



# DUAL INJECTION LOG

Company WHITE EXPLORATION, INC.  
 Well #2 CARGILL SWD  
 Field PIKE NORTHWEST  
 County BARBER  
 State KANSAS

Company WHITE EXPLORATION, INC.  
 Well #2 CARGILL SWD  
 Field PIKE NORTHWEST  
 County BARBER State KANSAS

Location: API # : 15-007-21288-0001  
 660' FSL & 1980' FWL  
 C - SE - SW  
 Permanent Datum GROUND LEVEL Elevation 1610  
 Log Measured From KELLY BUSHING 7' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Elevation  
 K.B. 1617  
 D.F. 1615  
 G.L. 1610

|                              |               |                     |  |
|------------------------------|---------------|---------------------|--|
| Date                         | 8/8/18        |                     |  |
| Run Number                   | ONE           |                     |  |
| Depth Driller                | 5040          |                     |  |
| Depth Logger                 | 5040          |                     |  |
| Bottom Logged Interval       | 5038          |                     |  |
| Top Log Interval             | 00            |                     |  |
| Casing Driller               | 8 5/8" @ 327' |                     |  |
| Casing Logger                | 330           |                     |  |
| Bit Size                     | 7 7/8"        |                     |  |
| Type Fluid in Hole           | CHEMICAL MUD  | CHLORIDES 8,000 PPM |  |
| Density / Viscosity          | 9.3/57        |                     |  |
| pH / Fluid Loss              | 9.5/14.4      |                     |  |
| Source of Sample             | FLOWLINE      |                     |  |
| Rim @ Meas. Temp             | .400 @ 90F    |                     |  |
| Rmf @ Meas. Temp             | .300 @ 90F    |                     |  |
| Rmc @ Meas. Temp             | .480 @ 90F    |                     |  |
| Source of Rmf / Rmc          | MEASUREMENT   |                     |  |
| Rim @ BHT                    | .288 @ 125F   |                     |  |
| Time Circulation Stopped     | 3 HOURS       |                     |  |
| Time Logger on Bottom        | 2:00 A.M.     |                     |  |
| Maximum Recorded Temperature | 125F          |                     |  |
| Equipment Number             | 922339        |                     |  |
| Location                     | HAYS, KANSAS  |                     |  |
| Recorded By                  | JEFF LUEBBERS |                     |  |
| Witnessed By                 | ANDY WHITE    |                     |  |

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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 ELI WIRELINE HAYS, KANSAS (785) 628-6395  
 DIRECTIONS  
 MEDICINE LODGE, KS., 3N. ON HWY 281 TO "GRANDVIEW RD.", 1W. THROUGH 2 CATTLE GUARDS,  
 VEER SOUTH AND FOLLOW FENCE LINE



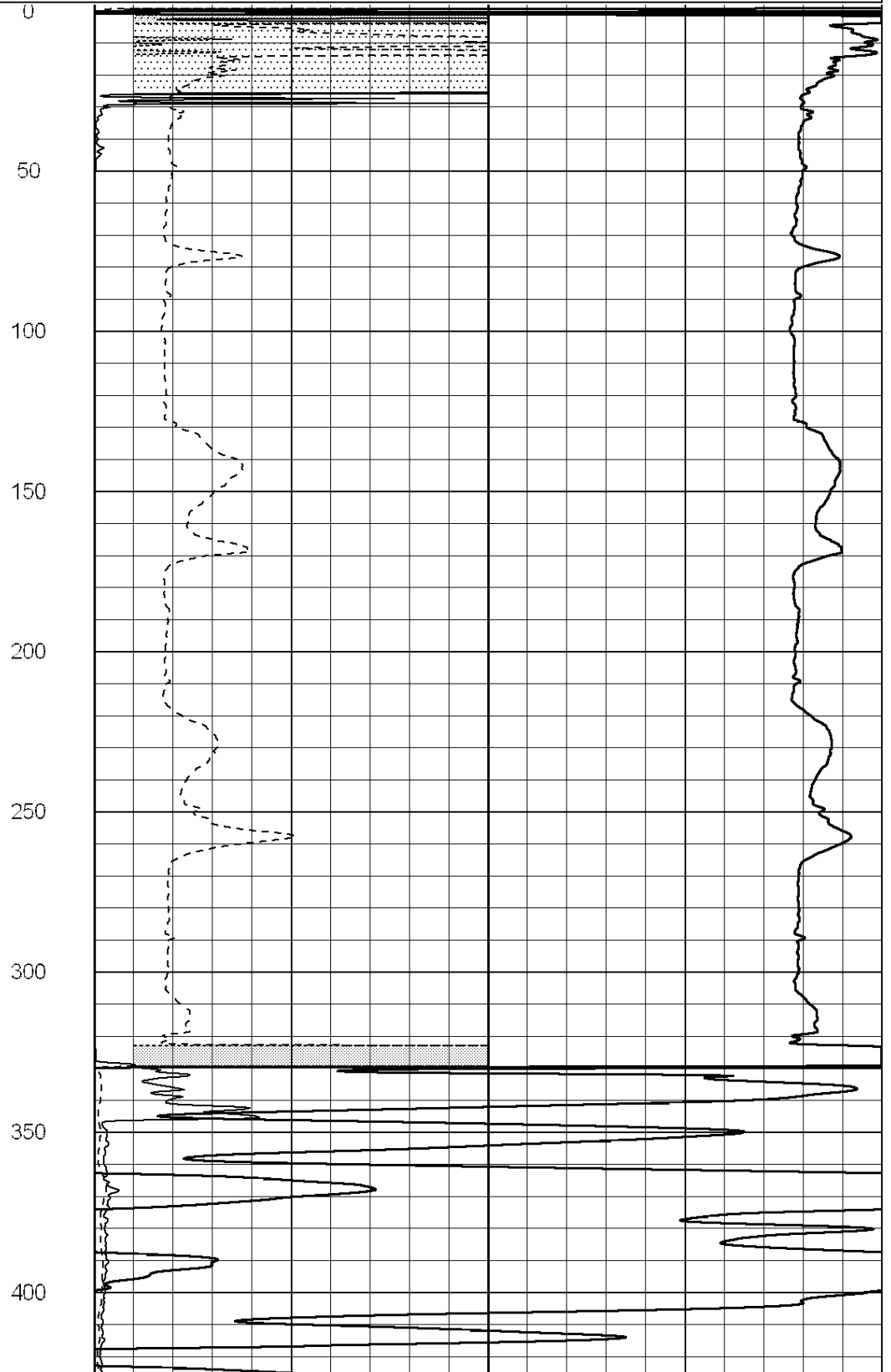
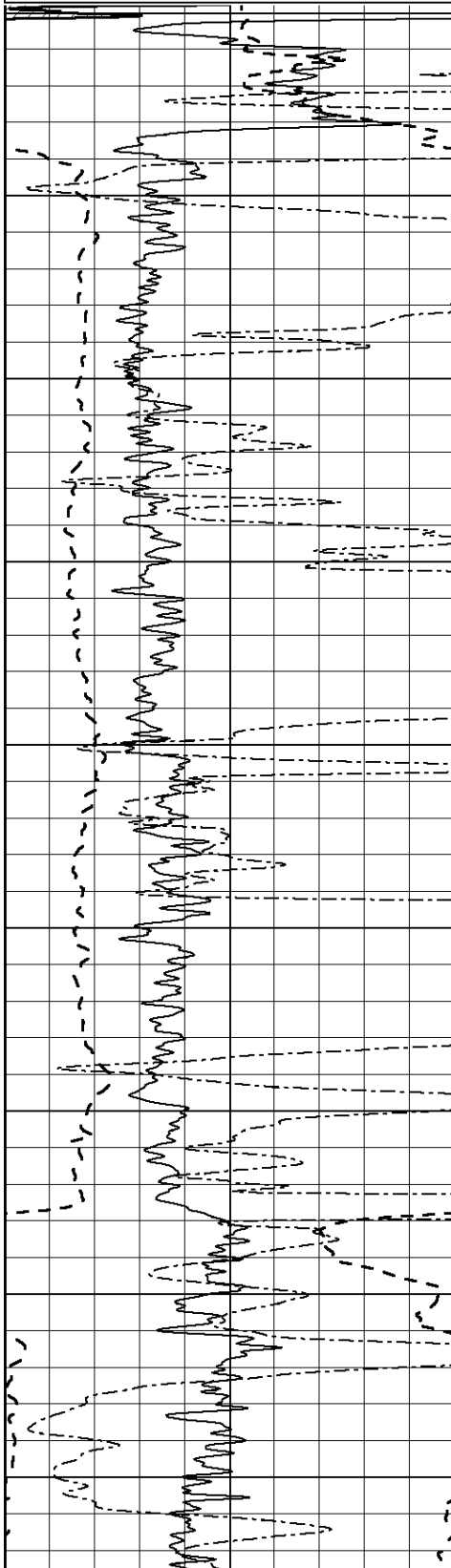
# MAIN SECTION

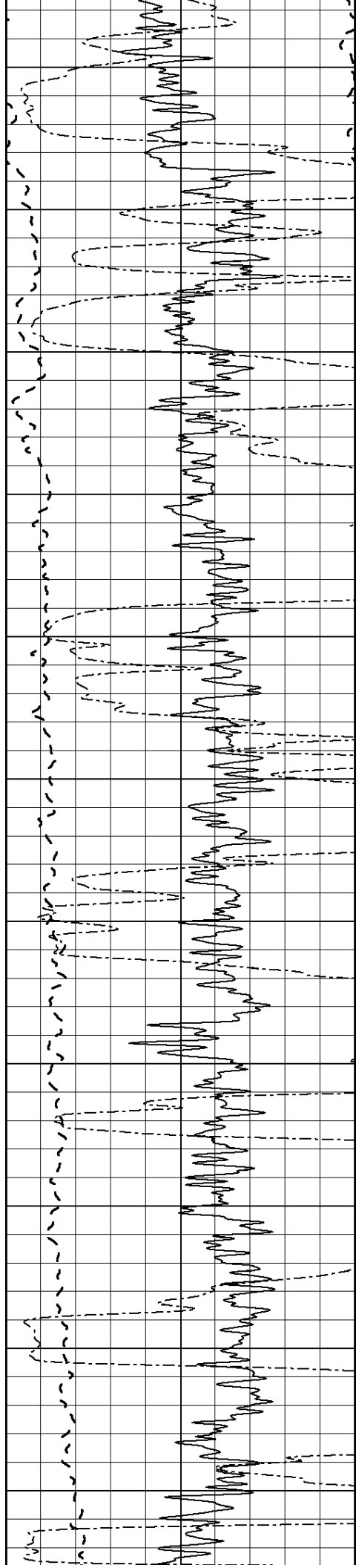
Database File: 2671pe.db  
 Dataset Pathname: pass3.6  
 Presentation Format: dil2  
 Dataset Creation: Wed Aug 08 04:44:59 2018  
 Charted by: Depth in Feet scaled 1:600

|      |                  |     |
|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 |
| -100 | SP (mV)          | 100 |
| 0    | RWA (Ohm-m)      | 1   |

|      |               |    |
|------|---------------|----|
| 0    | RLL3 (Ohm-m)  | 50 |
| 0    | RILD (Ohm-m)  | 50 |
| 1000 | CILD (mmho/m) | 0  |

|    |                  |     |
|----|------------------|-----|
| 50 | RILD X10 (Ohm-m) | 500 |
| 50 | RLL3 X10 (Ohm-m) | 500 |





450

500

550

600

650

700

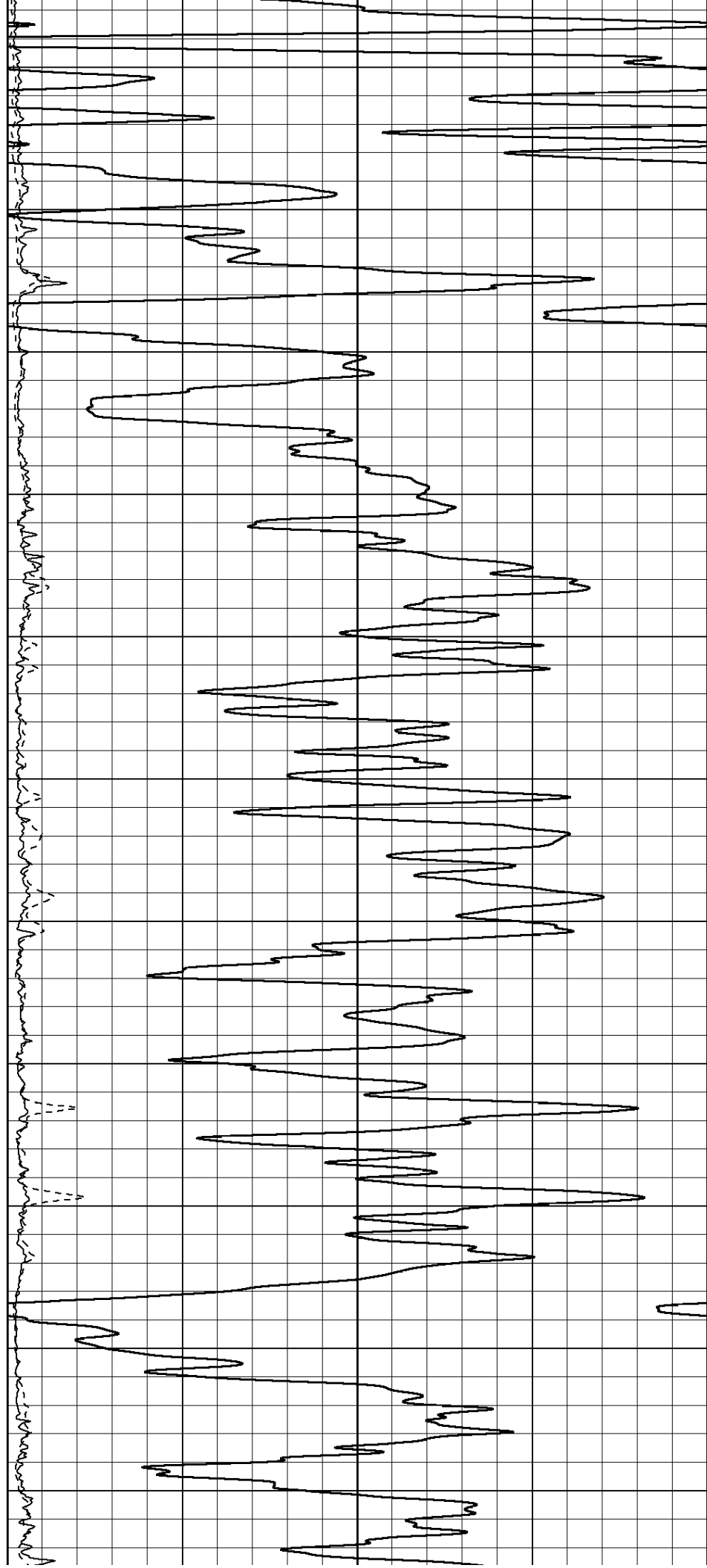
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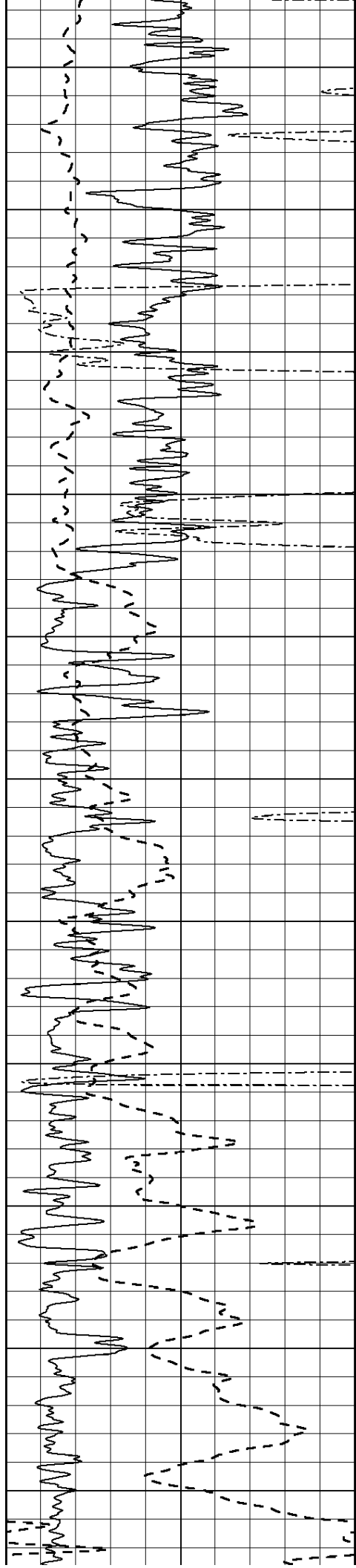
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1200

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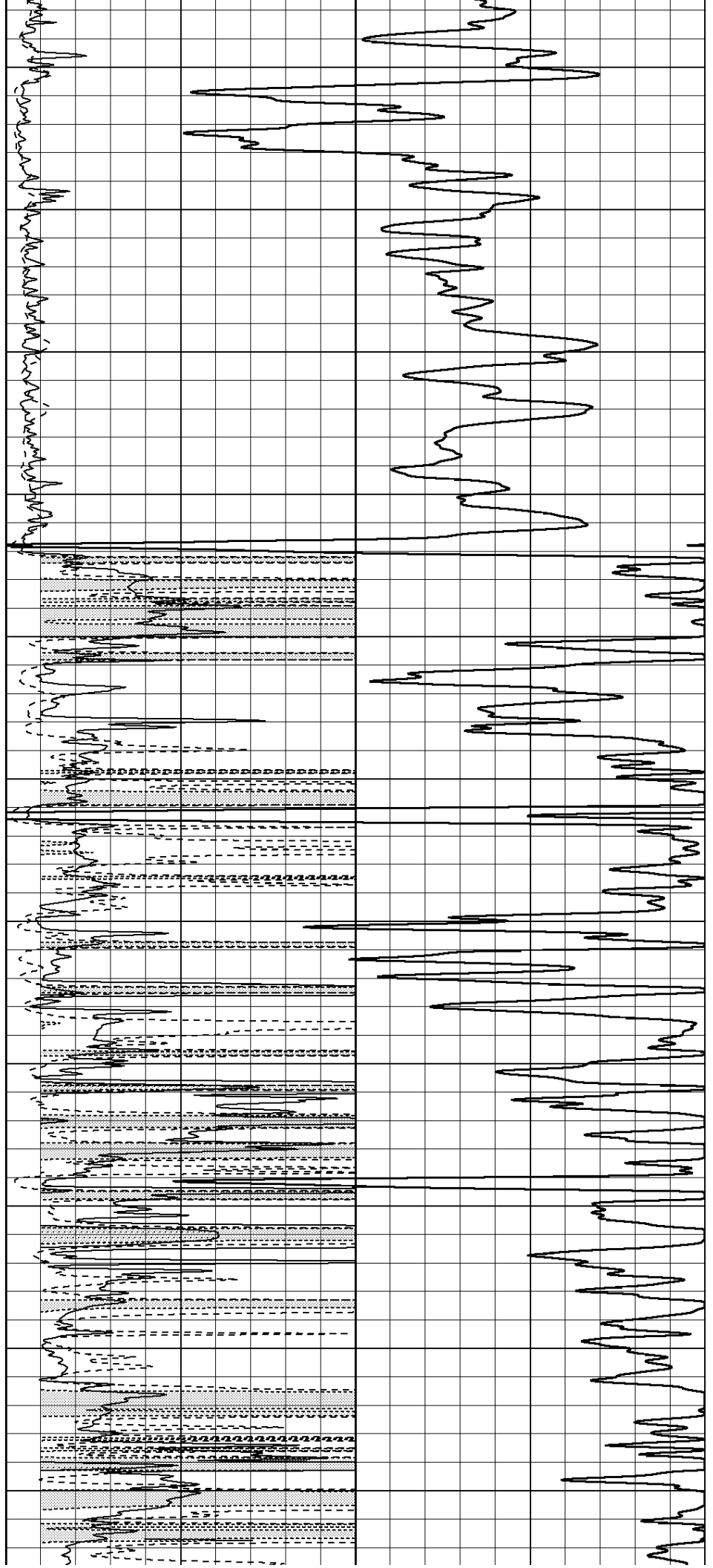
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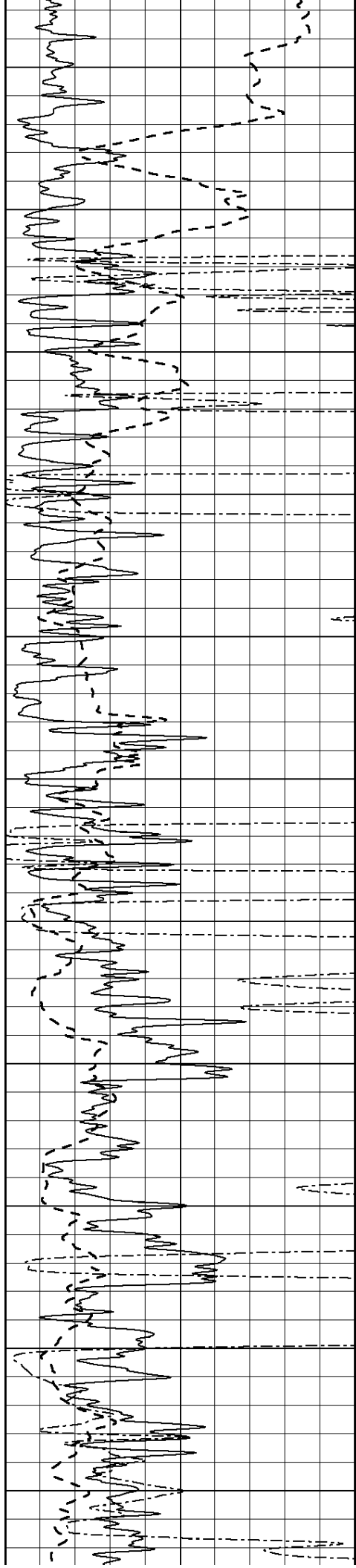
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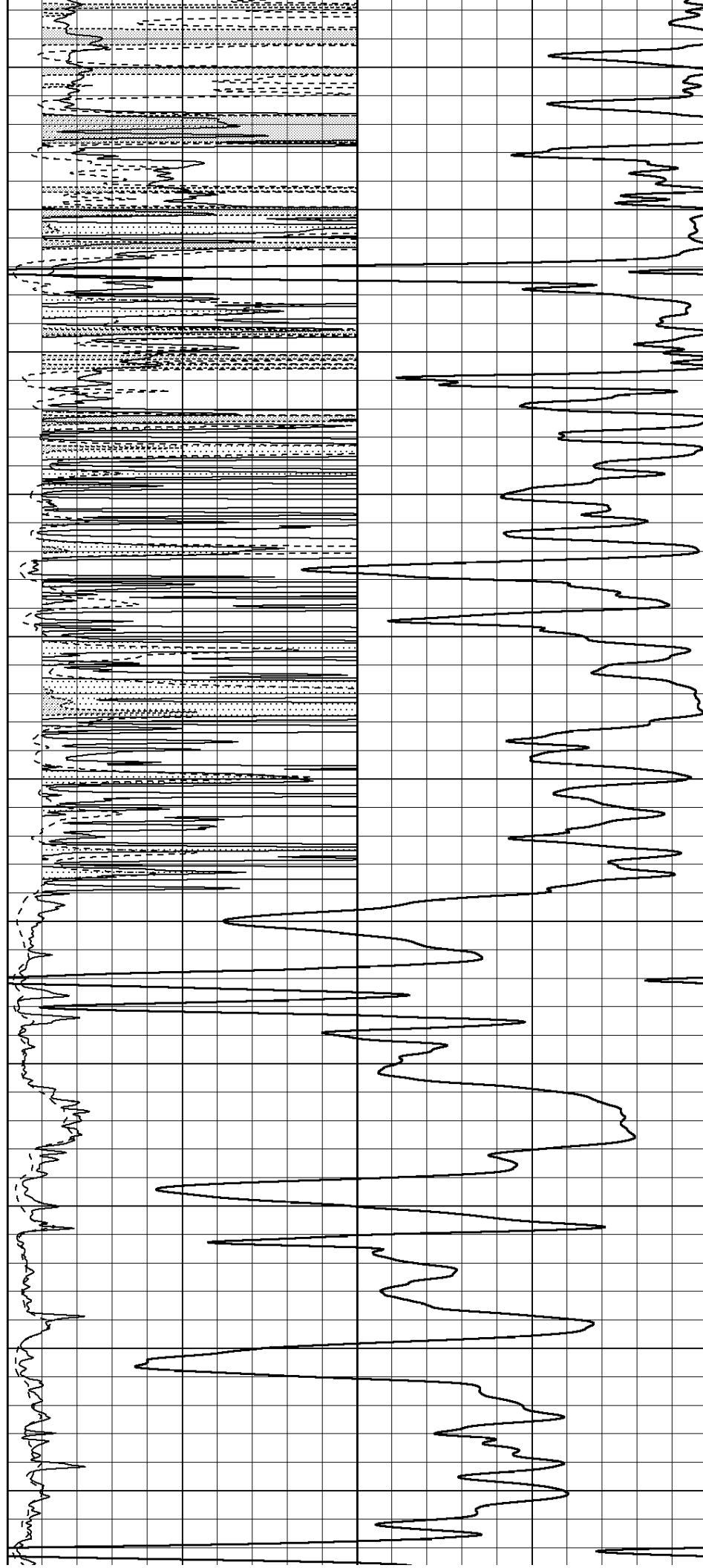
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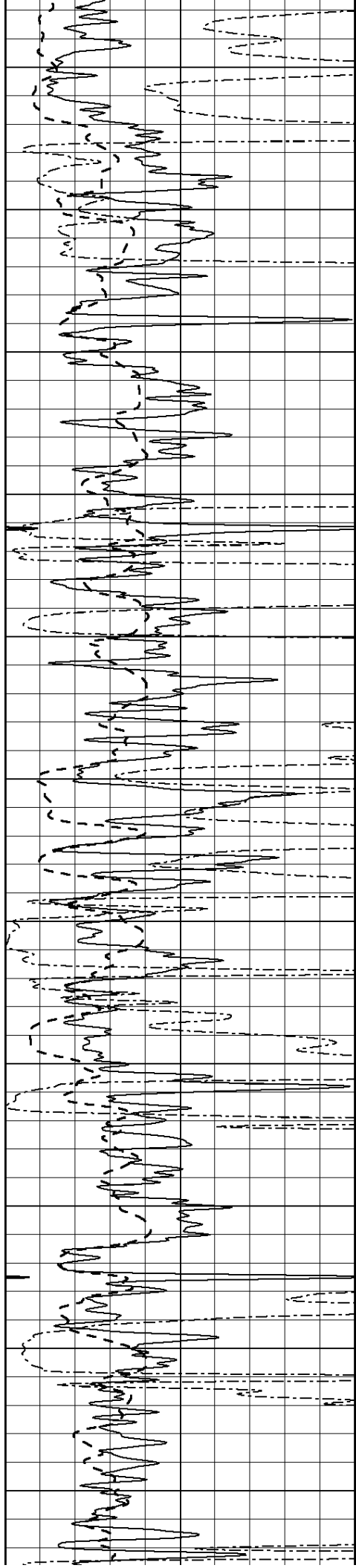
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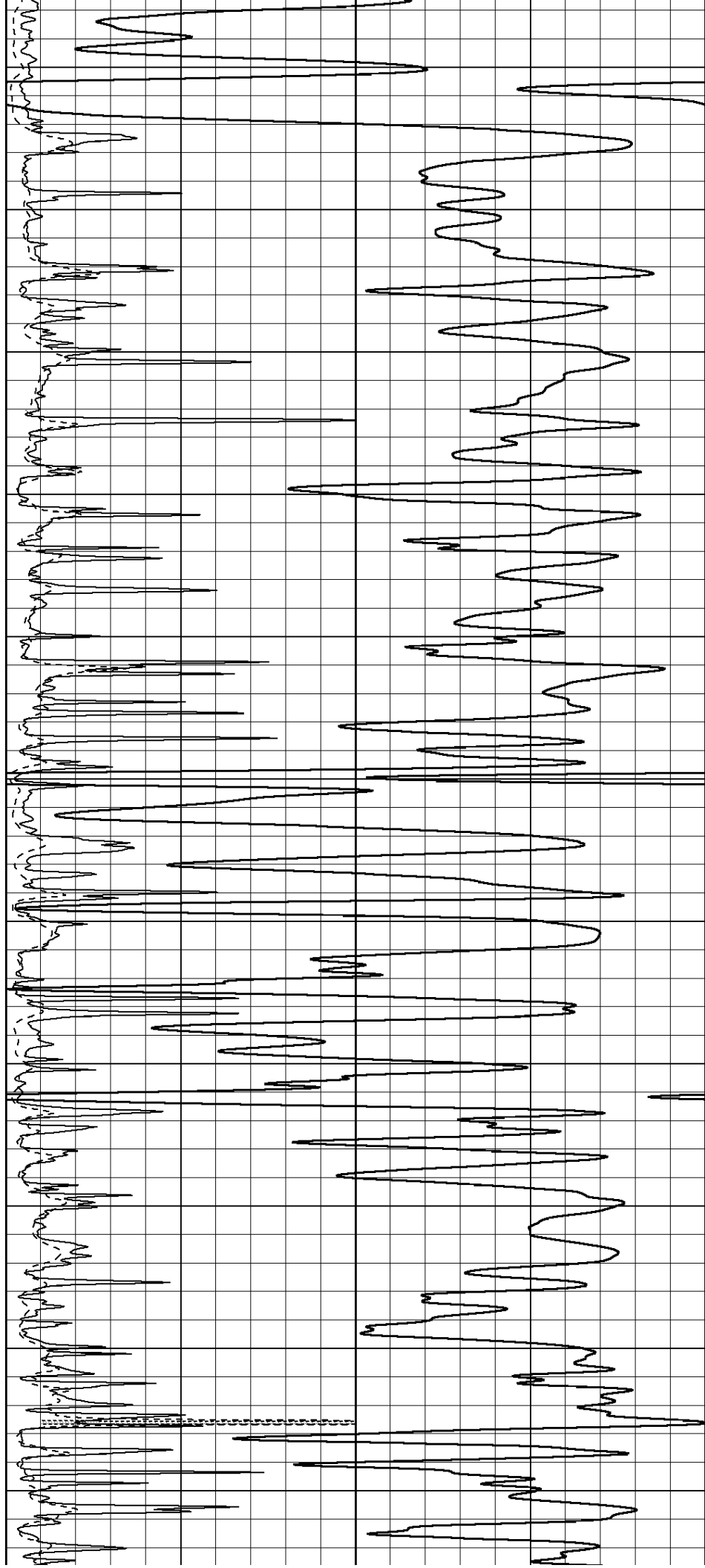
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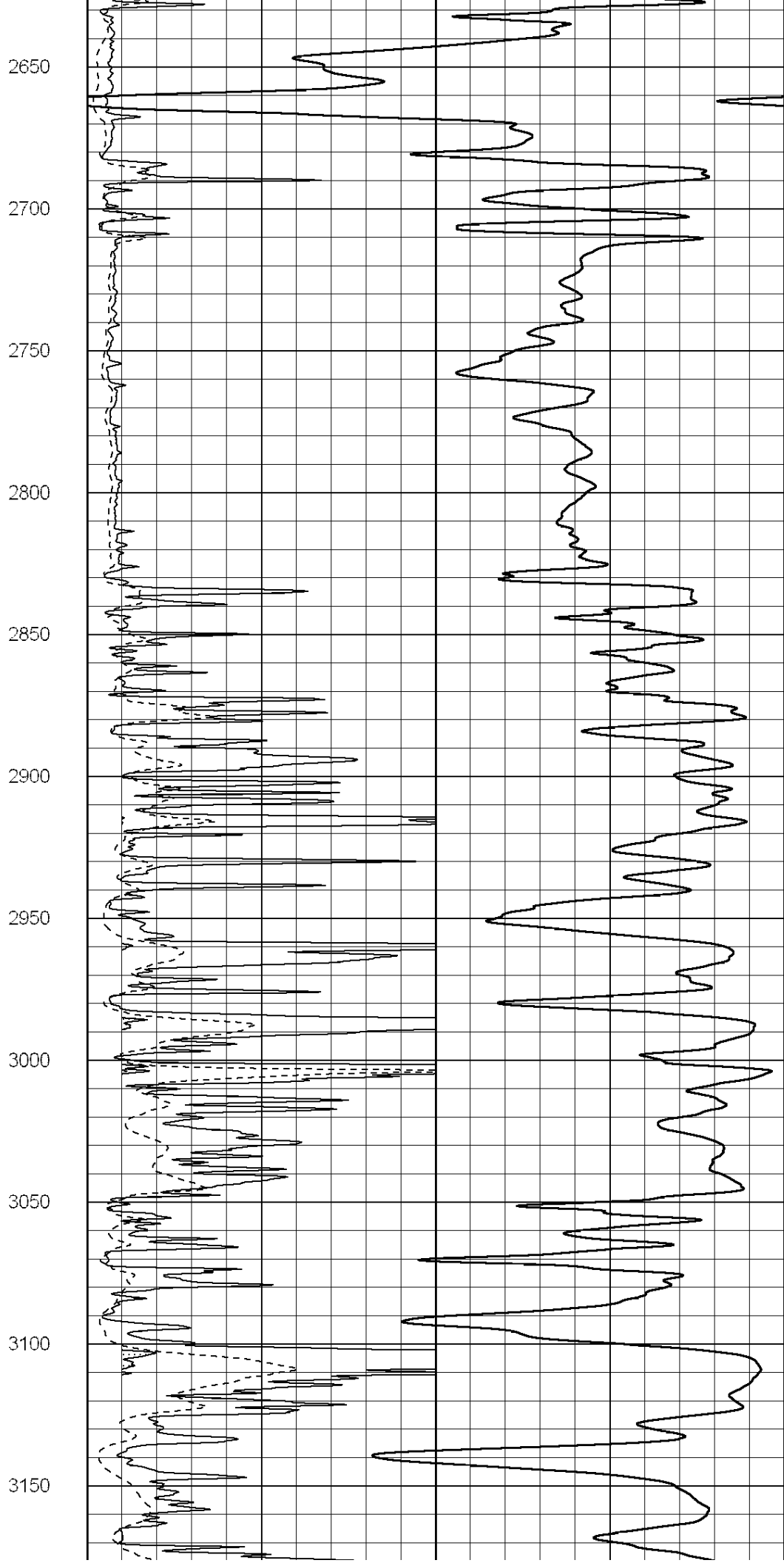
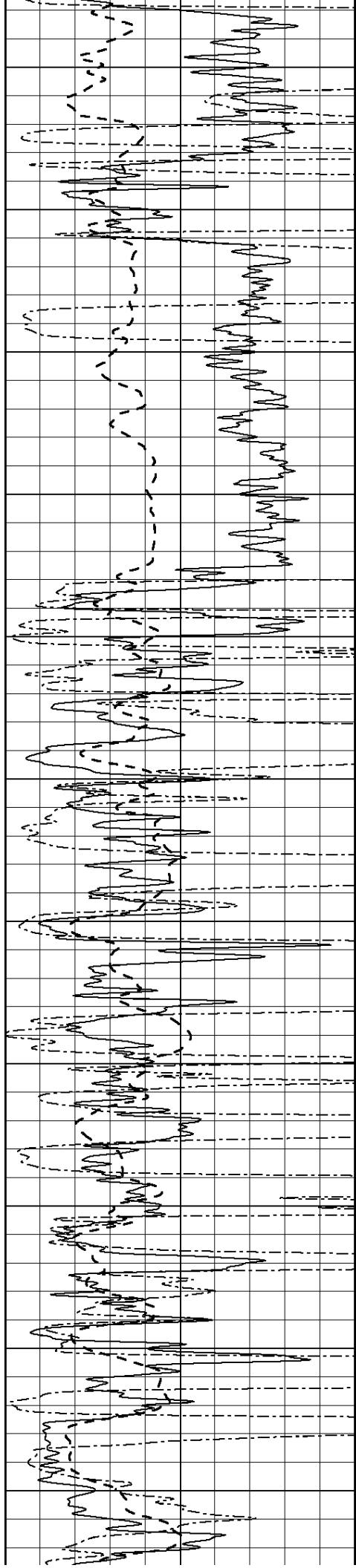
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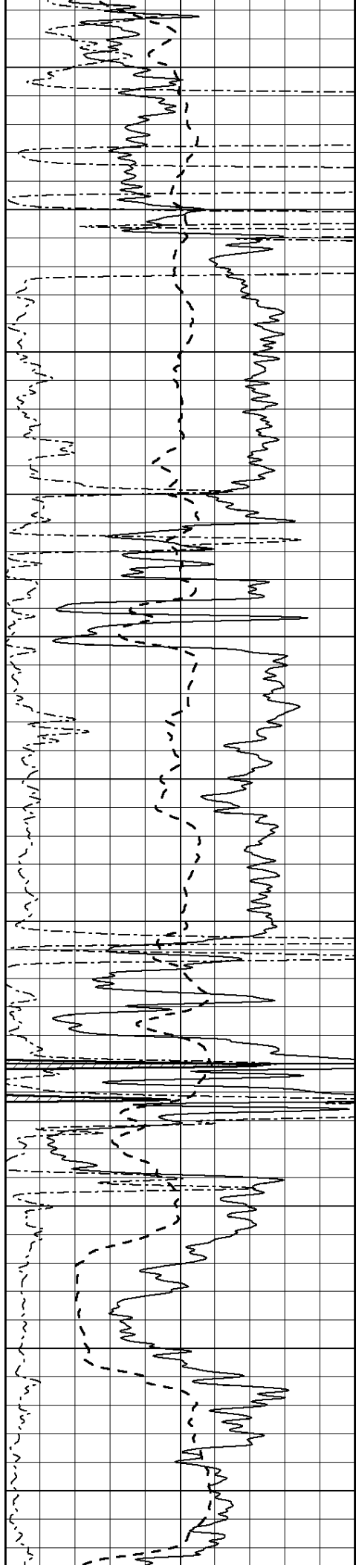
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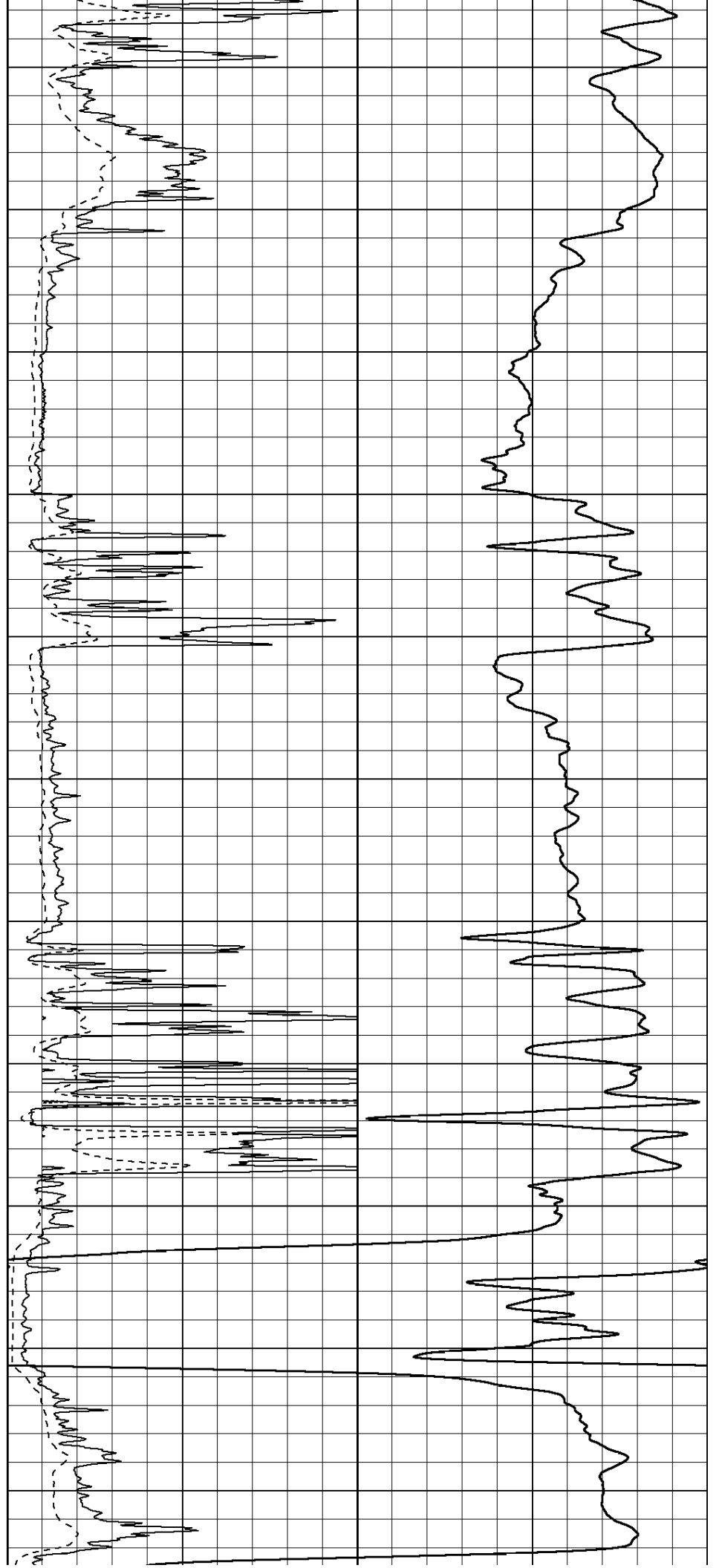
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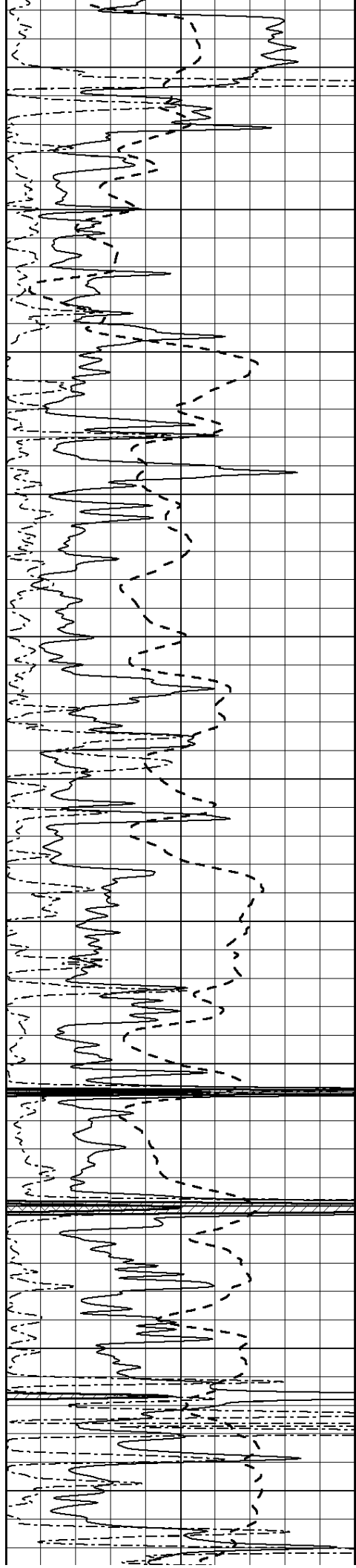
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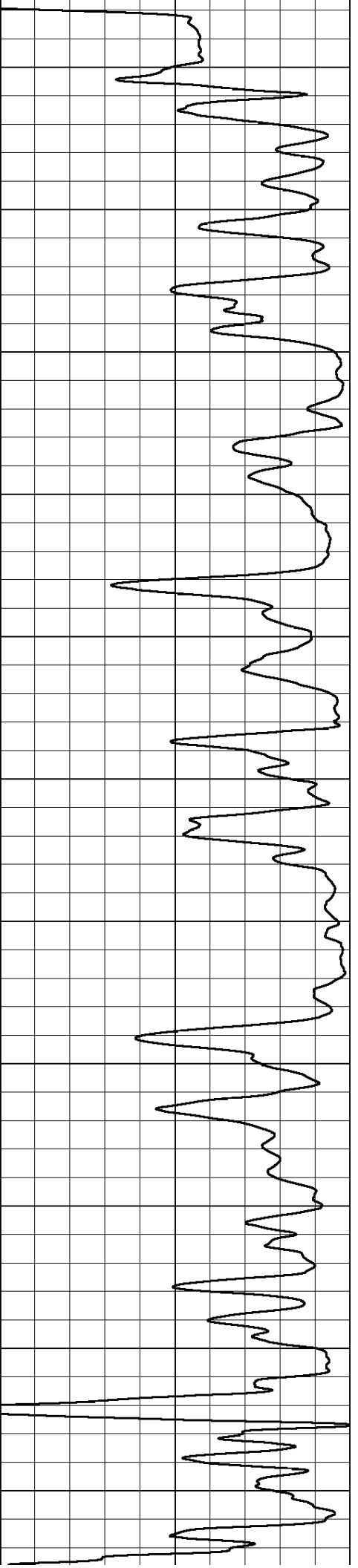
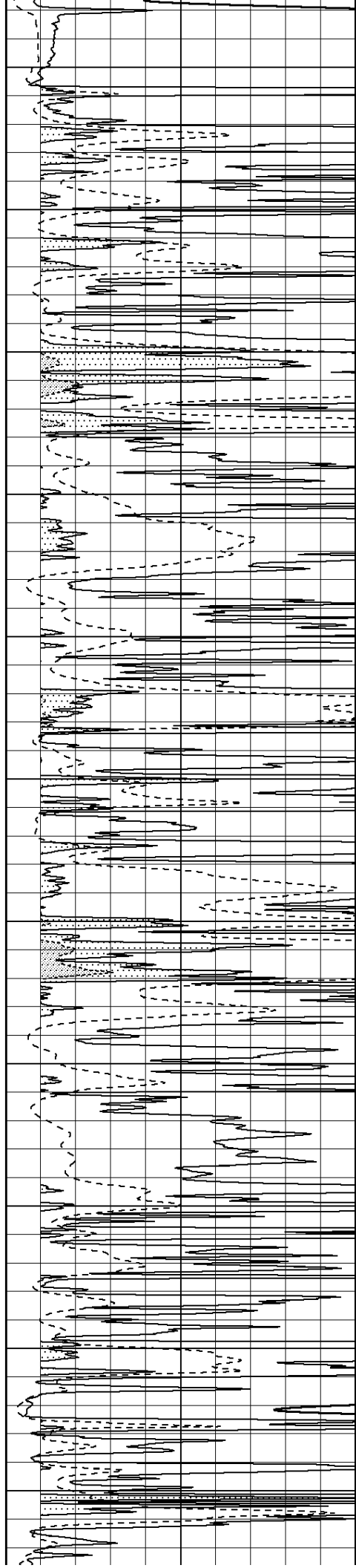
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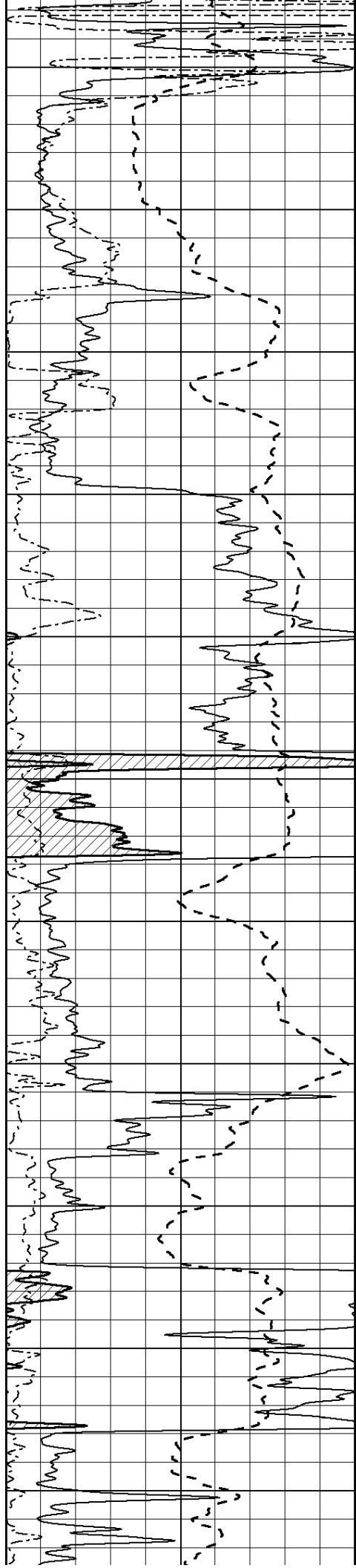
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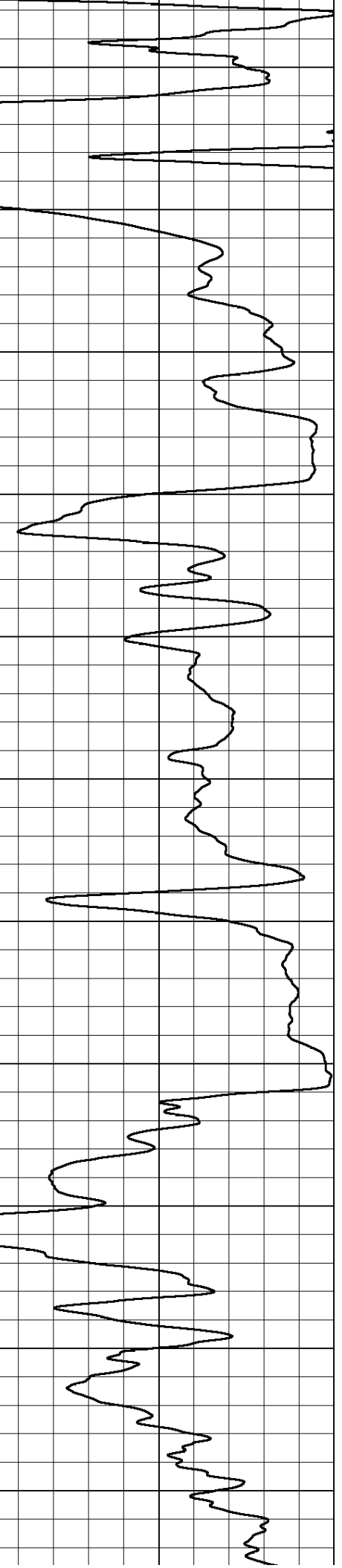
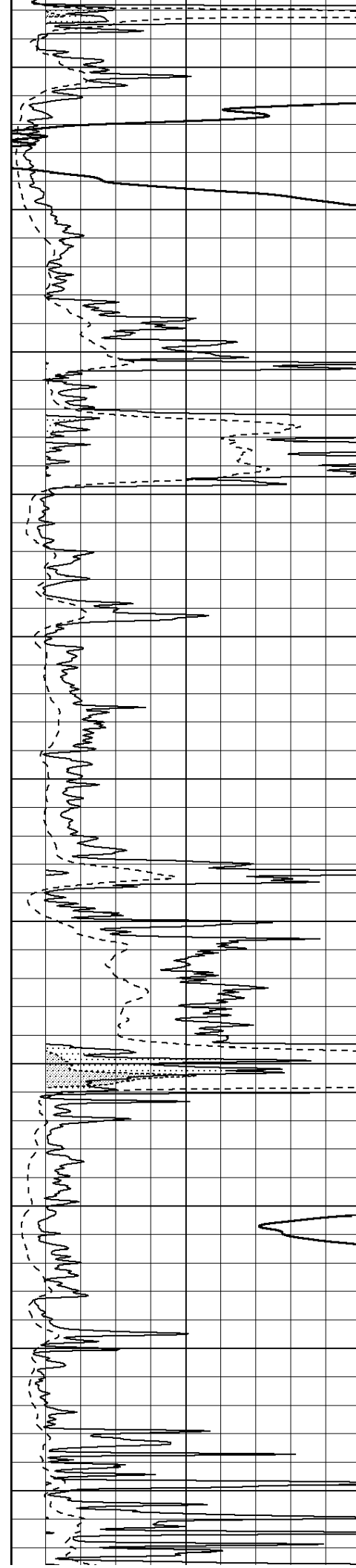
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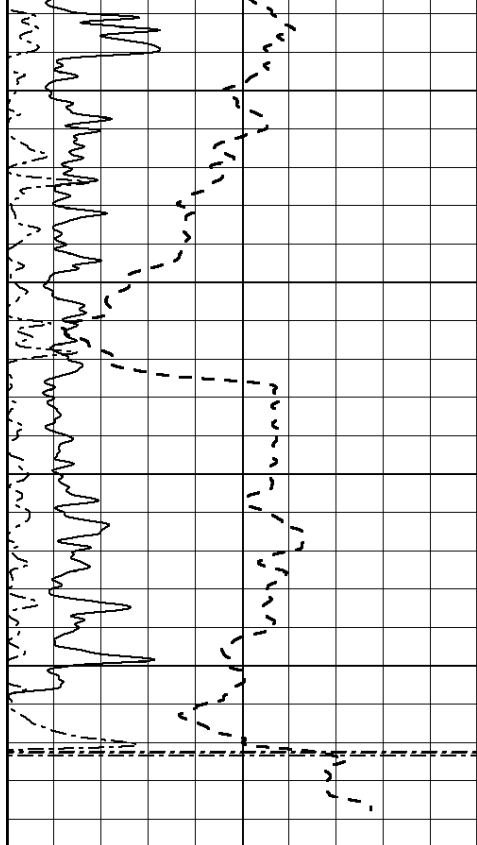
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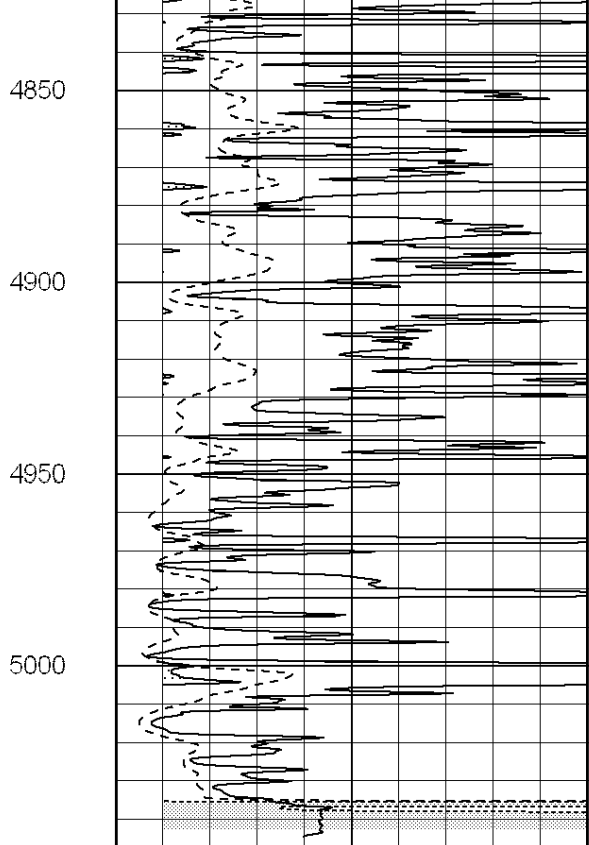


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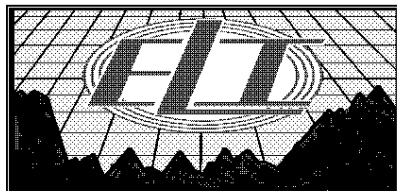
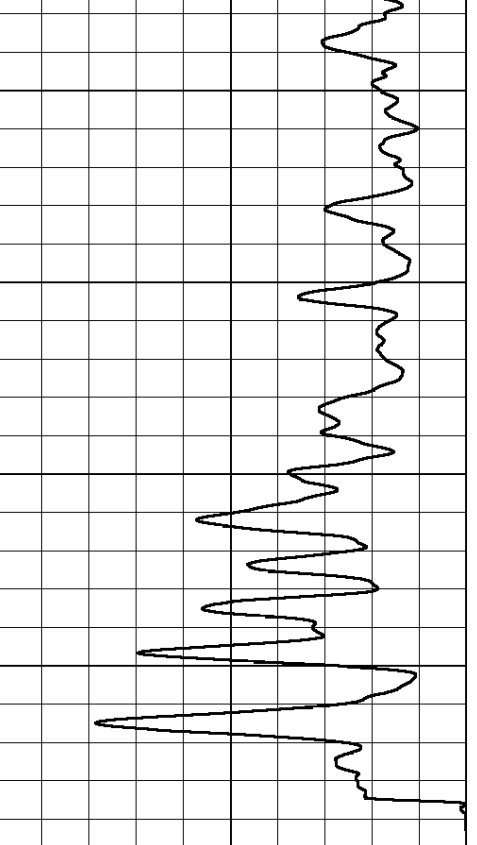




|      |                  |     |
|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 |
| -100 | SP (mV)          | 100 |
| 0    | RWA (Ohm-m)      | 1   |



|      |                  |     |
|------|------------------|-----|
| 0    | RLL3 (Ohm-m)     | 50  |
| 0    | RILD (Ohm-m)     | 50  |
| 1000 | CILD (mmho/m)    | 0   |
| 50   | RILD X10 (Ohm-m) | 500 |
| 50   | RLL3 X10 (Ohm-m) | 500 |

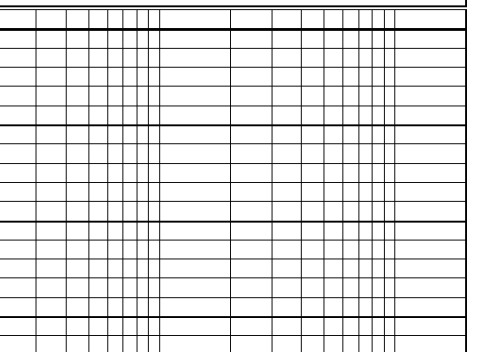
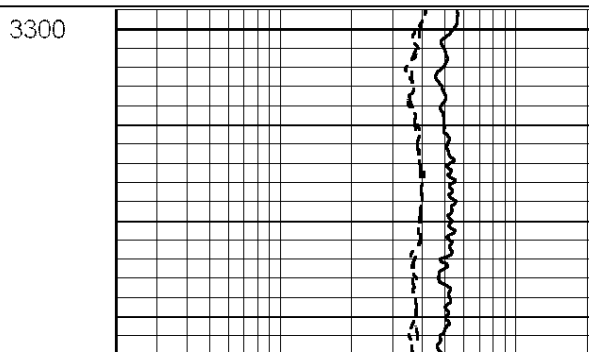
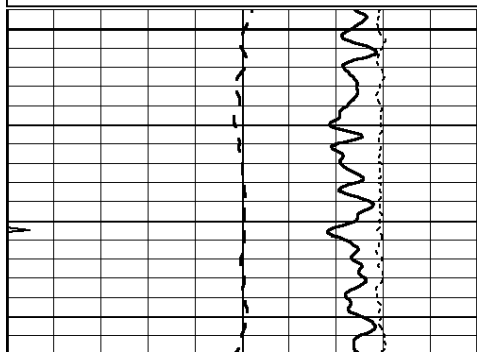


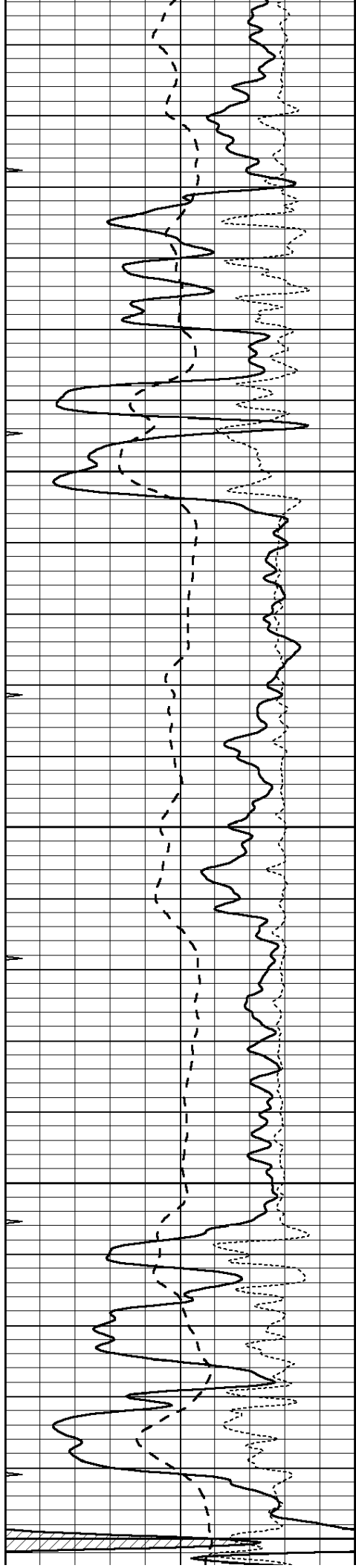
# MAIN SECTION

Database File: 2671pe.db  
 Dataset Pathname: pass3.6  
 Presentation Format: \_dil  
 Dataset Creation: Wed Aug 08 04:44:59 2018  
 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 |





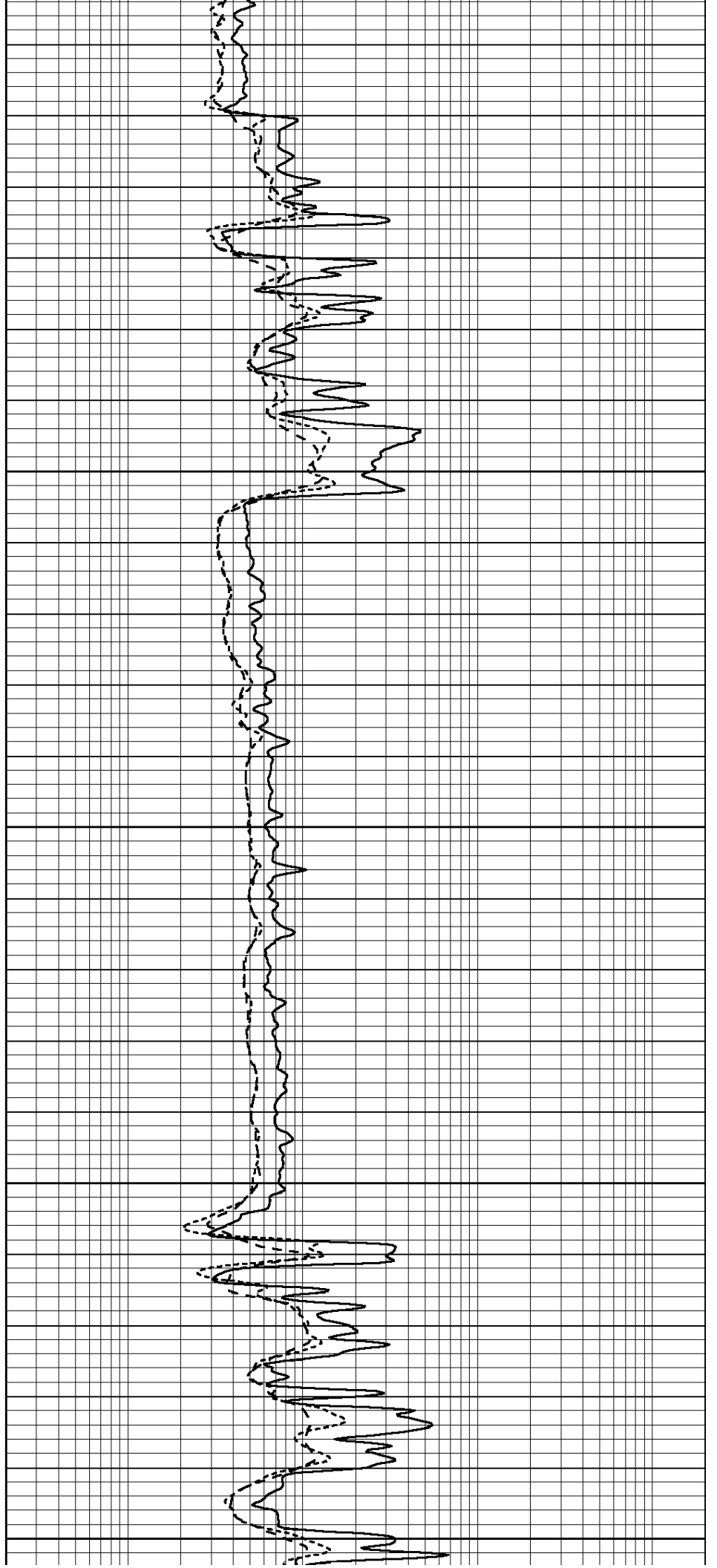
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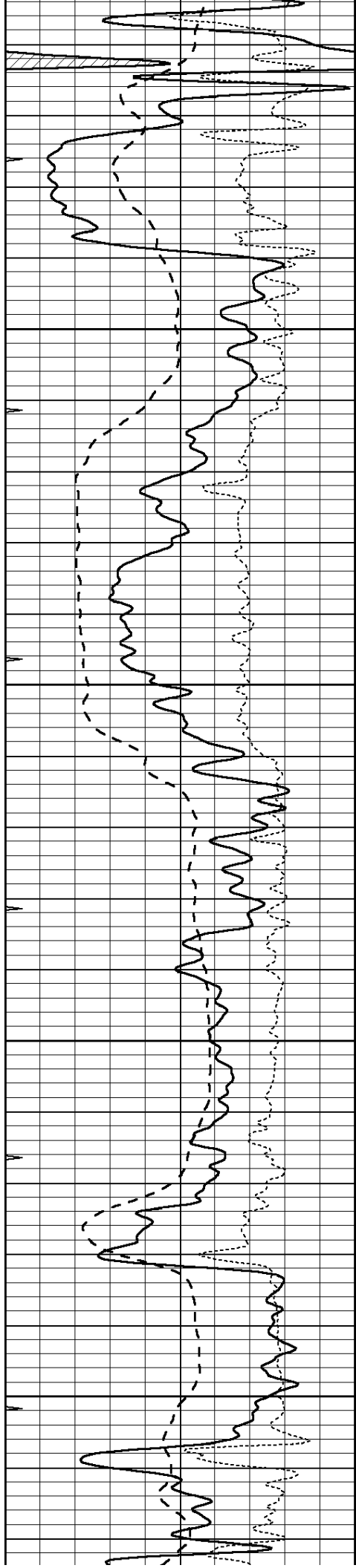
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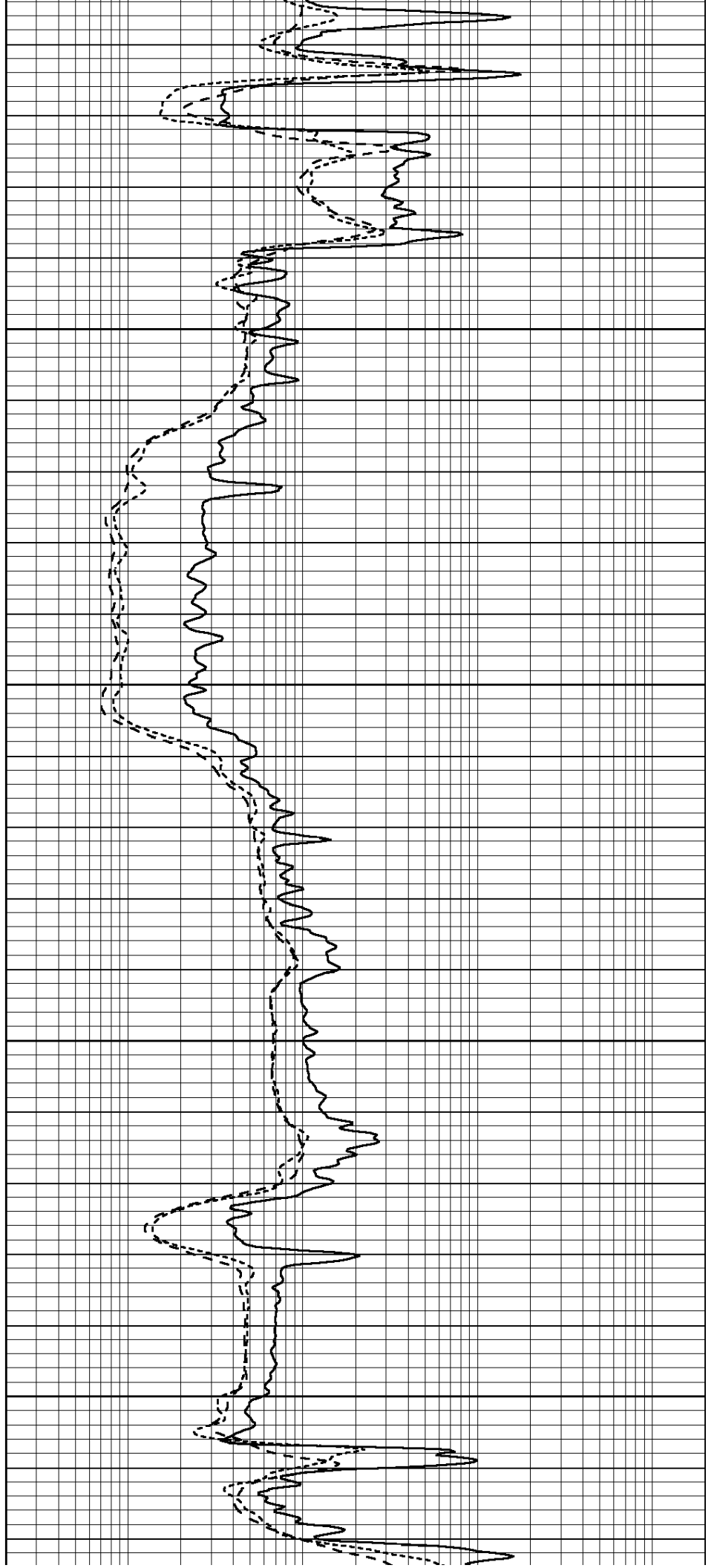


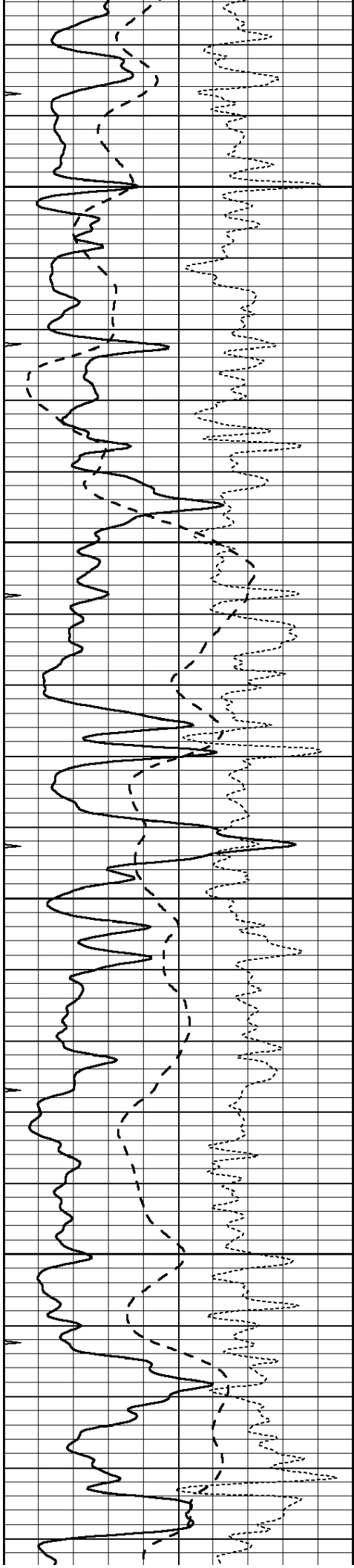
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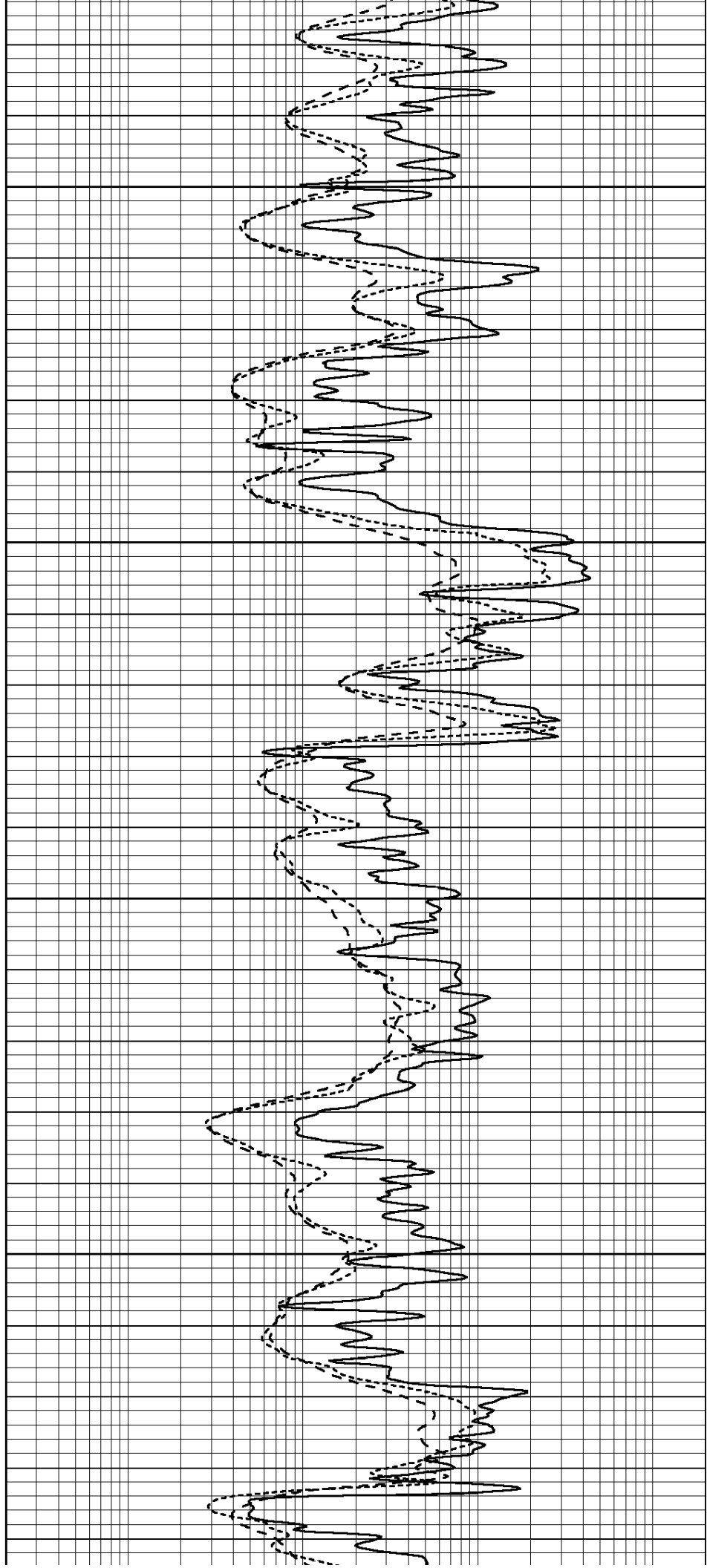


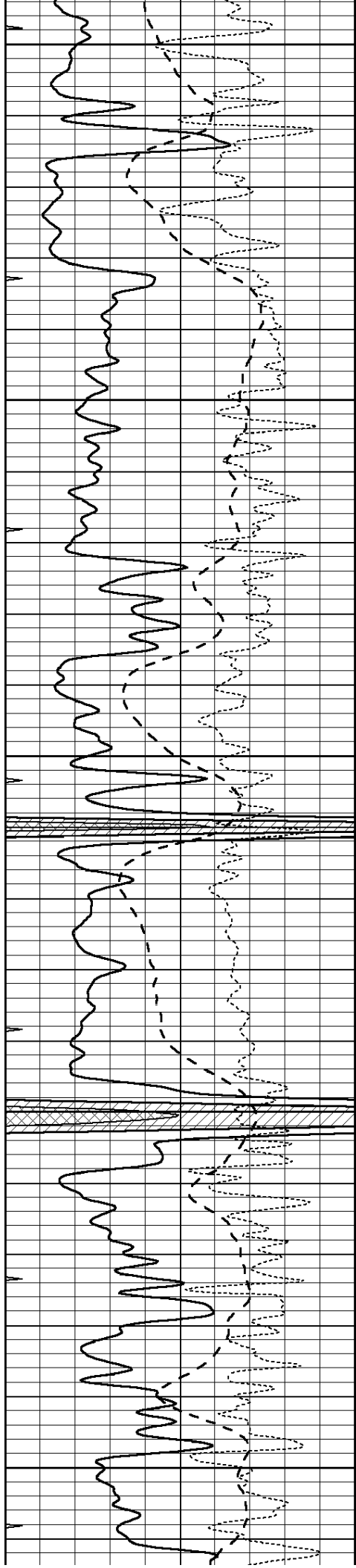
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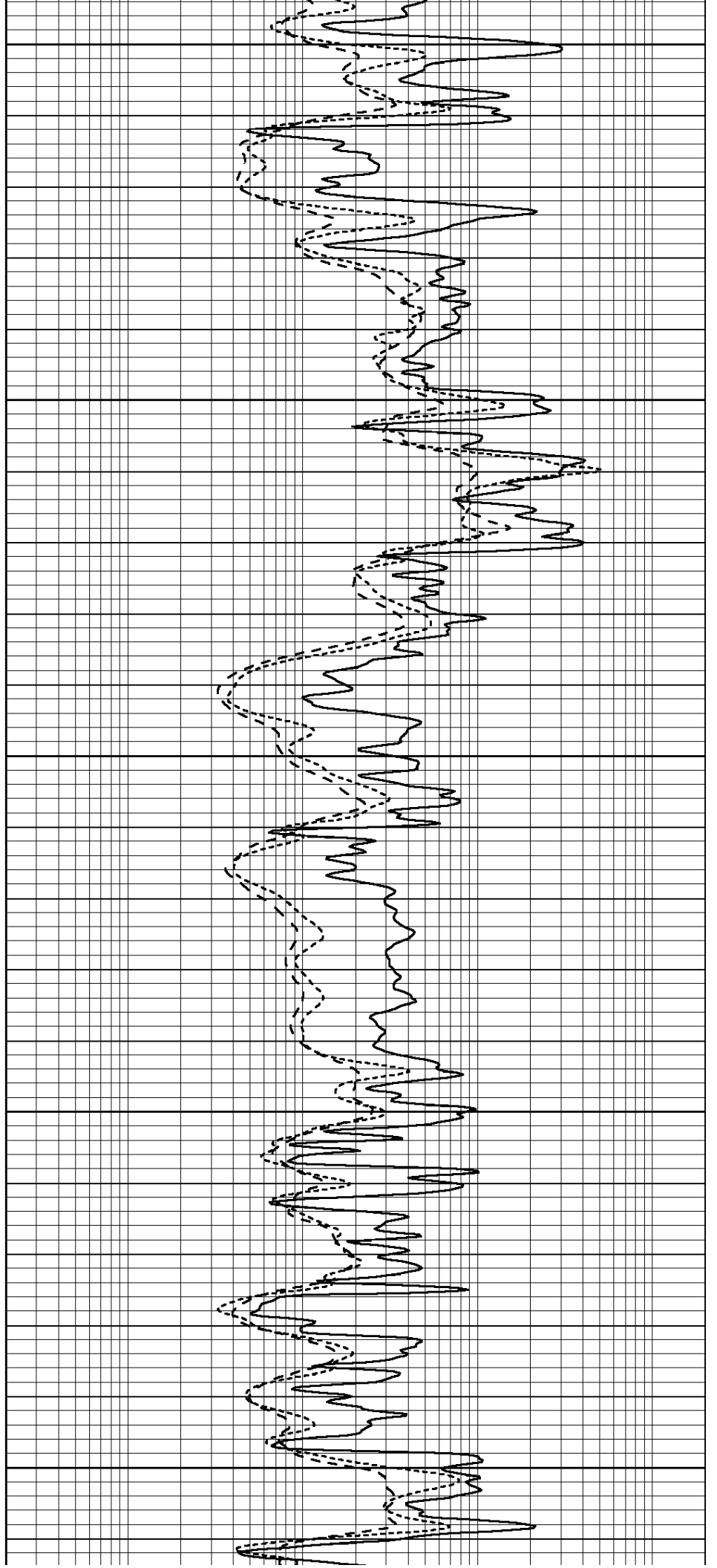
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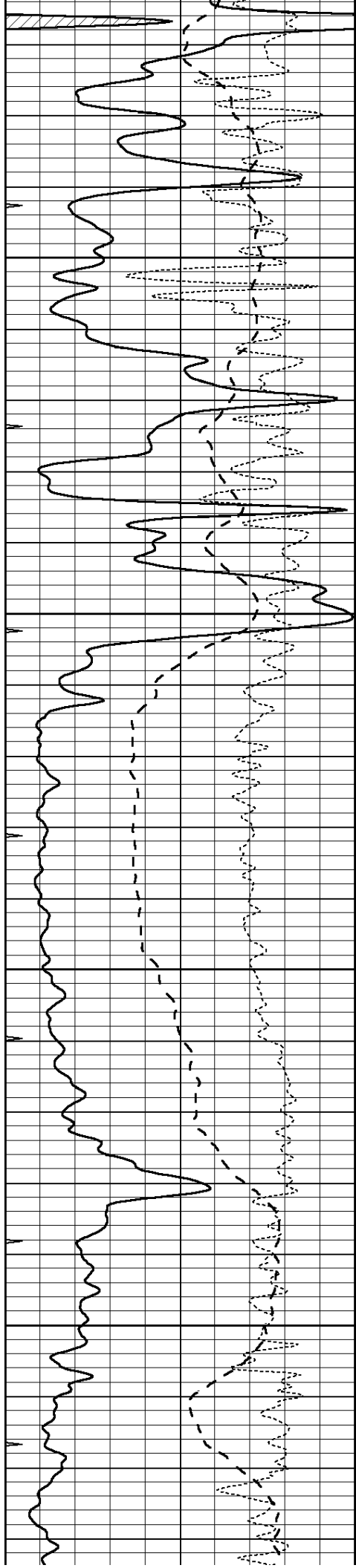
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4200



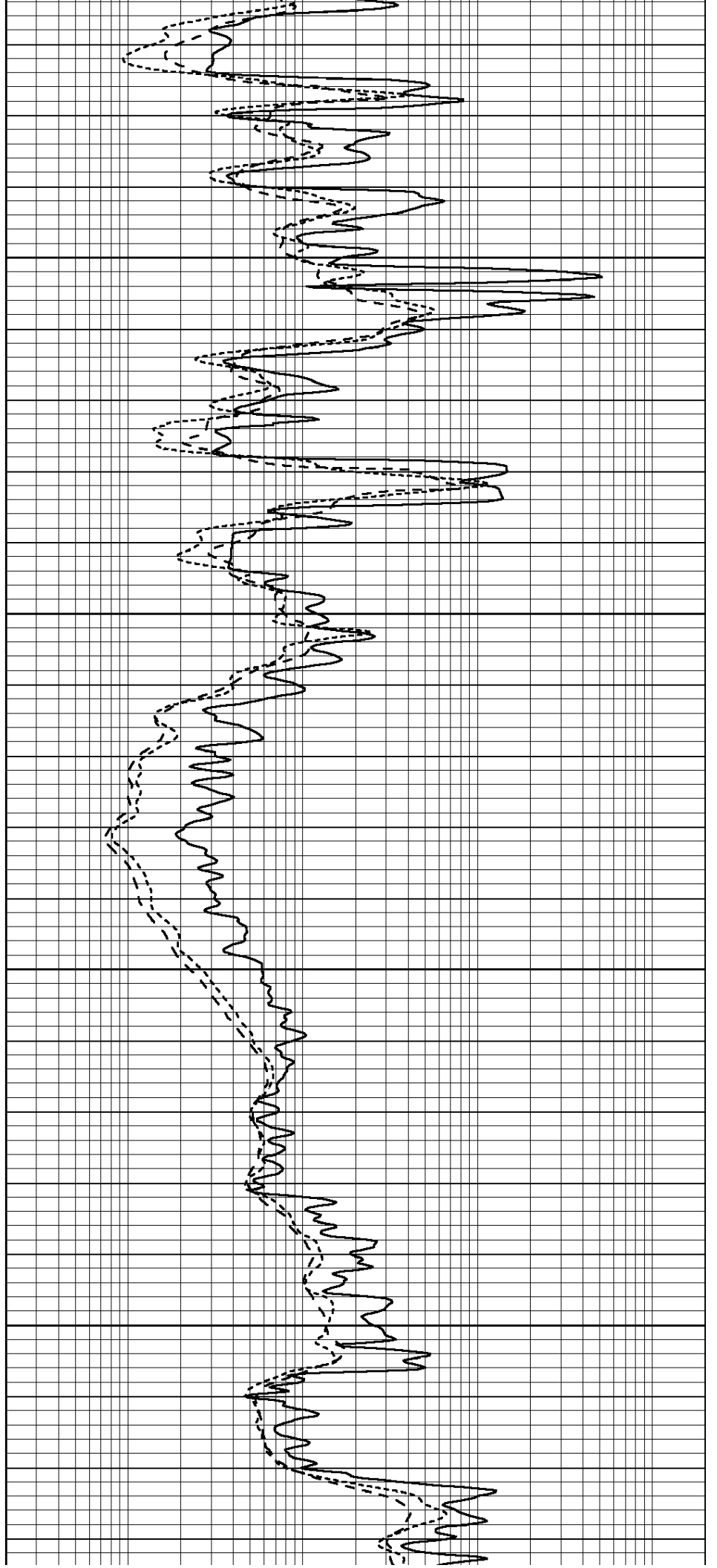


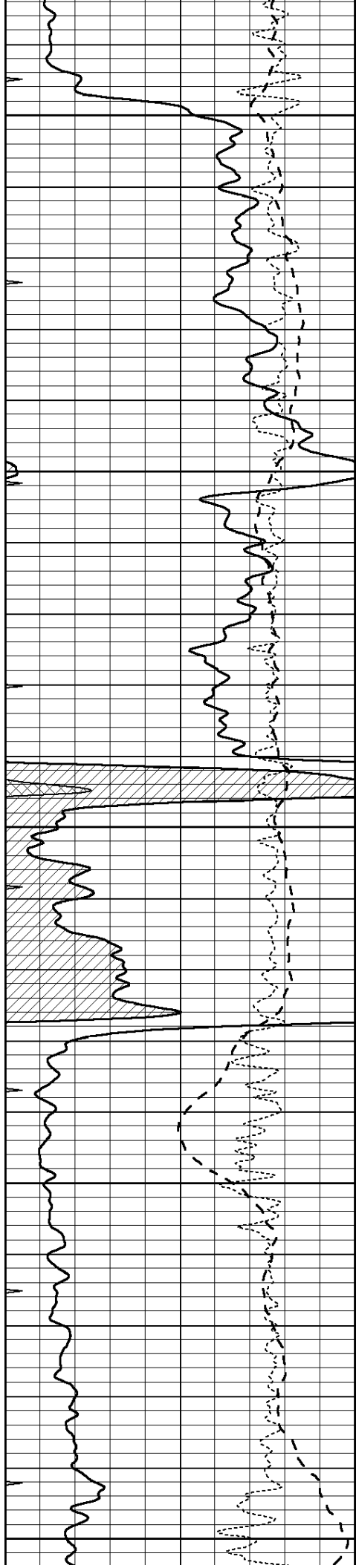
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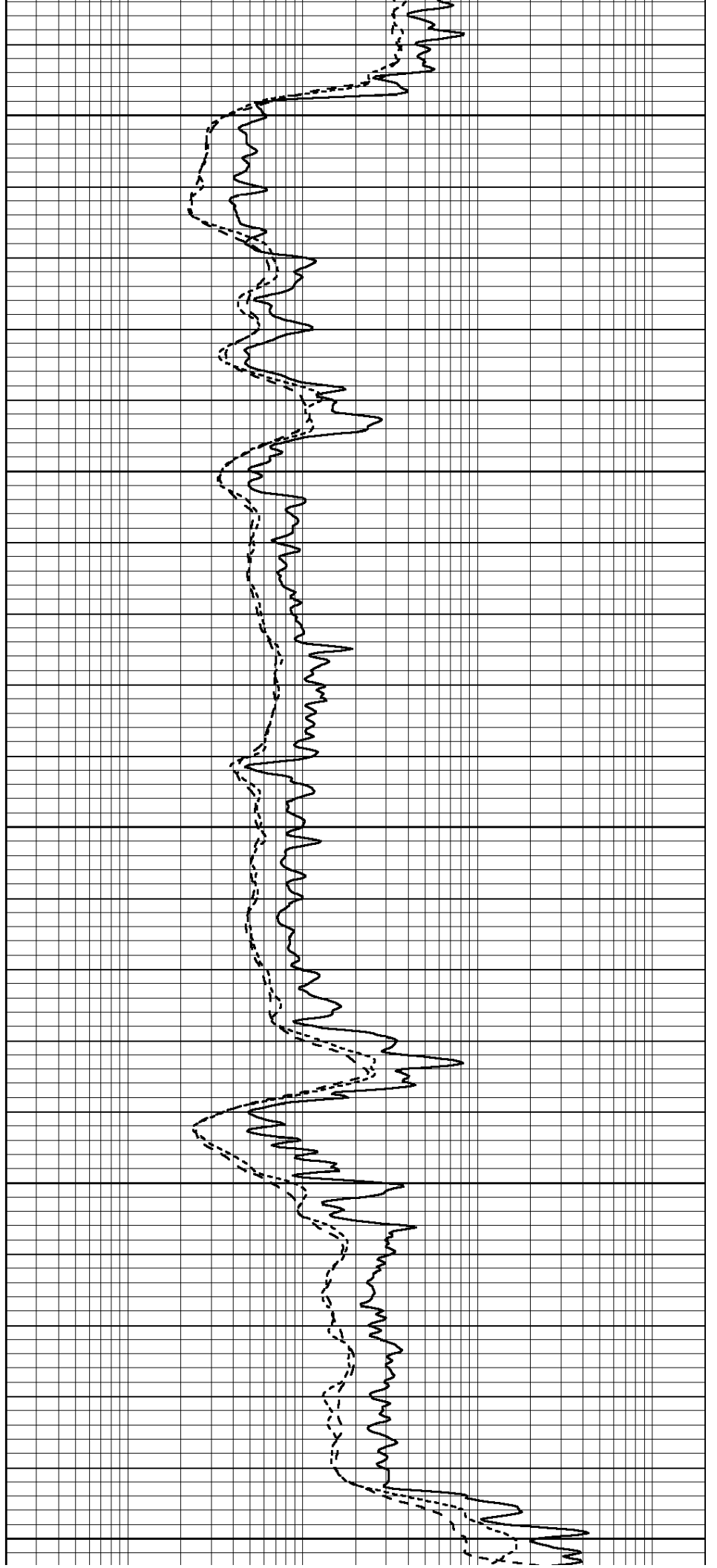
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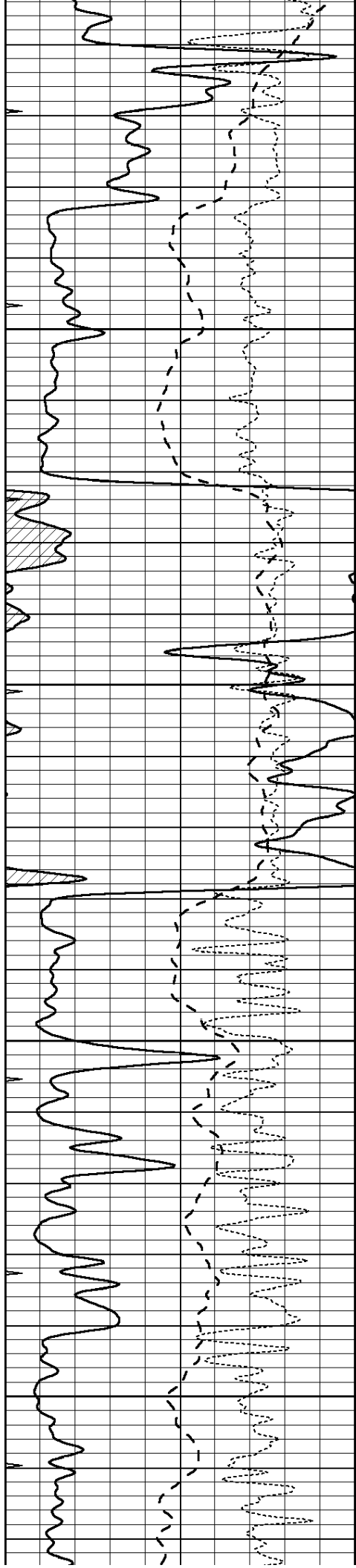
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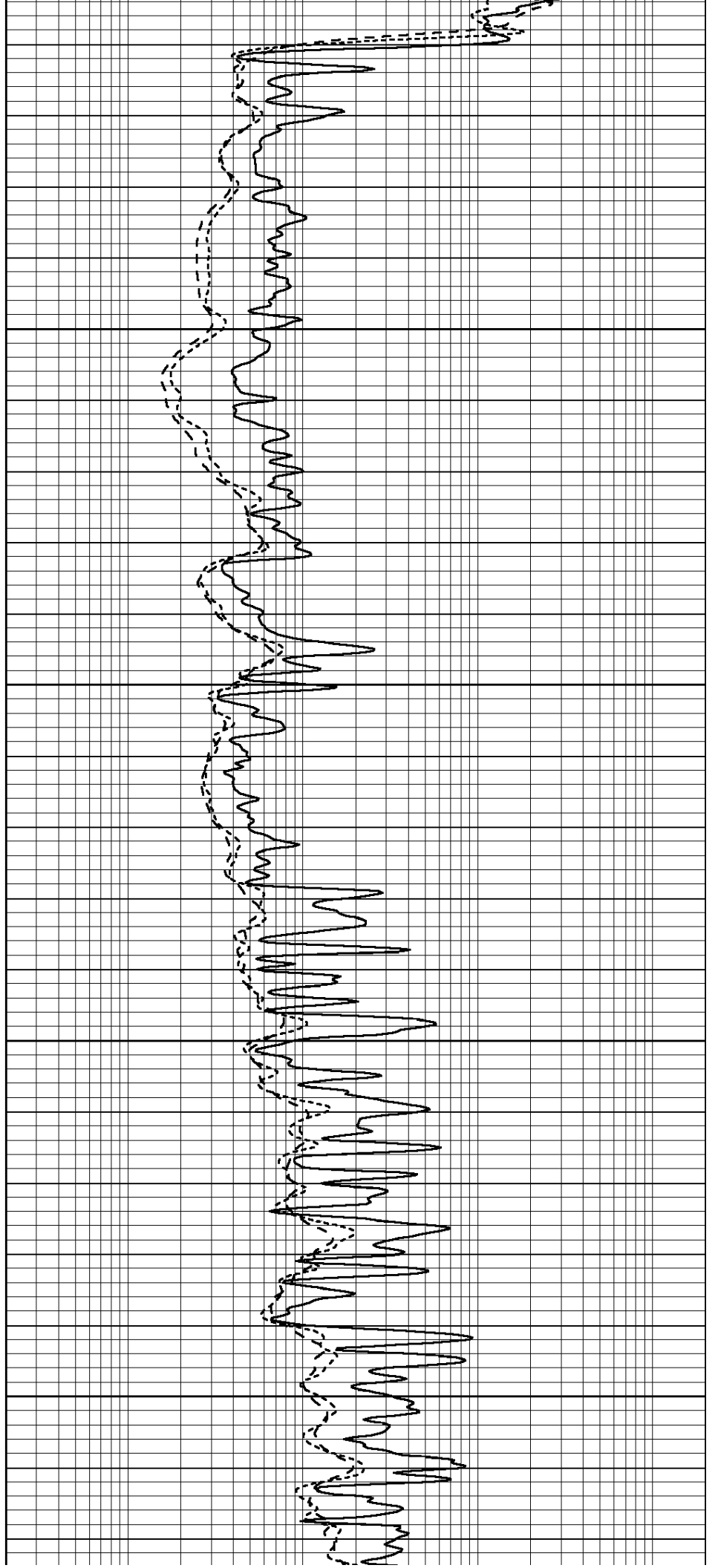


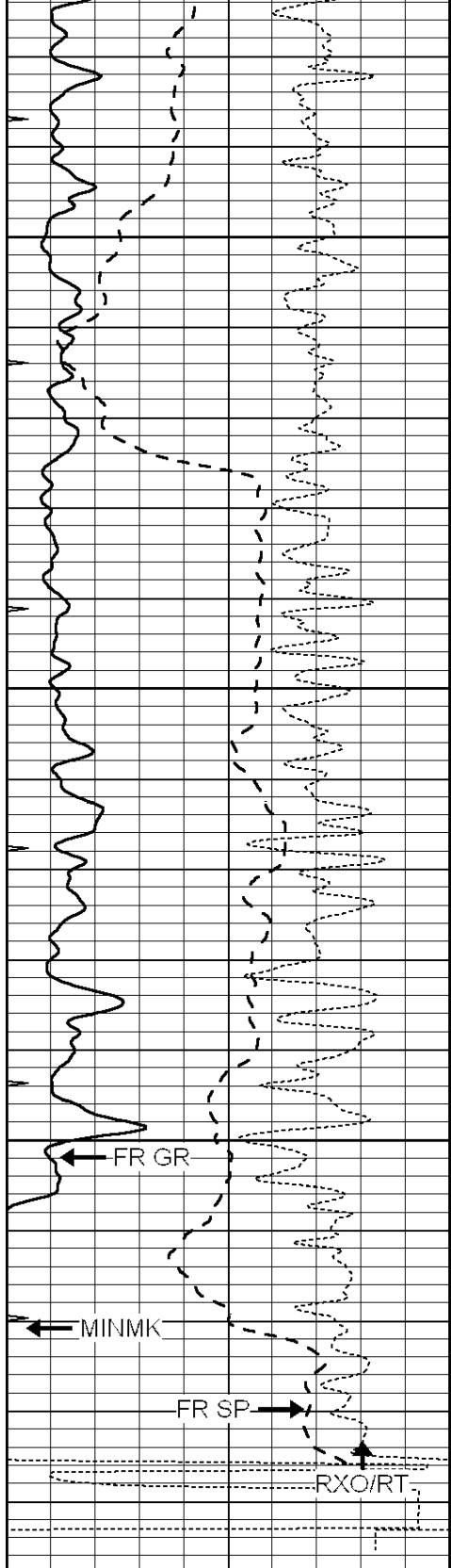
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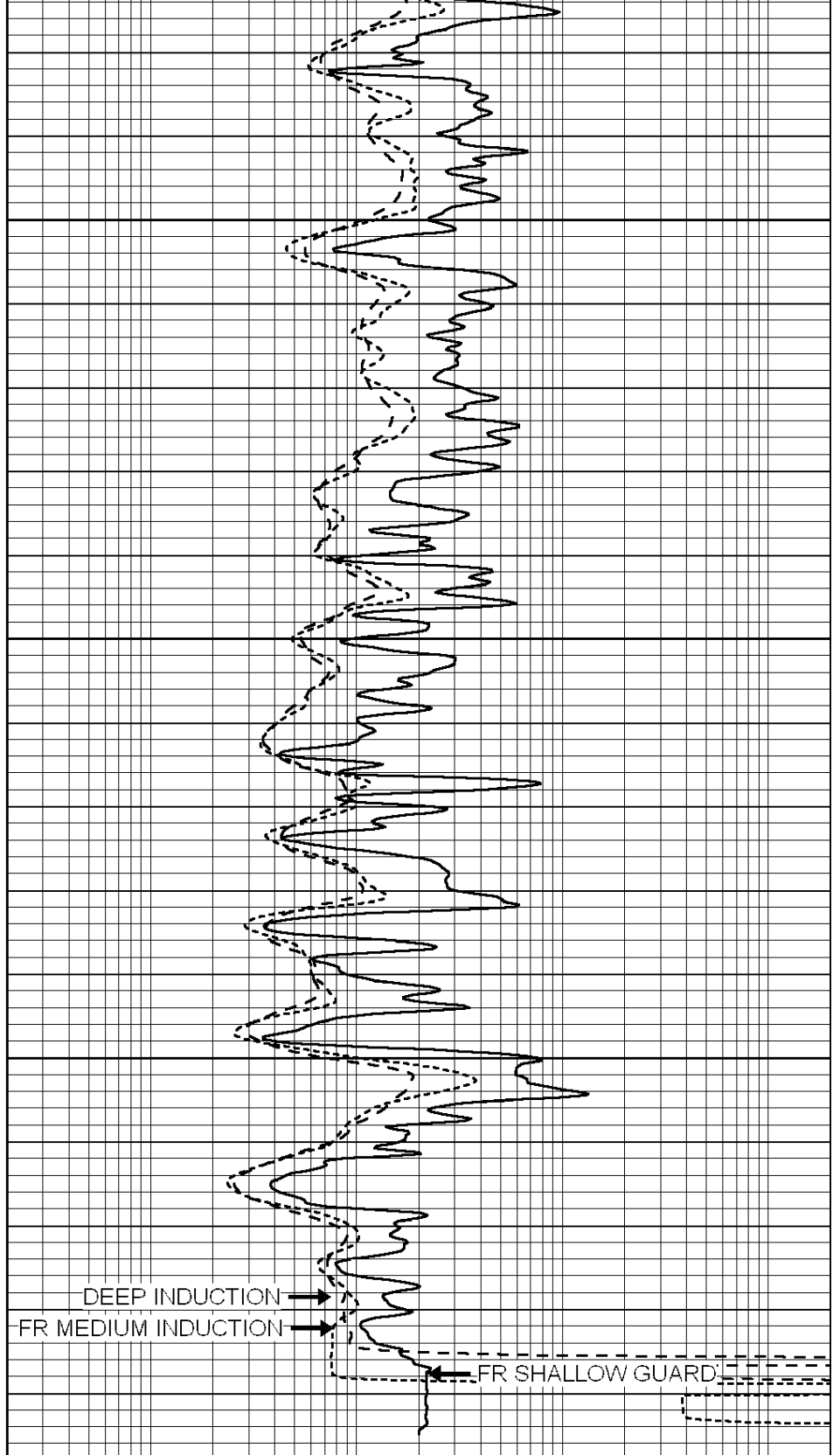
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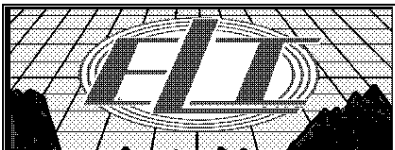
5000

LTD 5040

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

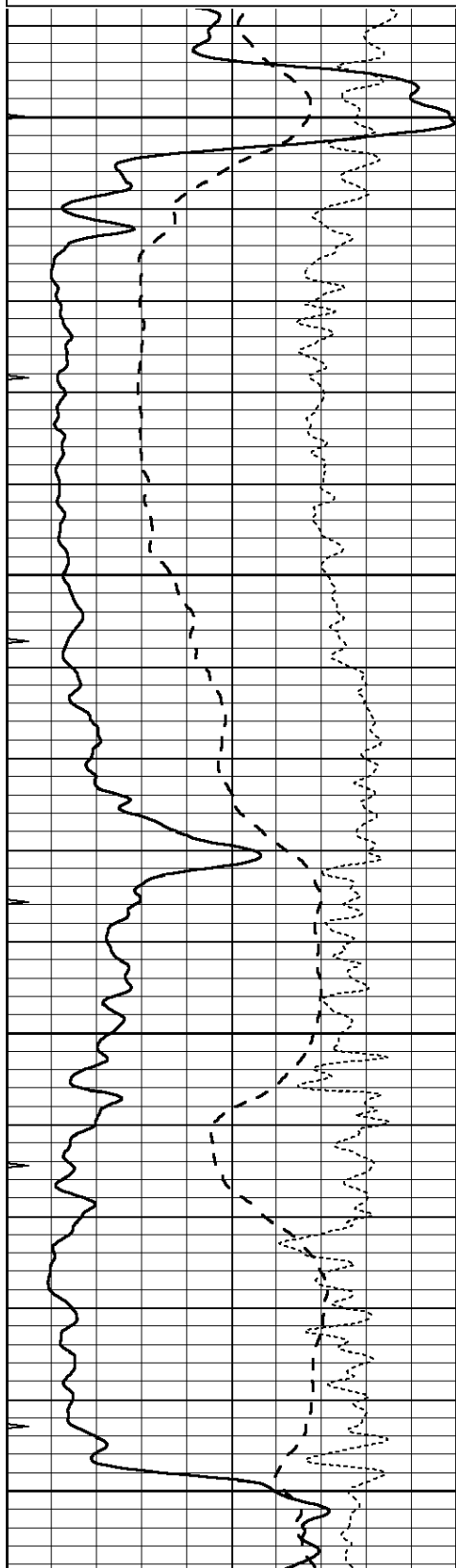


REPEAT SECTION

Database File: 2671pe.db  
 Dataset Pathname: pass2.6  
 Presentation Format: \_dil  
 Dataset Creation: Wed Aug 08 03:48:22 2018 by Calc SOC 120430  
 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 |

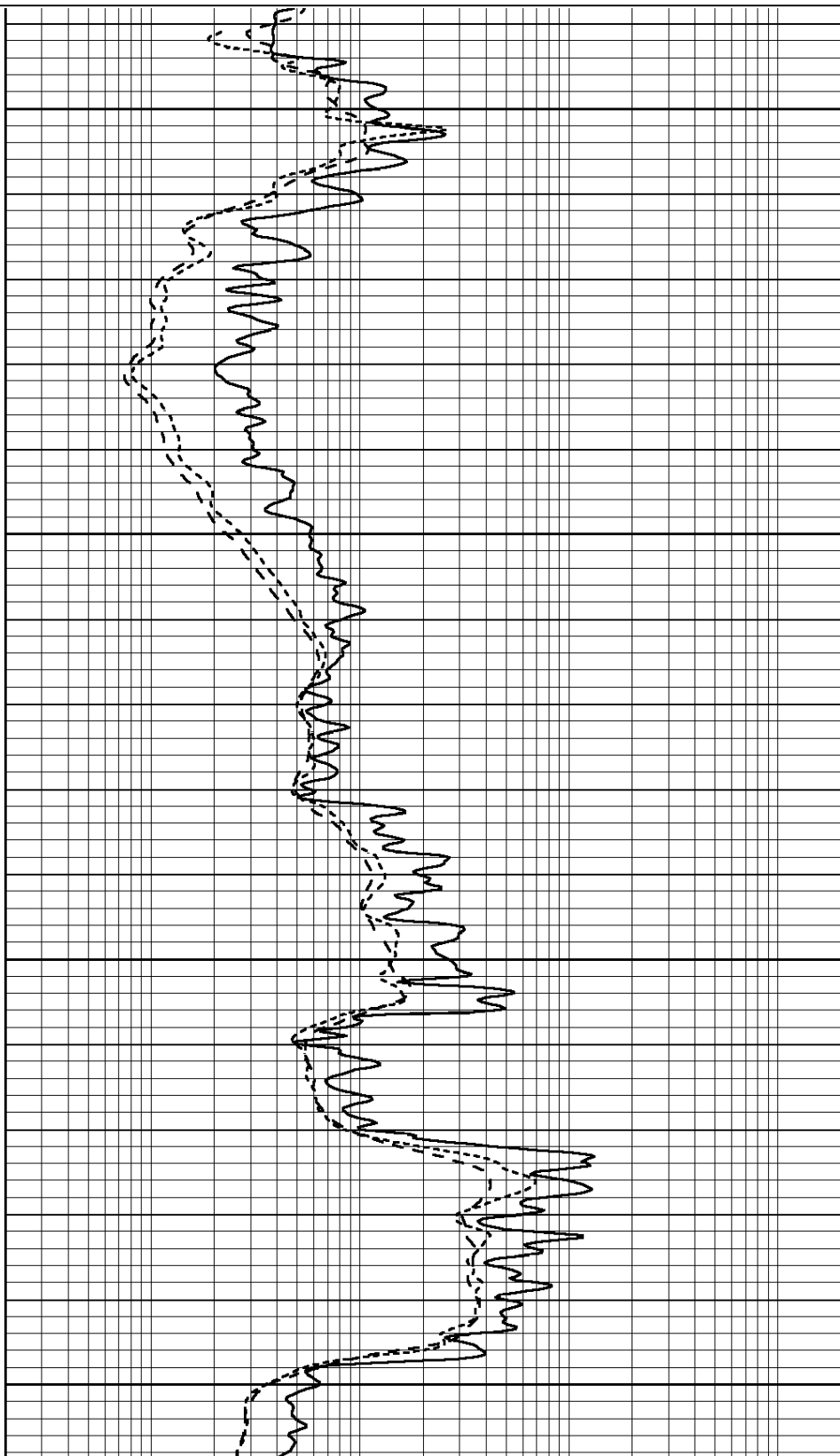


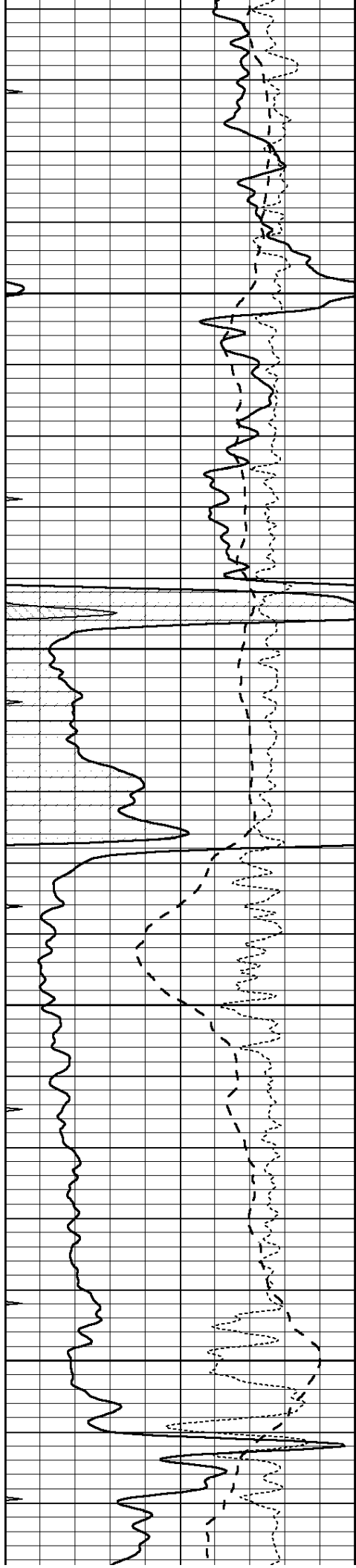
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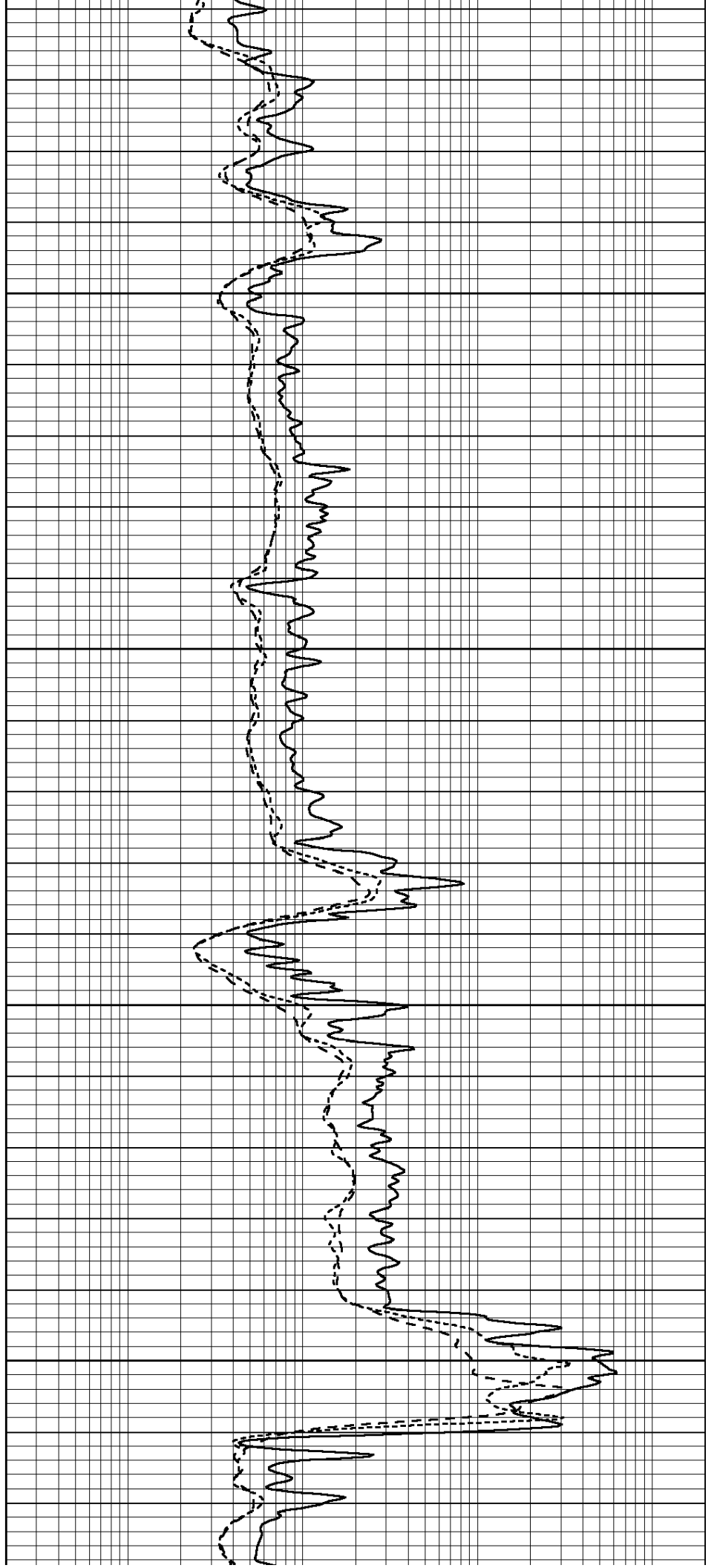


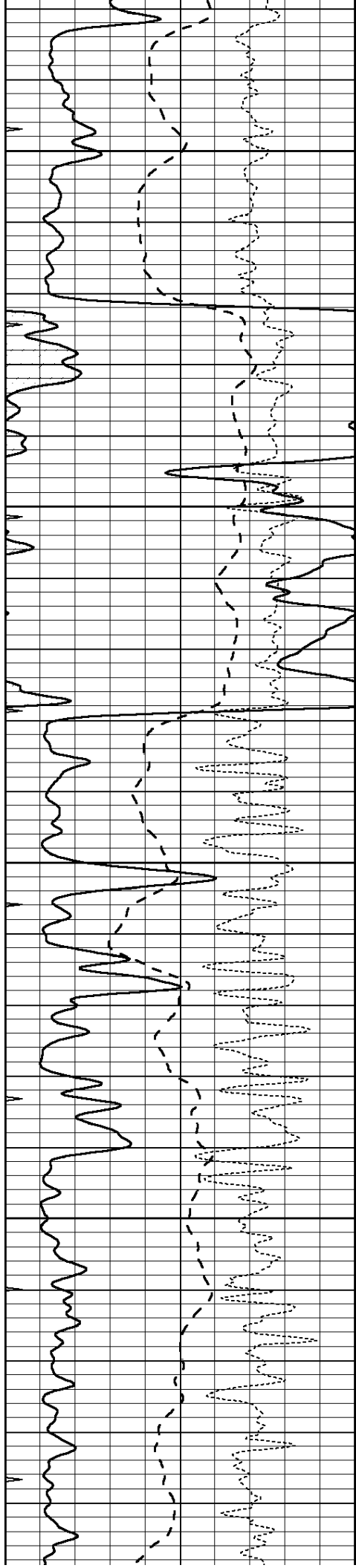
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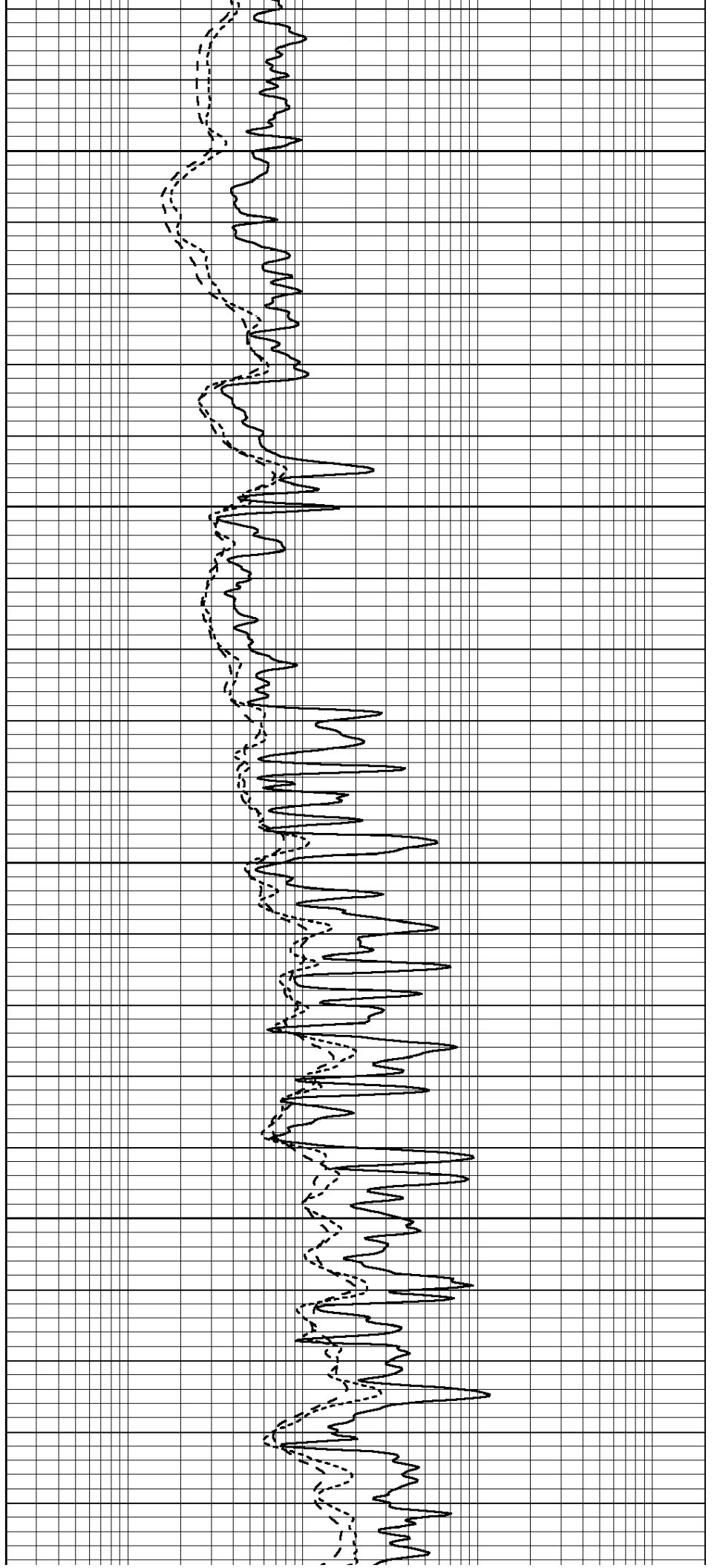


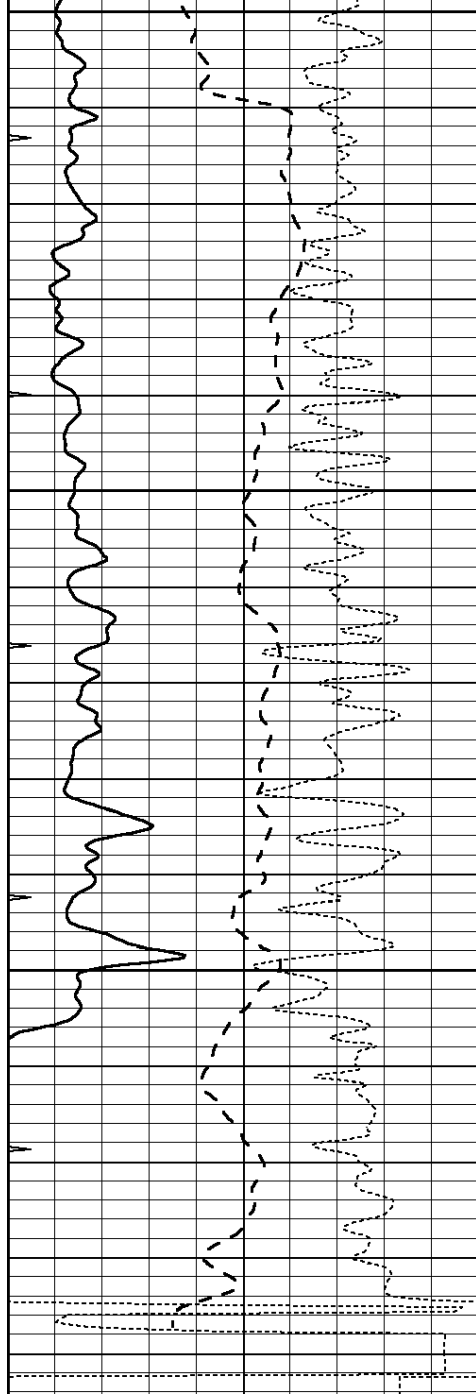
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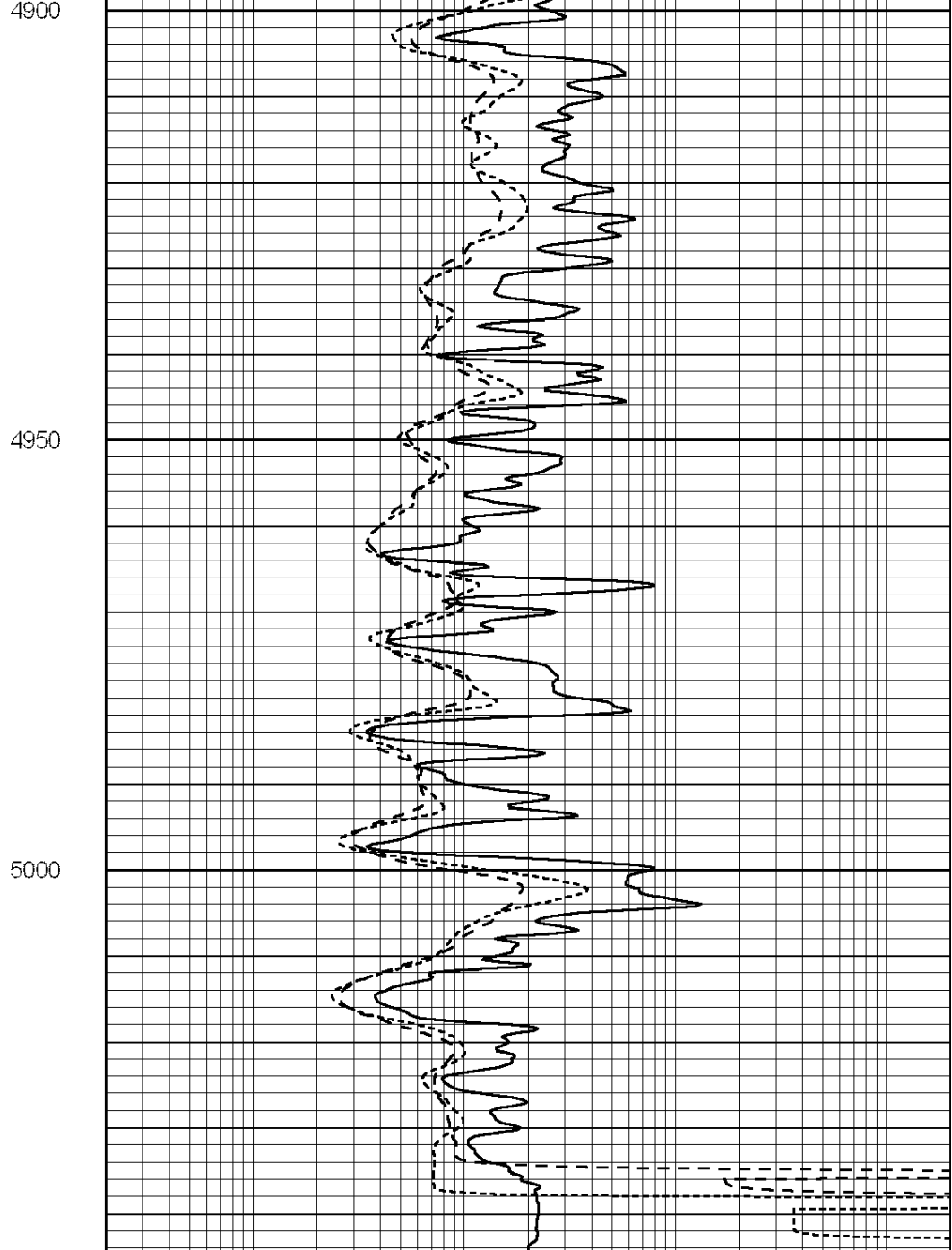
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|      |                  |     |
|------|------------------|-----|
| 0    | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV)          | 100 |
| -250 | Rxo/Rt           | 50  |
| 0    | MINMK            | 20  |



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

Calibration Report

Database File: 1598ddn.db  
 Dataset Pathname: pass4  
 Dataset Creation: Wed Aug 30 02:13:00 2017 by Log SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG  
 Surface Cal Performed: Wed Aug 30 00:06:33 2017  
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008  
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

| Loop:     | Readings |       |   | References |         |        | Results |         |
|-----------|----------|-------|---|------------|---------|--------|---------|---------|
|           | Air      | Loop  |   | Air        | Loop    |        | m       | b       |
| Deep      | -0.014   | 0.629 | V | 0.000      | 400.000 | mmho/m | 620.000 | 0.000   |
| Medium    | 0.039    | 0.728 | V | 0.000      | 464.000 | mmho/m | 675.000 | -44.000 |
| 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 |
| Medium               | 0.000    | 0.000  | mmho/m | 166.367    | 504.400  | mmho/m | 1.000   | 0.000 |
| LL3                  |          | 7.500  | V      |            | 1400.000 | Ohm-m  |         |       |
|                      |          | 0.000  | V      |            | 20.000   | Ohm-m  |         |       |
|                      |          | -7.200 | V      |            | 4000.000 | mmho-m |         |       |

| After Survey Verification |          |       |        |         |       |        |         |       |
|---------------------------|----------|-------|--------|---------|-------|--------|---------|-------|
|                           | Readings |       |        | Targets |       |        | Results |       |
|                           | Zero     | Cal   |        | Zero    | Cal   |        | m'      | b'    |
| Deep                      | 0.000    | 0.000 | mmho/m | 0.000   | 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: 002      Model: PRB

| Master Calibration |            |             |          |                     | Performed Mon Aug 21 11:27:42 2017 |  |  |         |
|--------------------|------------|-------------|----------|---------------------|------------------------------------|--|--|---------|
|                    | Background | Magnesium   | Aluminum | Sandstone           |                                    |  |  |         |
| Window 1           | 837.1      | 10632.5     | 2945.1   | 12110.1             |                                    |  |  | cps     |
| Window 2           | 772.0      | 9117.4      | 2570.1   | 10197.3             |                                    |  |  | cps     |
| Window 3           | 631.7      | 4669.0      | 1481.9   | 5042.9              |                                    |  |  | cps     |
| Window 4           | 187.0      | 187.5       | 185.9    | 189.9               |                                    |  |  | cps     |
| Long Space         | 0.0        | 8345.4      | 1798.1   | 9425.3              |                                    |  |  | cps     |
| Short Space        | 1.1        | 1927.9      | 1285.9   | 2050.2              |                                    |  |  | cps     |
| Rho                |            | 1.7100      | 2.5960   | 1.3800              |                                    |  |  | g/cc    |
| Pe                 |            | 0.0000      | 2.5700   | 1.5500              |                                    |  |  |         |
| Rib Angle          | : 45.2     | Rib Slope   | : 1.008  | Density/Spine Ratio |                                    |  |  | : 0.558 |
| Spine Angle        | : 75.2     | Spine Slope | : 3.790  | Spine Intercept     |                                    |  |  | : -19.6 |

| 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: 070808  
Tool Model: 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: Wed May 31 00:09:32 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps