



CEMENT  
BOND LOG

Company JAMES P WILLIAMS ENTERPRISES  
Well PAUL H WILLIAMS NO, 1  
Field WILDCAT  
County ROOKS State KANSAS

Location: API #: 15-163-01856-00-01  
SEC 9 TWP 10 S RGE 18 W  
SW - NW - NW  
Permanent Datum Ground Level Elevation 2183'  
Log Measured From 7.49' A.G.L. K.B.  
Drilling Measured From KELLY BUSHING  
Other Services  
PERF 10-4"  
Elevation  
K.B. 2190.5'  
D.F. 2189.5'  
G.L. 2183'

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|                        |                   |
|------------------------|-------------------|
| Date                   | 4/18/2019         |
| Run Number             | one               |
| Depth Driller          | 3780'             |
| Depth Logger           | 3711'             |
| Bottom Logged Interval | 3709'             |
| Top Log Interval       | 0'                |
| Open Hole Size         | 8.625"            |
| Type Fluid             | water             |
| Density / Viscosity    | ///               |
| Max. Recorded Temp.    | 112 deg.          |
| Estimated Cement Top   | 2790'             |
| Time Well Ready        | 4:30 pm           |
| Time Logger on Bottom  | 4:45 pm           |
| Equipment Number       | T-173             |
| Location               | Hays              |
| Recorded By            | A Drelling        |
| Witnessed By           | Mr James Williams |

| Borehole Record   |         |      |       | Tubing Record |        |      |        |
|-------------------|---------|------|-------|---------------|--------|------|--------|
| Run Number        | Bit     | From | To    | Size          | Weight | From | To     |
| ONE               | 12 1/4" | 0'   | 212'  |               |        |      |        |
| TWO               | 7 7/8"  | 212' | 3780' |               |        |      |        |
| Casing Record     | Size    |      |       | Wd/Ft         |        | Top  | Bottom |
| Surface String    | 8.5/8"  |      |       | 28#           |        | 0'   | 212'   |
| Prot. String      | 5.5"    |      |       | 14#           |        | 0'   | 3779'  |
| Production String |         |      |       |               |        |      |        |
| Liner             |         |      |       |               |        |      |        |

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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

LOG CORRELATED TO WELEX GAMMA RAY - NEUTRON

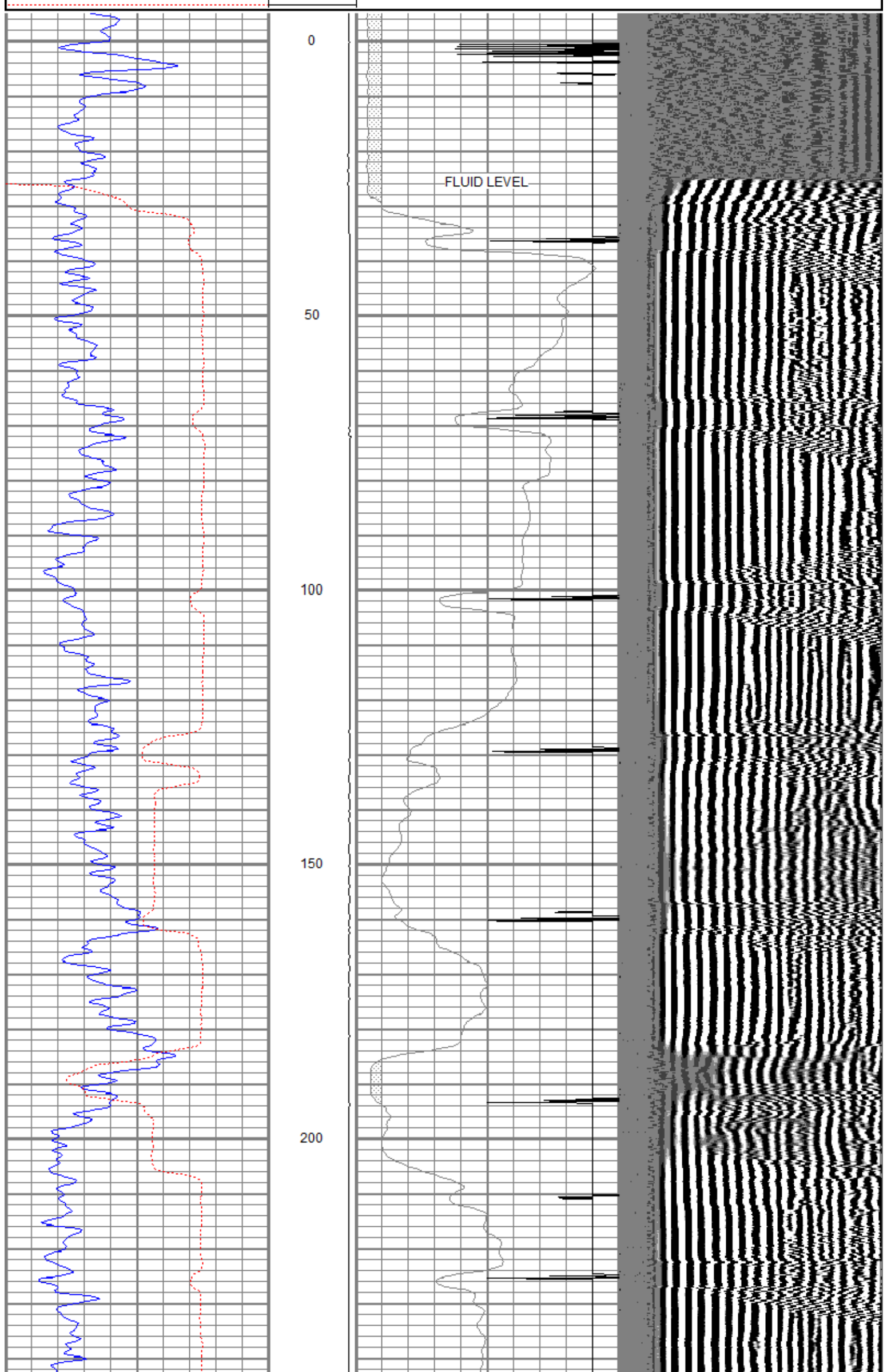
Plainville Ks.  
S to AA rd.,  
2 W, 1/2N,E INTO

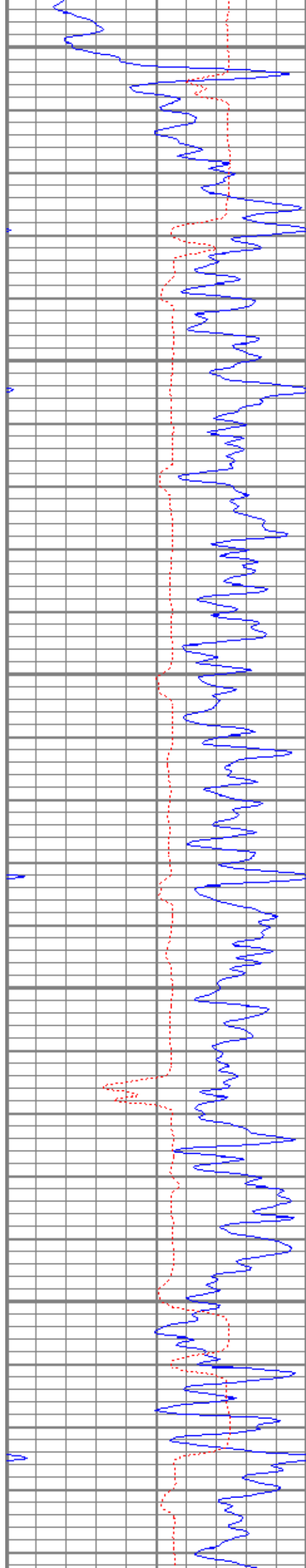


MAIN PASS

Database File jpw-phwilliams-1.db  
Dataset Pathname well\_paul-h-williams\_no.1/grcbl\_&perf\_10\_guns/pass8  
Presentation Format cbl  
Dataset Creation Thu Apr 18 16:58:55 2019  
Charted by Depth in Feet scaled 1:240

|     |              |     |           |    |             |     |     |            |      |
|-----|--------------|-----|-----------|----|-------------|-----|-----|------------|------|
| 0   | GR (GAPI)    | 150 | LTEN      | 18 | CCL         | -2  | 200 | VDL (usec) | 1200 |
| 150 | GR (GAPI)    | 300 | (lb)      | 0  | AMP3FT (mV) | 100 |     |            |      |
| 400 | TT3FT (usec) | 200 | 3999 -200 |    |             |     |     |            |      |





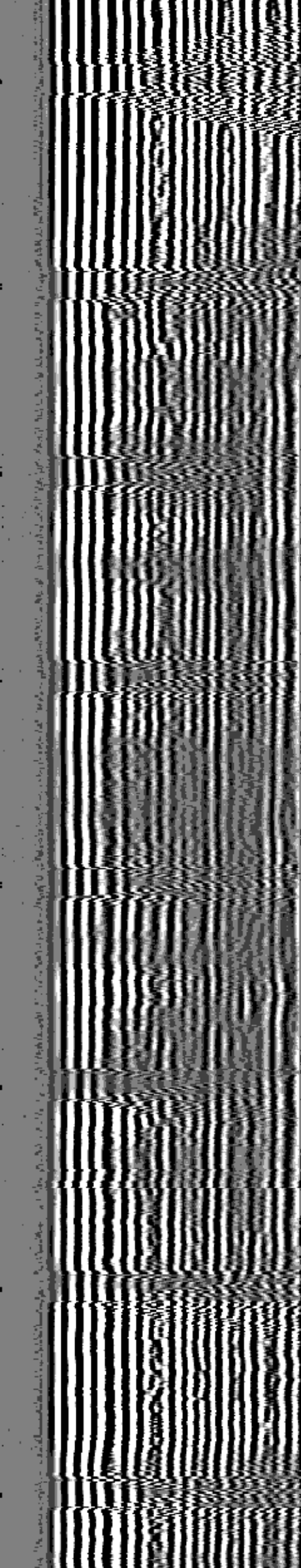
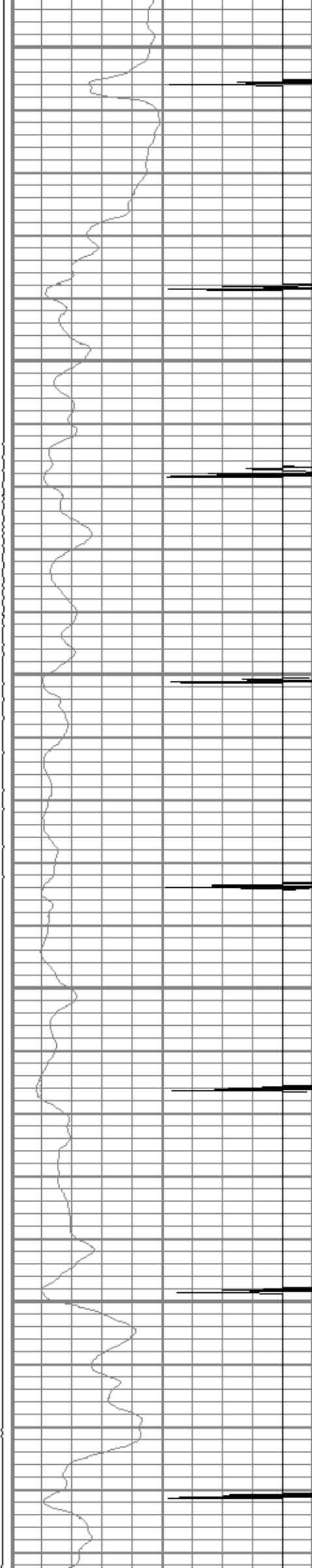
250

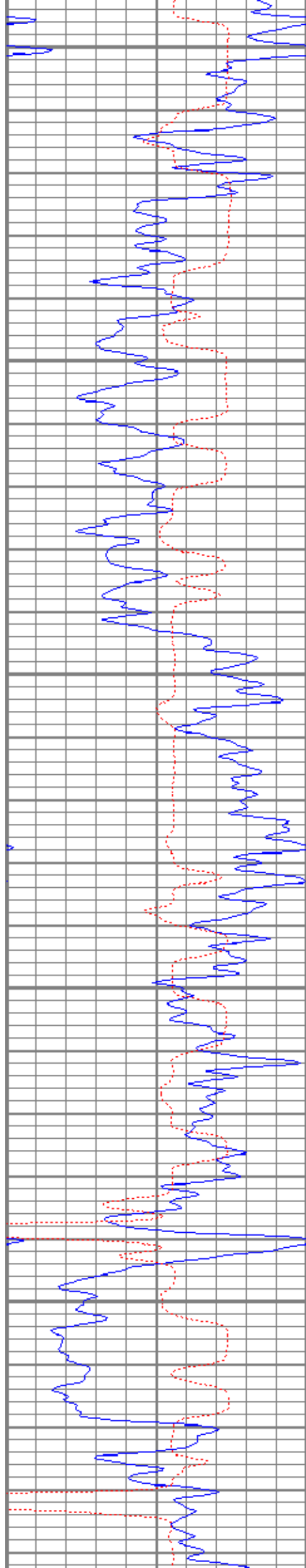
300

350

400

450





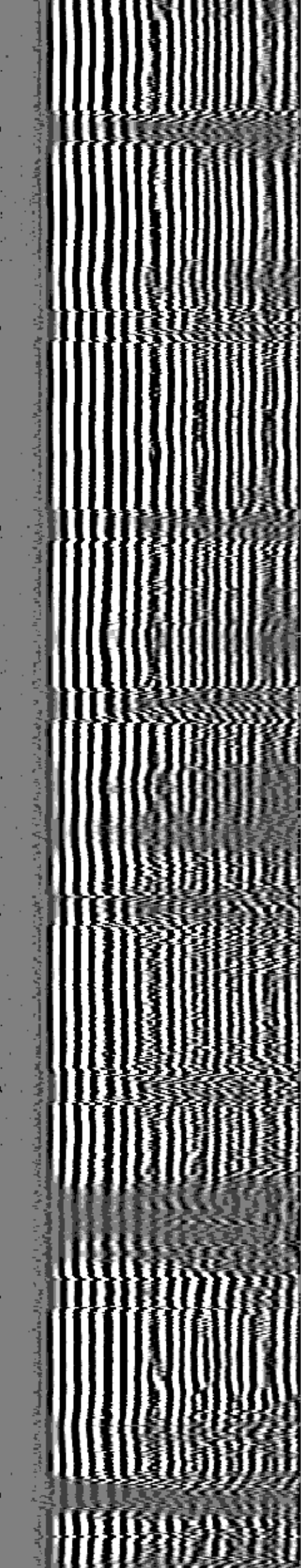
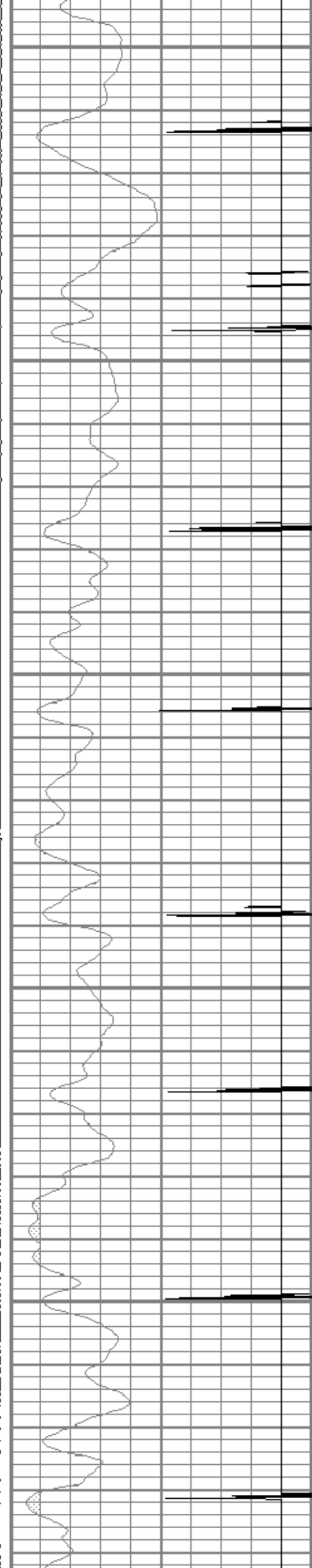
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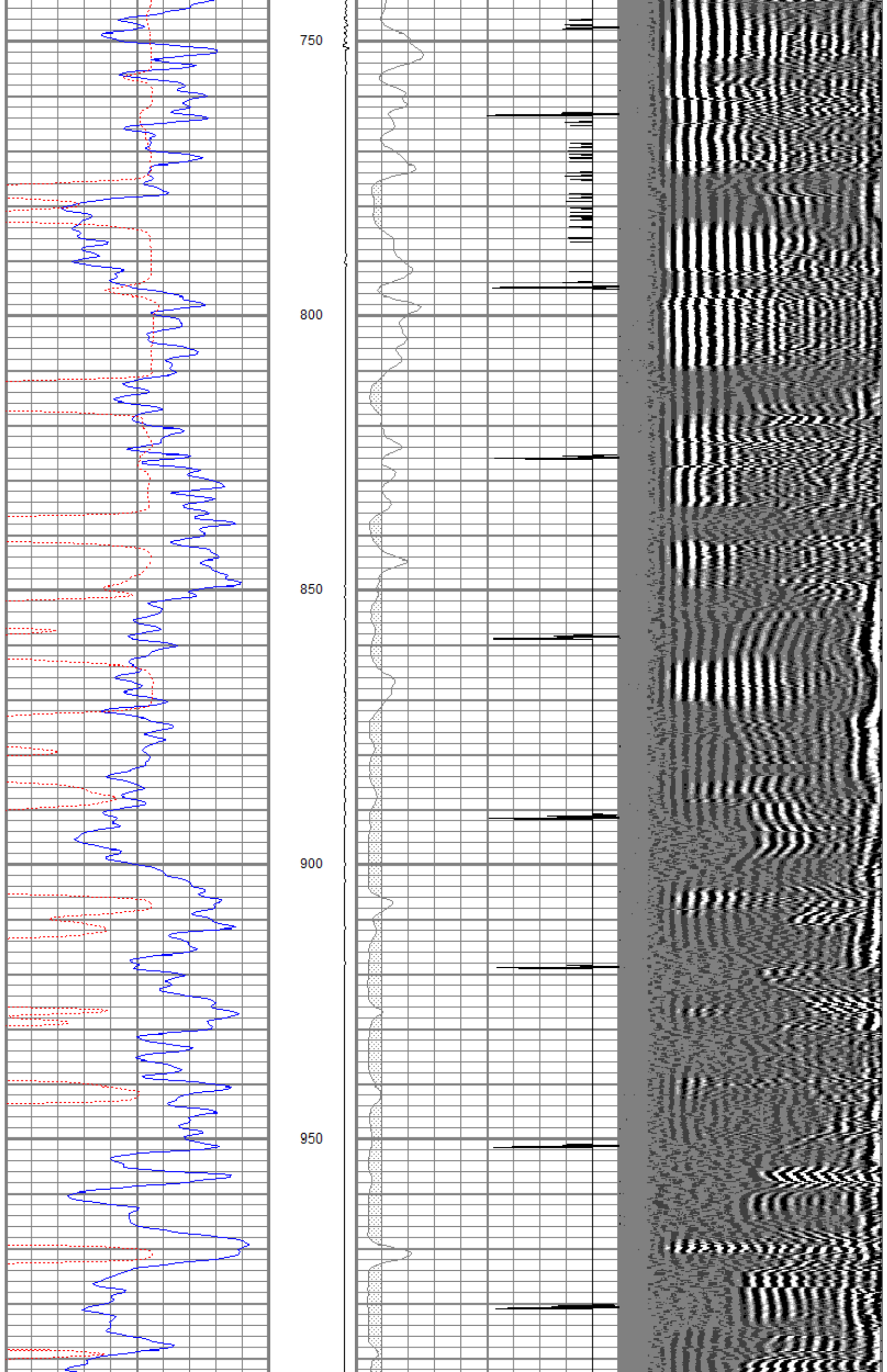
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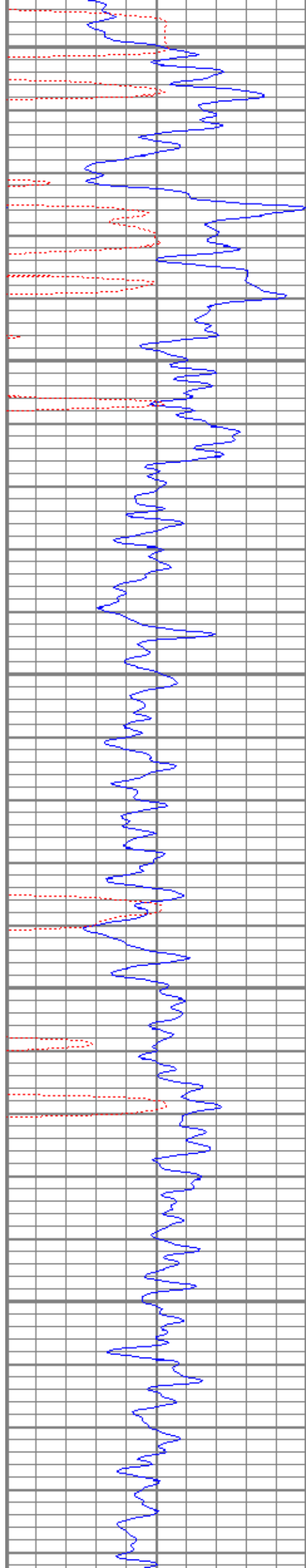
600

650

700







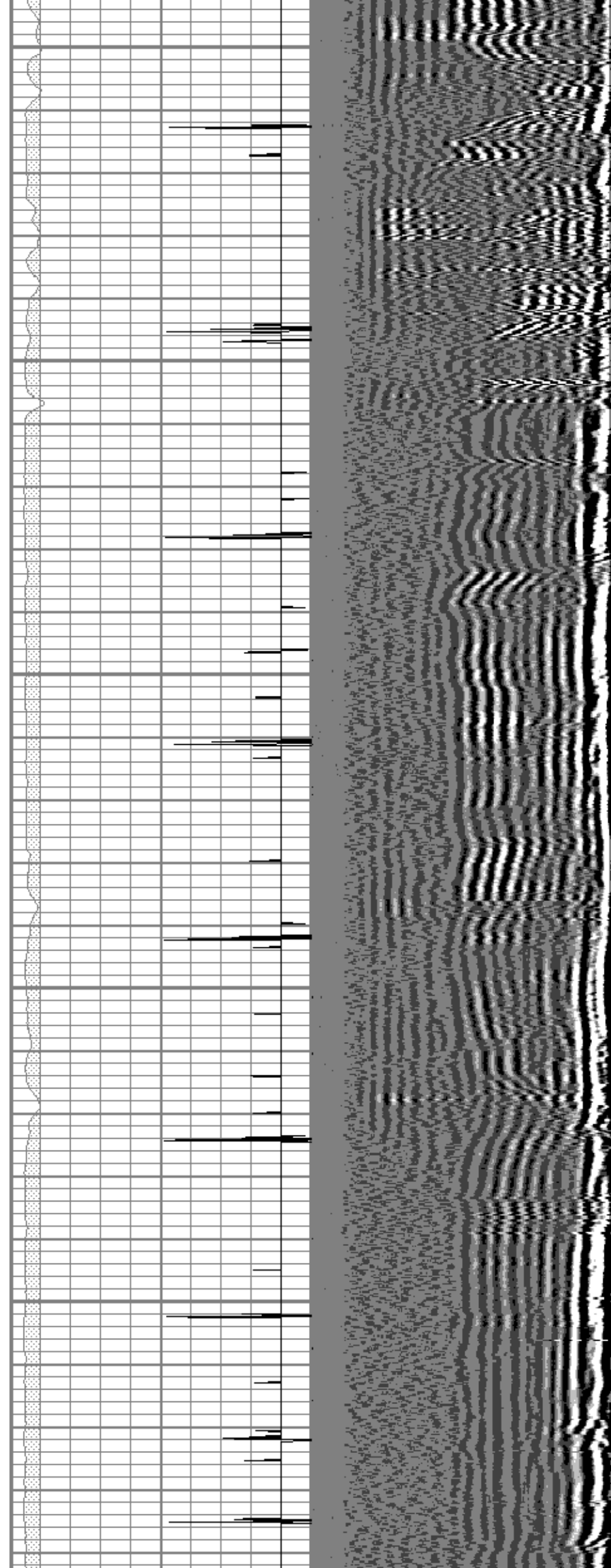
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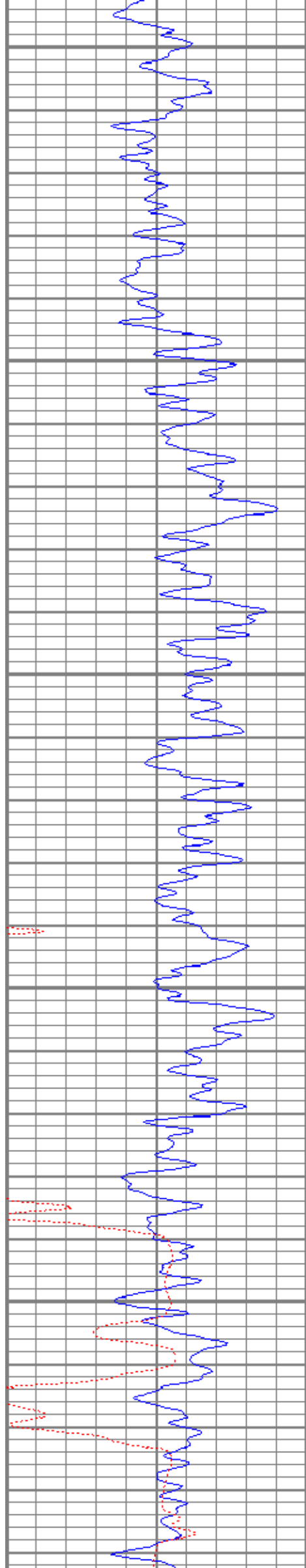
1050

1100

1150

1200





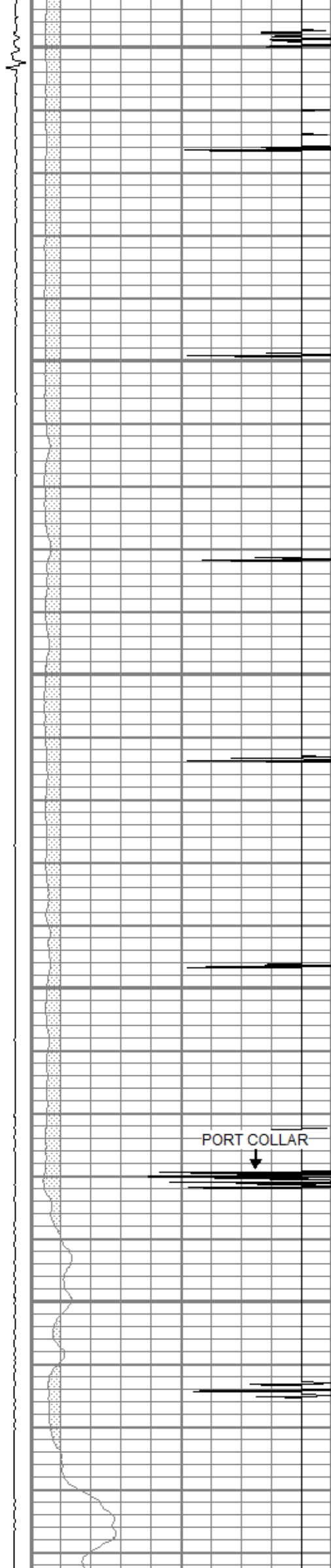
1250

1300

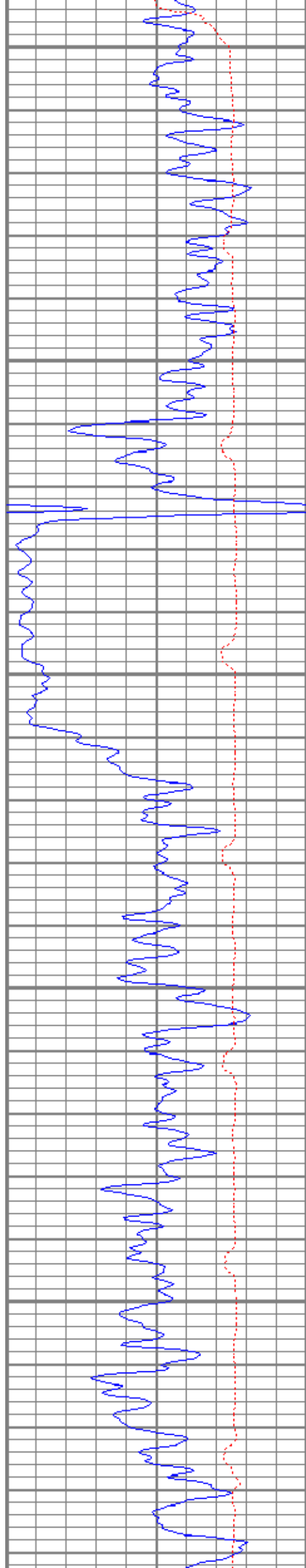
1350

1400

1450



PORT COLLAR



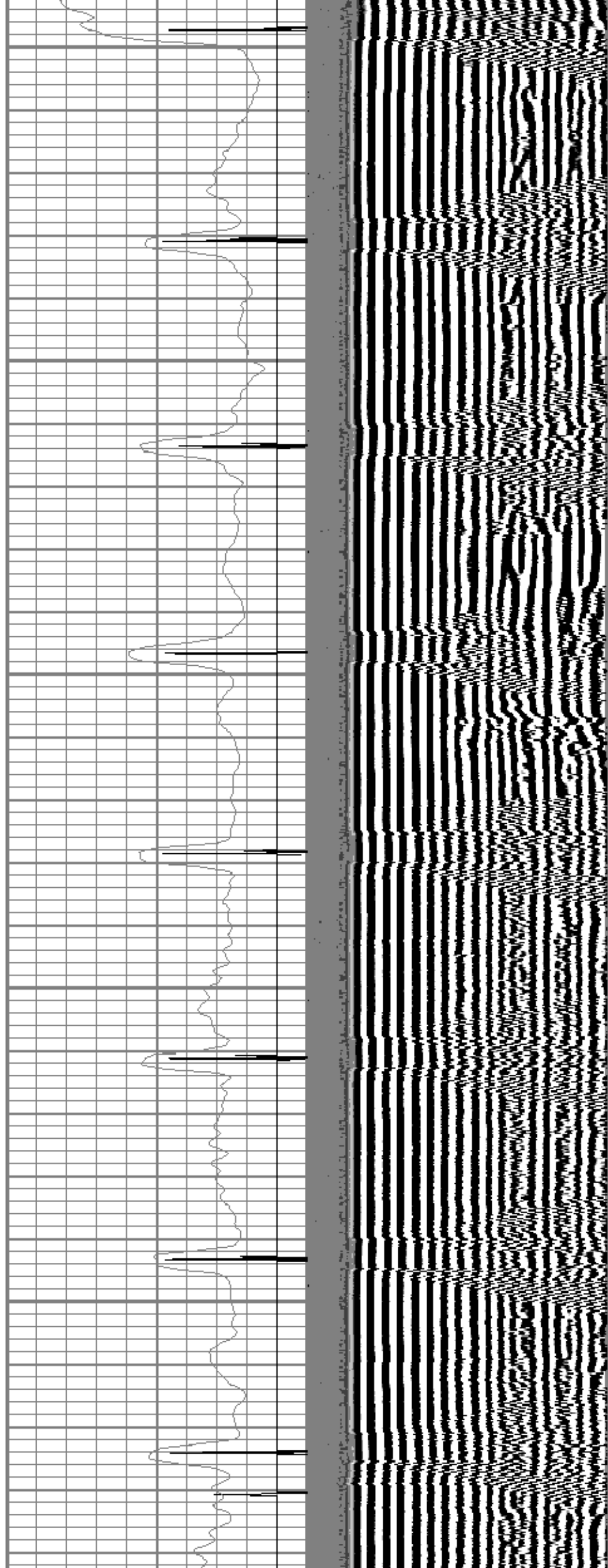
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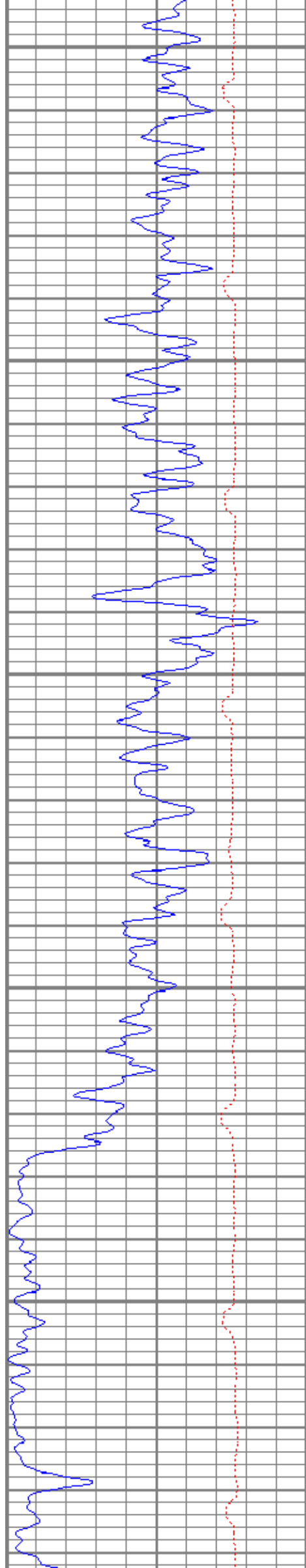
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1600

1650

1700





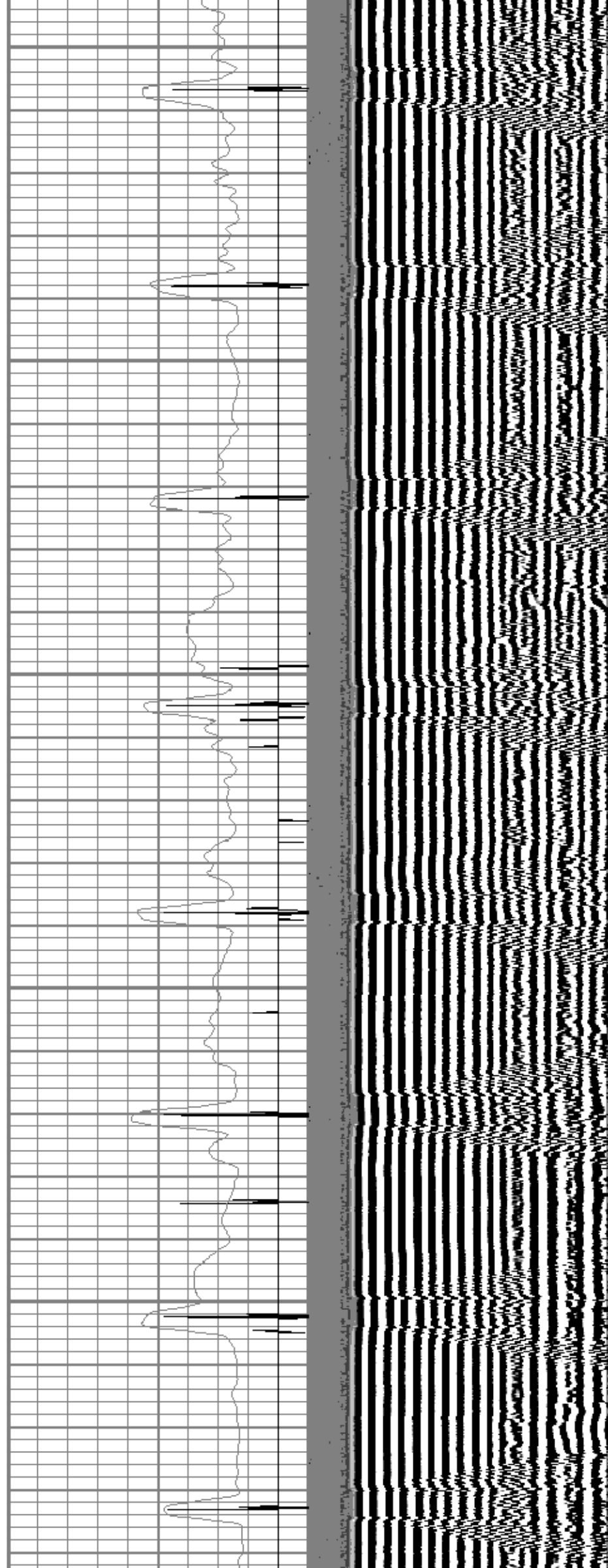
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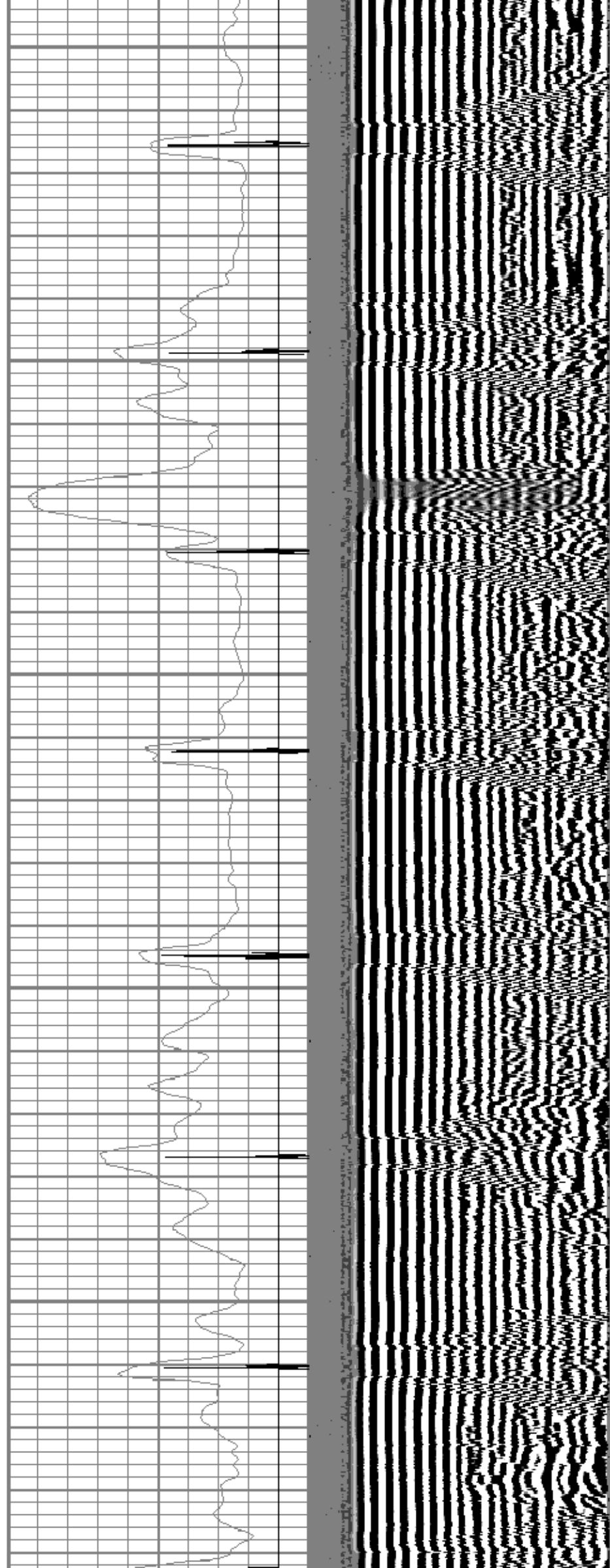
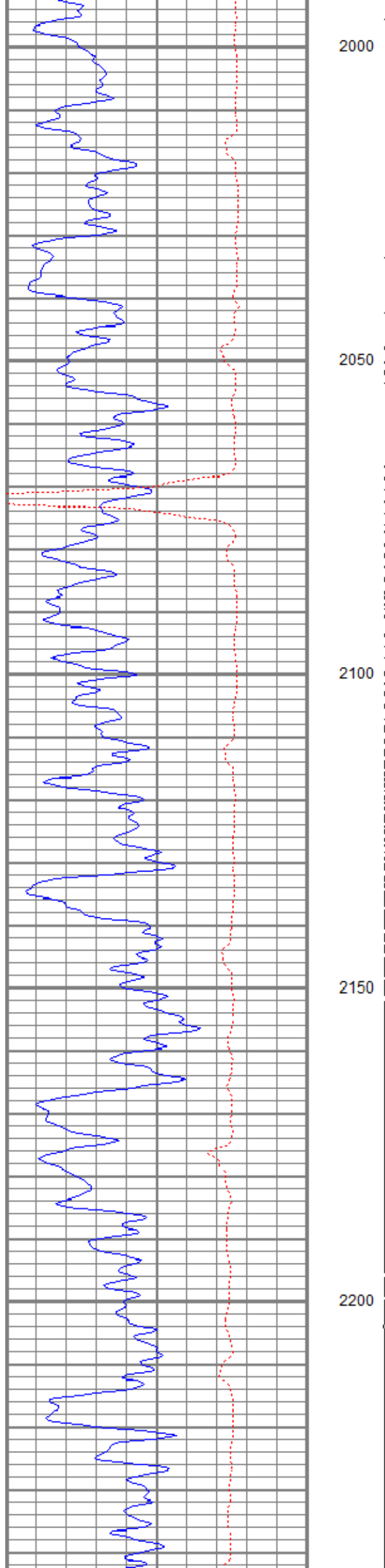
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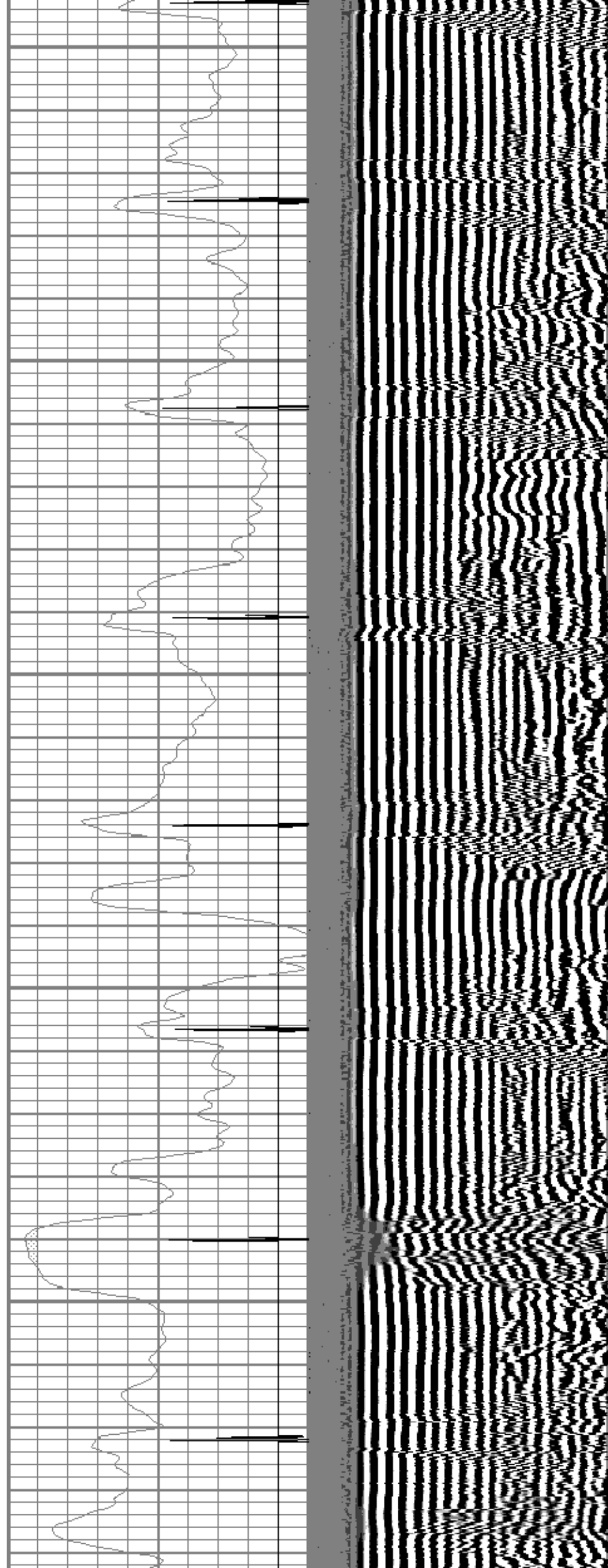
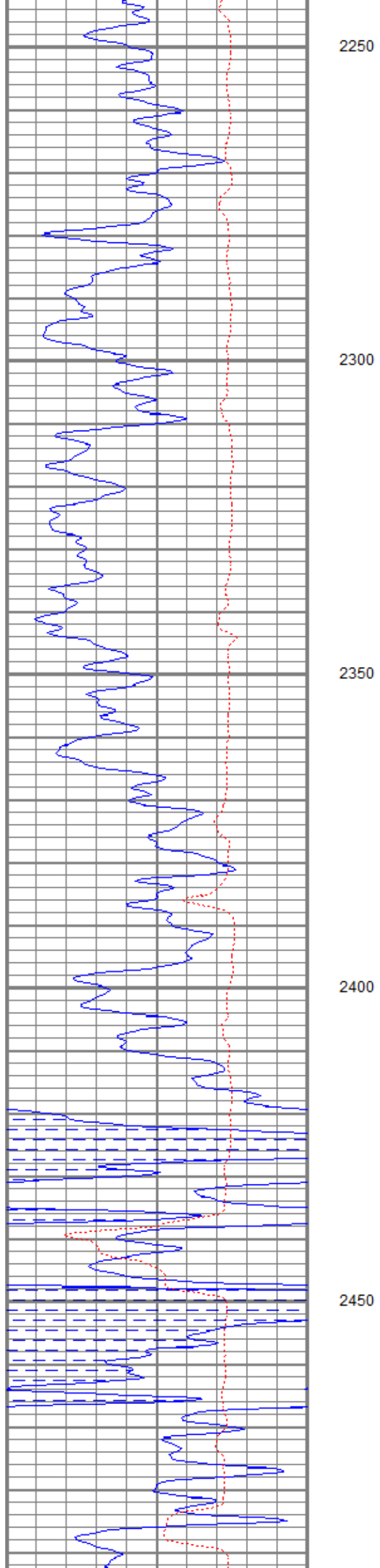
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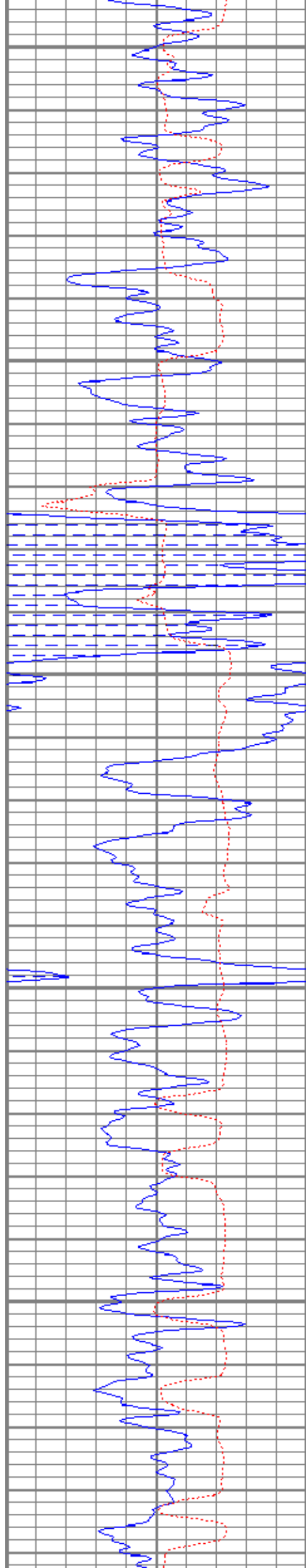
1900

1950









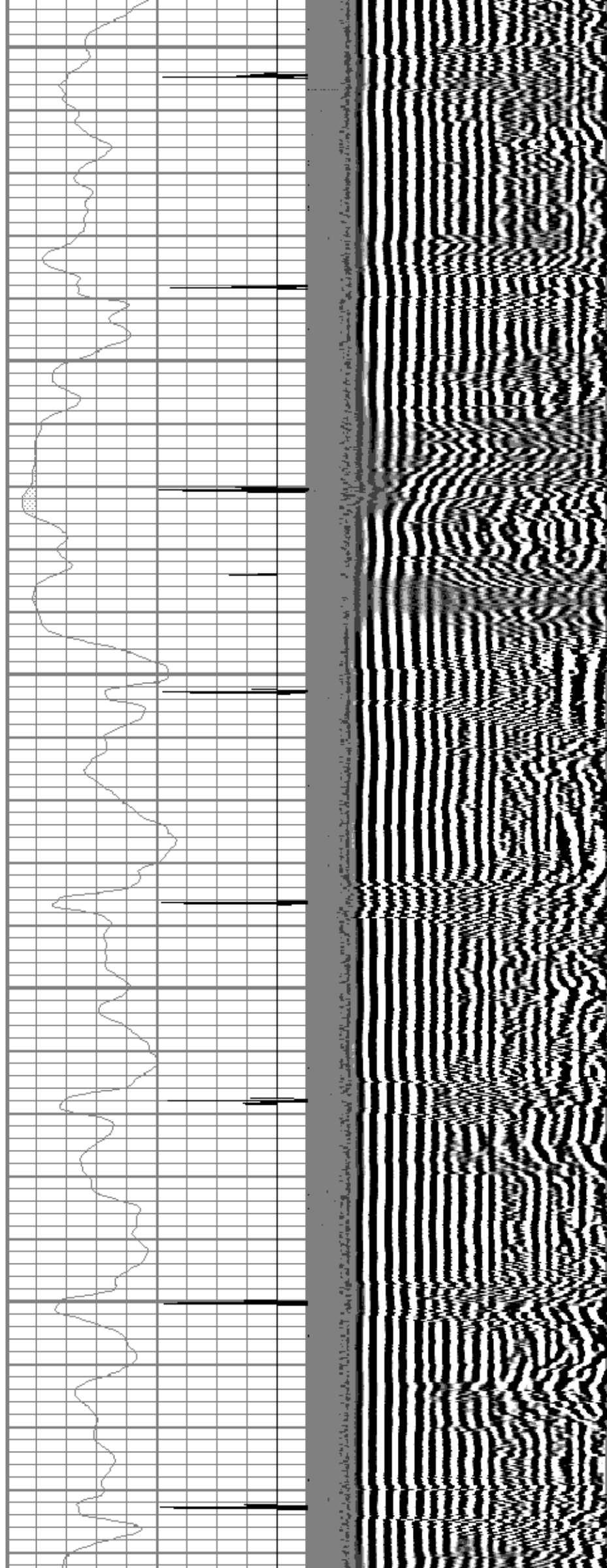
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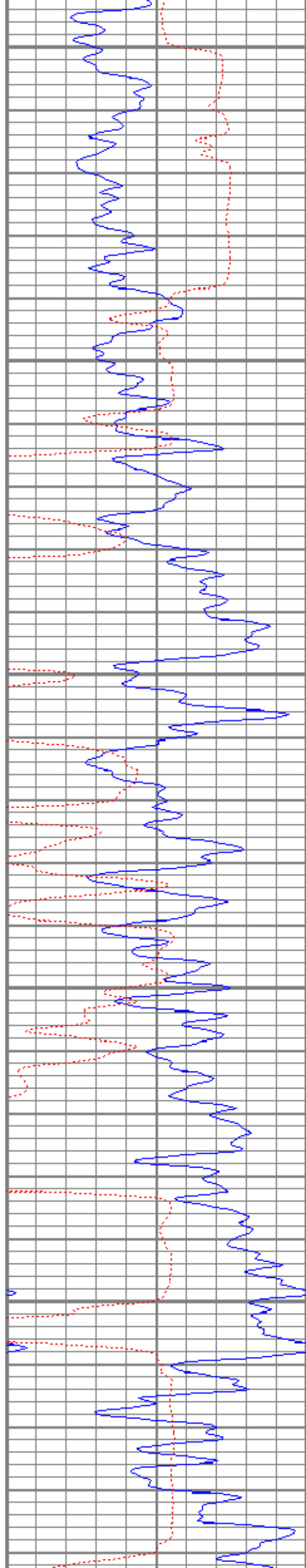
2550

2600

2650

2700





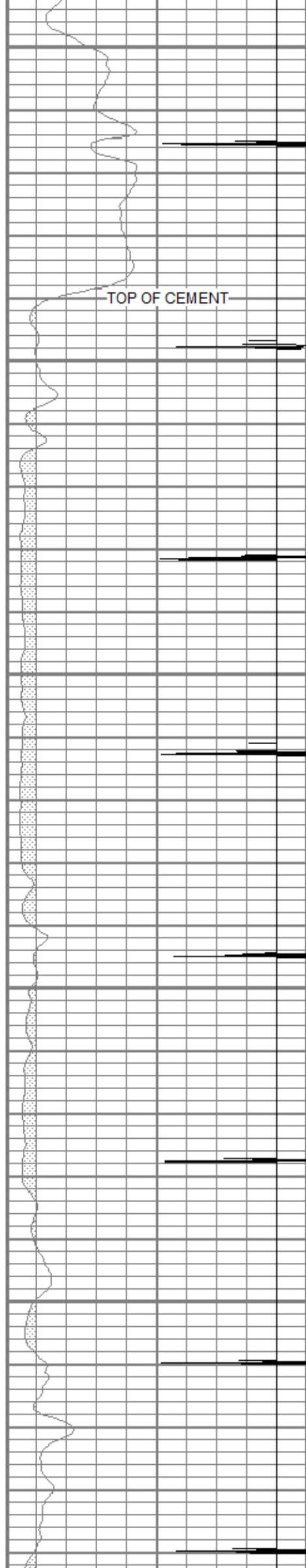
2750

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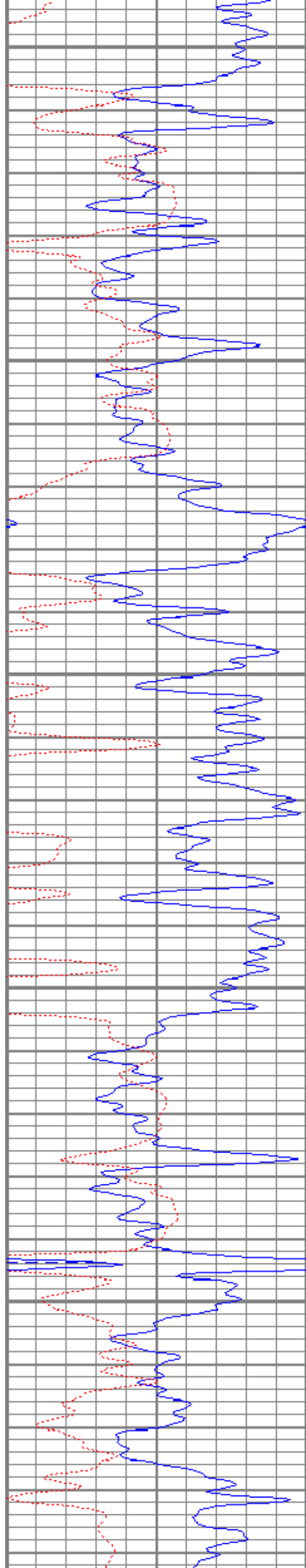
2850

2900

2950



TOP OF CEMENT



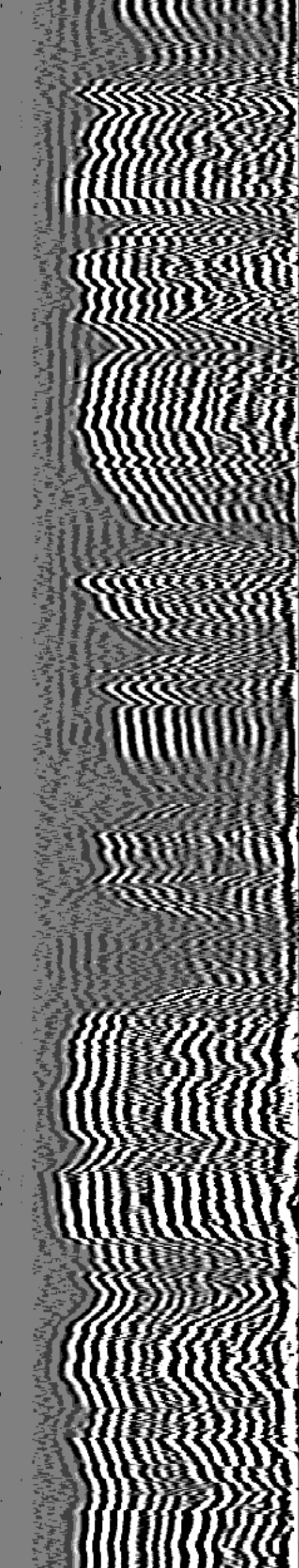
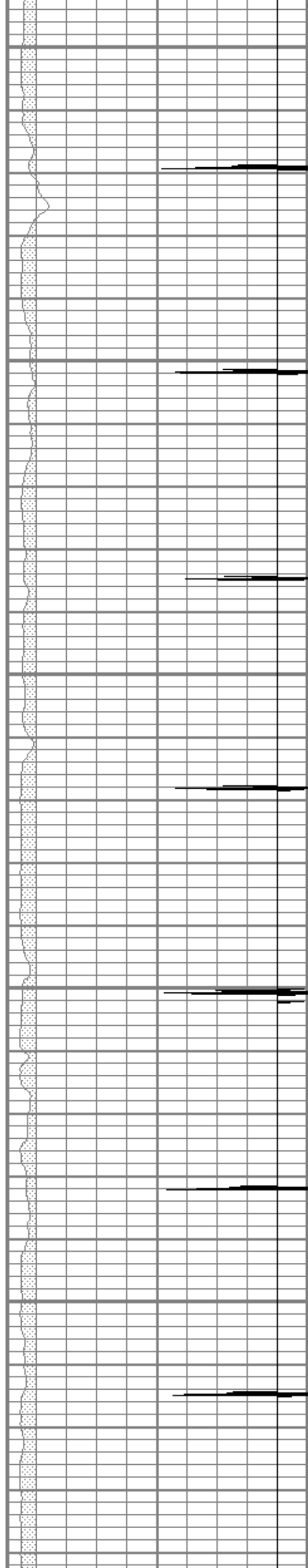
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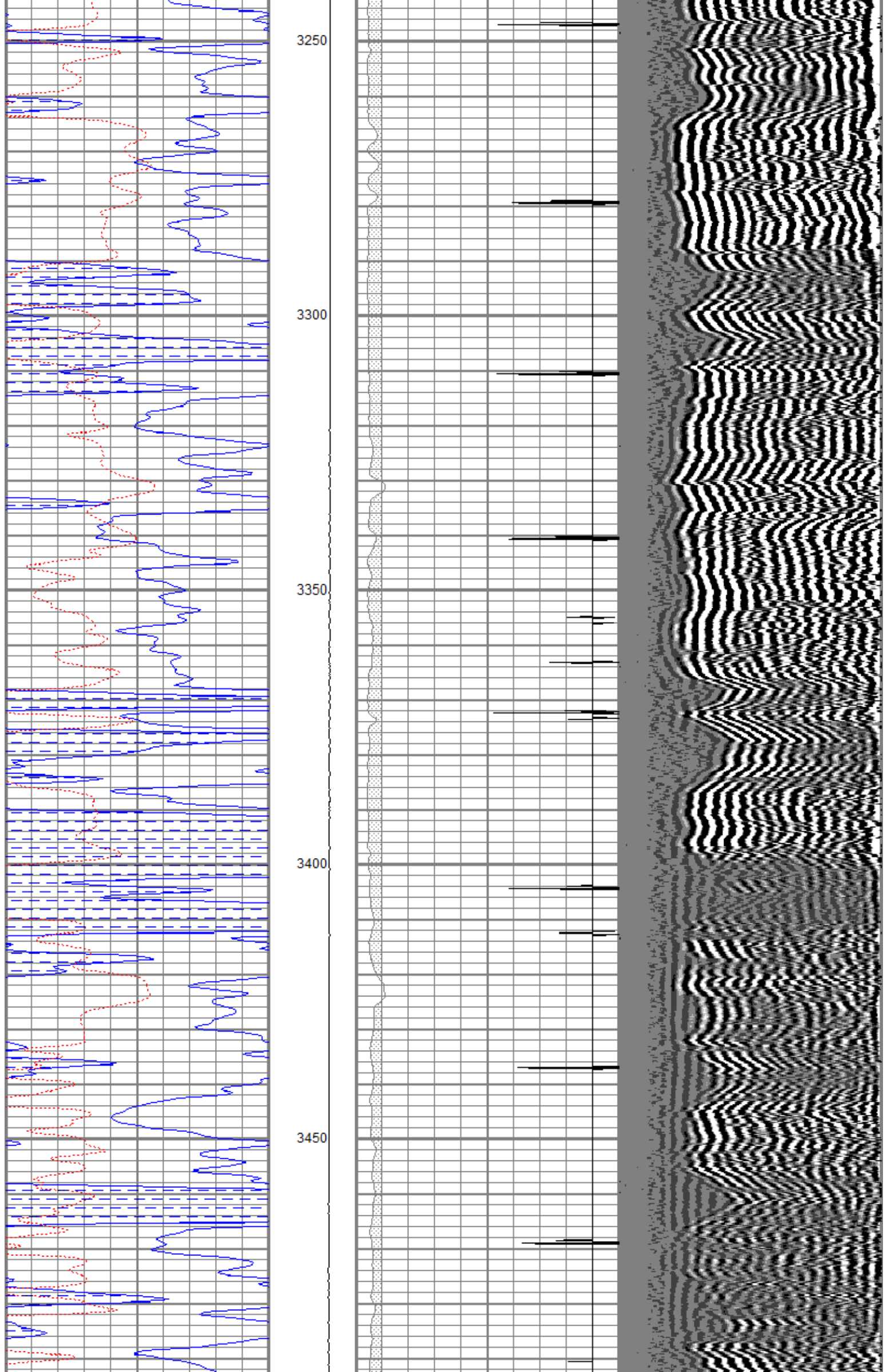
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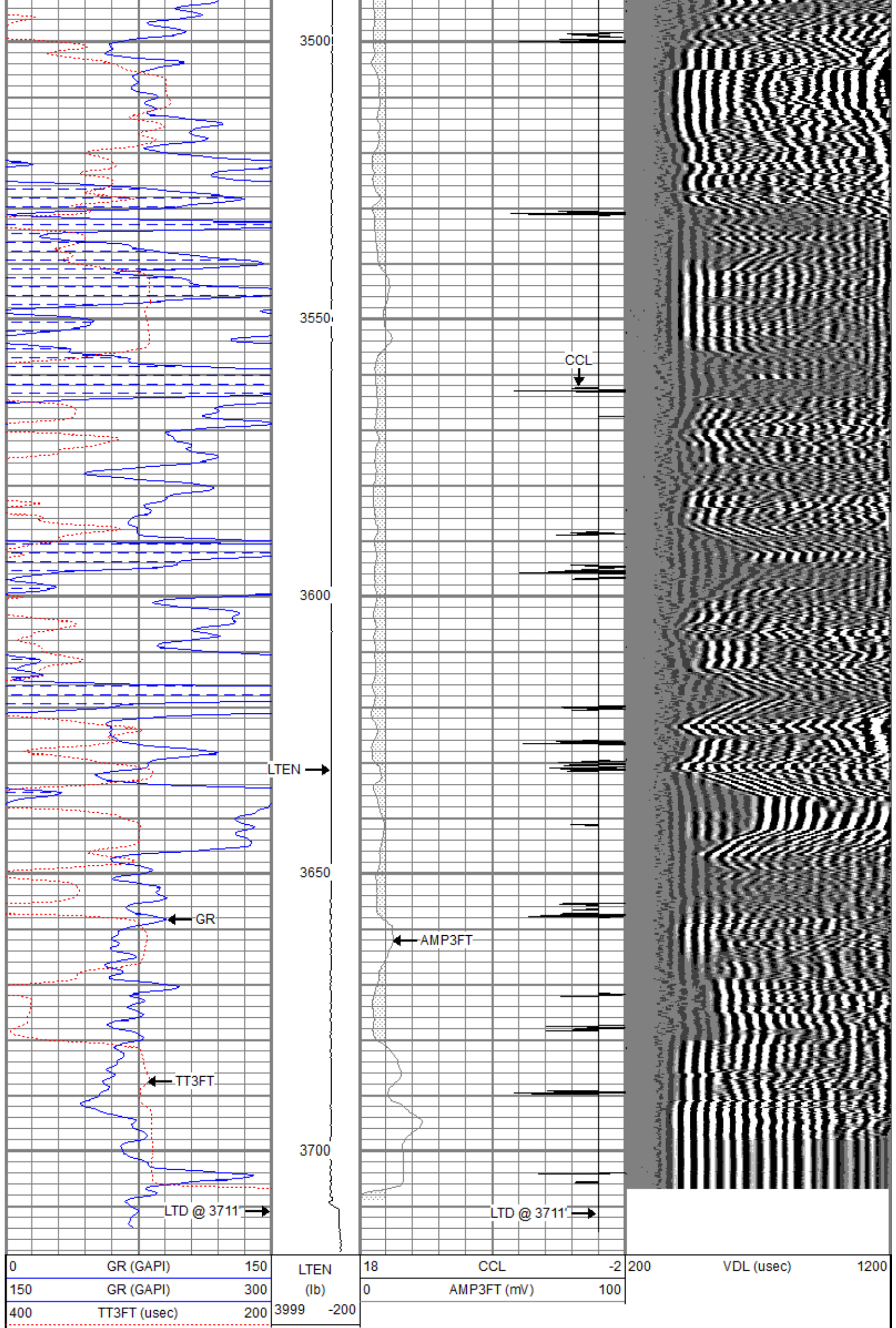
3100

3150

3200



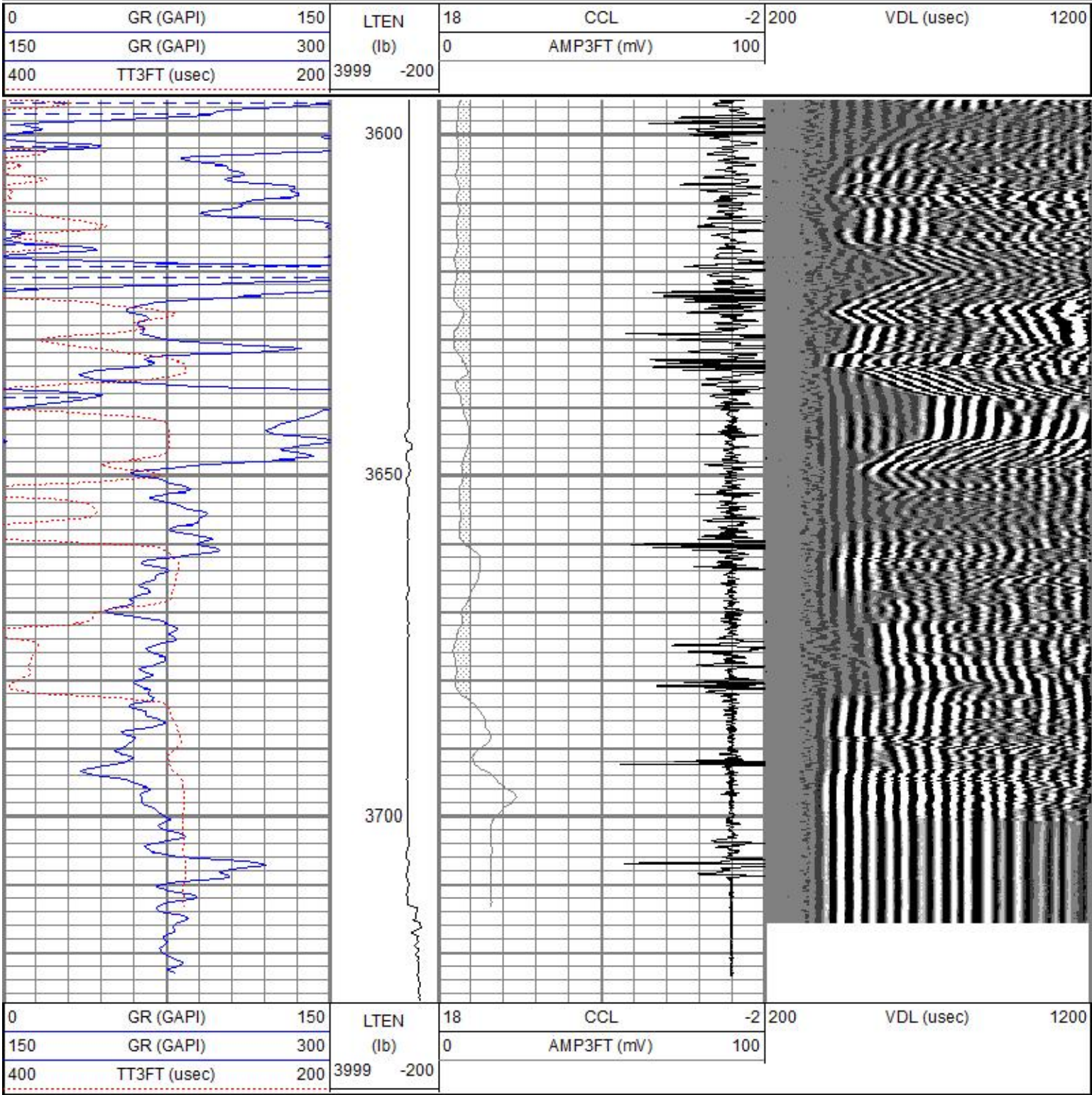




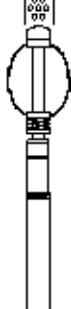


# REPEAT SECTION

Database File      jpw-phwilliams-1.db  
Dataset Pathname    well\_paul-h-williams\_no.1/grcbl\_&perf\_10\_guns/pass3.2  
Presentation Format    cbl  
Dataset Creation      Thu Apr 18 18:23:39 2019  
Charted by            Depth in Feet scaled 1:240



| Sensor | Offset (ft) | Schematic | Description                    | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|-----------|--------------------------------|-------------|-----------|-------------|
| CENT   | 19.14       |           | CENT-275<br>2 3/4" Centralizer | 2.94        | 2.75      | 10.00       |
| WVF5FT | 11.69       |           | Probedig-DigitalCBL (061007)   | 8.77        | 2.75      | 92.00       |
| WVF3FT | 11.69       |           | 2 3/4 Bond Tool                |             |           |             |

|                                                                                                                                                                                                      |      |                                                                                 |                                |      |      |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|--------------------------------|------|------|-------|
| CENT                                                                                                                                                                                                 | 7.44 |  | CENT-275<br>2 3/4" Centralizer | 2.94 | 2.75 | 10.00 |
| CCL                                                                                                                                                                                                  | 3.67 |                                                                                 | CCL-Probe (080224)             | 1.42 | 2.75 | 20.00 |
| GR                                                                                                                                                                                                   | 2.30 |                                                                                 | GR-Probe1 (080224)             | 3.08 | 2.75 | 40.00 |
| <div>Dataset: jpw-phwilliams-1.db: field/well_paul-h-williams_no.1/grcbl_&amp;perf_10_guns/pass7</div> <div>Total length: 19.14 ft</div> <div>Total weight: 172.00 lb</div> <div>O.D.: 2.75 in</div> |      |                                                                                 |                                |      |      |       |

Log Variables

DatabaseC:\ProgramData\Warrior\Data\jpw-phwilliams-1.db  
Dataset field/well\_paul-h-williams\_no.1/grcbl\_&perf\_10\_guns/pass8/\_vars\_

Top - Bottom

|                       |                        |                      |                     |                           |                    |                    |                         |            |
|-----------------------|------------------------|----------------------|---------------------|---------------------------|--------------------|--------------------|-------------------------|------------|
| BOREID<br>in<br>7.875 | BOTTEMP<br>degF<br>100 | CASEOD<br>in<br>5.5  | CASETHCK<br>in<br>0 | CASEWGHT<br>lb/ft<br>15.5 | MAXAMPL<br>mV<br>0 | MINAMPL<br>mV<br>1 | MINATTN<br>db/ft<br>0.8 | PERFS<br>0 |
| PPT<br>usec<br>0      | SRFTEMP<br>degF<br>0   | TDEPTH<br>ft<br>3750 |                     |                           |                    |                    |                         |            |

Variable Description

BOREID : Borehole I.D.  
BOTTEMP : Bottom Hole Temperature  
CASEOD : Casing O.D.  
CASETHCK : Casing Thickness

CASEWGHT : Casing Weight  
MAXAMPL : Maximum Amplitude  
MINAMPL : Minimum Amplitude  
MINATTN : Minimum Attenuation

PERFS : Perforation Flag  
PPT : Predicted Pipe Time  
SRFTEMP : Surface Temperature  
TDEPTH : Total Depth

Calibration Report

Database File jpw-phwilliams-1.db

Dataset Pathname well\_paul-h-williams\_no.1/grcbl\_&perf\_10\_guns/pass8

Dataset Creation Thu Apr 18 16:58:55 2019

Gamma Ray Calibration Report

Serial Number: 080224

Tool Model: Probe1

Performed: Wed Apr 17 16:19:32 2019

Calibrator Value: 200.0

GAPI

Background Reading: 15.0

cps

Calibrator Reading: 222.7

cps

Sensitivity: 1.0000

GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 061007

Tool Model: DigitalCBL

Calibration Casing Diameter: 5.500

in

Calibration Depth: 1961.114

ft

Master Calibration, performed Tue Apr 16 11:37:28 2019:

|     | Raw (v) |       | Calibrated (mv) |        | Results |        |
|-----|---------|-------|-----------------|--------|---------|--------|
|     | Zero    | Cal   | Zero            | Cal    | Gain    | Offset |
| 3'  | -0.002  | 1.042 | 1.000           | 71.921 | 71.975  | 0.400  |
| CAL |         |       |                 |        |         |        |
| 5'  | -0.002  | 0.960 | 1.000           | 71.921 | 73.784  | 1.115  |
| SUM |         |       |                 |        |         |        |
| S1  |         |       |                 |        |         |        |
| S2  |         |       |                 |        |         |        |
| S3  |         |       |                 |        |         |        |
| S4  |         |       |                 |        |         |        |

S4  
S5  
S6  
S7  
S8

Internal Reference Calibration, performed (Not Performed):

|     | Raw (v) |     | Calibrated (v) |     | Results |        |
|-----|---------|-----|----------------|-----|---------|--------|
|     | Zero    | Cal | Zero           | Cal | Gain    | Offset |
| CAL |         |     |                |     |         |        |

Air Zero Calibration, performed Thu Mar 01 12:10:51 2018:

|     | Raw (v) |  | Calibrated (v) |  | Results |
|-----|---------|--|----------------|--|---------|
|     | Zero    |  | Zero           |  | Offset  |
| 3'  | 0.003   |  | 0.000          |  | -0.004  |
| 5'  | -0.001  |  | 0.000          |  | -0.000  |
| SUM |         |  |                |  |         |
| S1  |         |  |                |  |         |
| S2  |         |  |                |  |         |
| S3  |         |  |                |  |         |
| S4  |         |  |                |  |         |
| S5  |         |  |                |  |         |
| S6  |         |  |                |  |         |
| S7  |         |  |                |  |         |
| S8  |         |  |                |  |         |

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