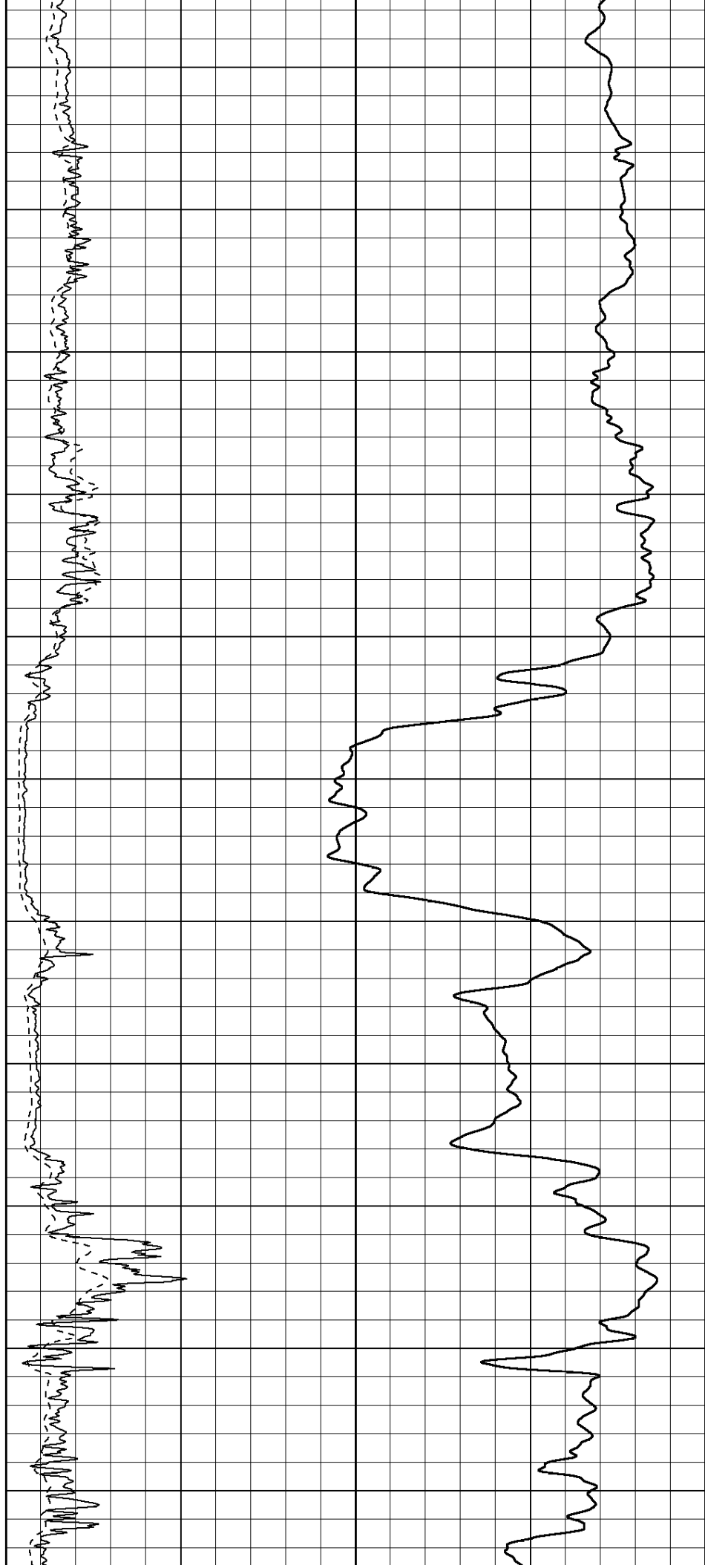
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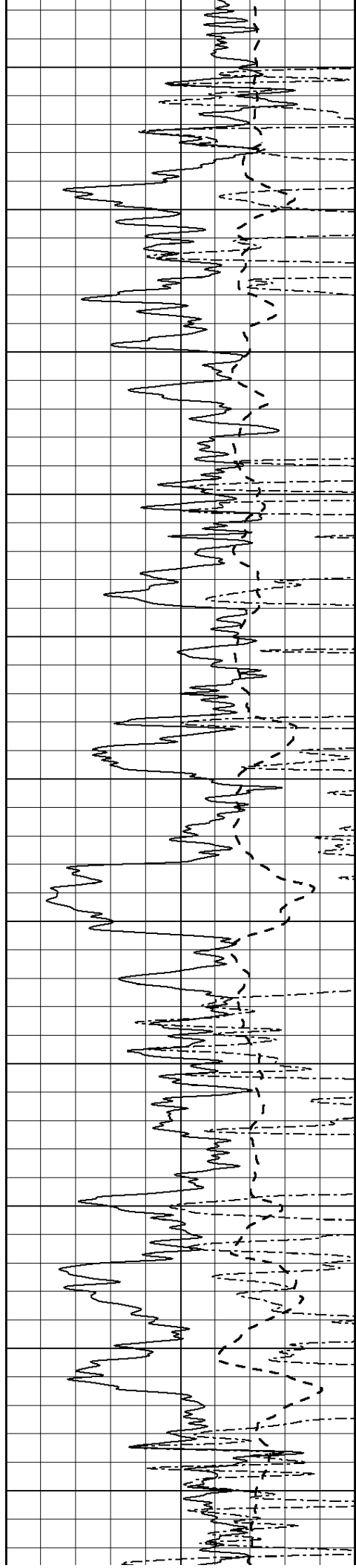
800

850

900

950





1000

1050

1100

1150

1200

1250

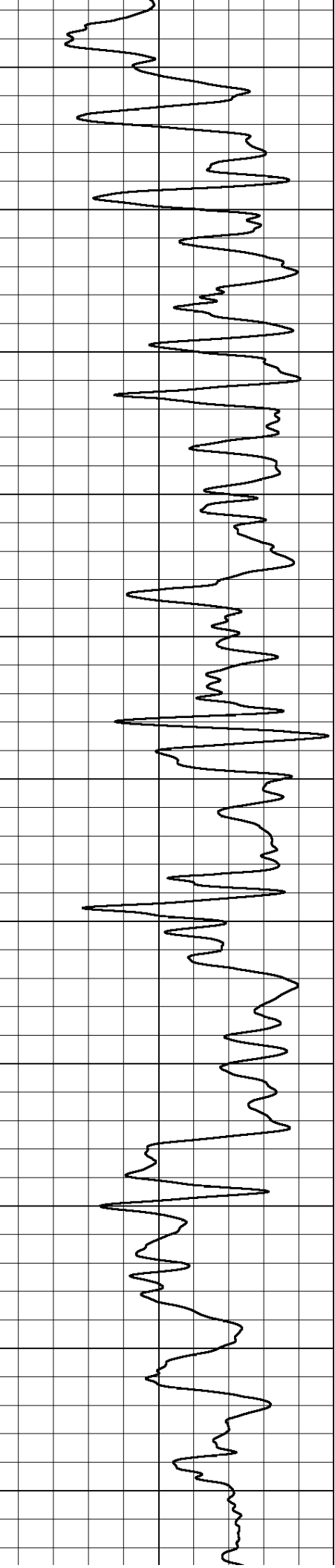
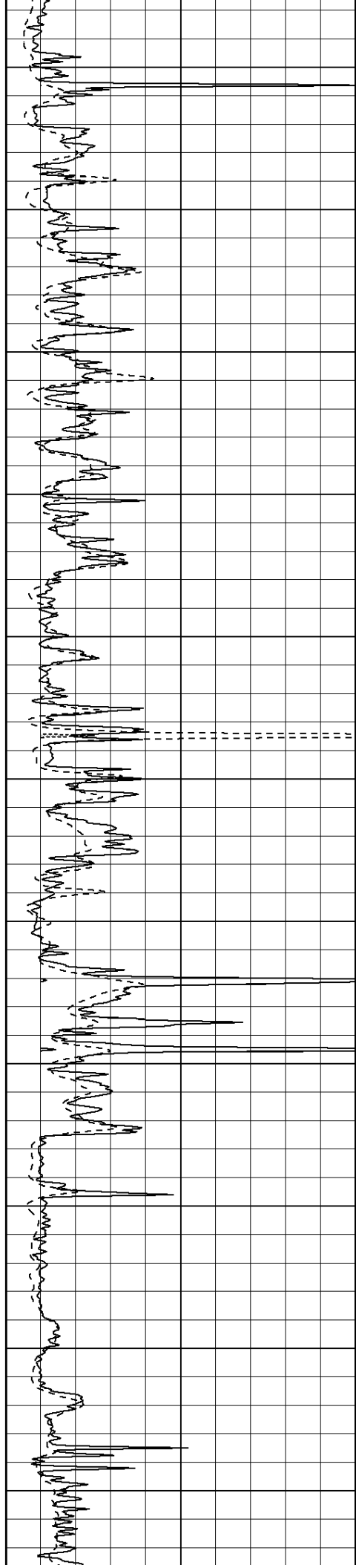
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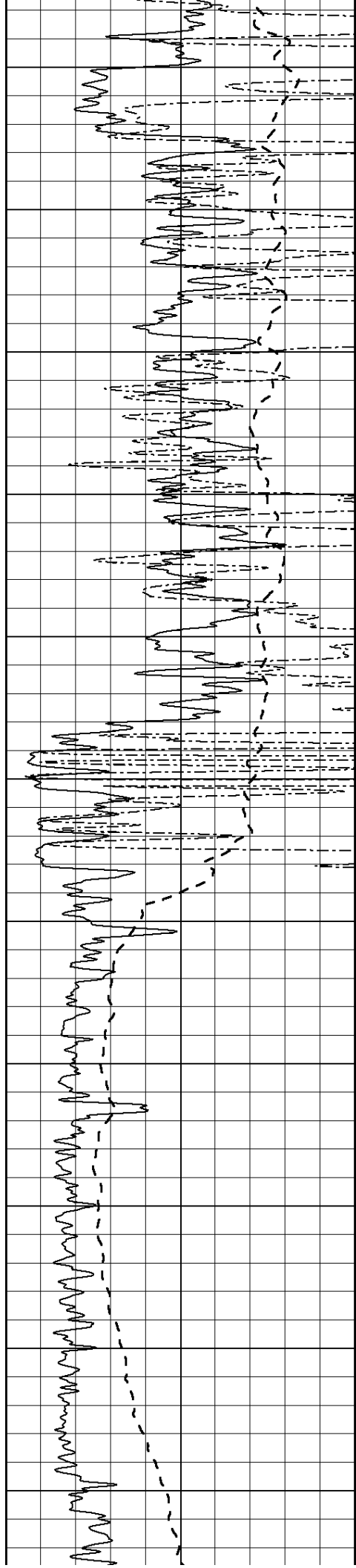
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1400

1450

1500





1550

1600

1650

1700

1750

1800

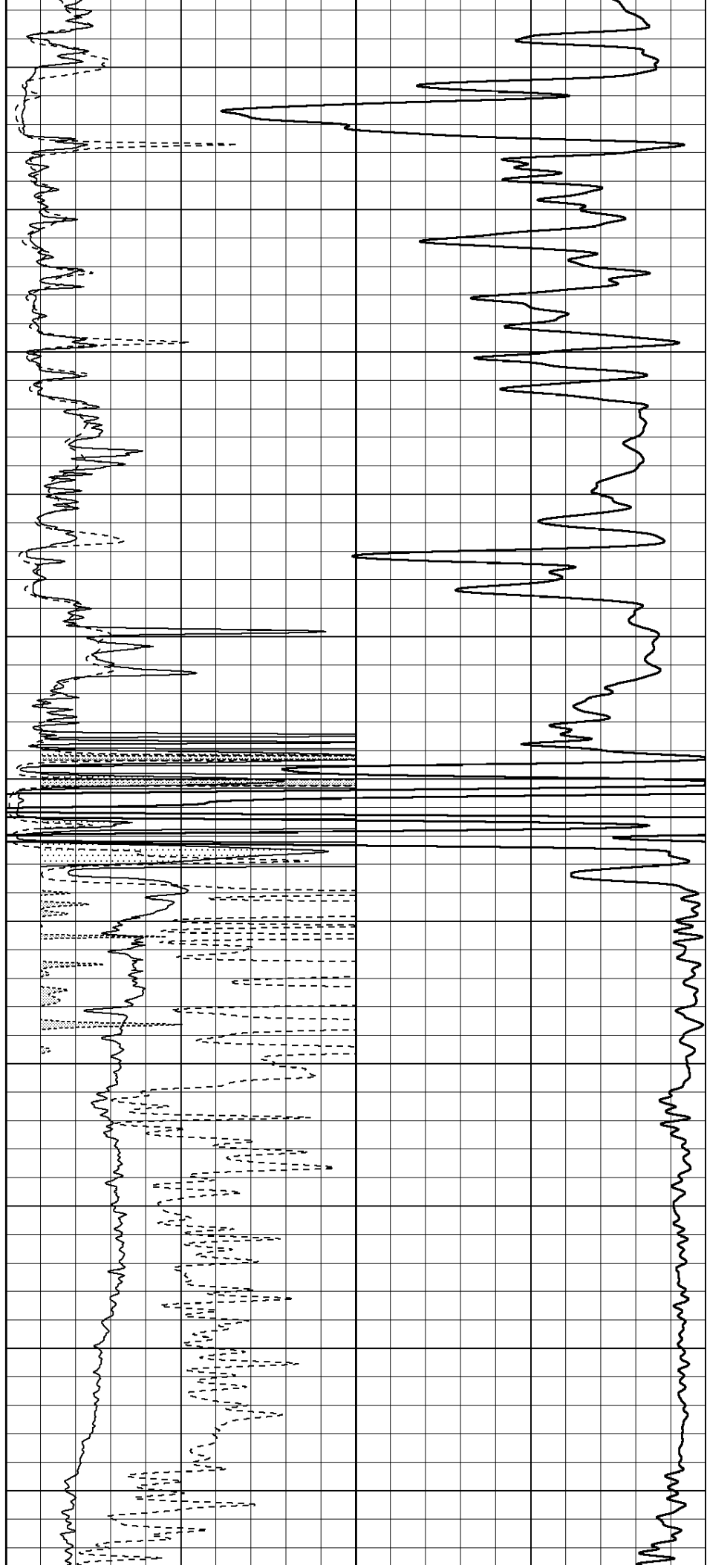
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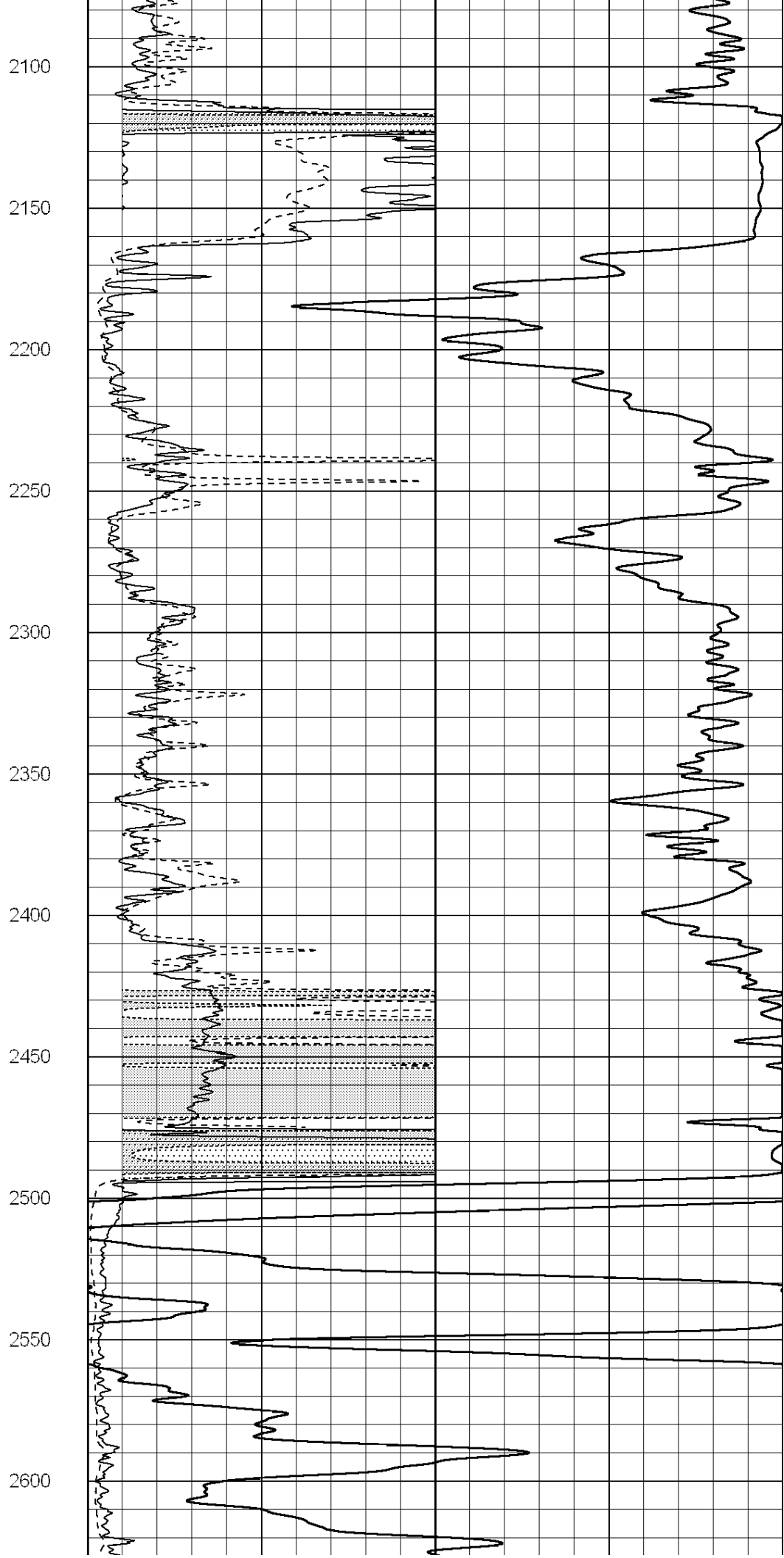
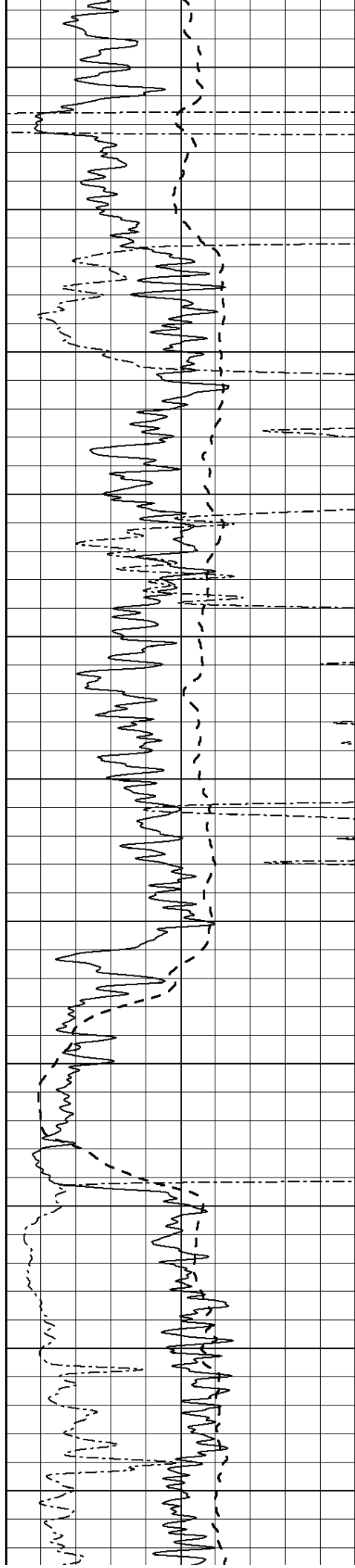
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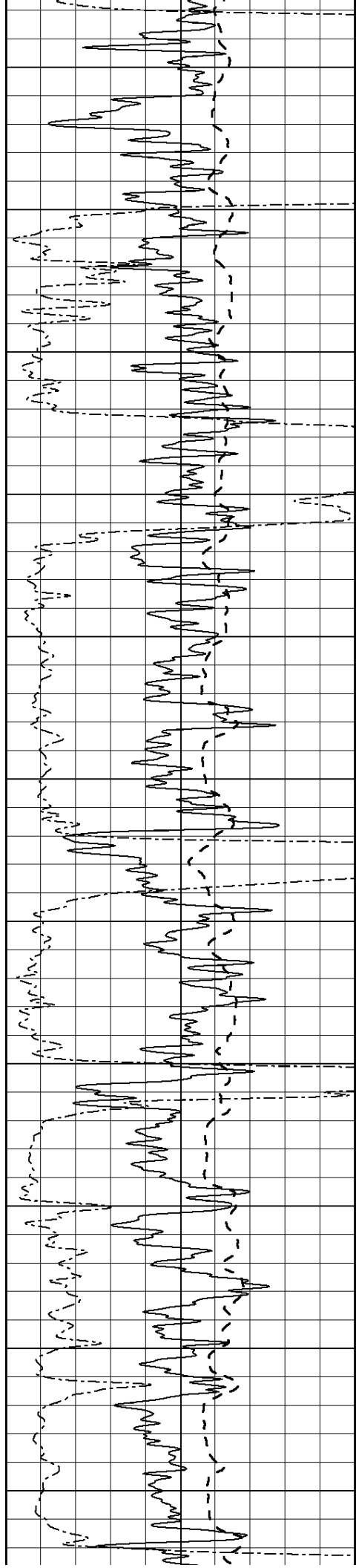
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2000

2050







2650

2700

2750

2800

2850

2900

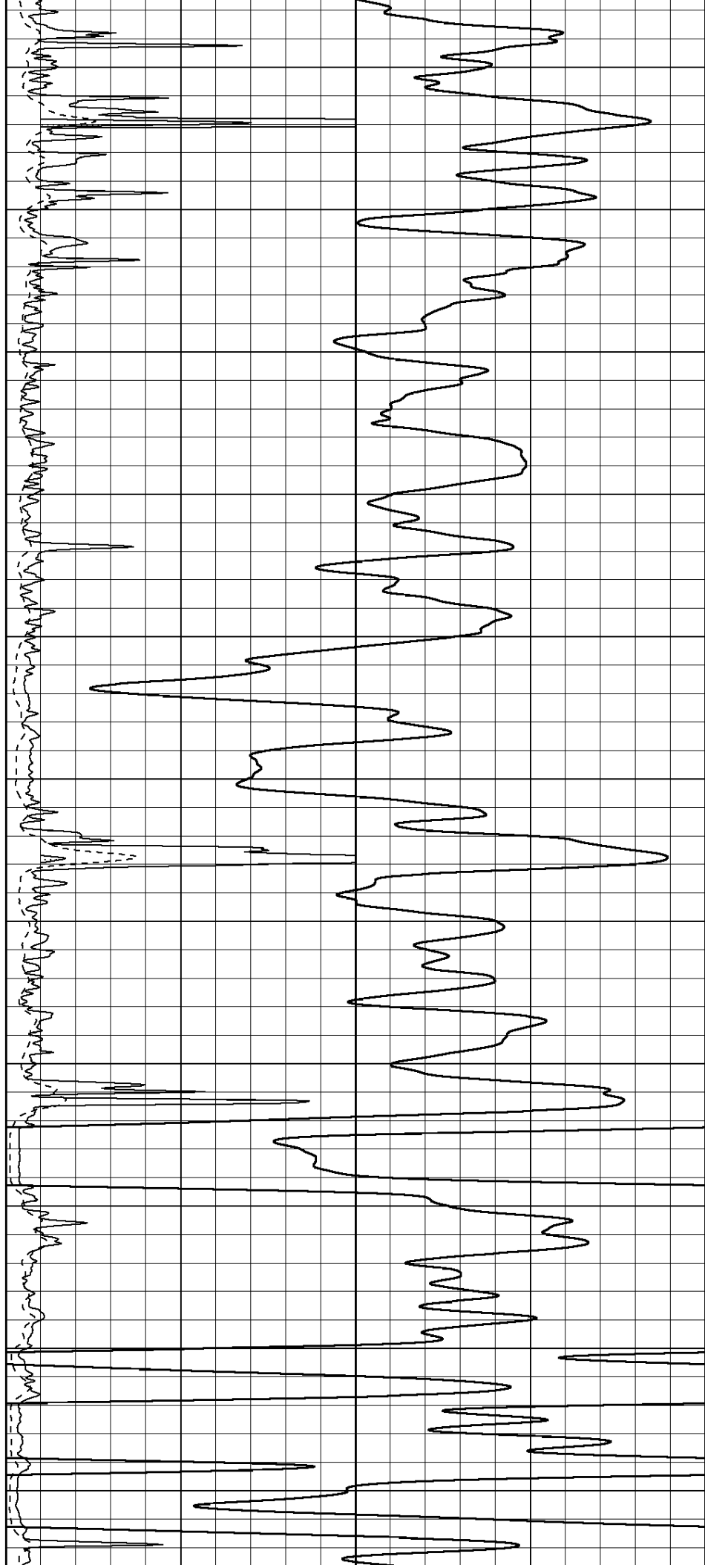
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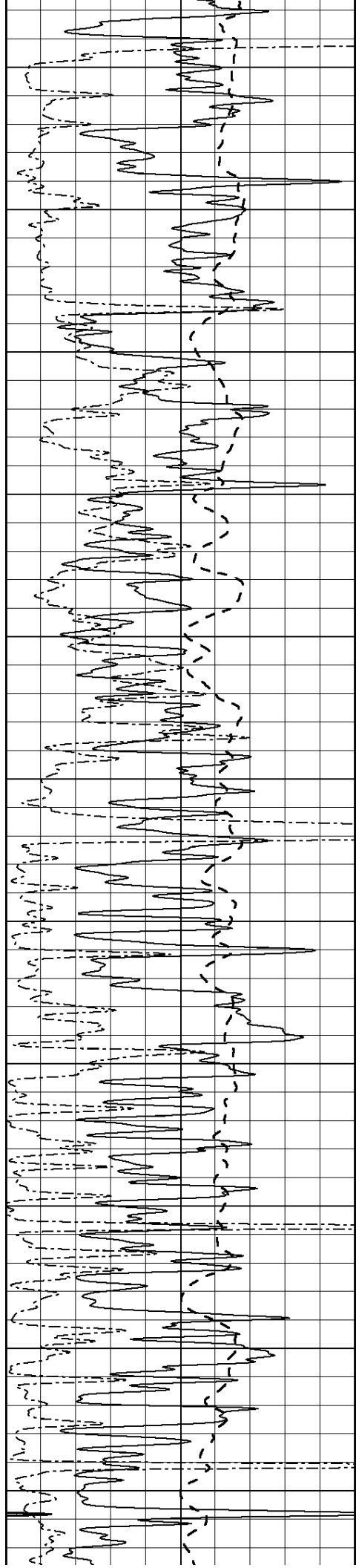
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3050

3100

3150





3200

3250

3300

3350

3400

3450

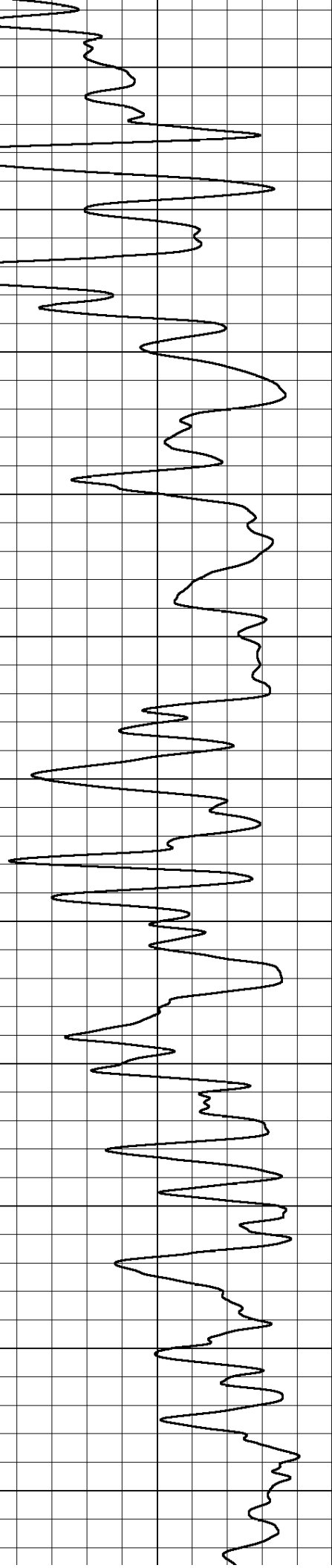
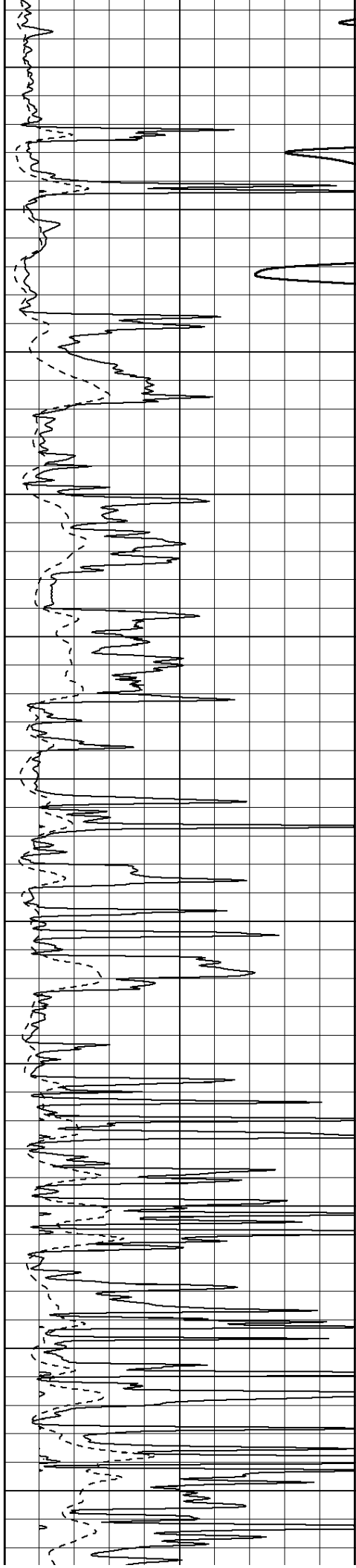
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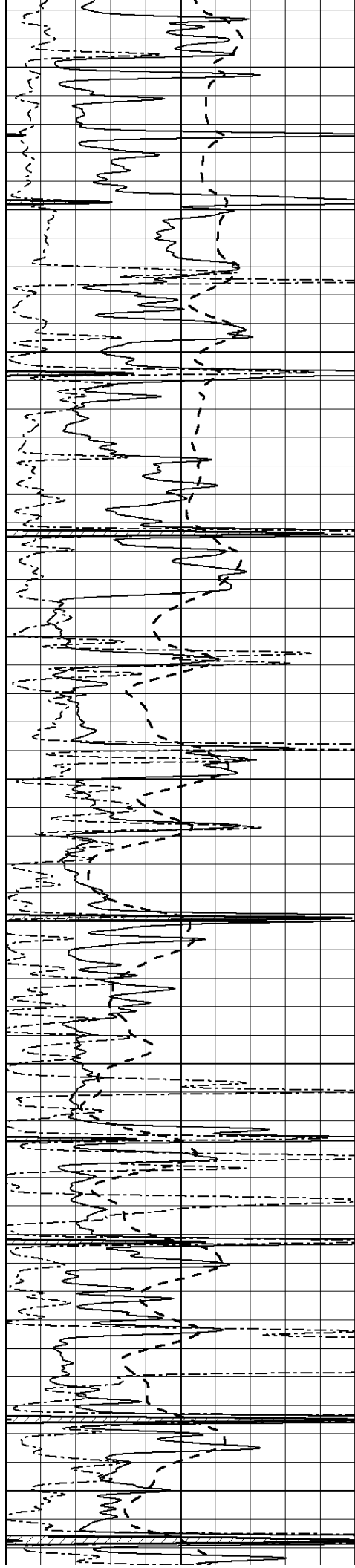
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3600

3650

3700





3750

3800

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3900

3950

4000

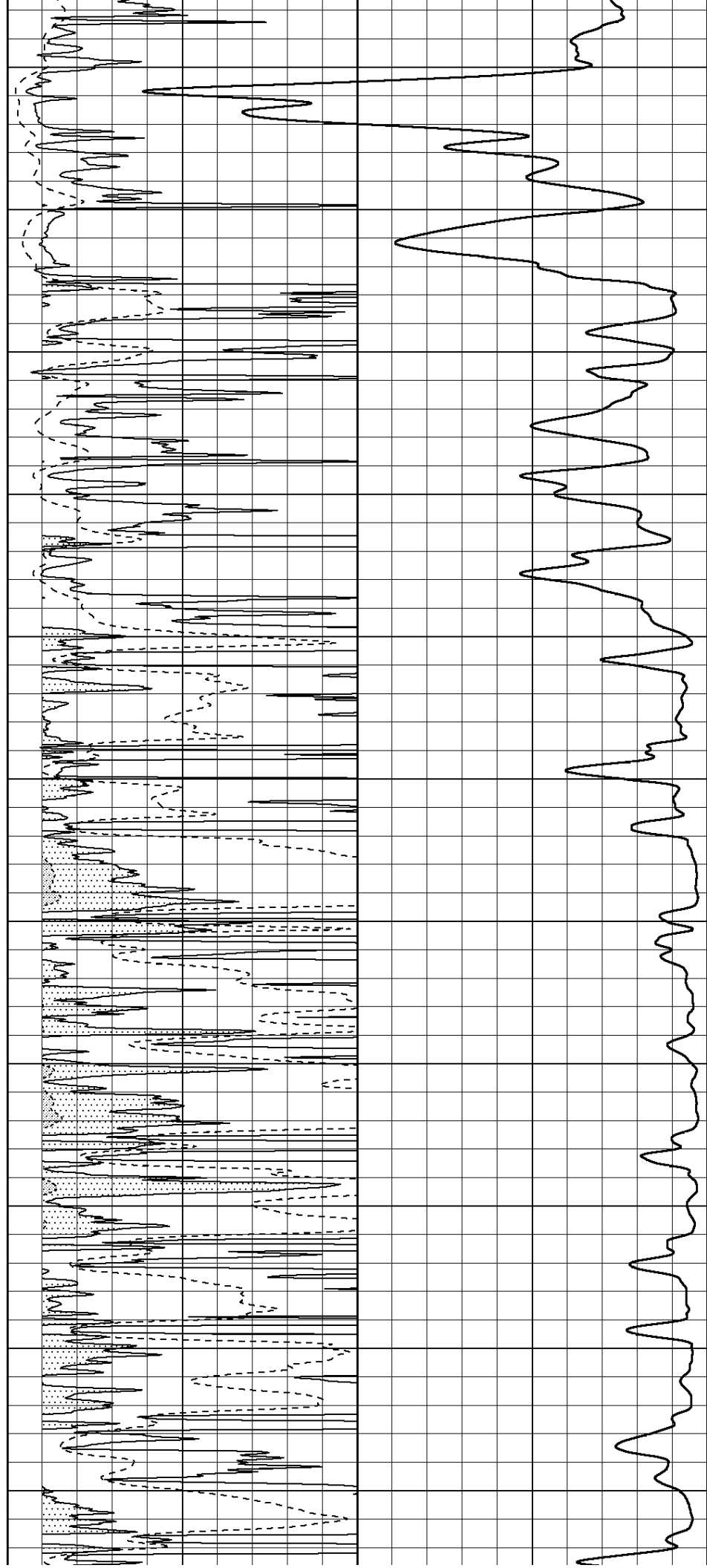
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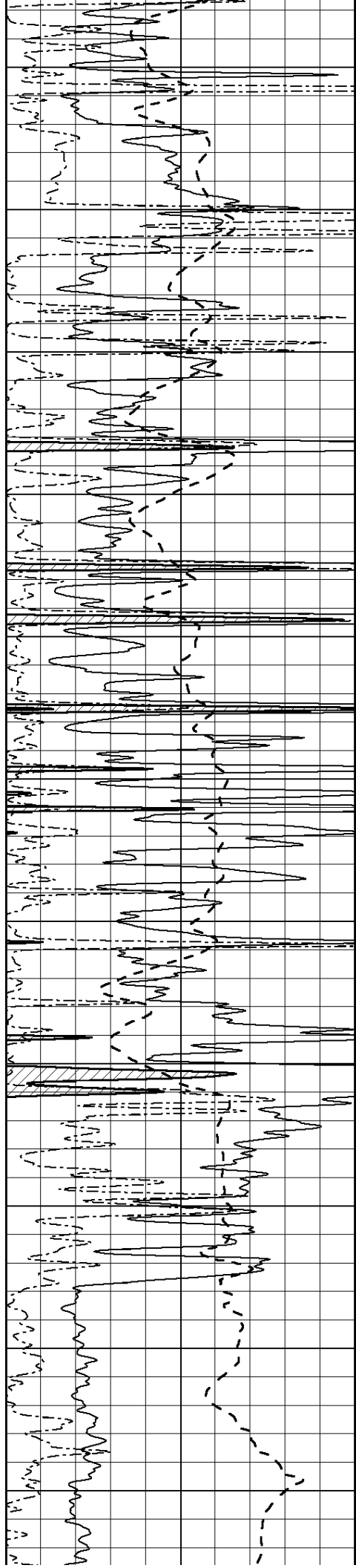
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4150

4200

4250





4300

4350

4400

4450

4500

4550

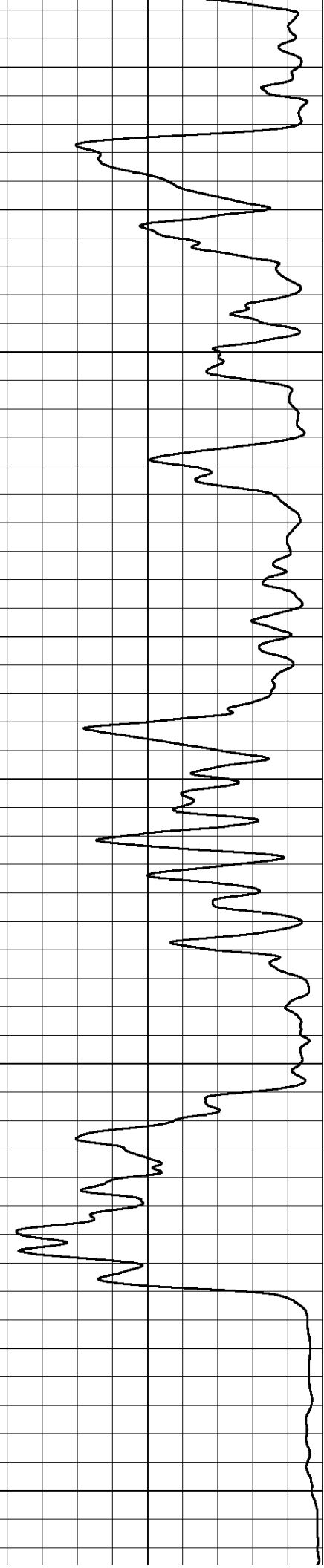
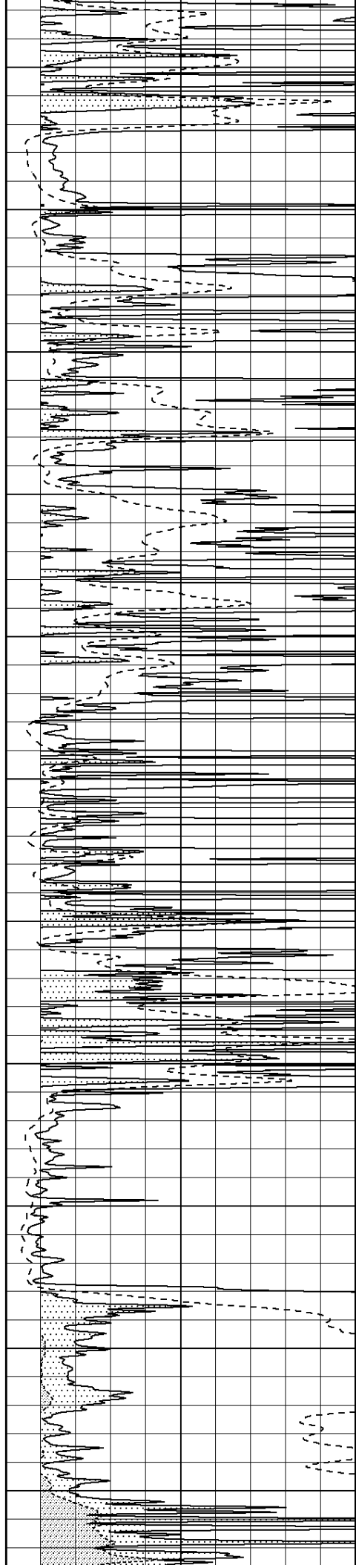
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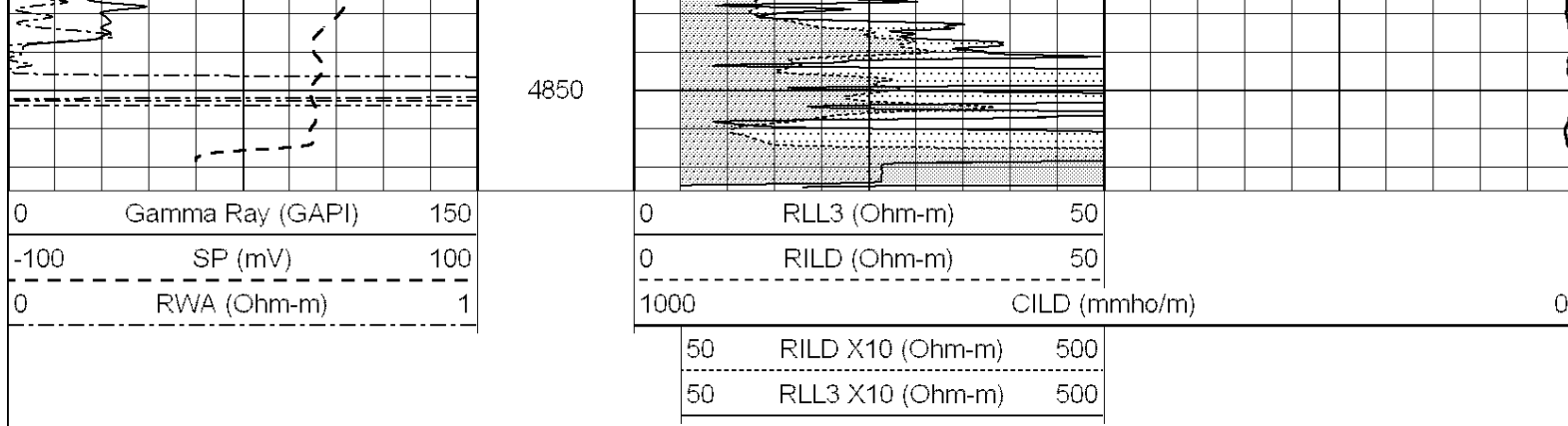
4650

4700

4750

4800



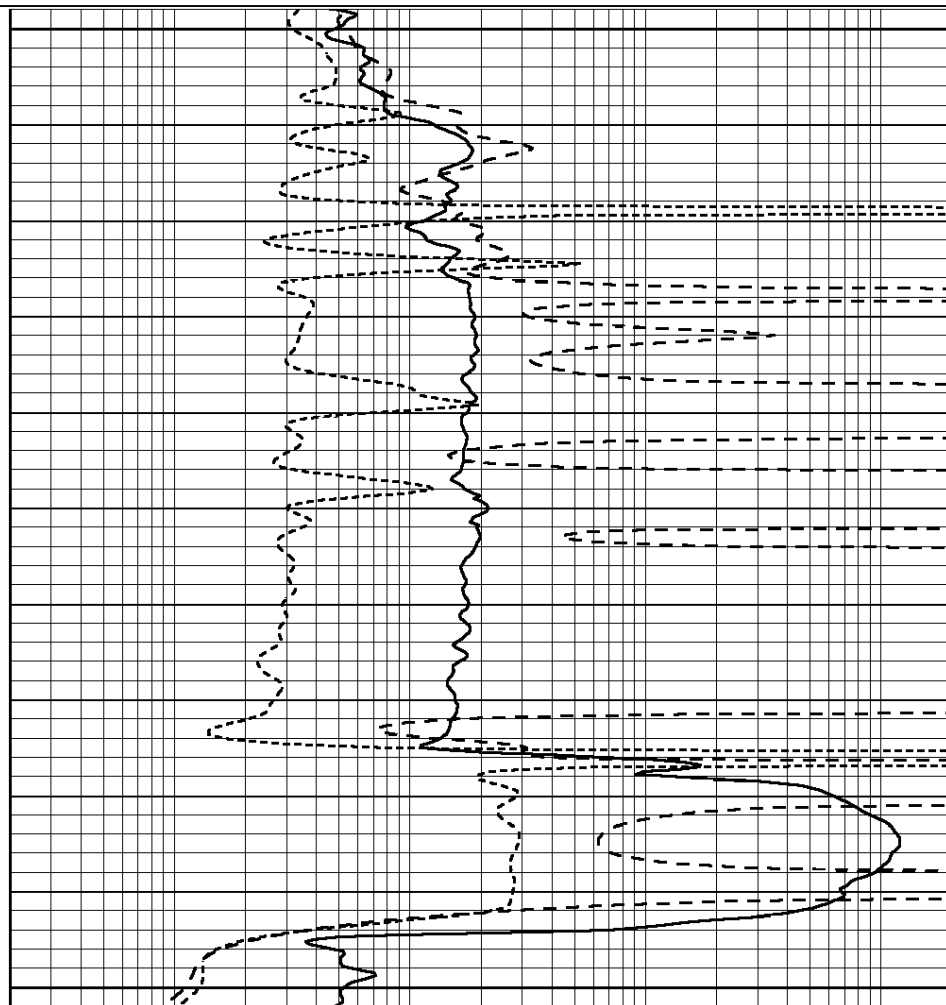
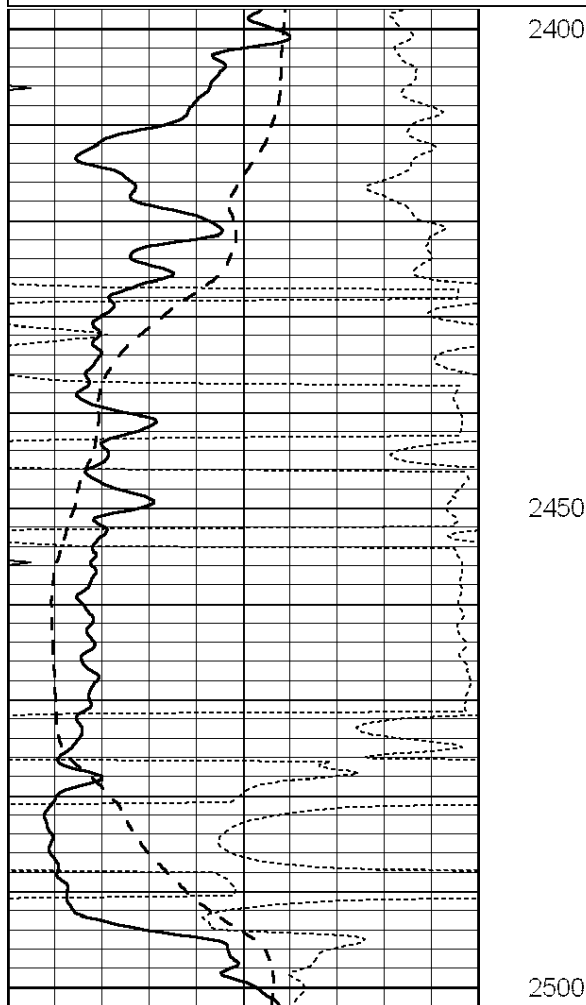


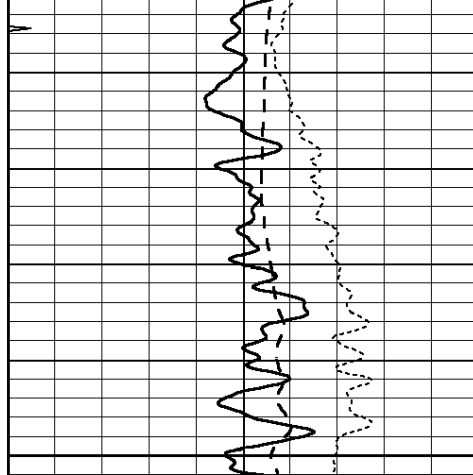
# ANHYDRITE

Database File: 26511ddn.db  
 Dataset Pathname: pass3.7  
 Presentation Format: \_dil  
 Dataset Creation: Tue Apr 21 12:52:22 2015  
 Charted by: Depth in Feet scaled 1:240

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

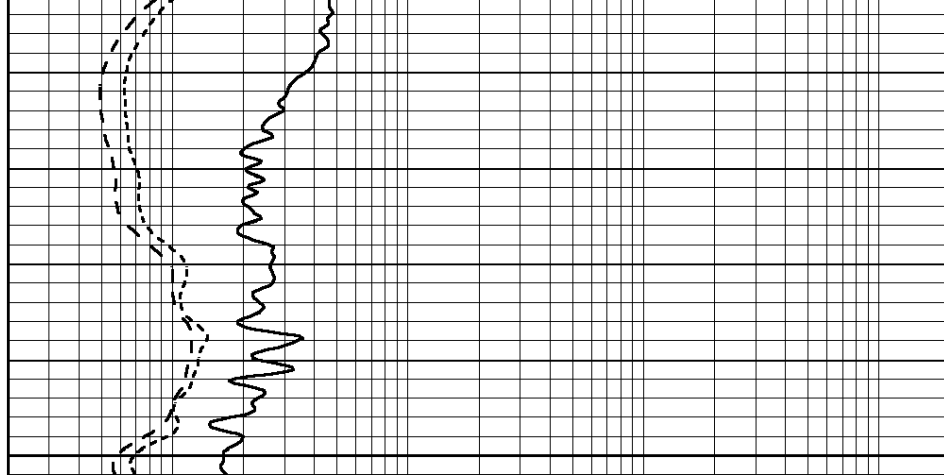
|     |                          |      |
|-----|--------------------------|------|
| 0.2 | SHALLOW GUARD (Ohm-m)    | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |





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

2550



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

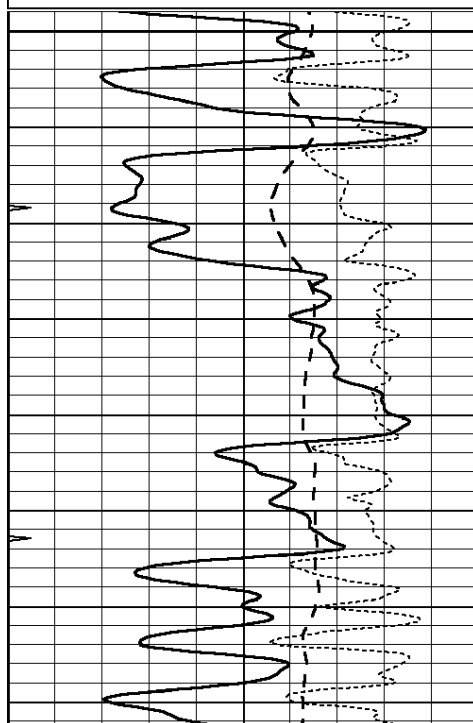


# MAIN SECTION

Database File: 26511ddn.db  
 Dataset Pathname: pass3.6  
 Presentation Format: \_dil  
 Dataset Creation: Tue Apr 21 12:49:07 2015  
 Charted by: Depth in Feet scaled 1:240

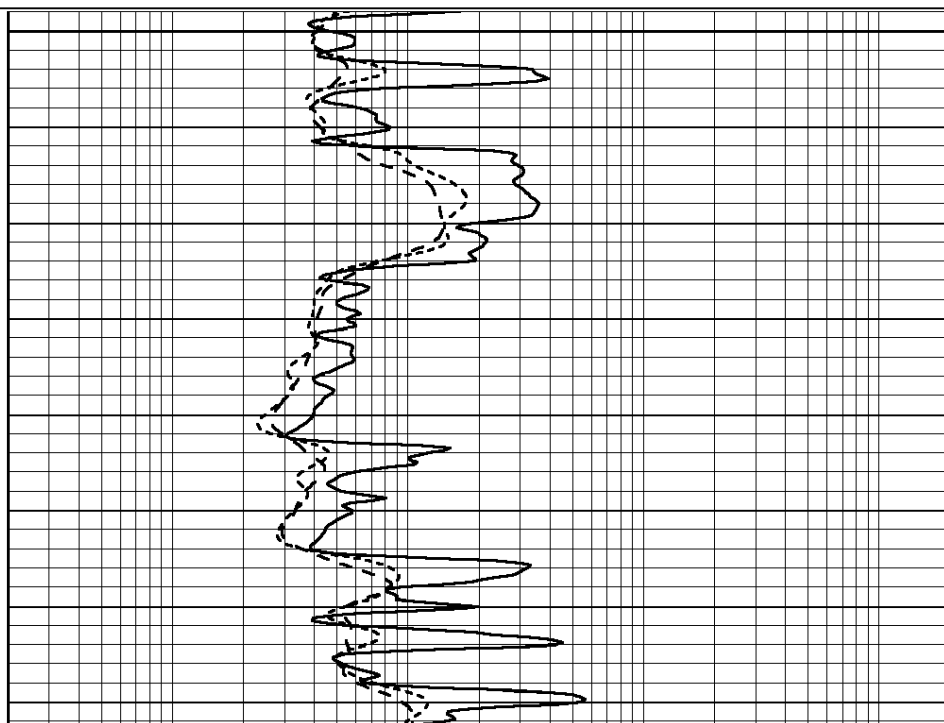
|      |                  |     |
|------|------------------|-----|
| 0    | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV)          | 100 |
| -250 | Rxo/Rt           | 50  |
| 0    | MINMK            | 20  |

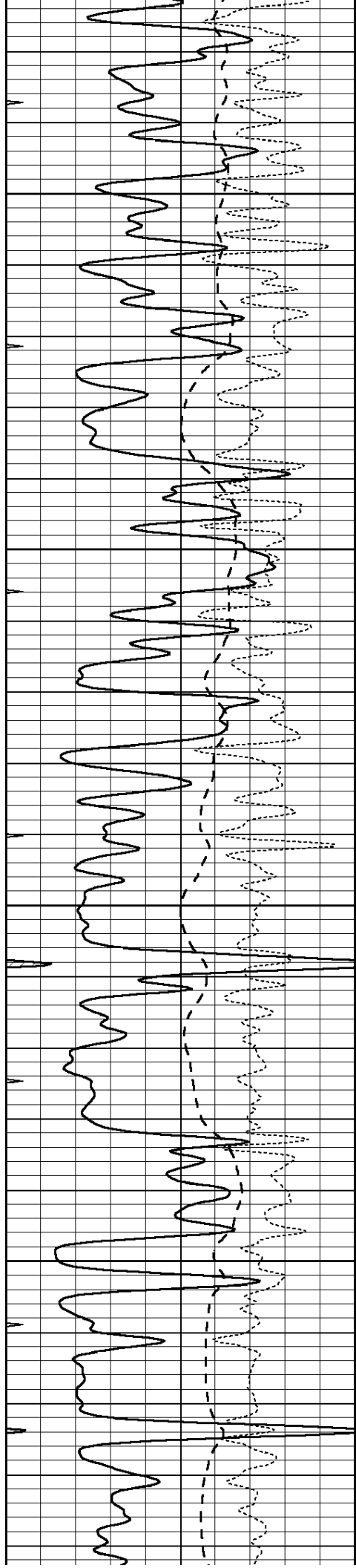
|     |                          |      |
|-----|--------------------------|------|
| 0.2 | SHALLOW GUARD (Ohm-m)    | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |



3500

3550



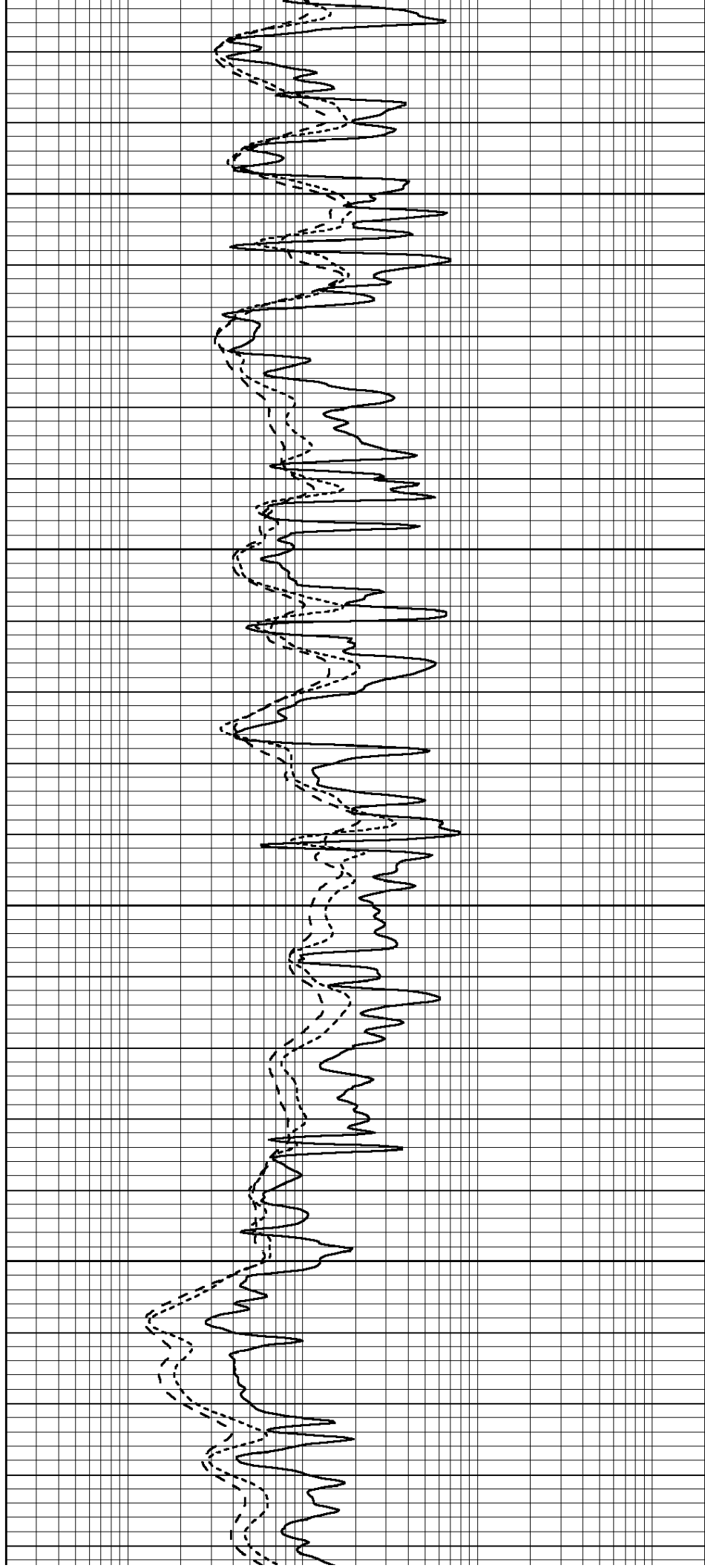


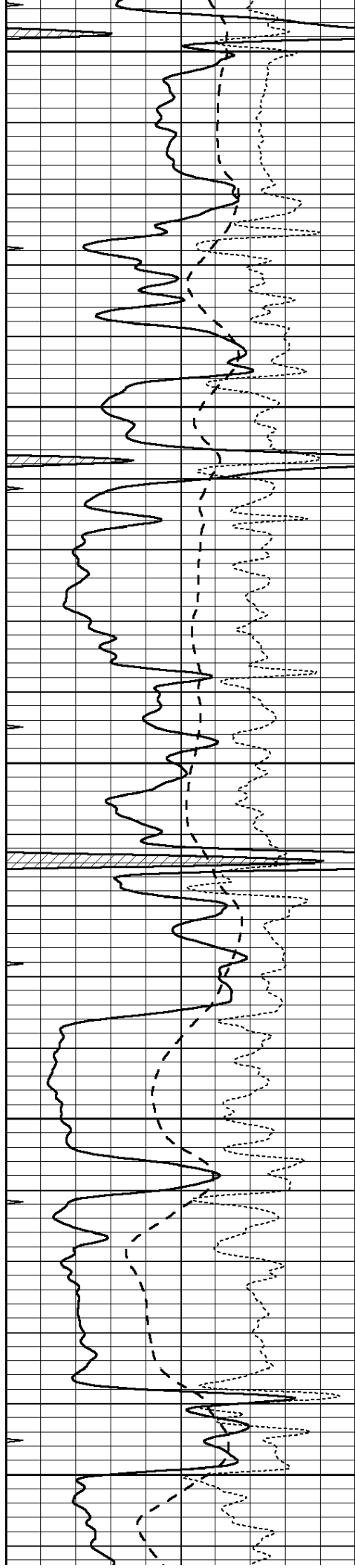
3600

3650

3700

3750





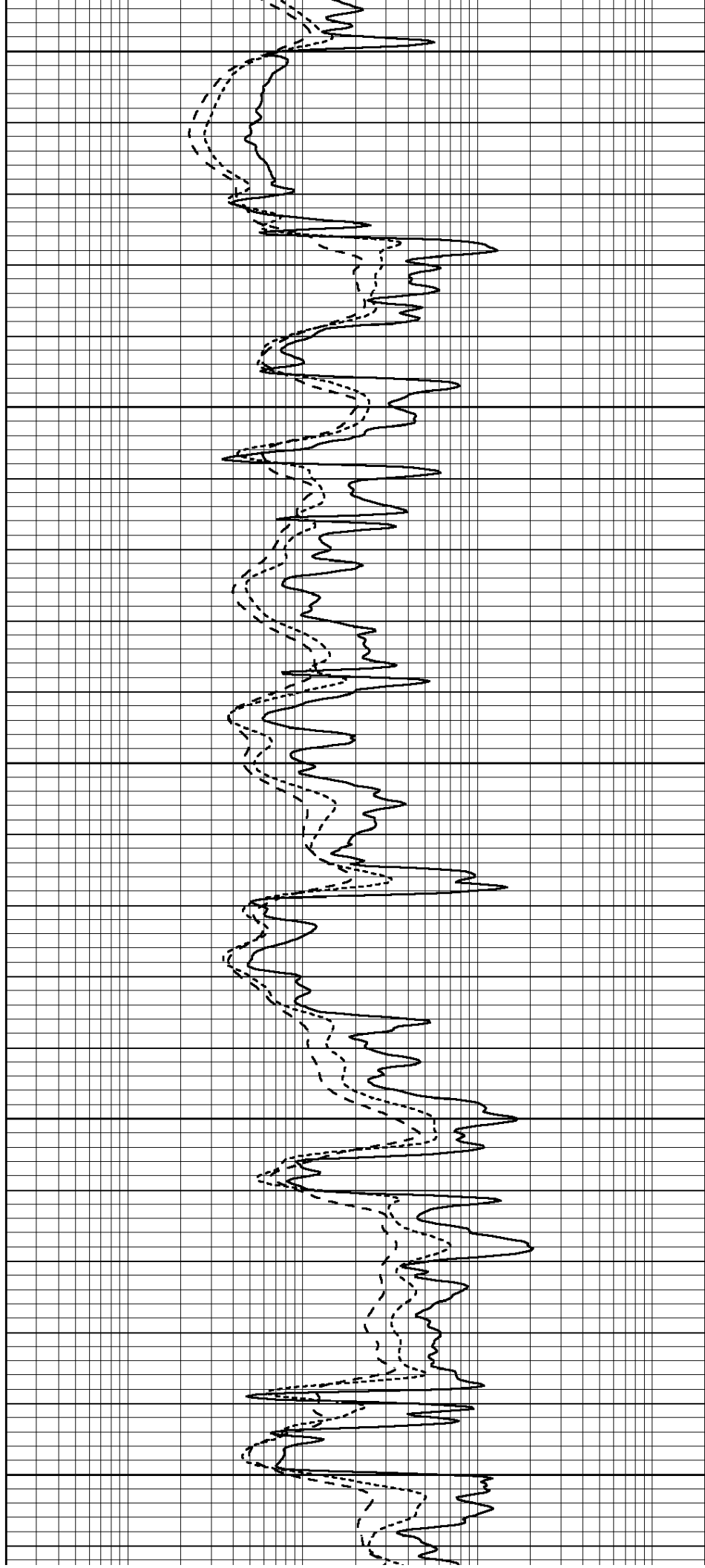
3800

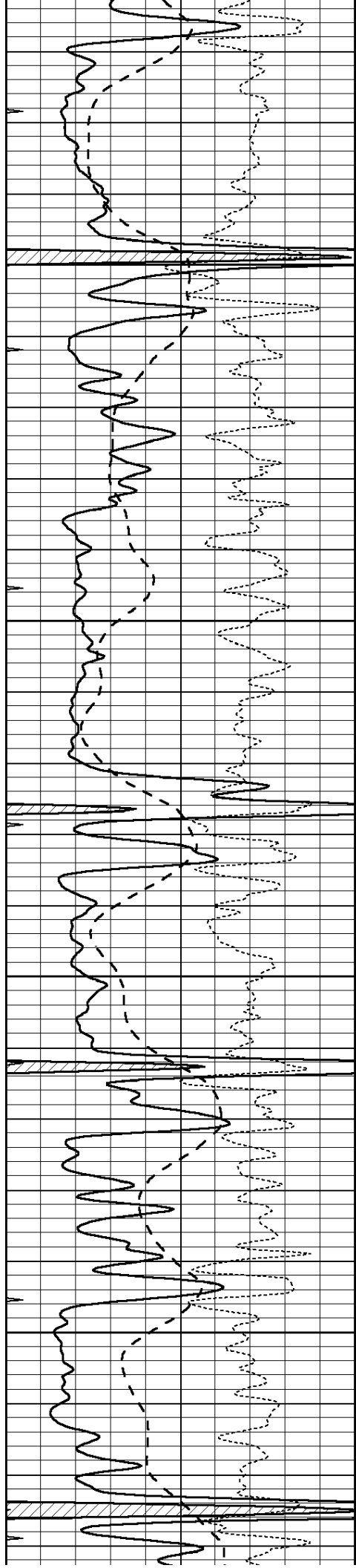
3850

3900

3950

4000



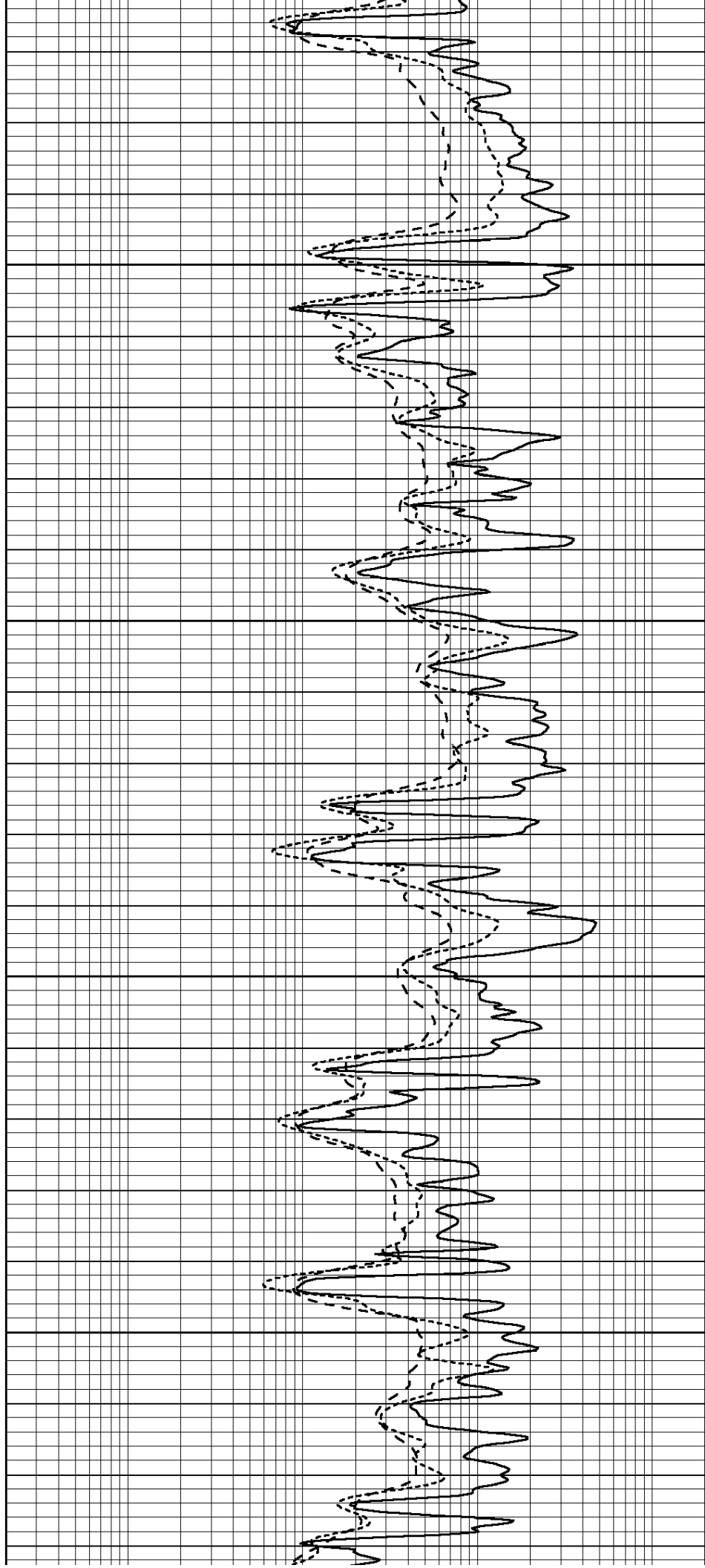


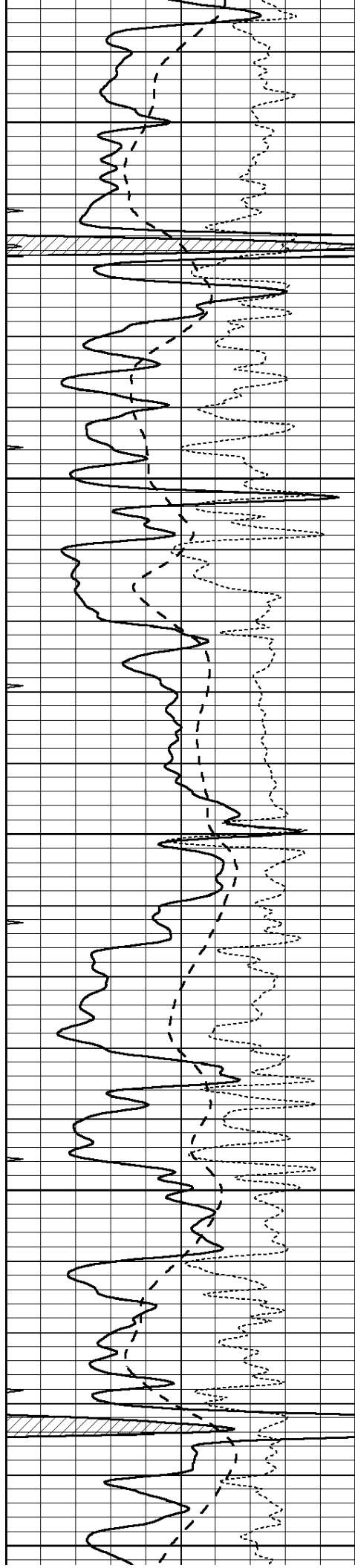
4050

4100

4150

4200





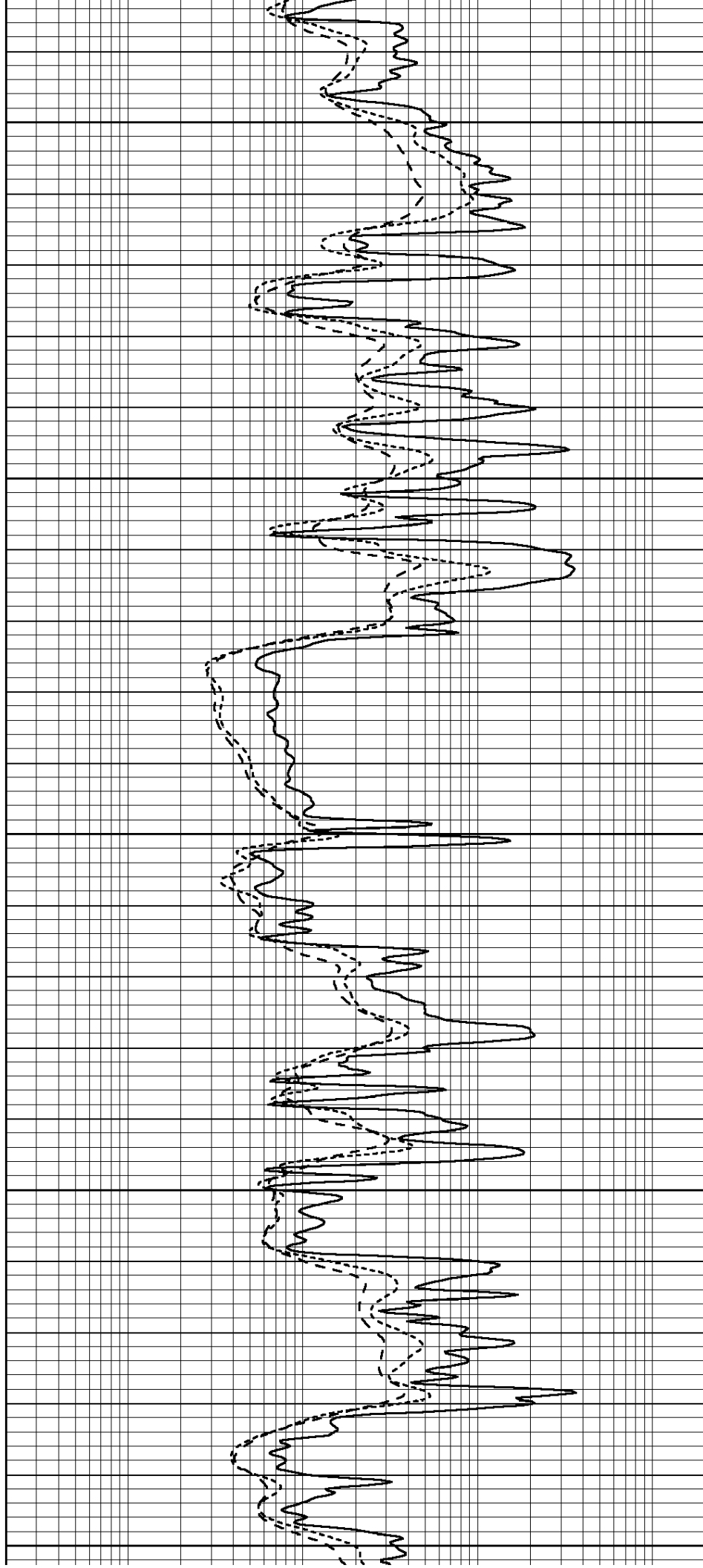
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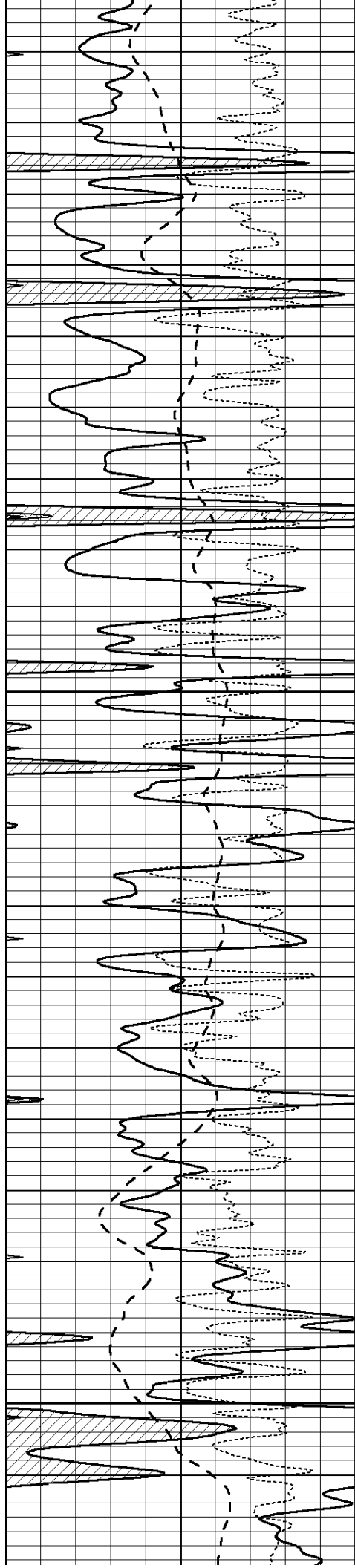
4300

4350

4400

4450



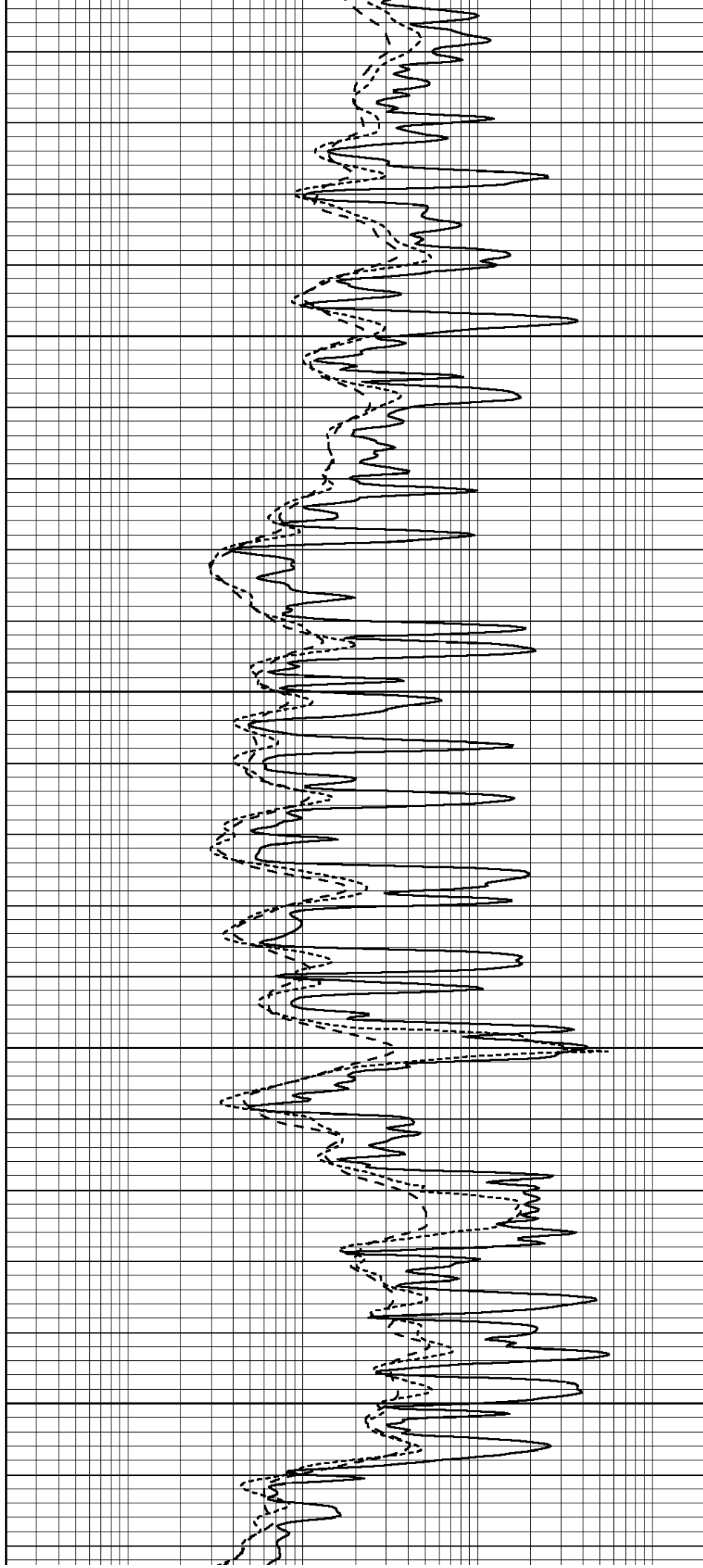


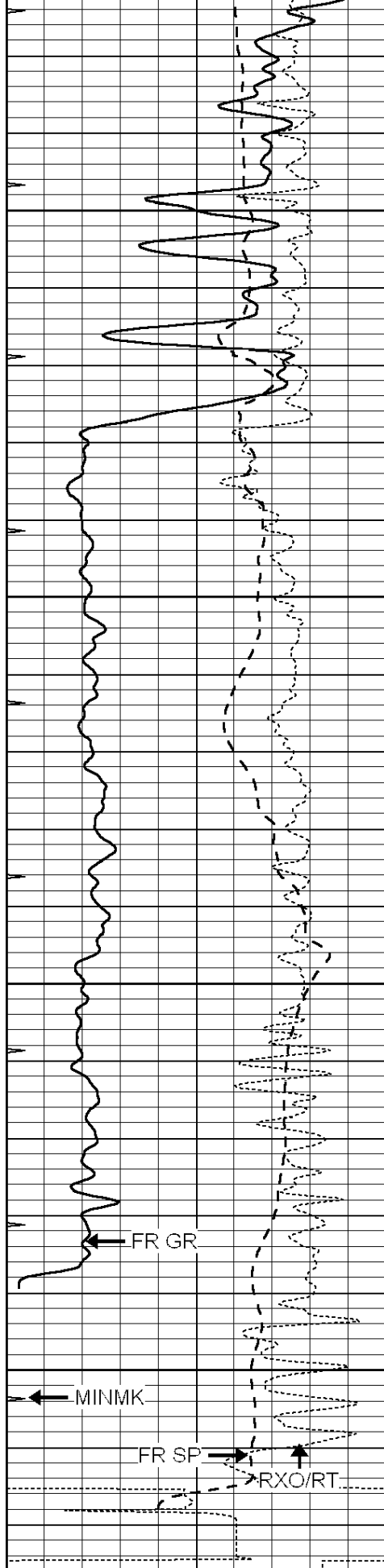
4500

4550

4600

4650





4700

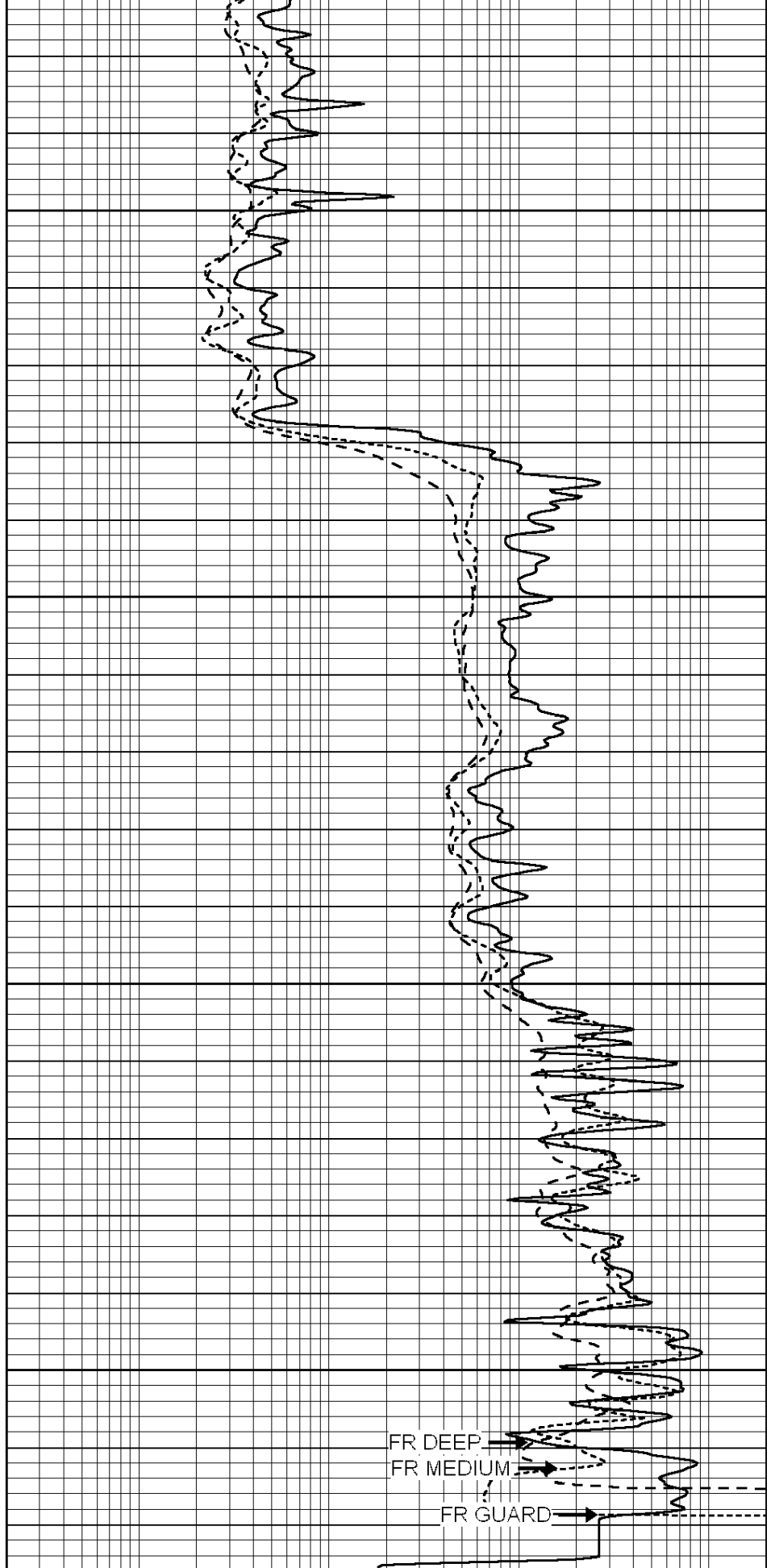
4750

4800

4850

LTD 4871

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



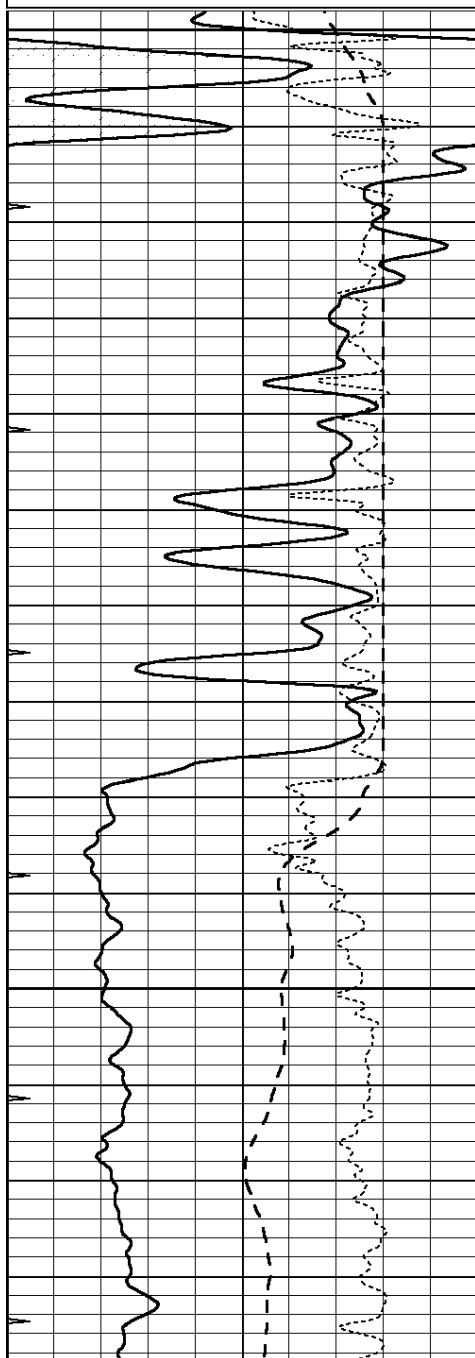
|     |                          |      |
|-----|--------------------------|------|
| 0.2 | SHALLOW GUARD (Ohm-m)    | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

# REPEAT SECTION

Database File: 26511ddn.db  
Dataset Pathname: pass2.5  
Presentation Format: \_dil  
Dataset Creation: Tue Apr 21 13:09:32 2015  
Charted by: Depth in Feet scaled 1:240

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

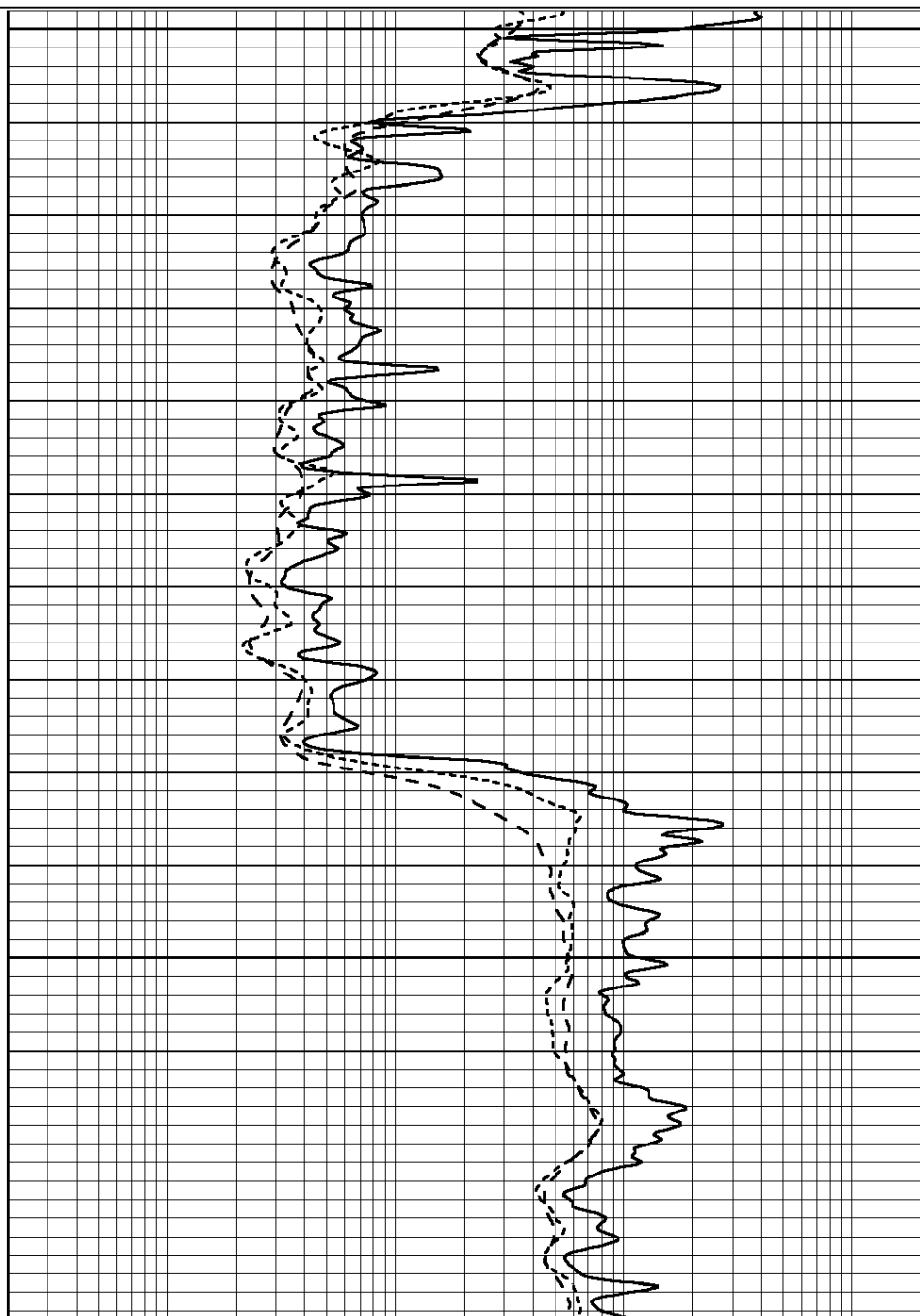
|     |                          |      |
|-----|--------------------------|------|
| 0.2 | SHALLOW GUARD (Ohm-m)    | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

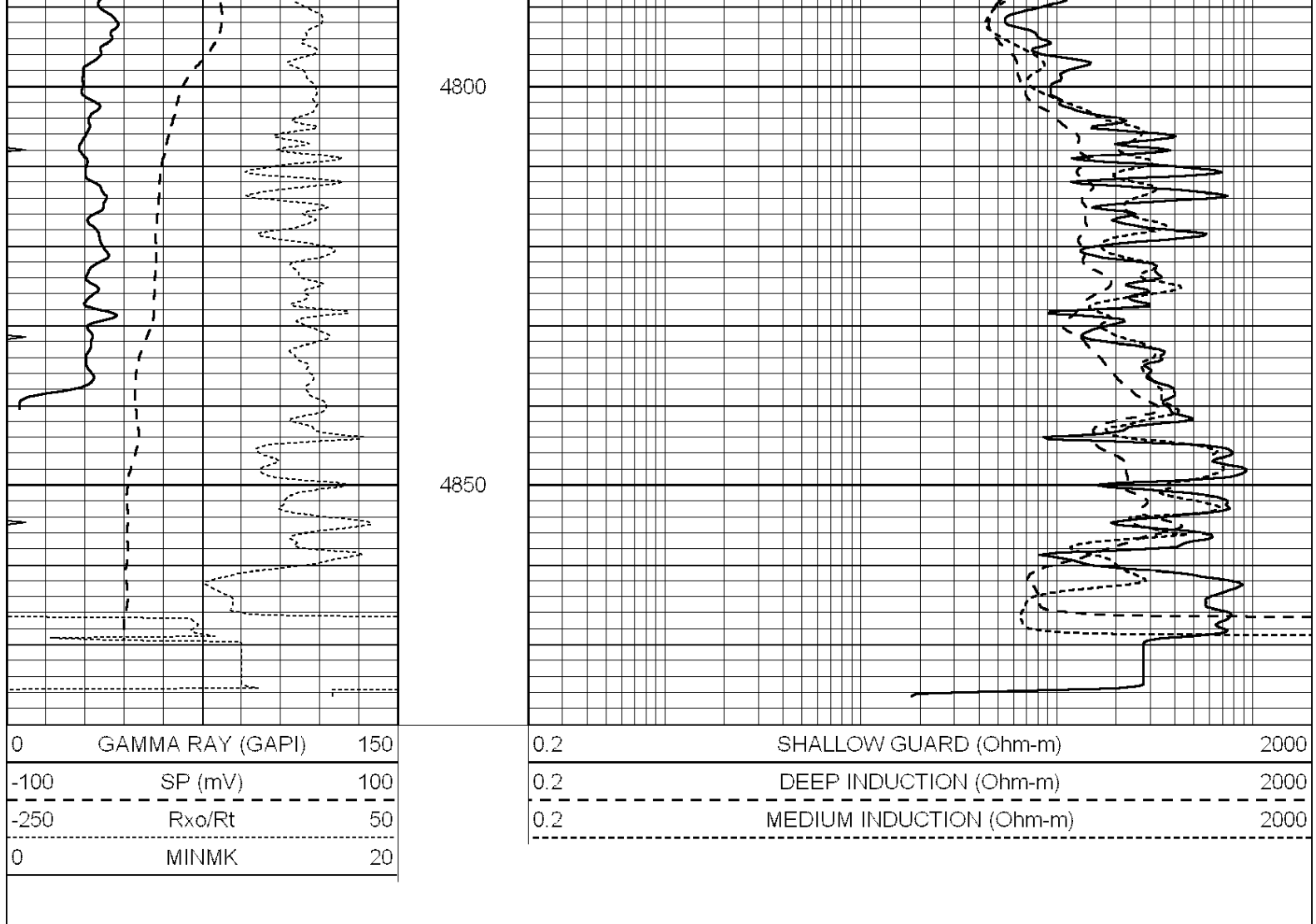


4650

4700

4750





| Calibration Report                   |                          |          |                          |        |         |        |            |         |         |  |
|--------------------------------------|--------------------------|----------|--------------------------|--------|---------|--------|------------|---------|---------|--|
| Database File:                       | 26511ddn.db              |          |                          |        |         |        |            |         |         |  |
| Dataset Pathname:                    | pass3.6                  |          |                          |        |         |        |            |         |         |  |
| Dataset Creation:                    | Tue Apr 21 12:49:07 2015 |          |                          |        |         |        |            |         |         |  |
| Dual Induction Calibration Report    |                          |          |                          |        |         |        |            |         |         |  |
| Serial-Model:                        |                          |          | PROBE9-DILG              |        |         |        |            |         |         |  |
| Surface Cal Performed:               |                          |          | Tue Apr 21 11:09:37 2015 |        |         |        |            |         |         |  |
| 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    | -12.000 |         |  |
| Medium                               | 0.039                    | 0.728    | V                        | 0.000  | 464.000 | mmho/m | 670.000    | -26.000 |         |  |
| 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   |         |  |



|                              |                          |                               |                 |
|------------------------------|--------------------------|-------------------------------|-----------------|
|                              |                          | Serial Number:<br>Tool Model: | 070808<br>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              |
| Gamma Ray Calibration Report |                          |                               |                 |
| Serial Number:               | 070558                   |                               |                 |
| Tool Model:                  | OPEN_GR                  |                               |                 |
| Performed:                   | Sat Mar 21 17:40:37 2015 |                               |                 |
| Calibrator Value:            | 1.0                      | GAPI                          |                 |
| Background Reading:          | 0.0                      | cps                           |                 |
| Calibrator Reading:          | 1.0                      | cps                           |                 |
| Sensitivity:                 | 0.2600                   | GAPI/cps                      |                 |