



MIDWEST WIRELINE

DUAL INDUCTION  
LOG

|                                     |                 |                                |      |
|-------------------------------------|-----------------|--------------------------------|------|
| Company Griffin Management LLC      |                 | Company Griffin Management LLC |      |
| Well Breanna #5                     |                 | Well Breanna #5                |      |
| Field                               |                 | Field                          |      |
| County Barber                       |                 | County Barber                  |      |
| State Kansas                        |                 | State Kansas                   |      |
| Location: API #: 15-007-24429-00-00 |                 | Other Services                 |      |
| SEC 5 TWP 30S RGE 15W               |                 | CNU/CDL<br>MEL                 |      |
| Permanent Datum                     | Ground Level    | Elevation                      | 1963 |
| Log Measured From                   | Kelly Bushing   | K.B.                           | 1968 |
| Drilling Measured From              | Kelly Bushing   | D.F.                           | 1963 |
|                                     |                 | G.L.                           | 1963 |
| Date                                | 8/4/2022        |                                |      |
| Run Number                          | One             |                                |      |
| Depth Driller                       | 4820            |                                |      |
| Depth Logger                        | 4808            |                                |      |
| Bottom Logged Interval              | 4807            |                                |      |
| Top Log Interval                    | 250             |                                |      |
| Casing Driller                      | 8.625 @ 262     |                                |      |
| Casing Logger                       | 261             |                                |      |
| Bit Size                            | 7.875           |                                |      |
| Type Fluid in Hole                  | Chemical        |                                |      |
| Salinity, ppm CL                    | 3000            |                                |      |
| Density / Viscosity                 | 9.0 50          |                                |      |
| pH / Fluid Loss                     | 11.0 9.6        |                                |      |
| Source of Sample                    | Flowline        |                                |      |
| Rm @ Meas. Temp                     | 0.85 @ 72       |                                |      |
| Rmt @ Meas. Temp                    | 0.64 @ 72       |                                |      |
| Rmc @ Meas. Temp                    | 1.15 @ 72       |                                |      |
| Source of Rmt / Rmc                 | Charts          |                                |      |
| Rm @ BHT                            | 0.49 @ 124      |                                |      |
| Operating Rig Time                  | 2.5 Hours       |                                |      |
| Max Rec. Temp. F                    | 124             |                                |      |
| Equipment Number                    | P-24            |                                |      |
| Location                            | Hays            |                                |      |
| Recorded By                         | T. Martin       |                                |      |
| Witnessed By                        | Charles Griffin | Eli Felts                      |      |

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not 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.

Comments

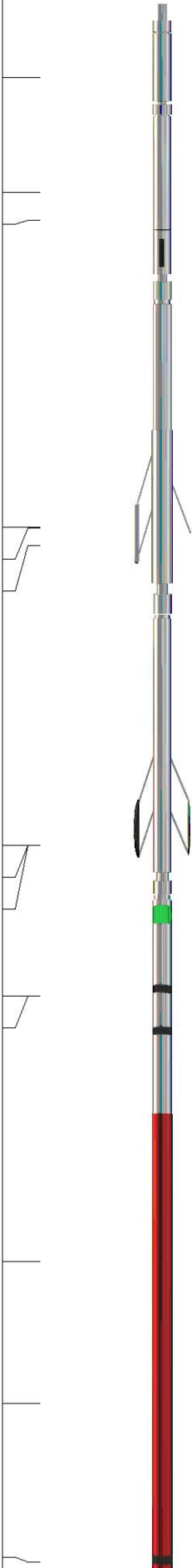
N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Pratt, KS, W to 140, S to Y,  
1/4 E, N into

Log Measured From: Kelly Bushing      5    Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC  
785-625-3858

|                            |  |                                  |  |
|----------------------------|--|----------------------------------|--|
| Your Midwest Wireline Crew |  | This Log Record Was Witnessed By |  |
| Engineer: T. Martin        |  | Primary Witness: Charles Griffin |  |
| Operator:                  |  | Secondary Witness: Eli Felts     |  |
| Operator:                  |  | Secondary Witness:               |  |
| Operator:                  |  | Secondary Witness:               |  |

| Sensor                                                                                                                         | Offset (ft)    | Schematic                                                                         |  | Description      | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|--|------------------|-------------|-----------|-------------|
| GR                                                                                                                             | 40.33          |  |  | GR-M&W (106)     | 3.00        | 3.50      | 50.00       |
| CNLSC<br>CNSSC                                                                                                                 | 37.23<br>36.48 |                                                                                   |  | CNT-M&W (207-MW) | 5.00        | 3.50      | 100.00      |
| LSD<br>DCAL<br>SSD                                                                                                             | 28.18          |                                                                                   |  | CDL-M&W (302-02) | 8.50        | 4.00      | 250.00      |
|                                                                                                                                | 28.17          |                                                                                   |  | ML-PSIML (402)   | 7.58        | 4.00      | 65.00       |
|                                                                                                                                | 27.68          |                                                                                   |  |                  |             |           |             |
| MCAL<br>MI<br>MN                                                                                                               | 19.58          |                                                                                   |  |                  |             |           |             |
|                                                                                                                                | 19.58          |                                                                                   |  | RLL3F<br>RLL3    | 15.50       | 15.50     |             |
|                                                                                                                                | 19.58          |                                                                                   |  |                  |             |           |             |
| RLL3F<br>RLL3                                                                                                                  | 15.50<br>15.50 |                                                                                   |  | DIL-M&W (507)    | 18.25       | 3.50      | 220.00      |
|                                                                                                                                |                |                                                                                   |  |                  |             |           |             |
| CILD                                                                                                                           | 8.33           |                                                                                   |  |                  |             |           |             |
| CILM                                                                                                                           | 4.50           |                                                                                   |  |                  |             |           |             |
| SP                                                                                                                             | 0.20           |                                                                                   |  |                  |             |           |             |
| Dataset: griffin_breanna #5.db: field/well/StkMI/pass3.1<br>Total length: 42.33 ft<br>Total weight: 685.00 lb<br>O.D.: 4.00 in |                |                                                                                   |  |                  |             |           |             |

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin\_breanna #5.db  
Dataset field/well/StkMI/pass3.1/\_vars\_

## Top - Bottom

| A         | BOREID      | BOTTEMP     | CASEOD      | CASETHCK  | FLUIDDEN   | M     | MATRXDEN     |
|-----------|-------------|-------------|-------------|-----------|------------|-------|--------------|
| 1         | in<br>7.875 | degF<br>124 | in<br>5.5   | in<br>0   | g/cc<br>1  | 2     | g/cc<br>2.71 |
| NPORSEL   | PERFS       | SNDERR      | SNDERRM     | SPSHIFT   | SRFTEMP    | SZCOR | TDEPTH       |
| Limestone | 0           | mmho/m<br>0 | mmho/m<br>0 | mV<br>210 | degF<br>80 | Off   | ft<br>4808   |

## Variable Description

A : Cement Factor (a)  
BOREID : Borehole I.D.  
BOTTEMP : Bottom Hole Temperature  
CASEOD : Casing O.D.  
CASETHCK : Casing Thickness  
FLUIDDEN : Fluid Density  
M : Cement Exp (m)  
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select  
PERFS : Perforation Flag  
SNDERR : Deep Sonde Error Correction  
SNDERRM : Medium Sonde Error Correction  
SPSHIFT : S.P. Baseline Offset  
SRFTEMP : Surface Temperature  
SZCOR : CN Size Cor. ?  
TDEPTH : Total Depth

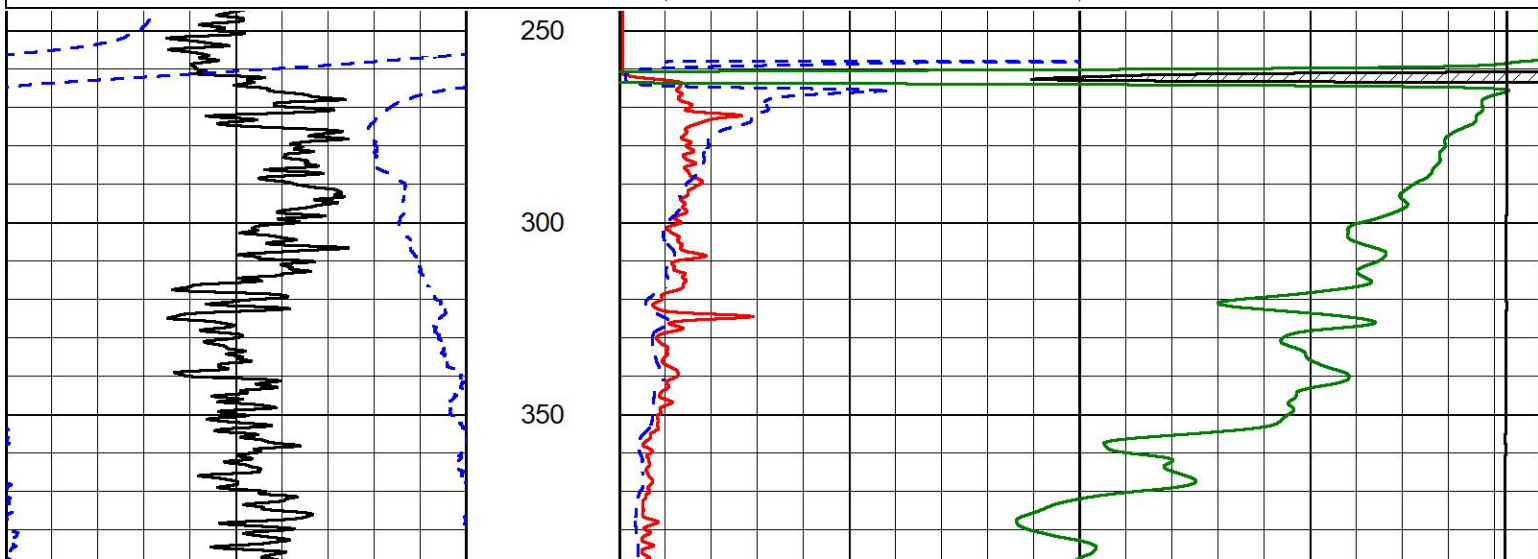


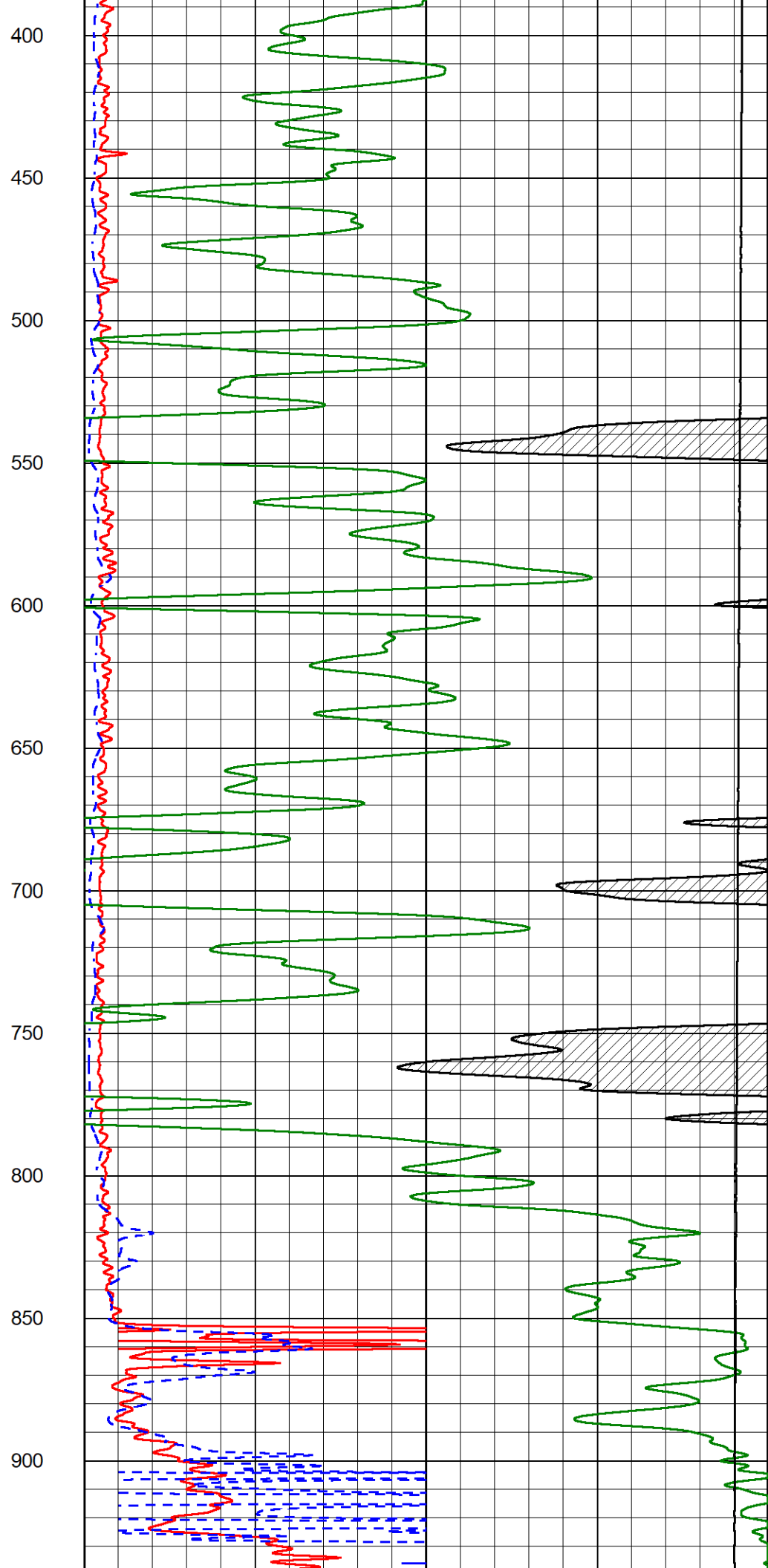
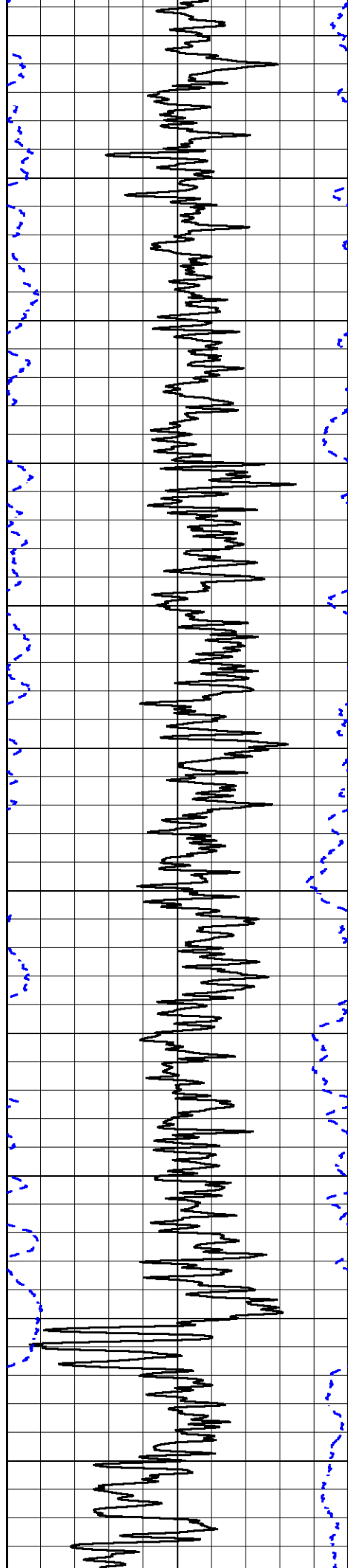
## 2" SCALE RESISTIVITY

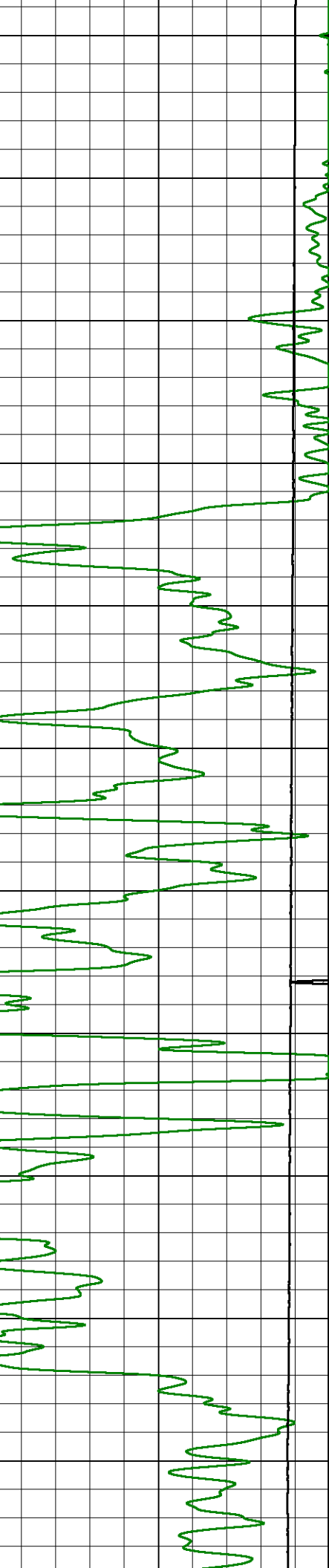
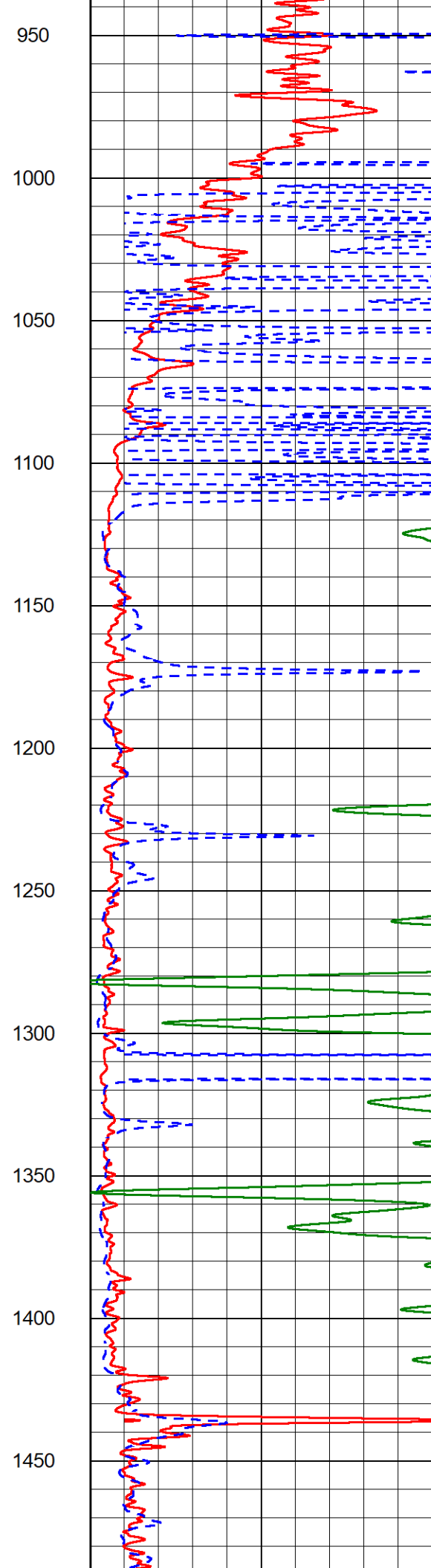
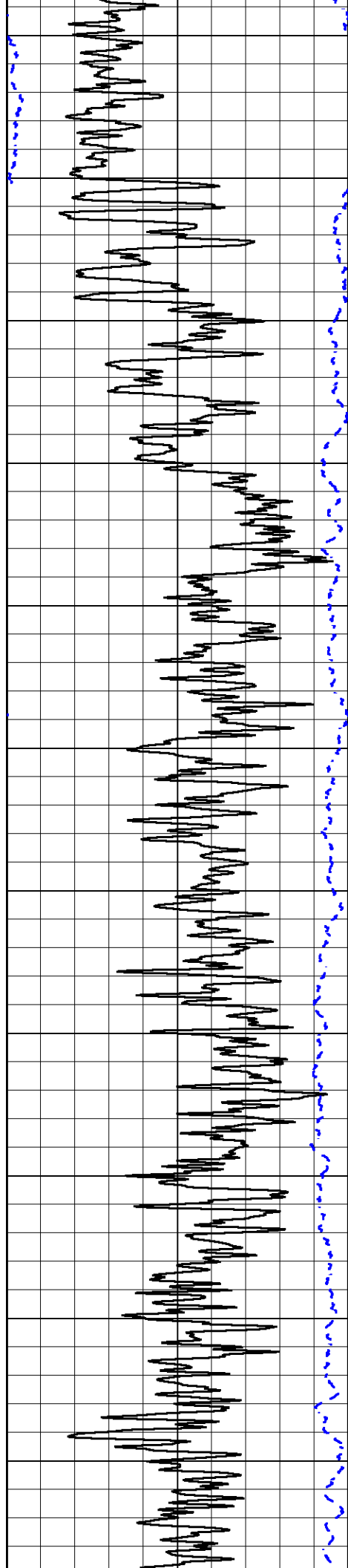
### MAIN PASS

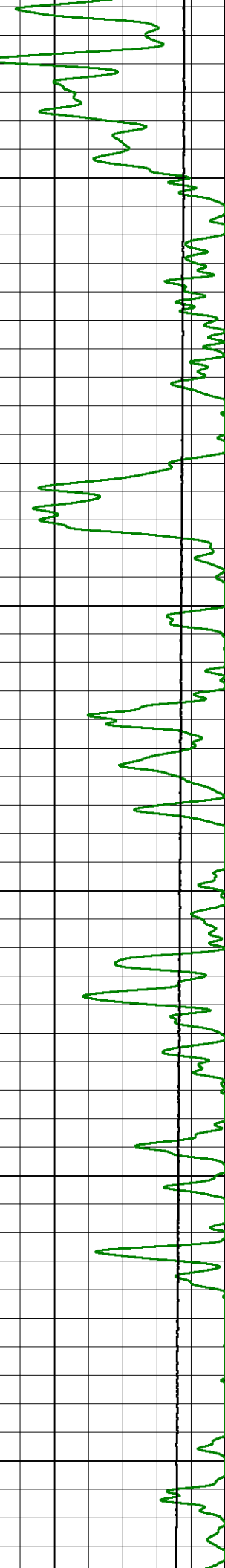
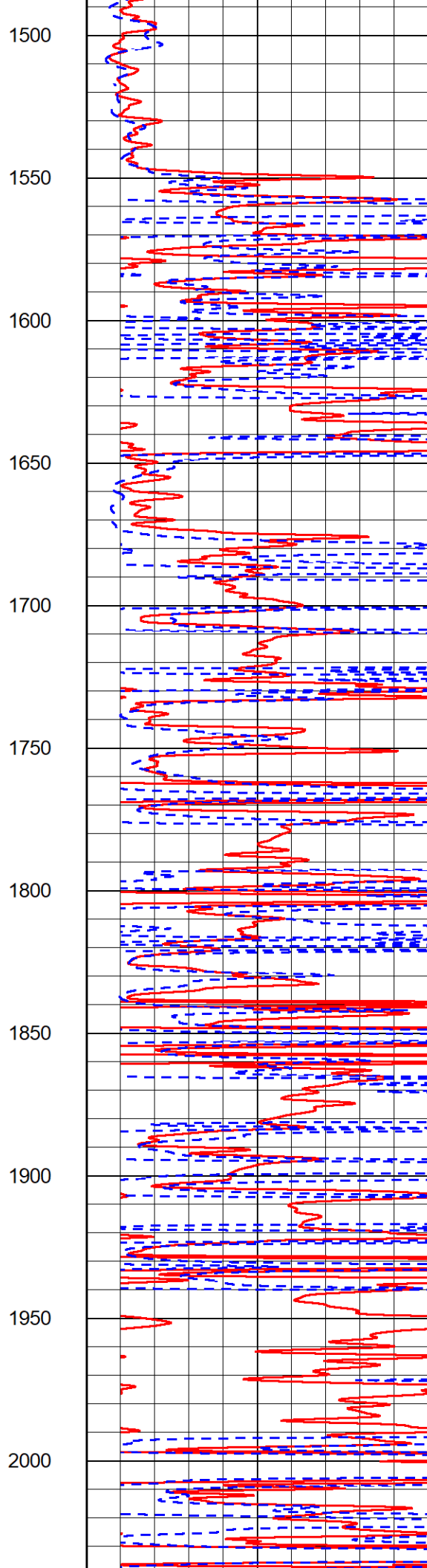
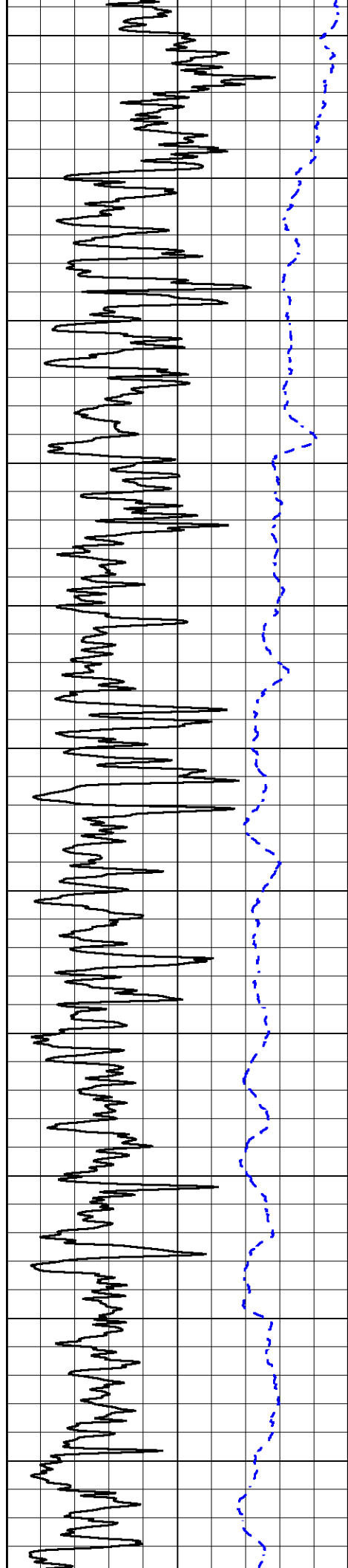
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Dataset Pathname StkMI/pass3.2  
Presentation Format \_dil2in  
Dataset Creation Thu Aug 04 02:40:39 2022  
Charted by Depth in Feet scaled 1:600

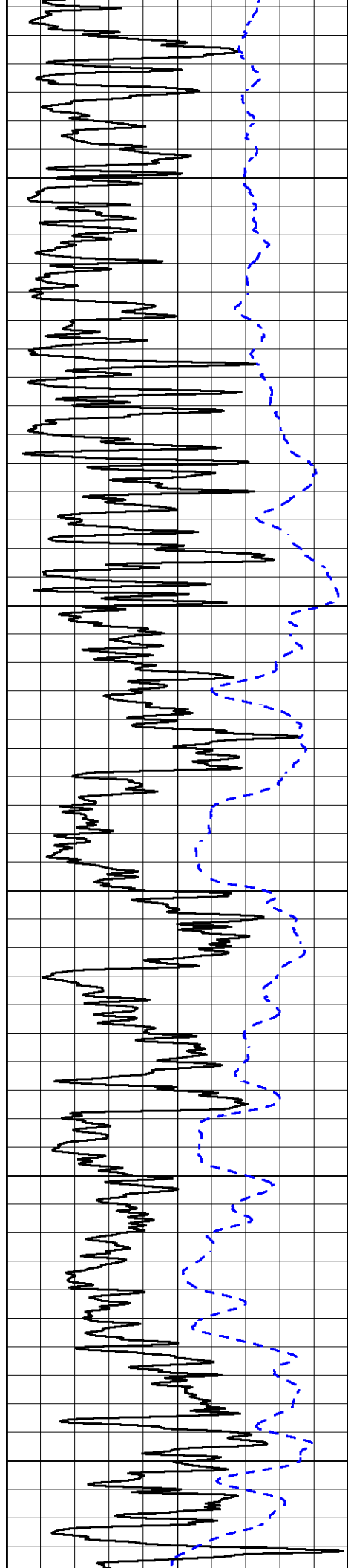
|      |                  |     |                     |                             |     |
|------|------------------|-----|---------------------|-----------------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 | 1000                | Conductivity (mmho/m)       | 0   |
| -200 | SP (mV)          | 0   | 15000               | Line Tension (lb)           | 0   |
|      |                  |     | 0                   | Shallow Resistivity (Ohm-m) | 50  |
|      |                  |     | 0                   | Deep Resistivity (Ohm-m)    | 50  |
|      |                  |     | Shallow Resistivity |                             |     |
|      |                  |     | 50                  | (Ohm-m)                     | 200 |
|      |                  |     | 50                  | Deep Resistivity (Ohm-m)    | 200 |











2050

2100

2150

2200

2250

2300

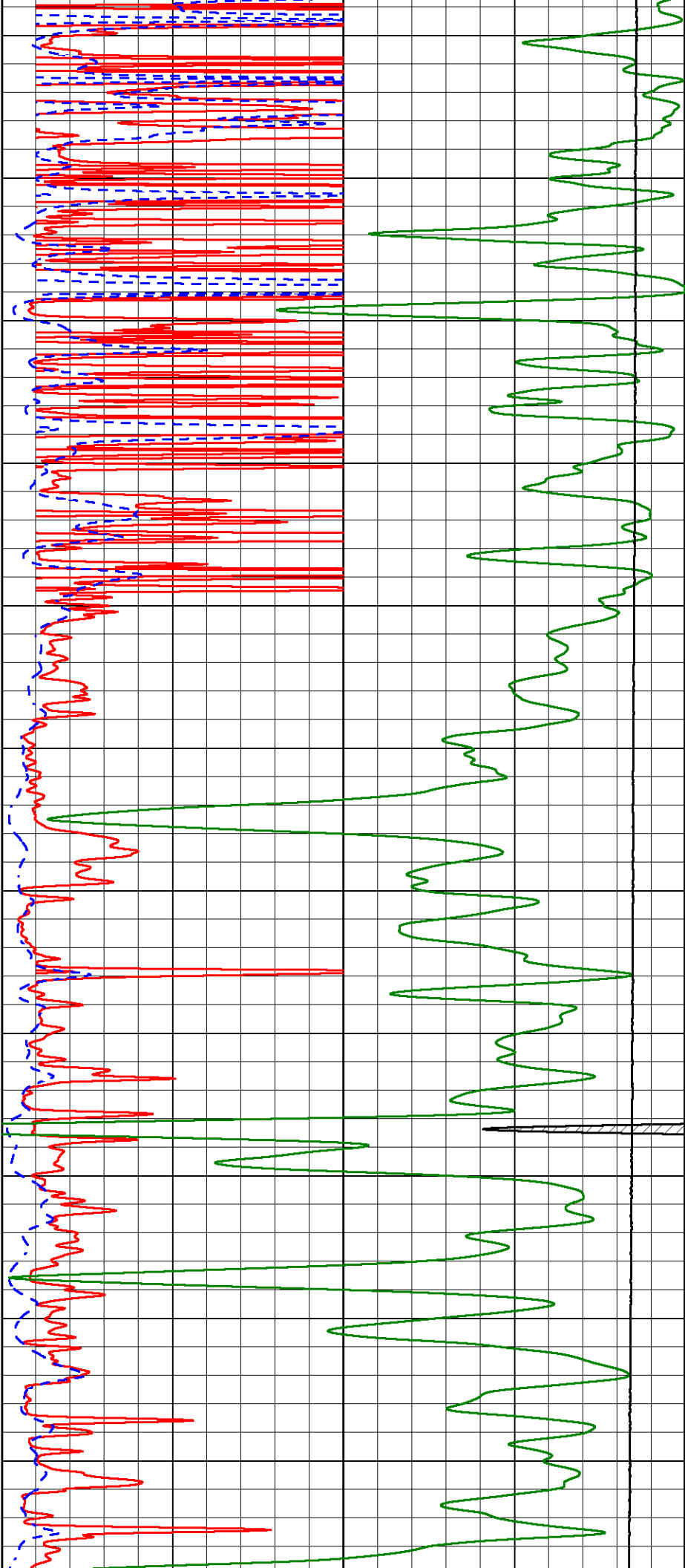
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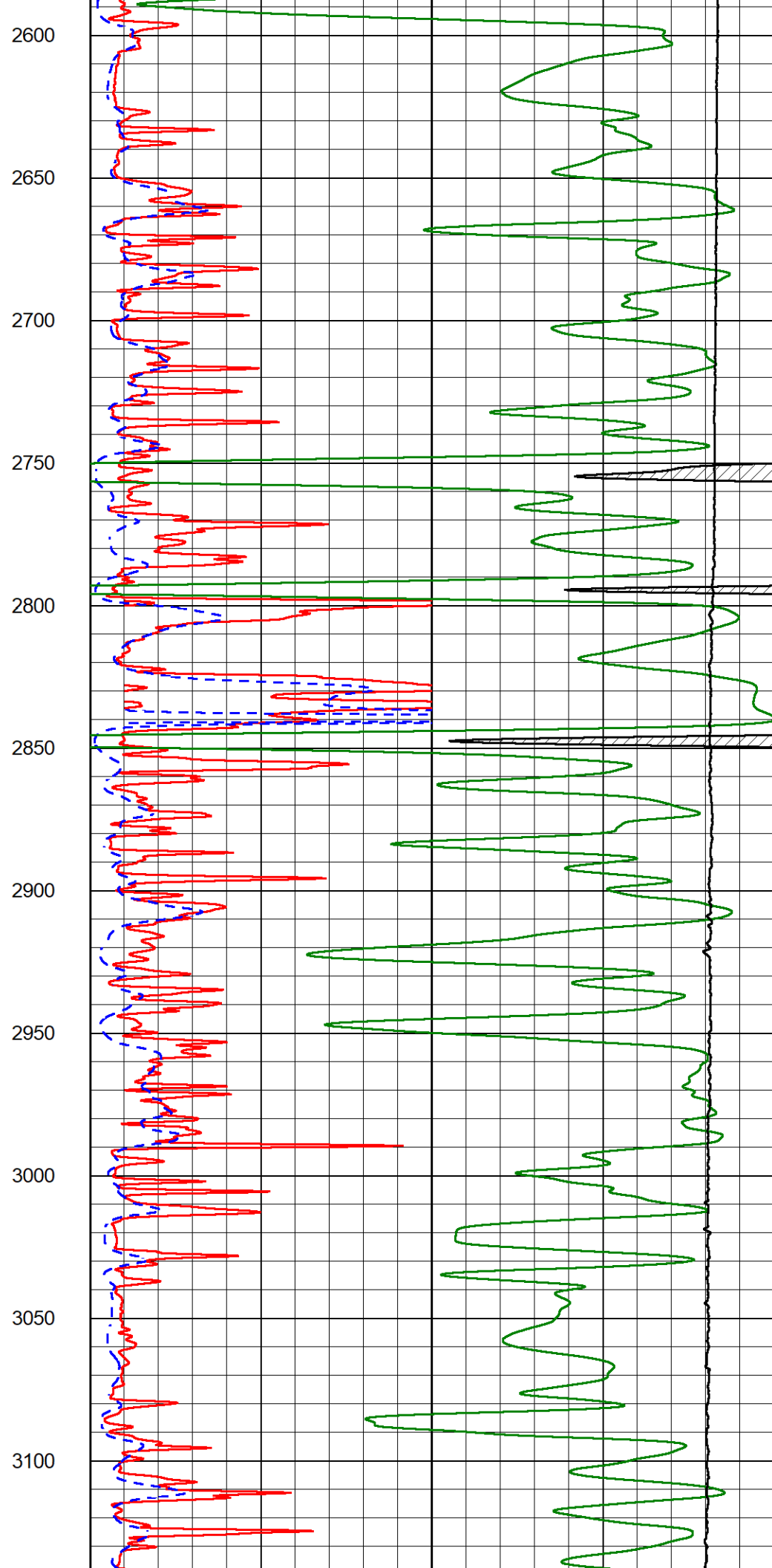
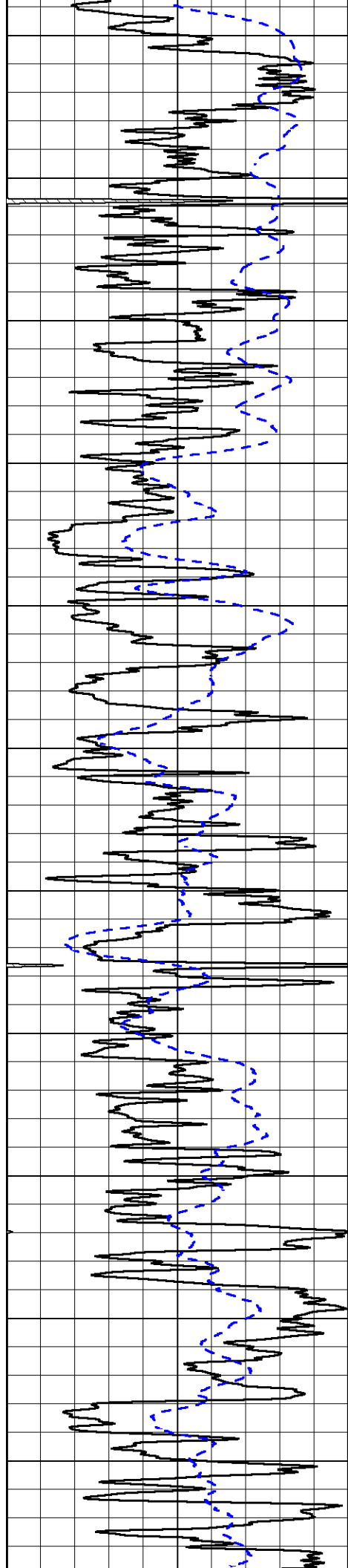
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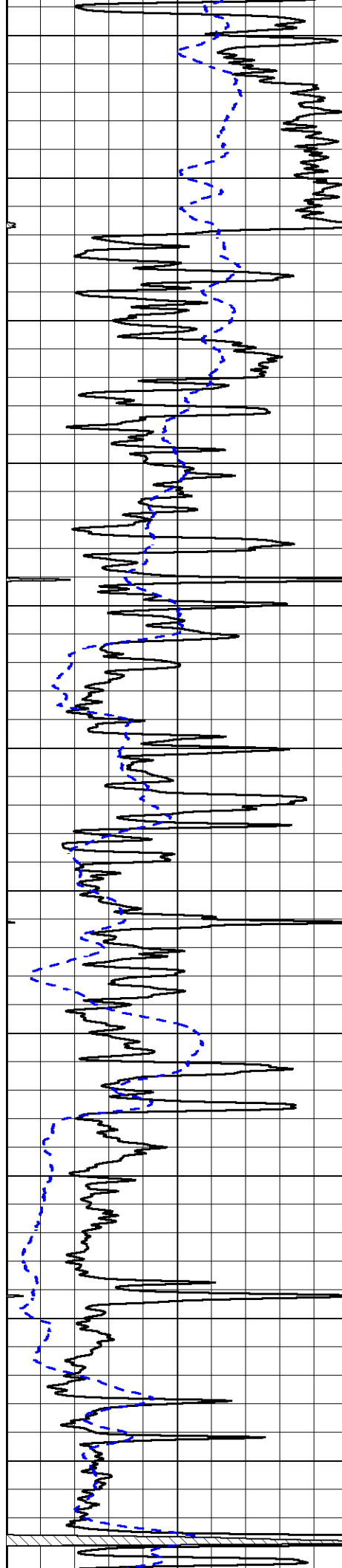
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2500

2550







3150

3200

3250

3300

3350

3400

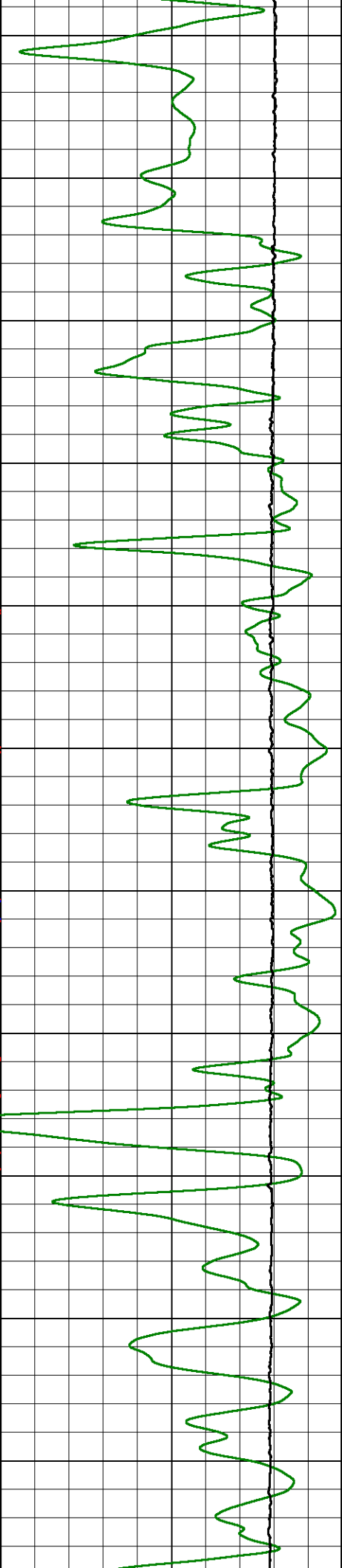
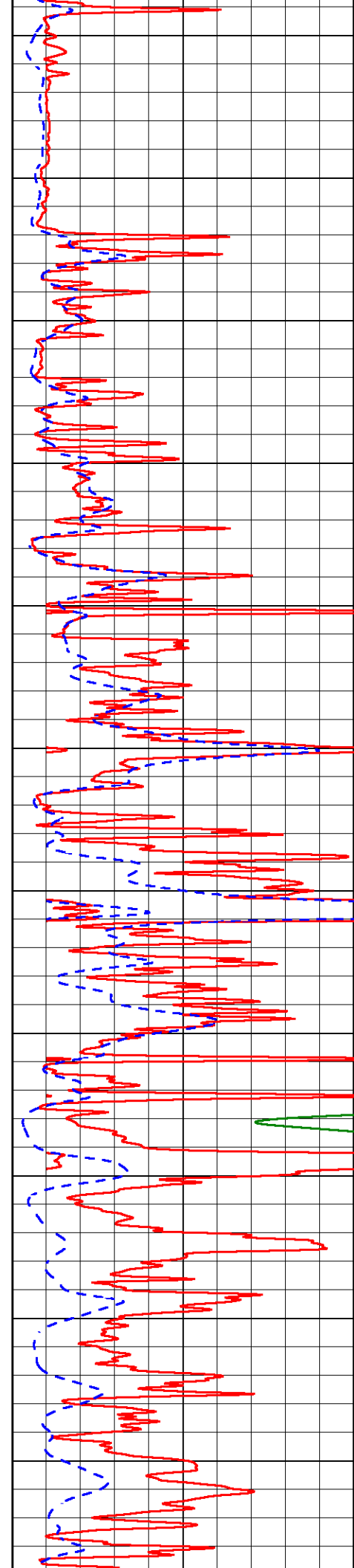
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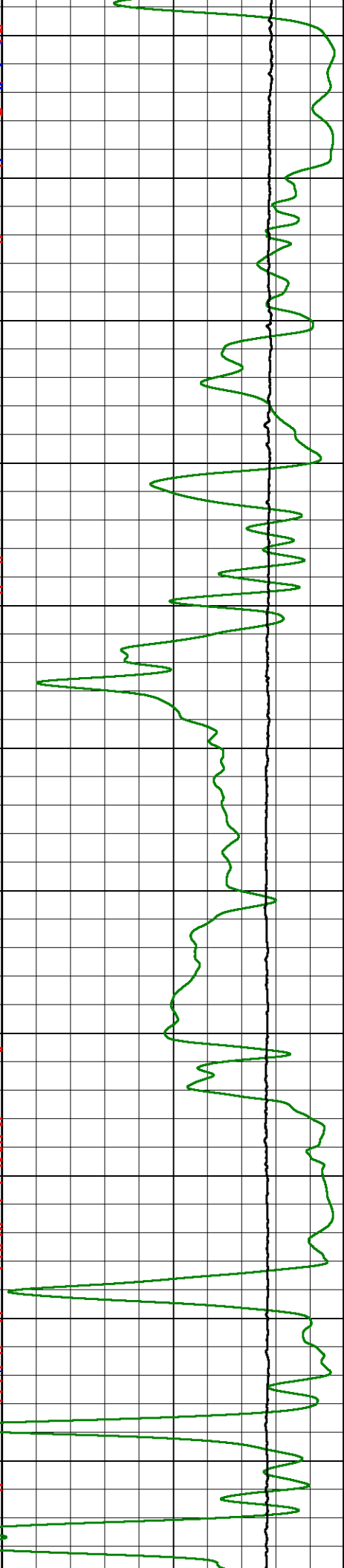
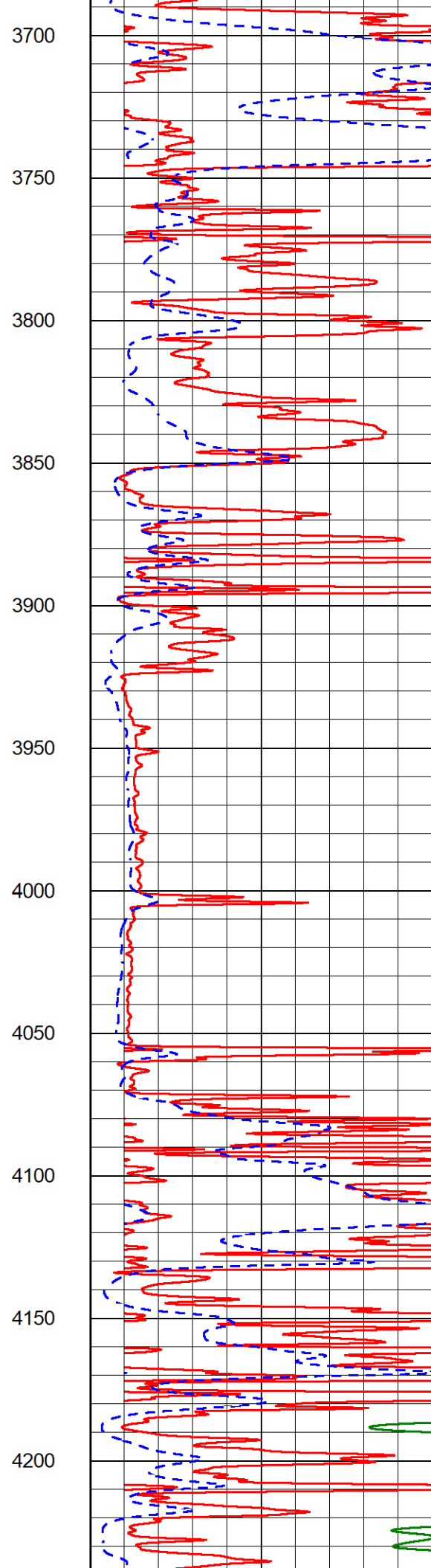
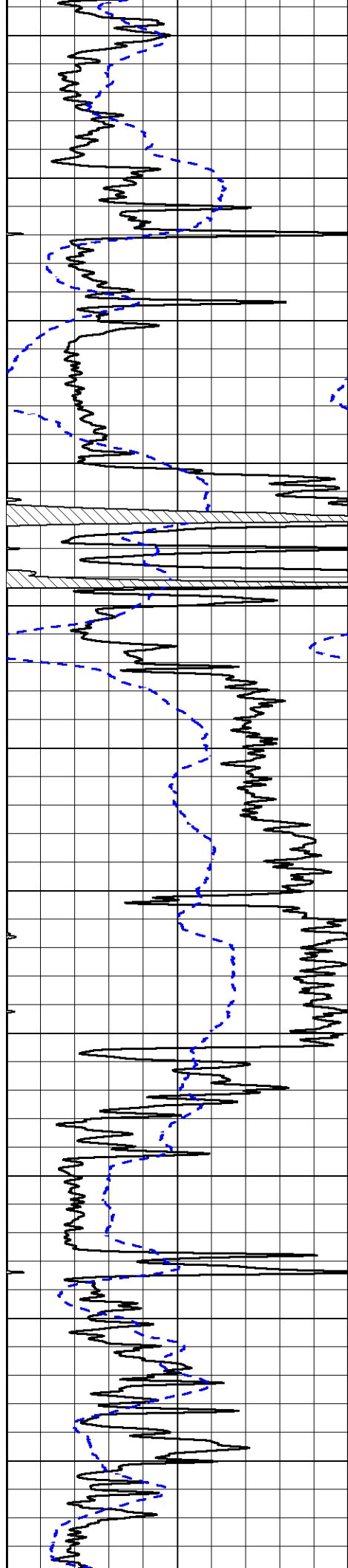
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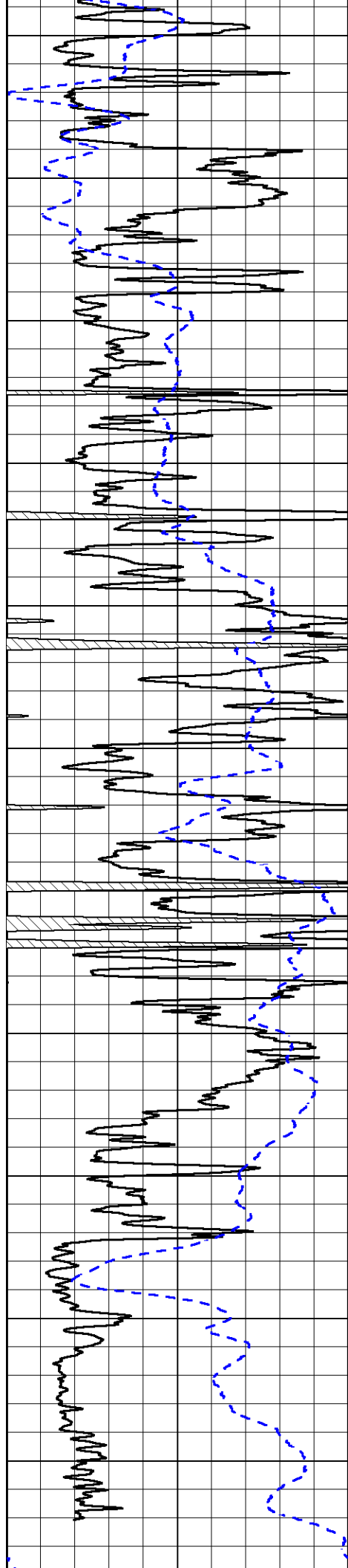
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3600

3650







4250

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4350

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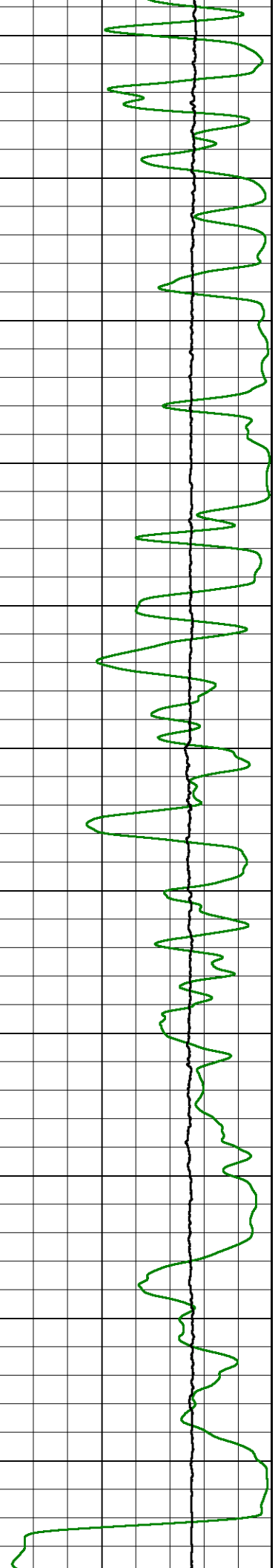
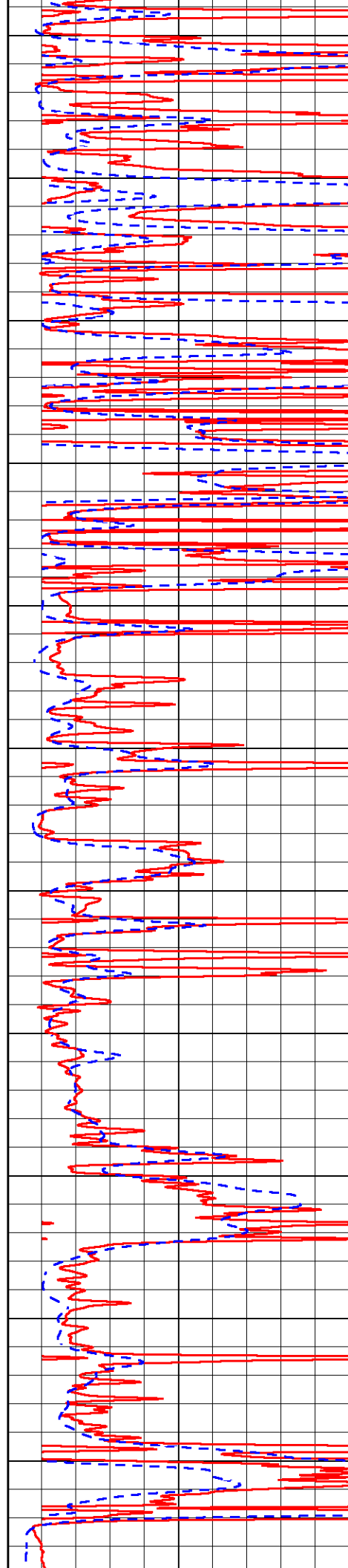
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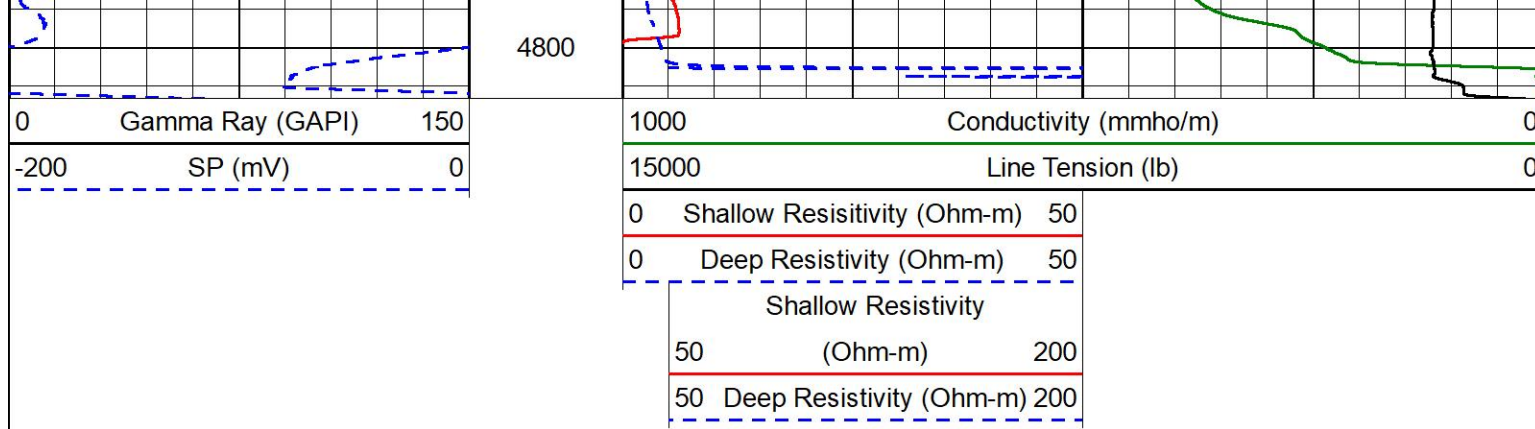
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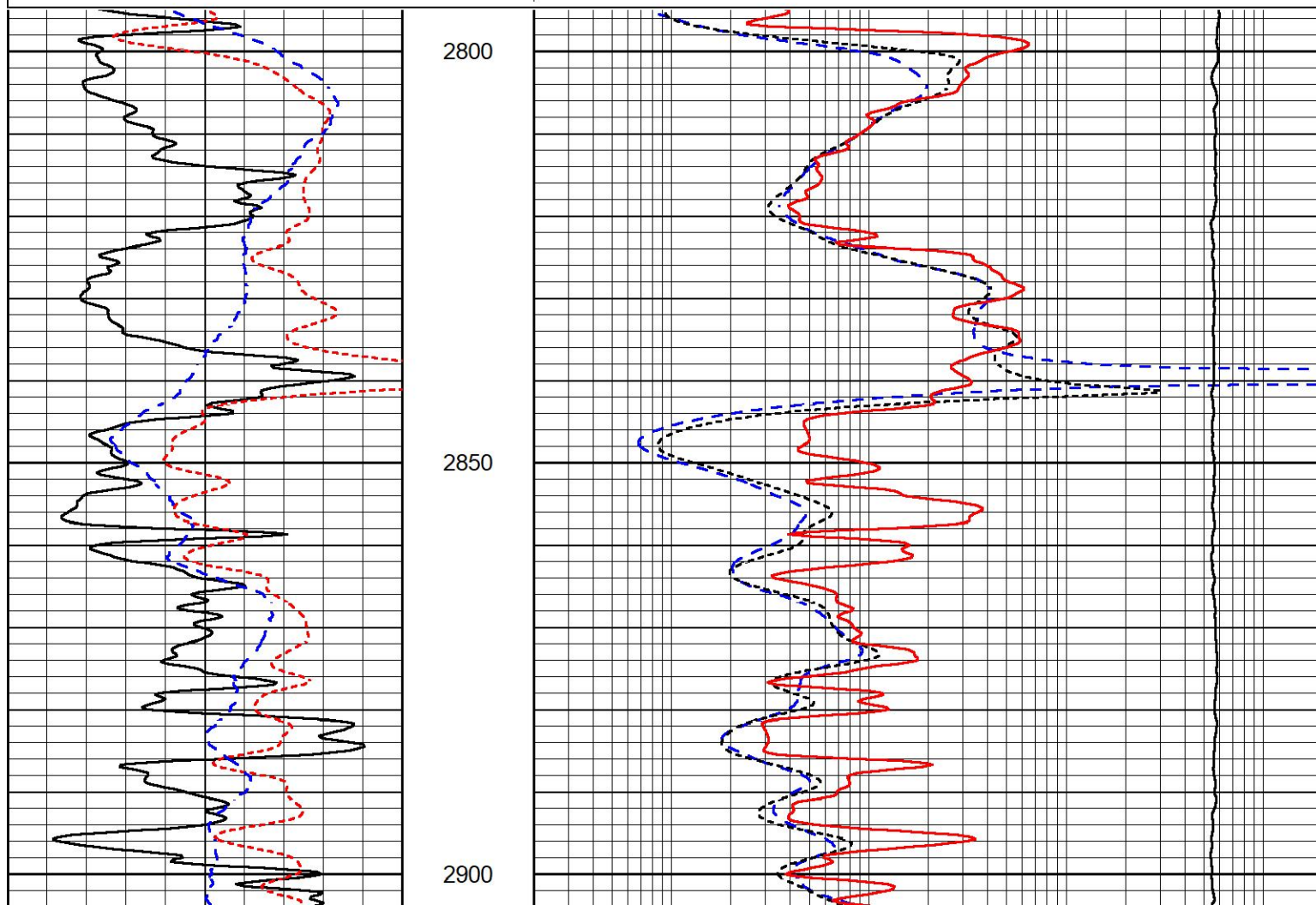
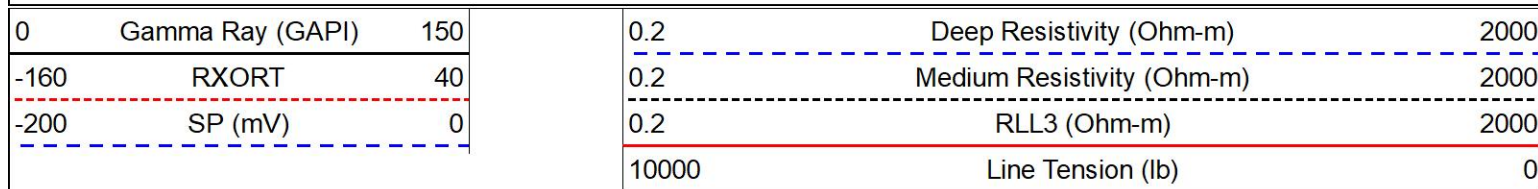


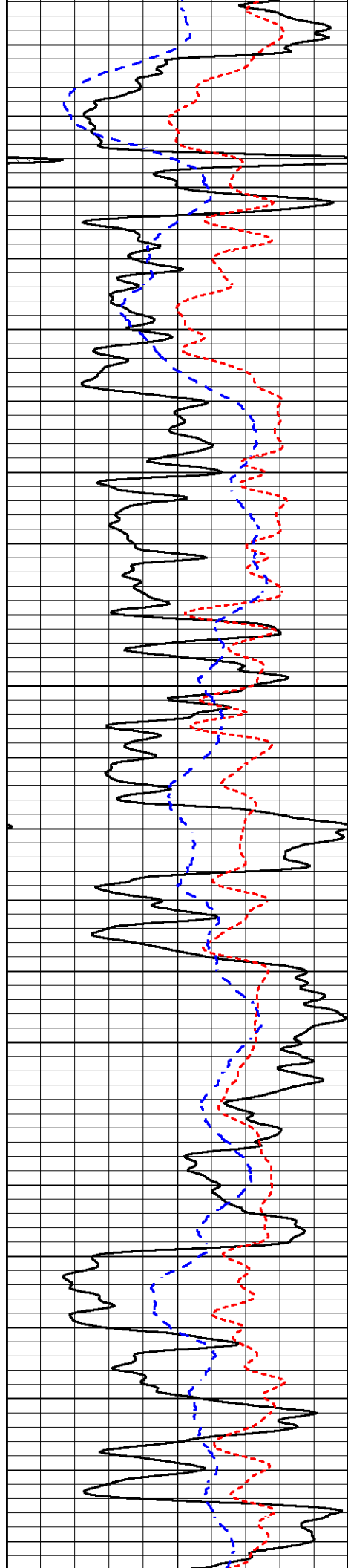
MIDWEST WIRELINE

## DETAIL SECTION

### MAIN PASS

Database File griffin\_breanna #5.db  
 Dataset Pathname StkMI/pass3.1  
 Presentation Format \_dil  
 Dataset Creation Thu Aug 04 02:40:51 2022  
 Charted by Depth in Feet scaled 1:240



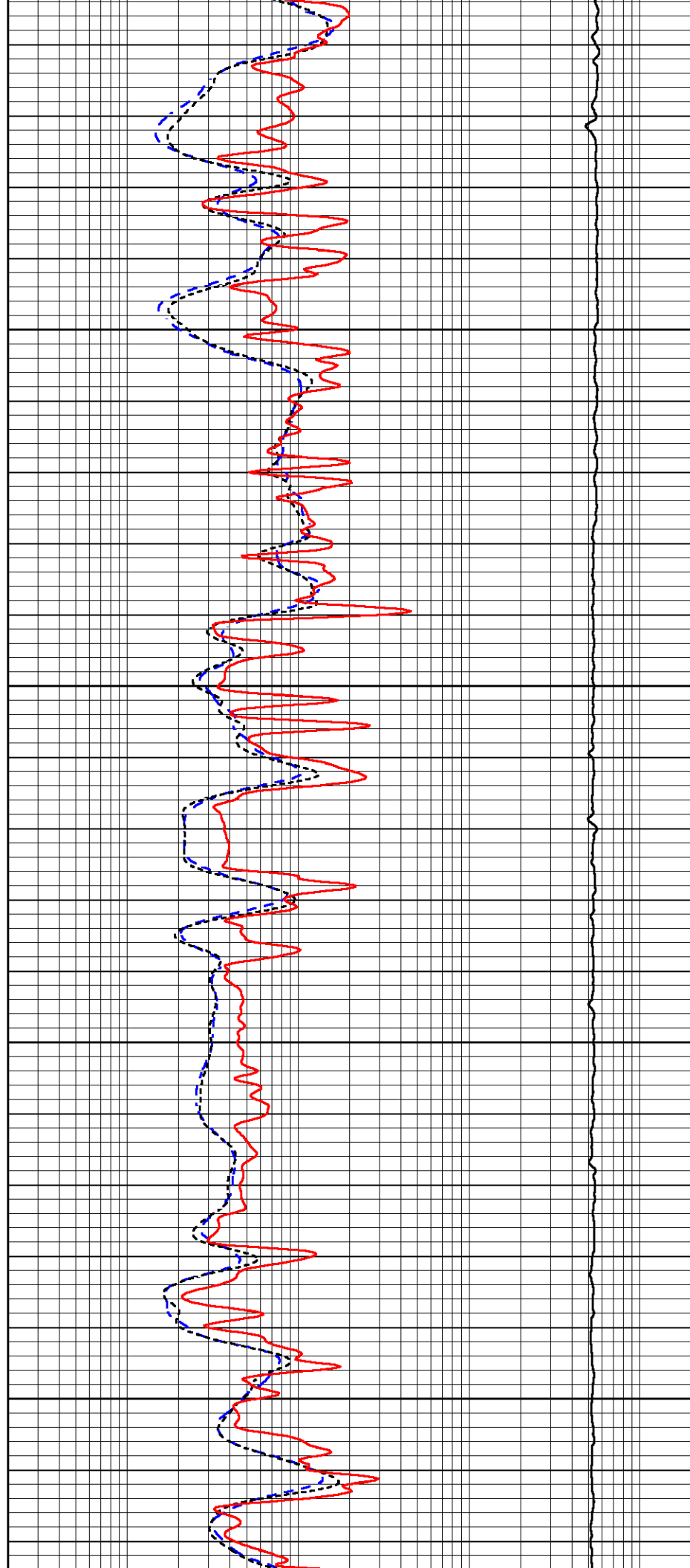


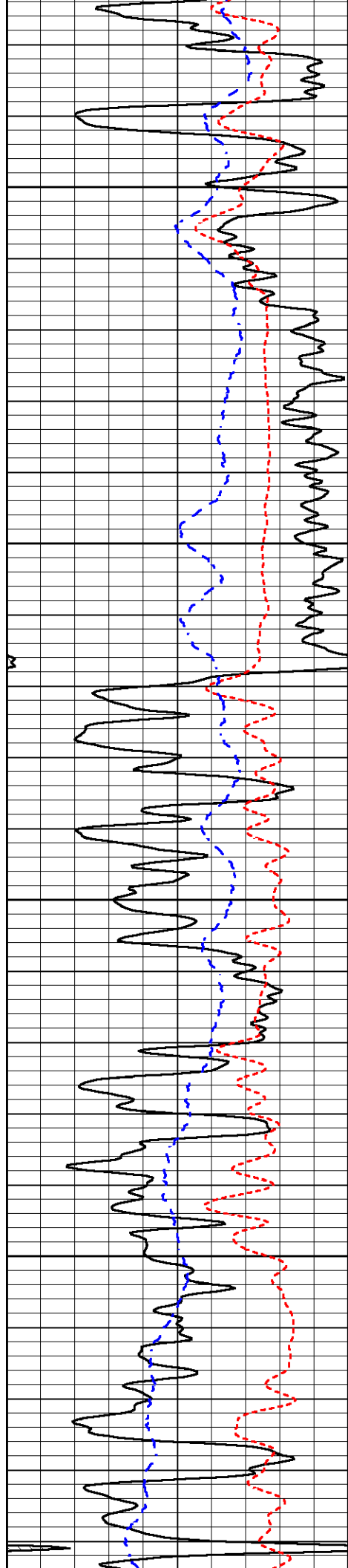
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3050

3100



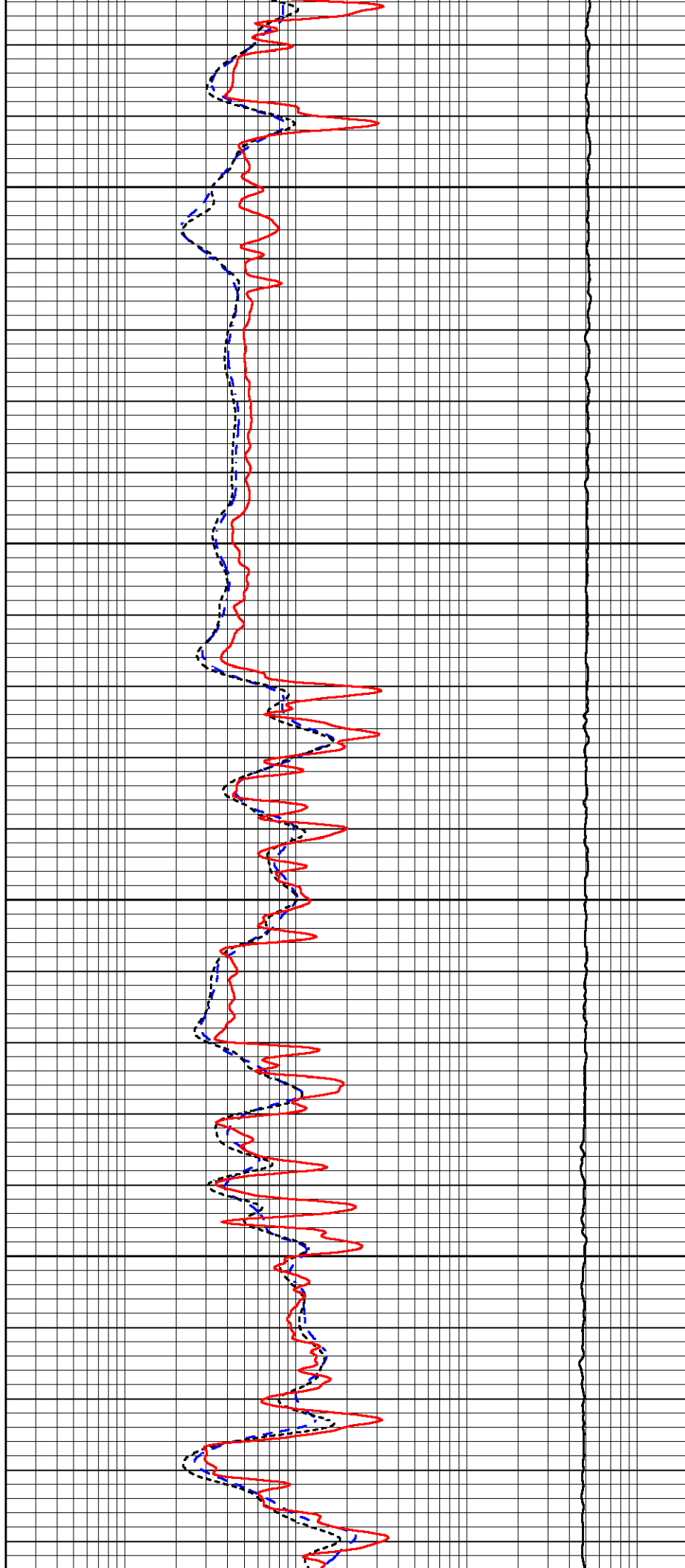


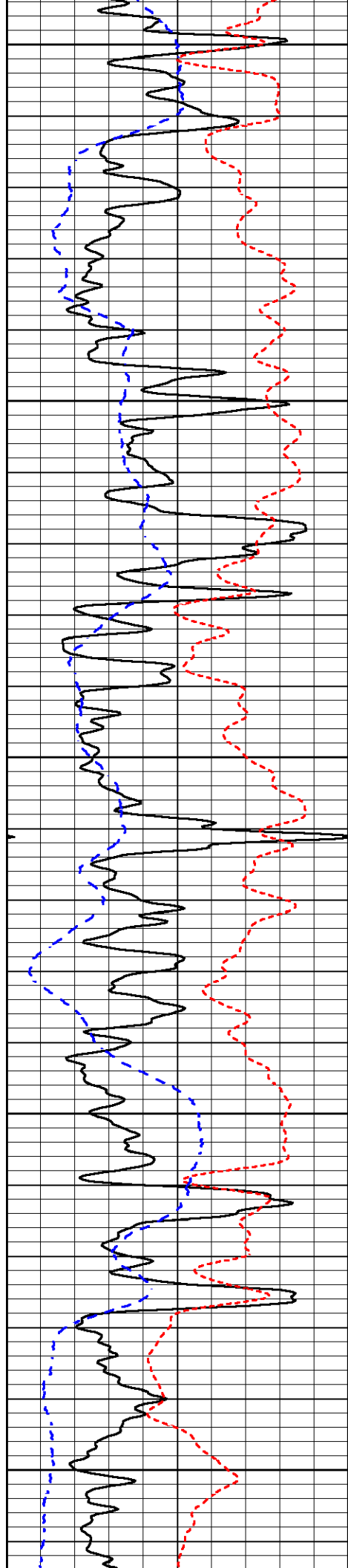
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3200

3250

3300





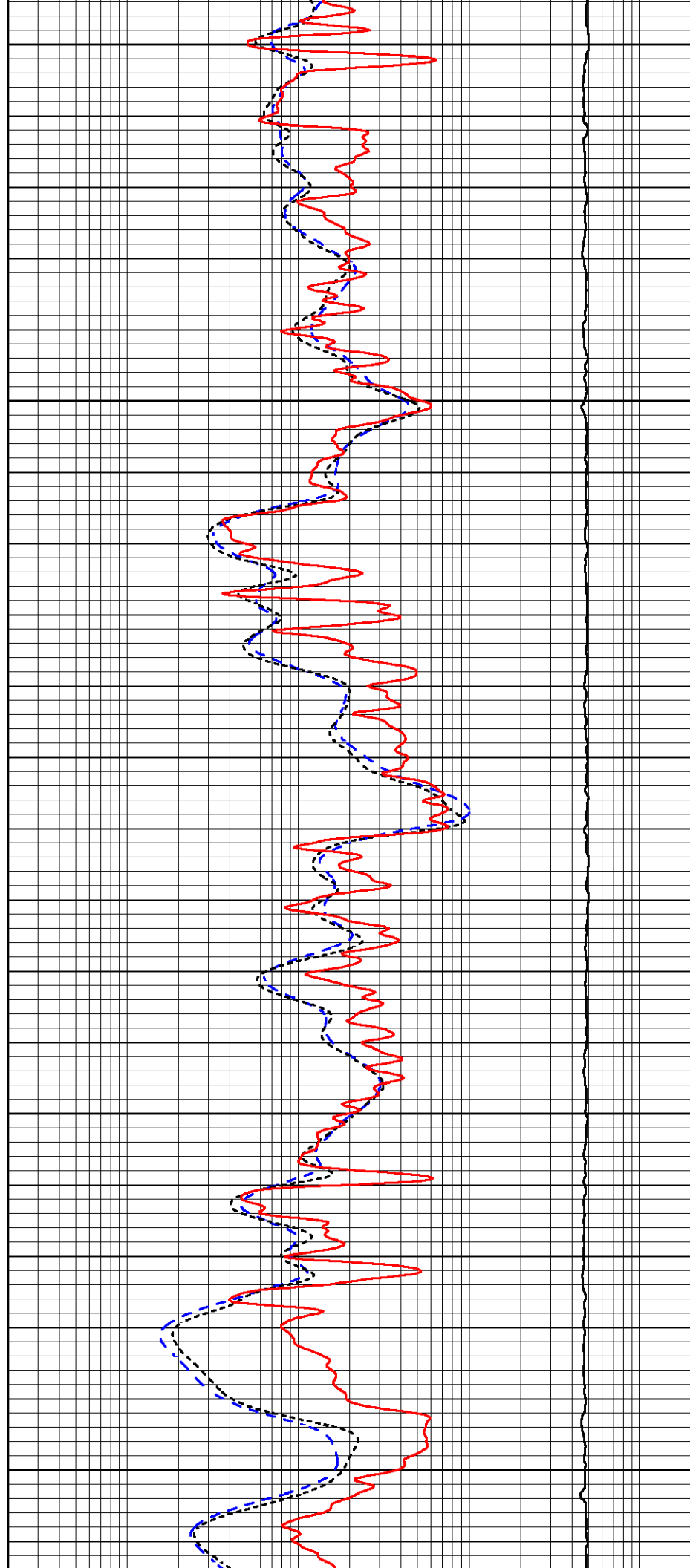
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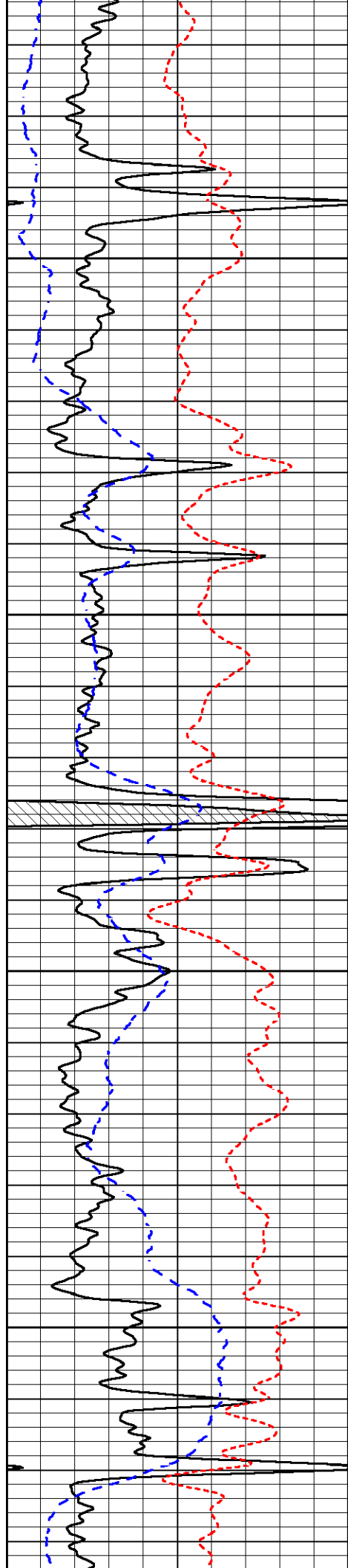
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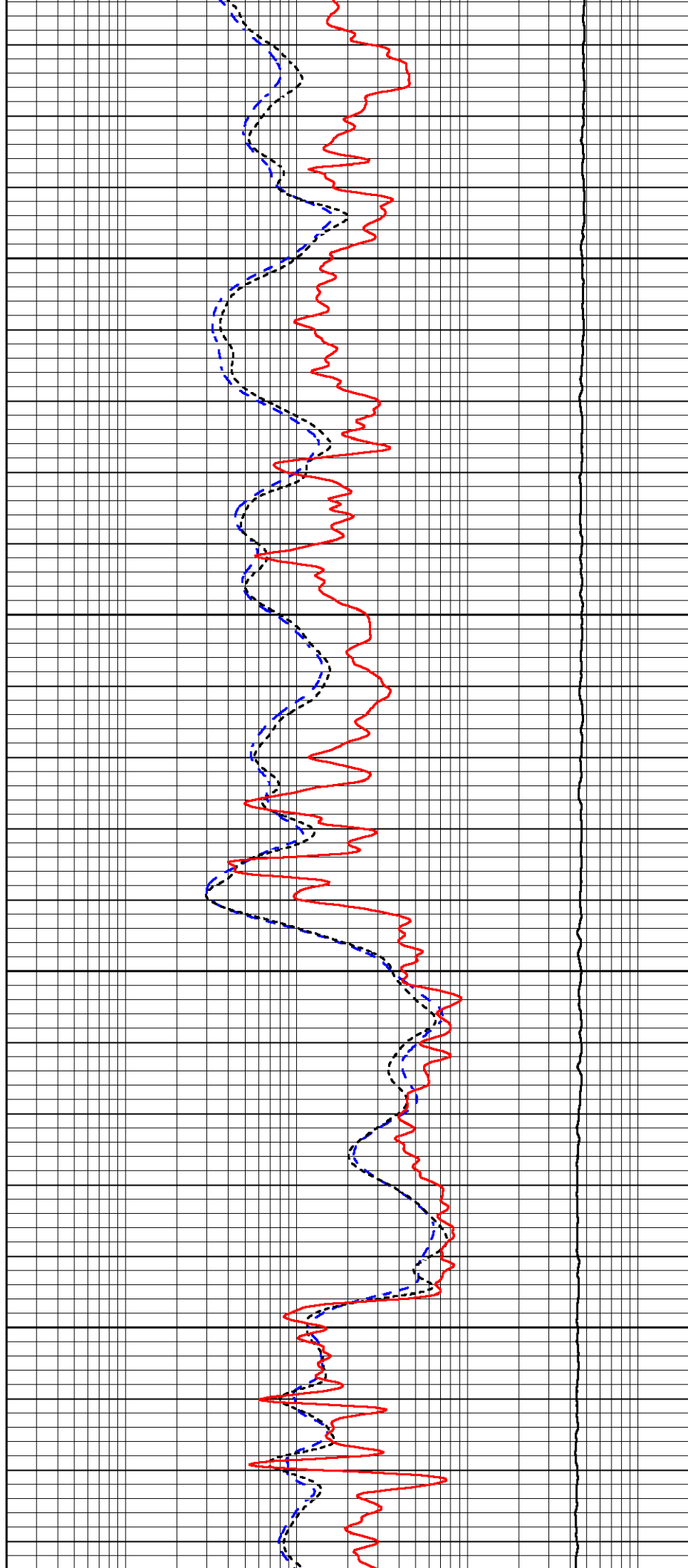


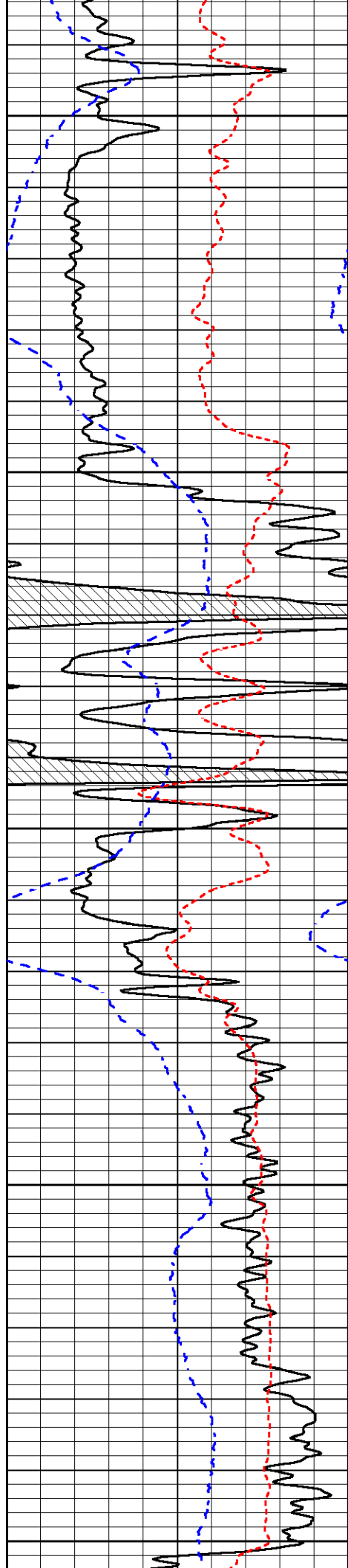
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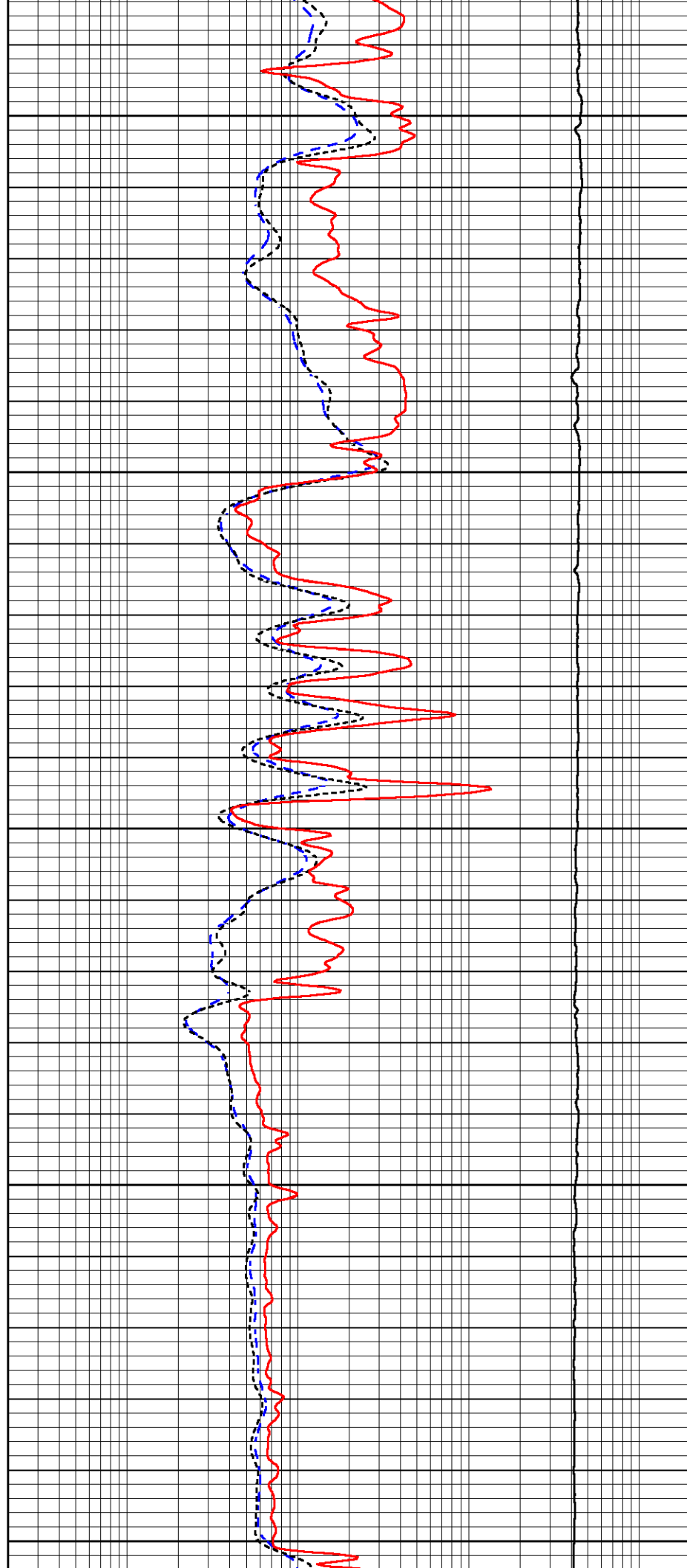
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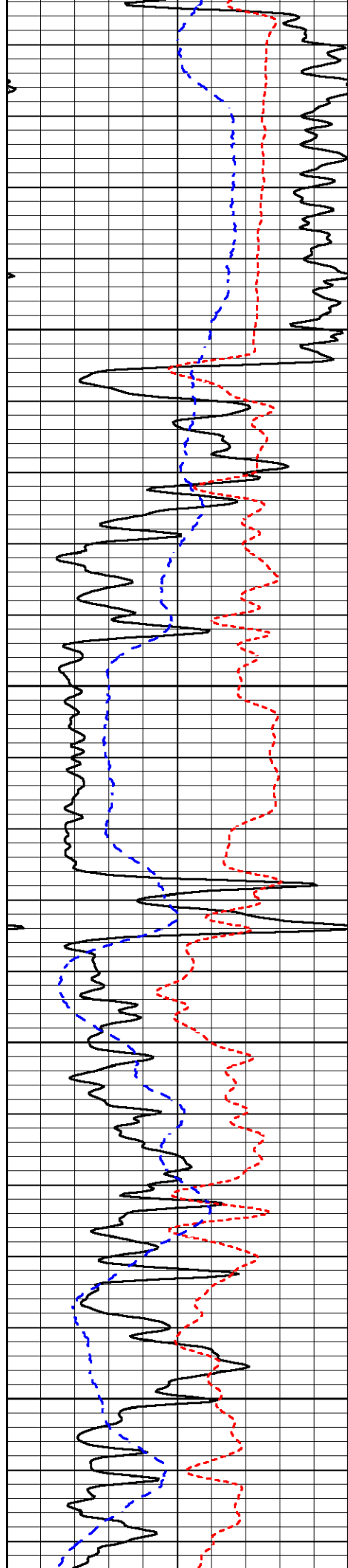
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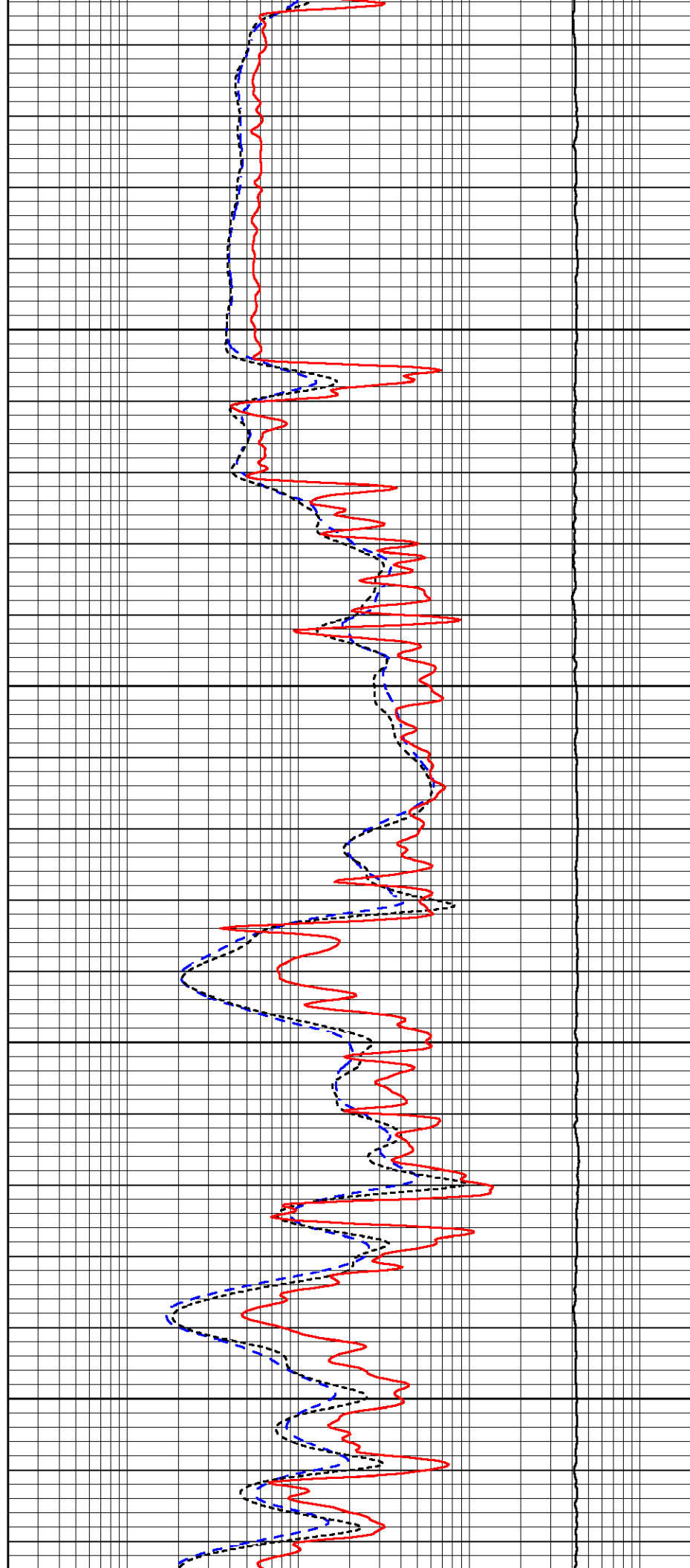


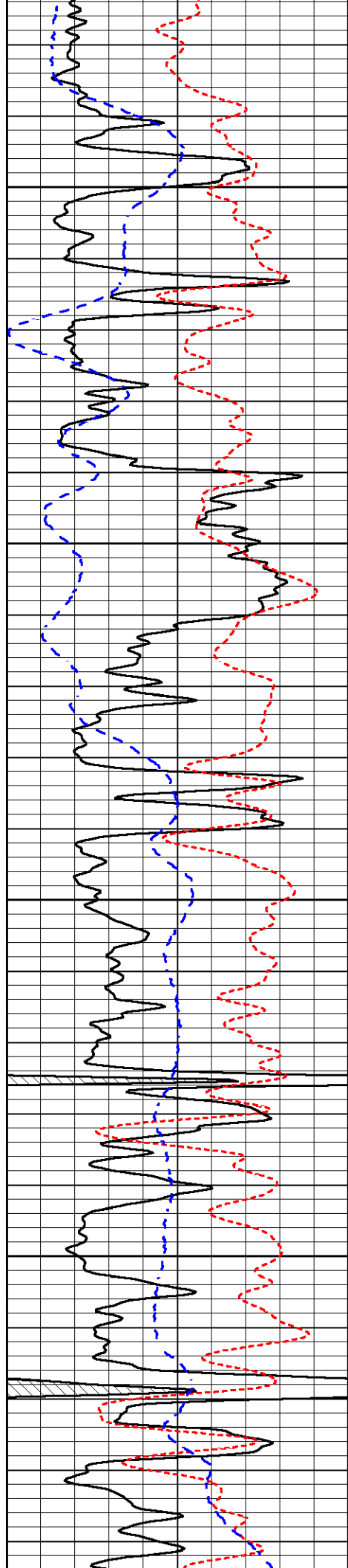
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4200



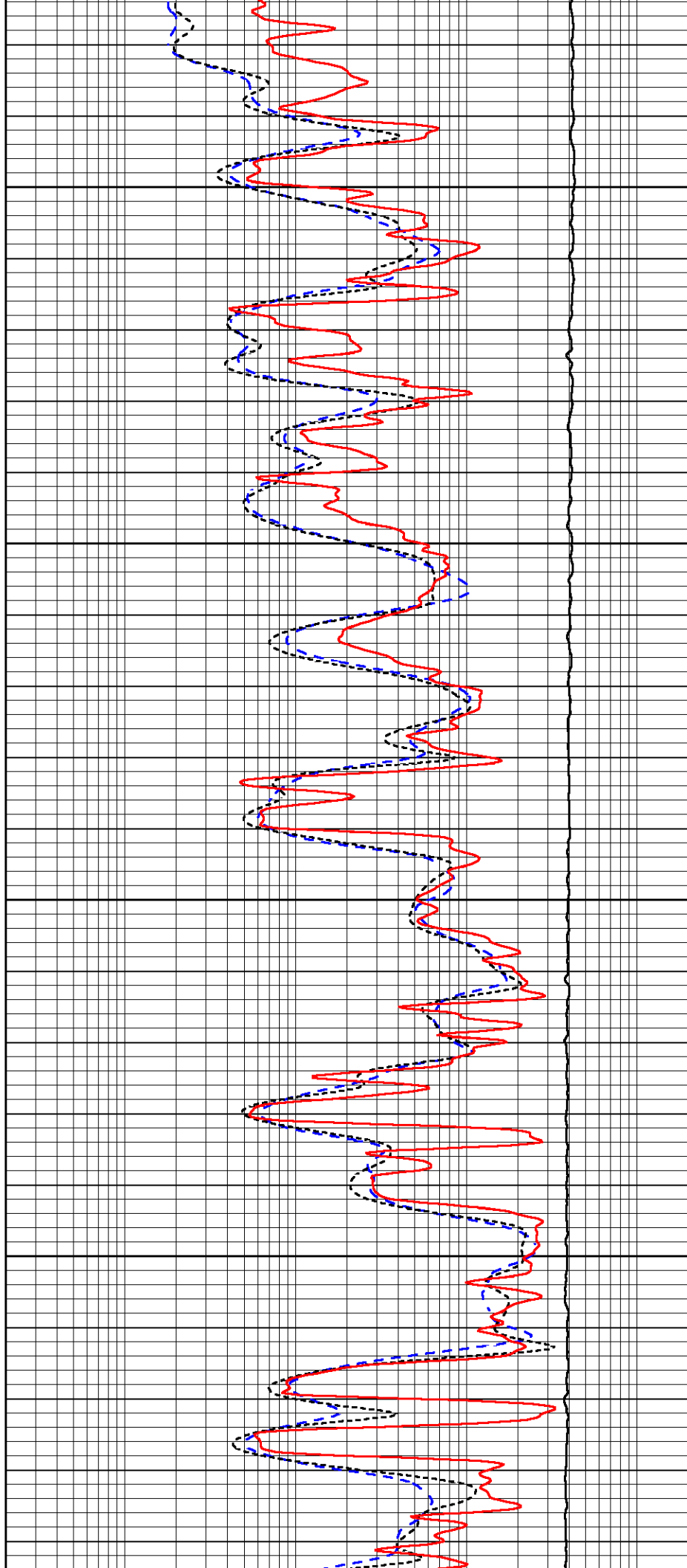


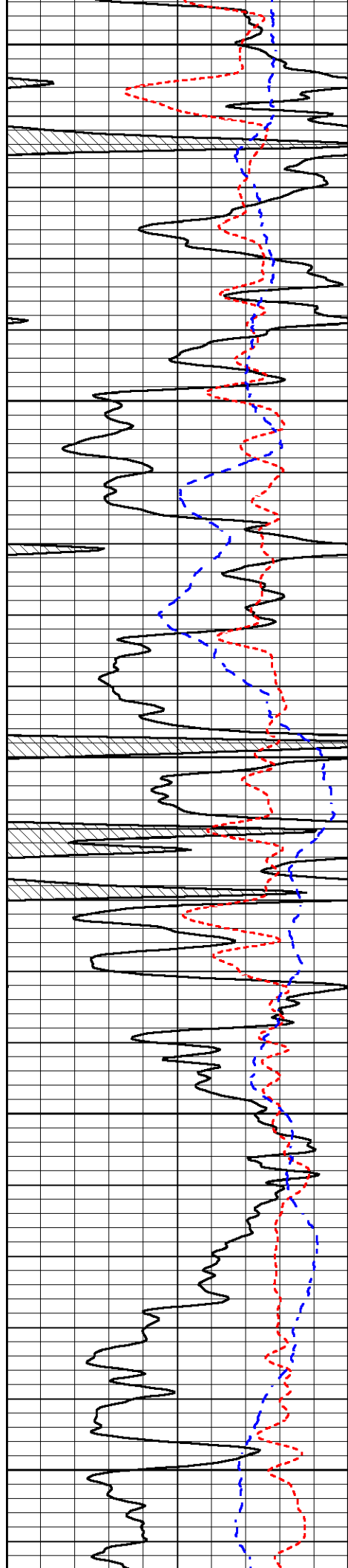
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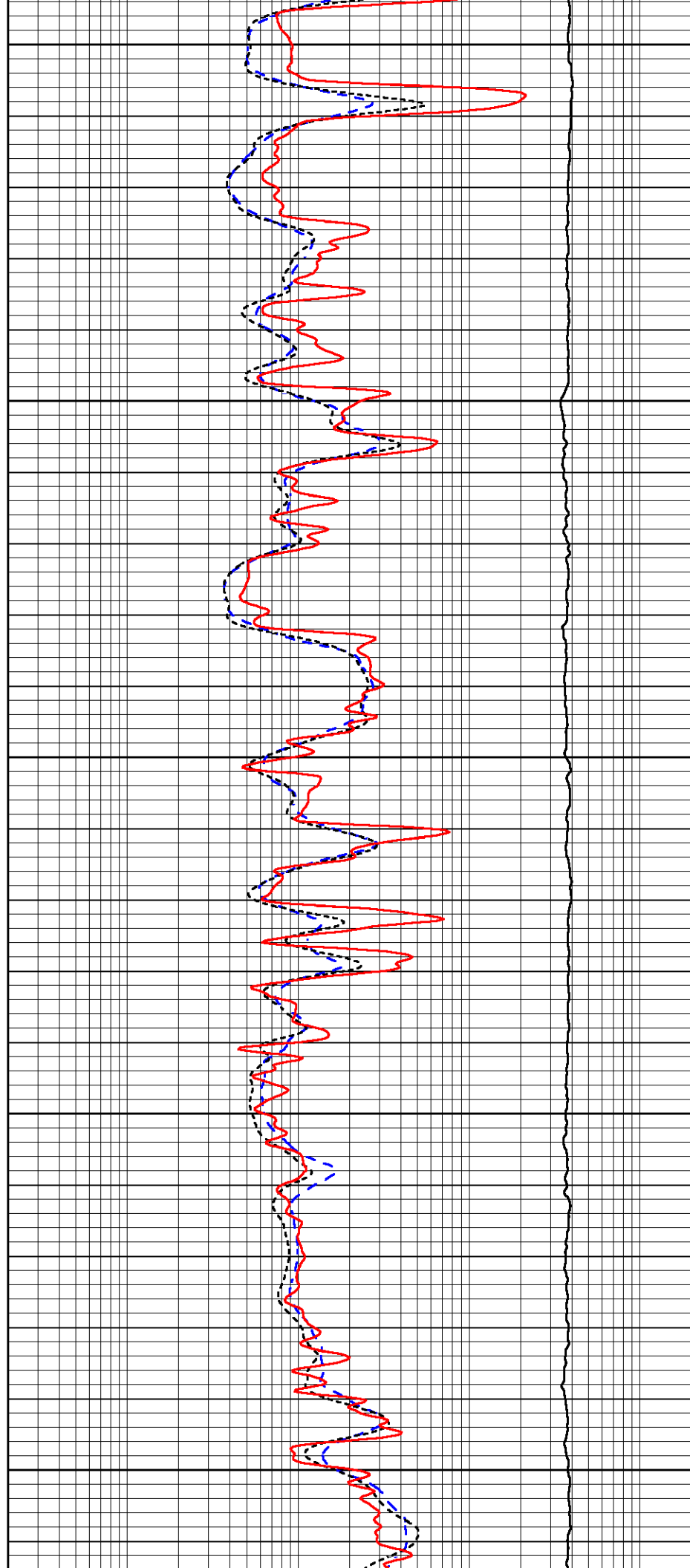
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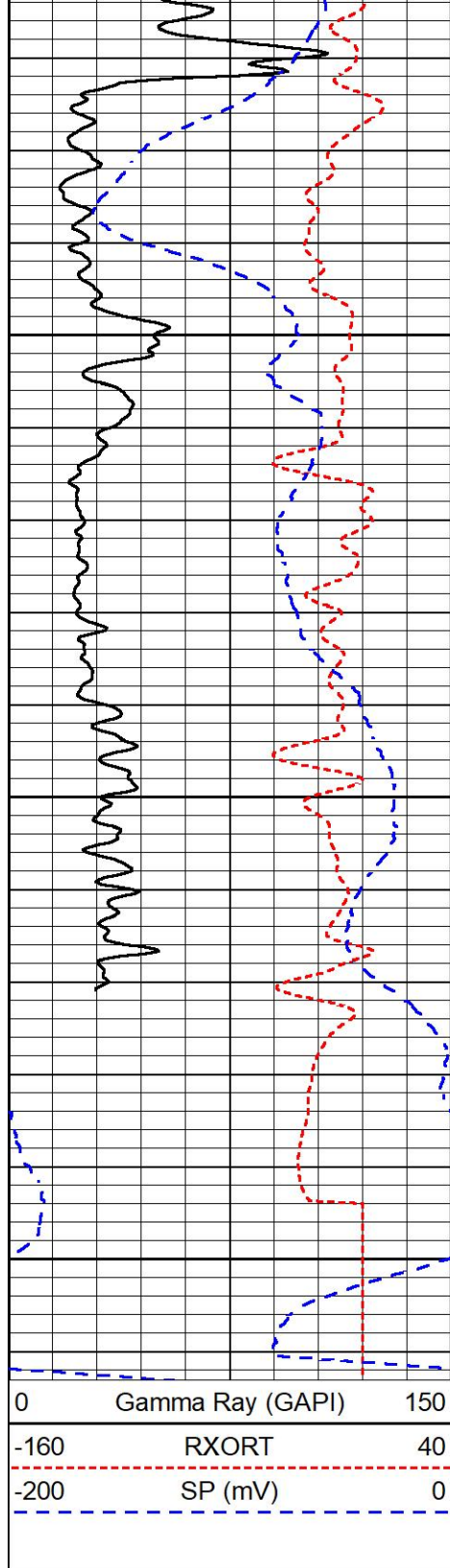
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4600

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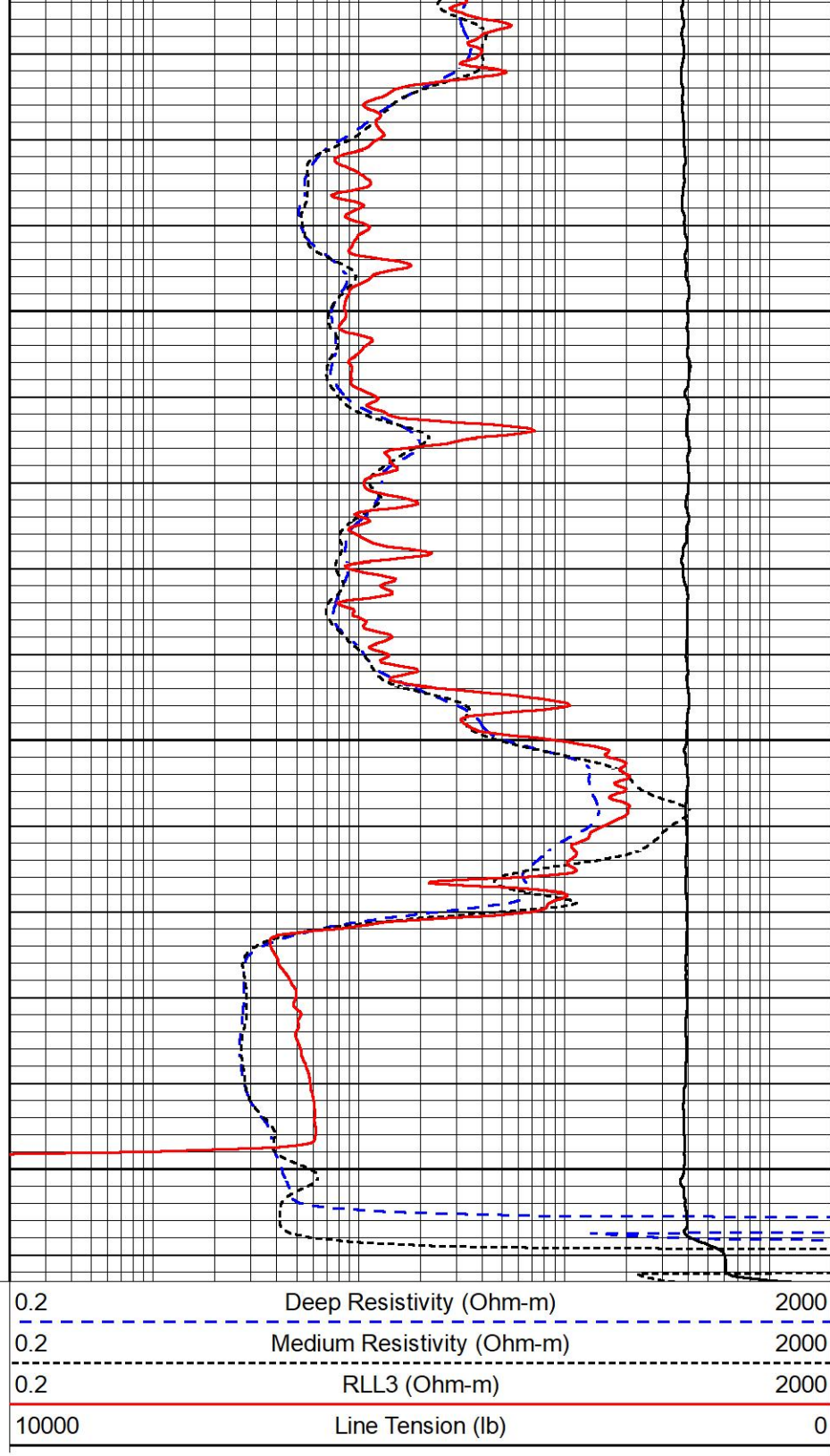




4700

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4800



MIDWEST WIRELINE

## REPEAT SECTION

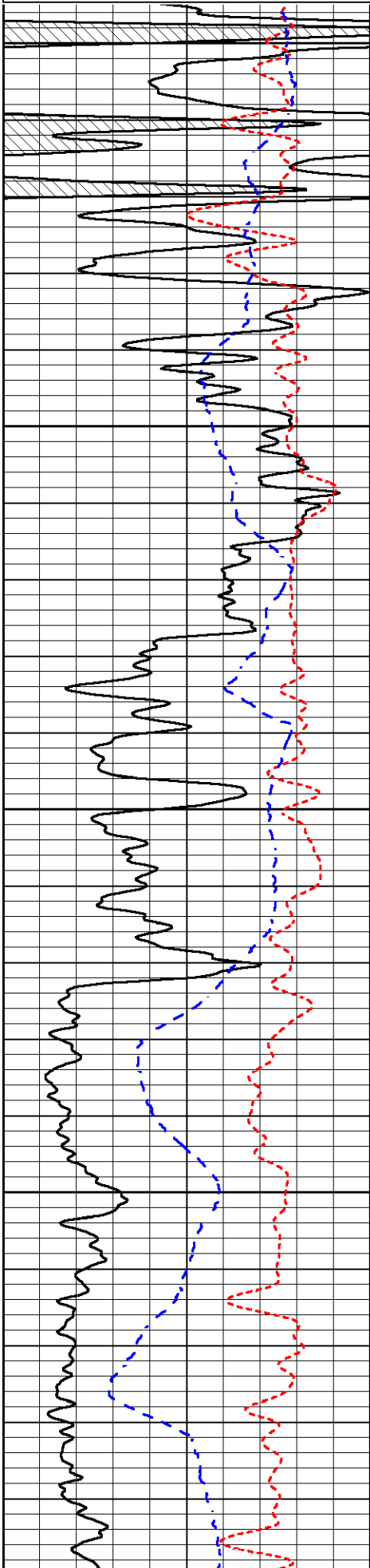
### REPEAT PASS

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 Dataset Pathname StkMI/pass2.1  
 Presentation Format \_dil  
 Dataset Creation Thu Aug 04 01:58:43 2022  
 Charted by Depth in Feet scaled 1:240



|      |         |    |
|------|---------|----|
| -160 | RXORT   | 40 |
| -200 | SP (mV) | 0  |

|       |                            |      |
|-------|----------------------------|------|
| 0.2   | Medium Resistivity (Ohm-m) | 2000 |
| 0.2   | RLL3 (Ohm-m)               | 2000 |
| 10000 | Line Tension (lb)          | 0    |

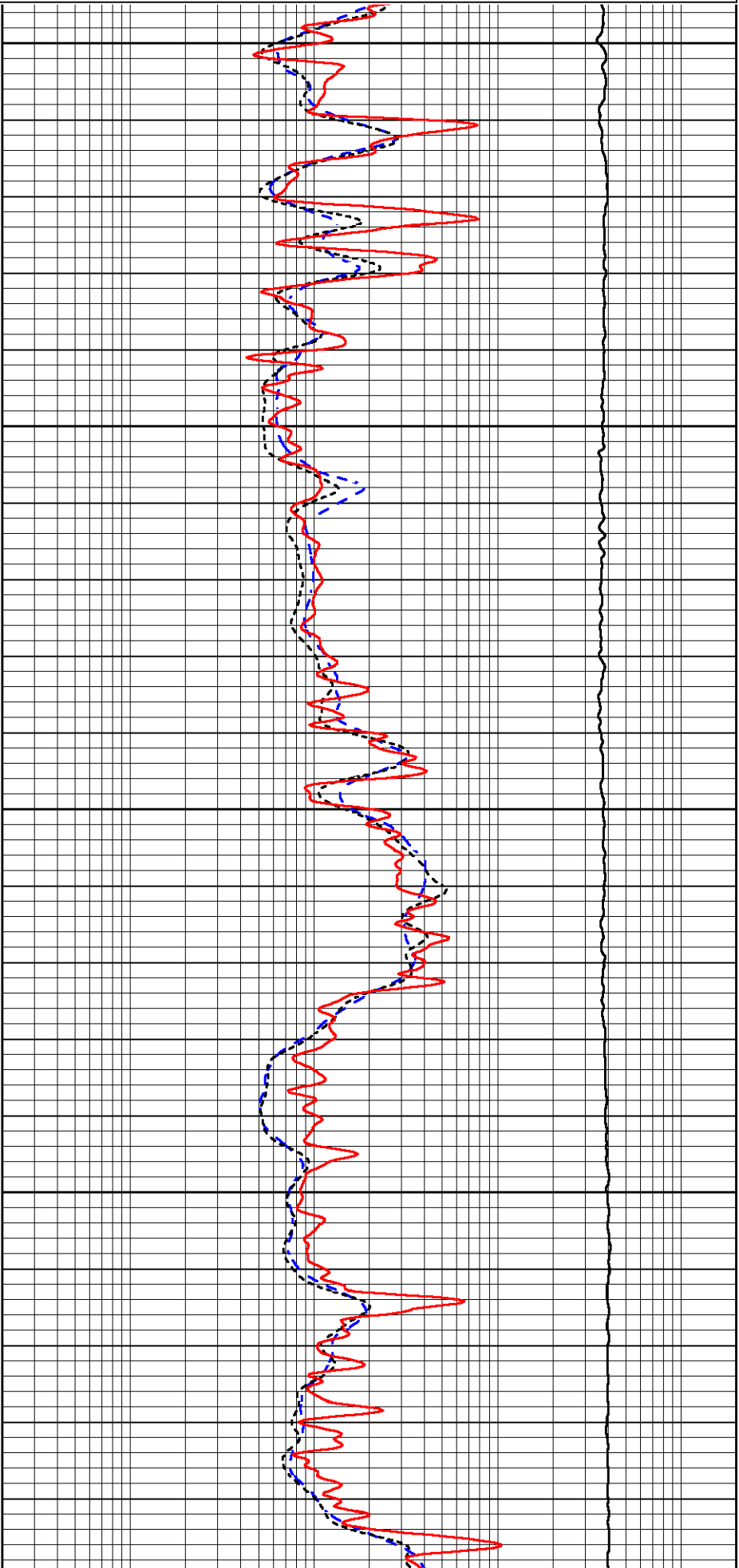


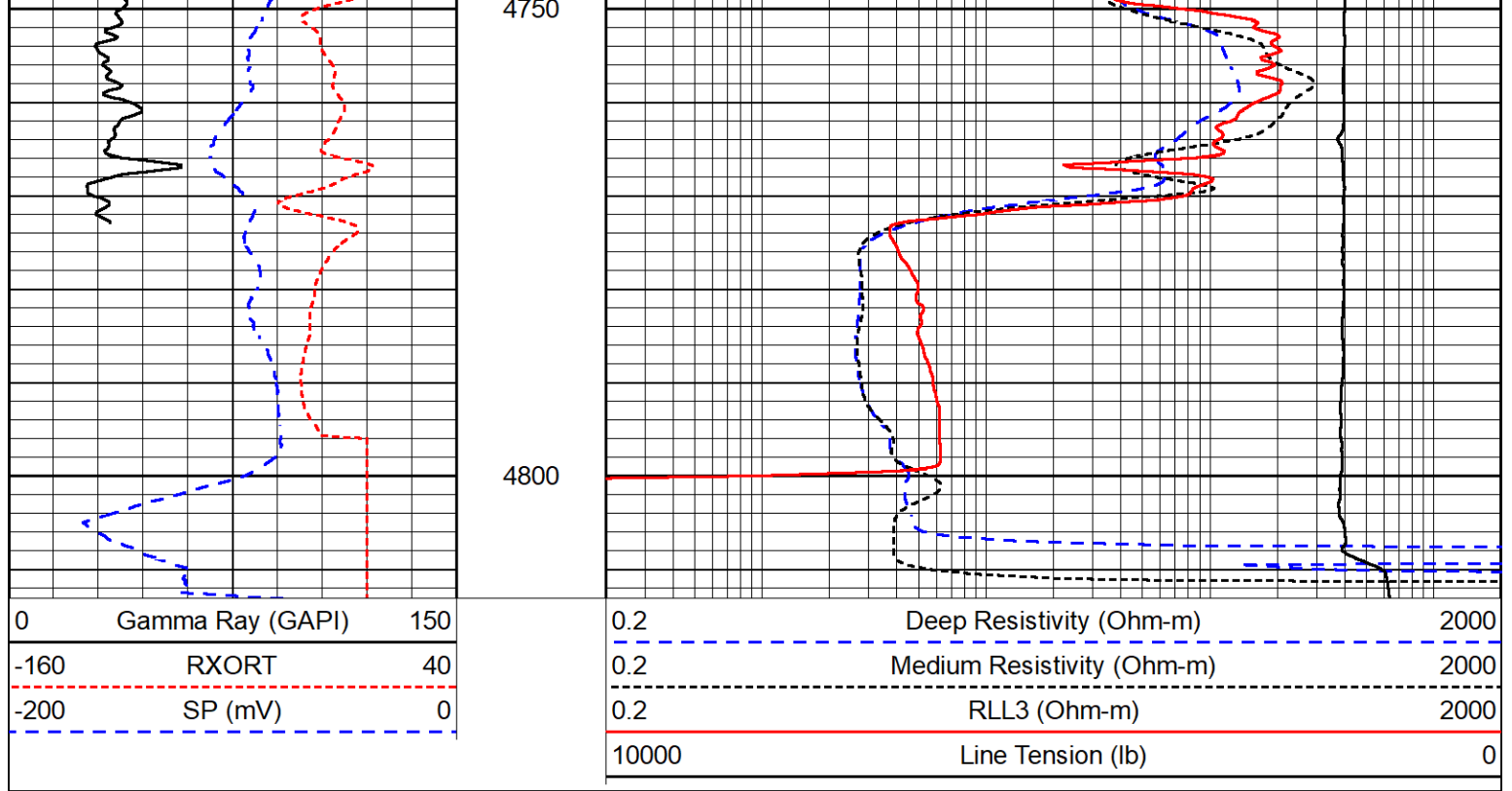
4550

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### Calibration Report

Database File griffin\_breanna #5.db  
 Dataset Pathname StkMI/pass3.1  
 Dataset Creation Thu Aug 04 02:40:51 2022

### Dual Induction Calibration Report

Serial-Model: 507-M&W  
 Surface Cal Performed: Wed Aug 3 13:14:16 2022

| Loop:  | Readings |         | References |         |        | Results |         |
|--------|----------|---------|------------|---------|--------|---------|---------|
|        | Air      | Loop    | Air        | Loop    |        | m       | b       |
| Deep   | 82.972   | 482.449 | 0.000      | 255.800 | mmho/m | 0.590   | -33.130 |
| Medium | 120.285  | 668.174 | 0.000      | 255.800 | mmho/m | 0.517   | -63.500 |

### Microlog Calibration Report

Serial-Model: 402-PSIML  
 Performed: Sun Jul 17 13:11:21 2022

|         | Readings |        | References |         |       | Results    |          |
|---------|----------|--------|------------|---------|-------|------------|----------|
|         | Zero     | Cal    | Zero       | Cal     |       | m          | b        |
| Normal  | 0.0000   | 1.0000 | 0.0000     | 1.0000  | Ohm-m | 21000.0000 | -0.5000  |
| Inverse | 0.0000   | 1.0000 | 0.0000     | 1.0000  | Ohm-m | 24000.0000 | -0.3000  |
| Caliper | 1.0052   | 1.0858 | 5.0000     | 16.5000 | in    | 65.0000    | -59.7500 |

### Compensated Density Calibration Report

Serial-Model: 302-02-M&W  
 Source #: 20762B  
 Master Calibration Performed: Wed Jun 22 01:19:51 2022

## Master Calibration

|                     | Density |      | Far Detector                | Near Detector |     |
|---------------------|---------|------|-----------------------------|---------------|-----|
| Magnesium           | 1.755   | g/cc | 4422.04                     | 6163.44       | cps |
| Aluminum            | 2.665   | g/cc | 835.14                      | 3912.91       | cps |
| Spine Angle = 74.75 |         |      | Density/Spine Ratio = 0.527 |               |     |
|                     | Size    |      | Reading                     |               |     |
| Small Ring          | 8.00    | in   | 0.53                        |               |     |
| Large Ring          | 30.00   | in   | 0.60                        |               |     |

## Compensated Neutron Calibration Report

Serial Number: 207-MW  
Tool Model: M&W

## CALIBRATION

| Detector    | Readings    | Target      | Normalization |
|-------------|-------------|-------------|---------------|
| Short Space | 6240.00 cps | 1000.00 cps | 1.6025        |
| Long Space  | 460.00 cps  | 1000.00 cps | 1.9500        |

## PRE-SURVEY VERIFICATION

|    | Detector    | Readings | Measured | Target |
|----|-------------|----------|----------|--------|
| 1) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       | pu     |
| 2) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       |        |
| 3) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       |        |

## POST-SURVEY VERIFICATION

|    | Detector    | Readings | Measured | Target |
|----|-------------|----------|----------|--------|
| 1) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       | pu     |
| 2) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       | pu     |
| 3) | Short Space | cps      |          |        |
|    | Long Space  | cps      | pu       | pu     |

## Gamma Ray Calibration Report

Serial Number: 106  
Tool Model: M&W  
Performed: Fri Dec 3 15:10:46 2021

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps  
Calibrator Reading: 637.0 cps

Sensitivity: 0.5500 GAPI/cps



|         |                        |
|---------|------------------------|
| Company | Griffin Management LLC |
| Well    | Breanna #5             |
| Field   |                        |
| County  | Barber                 |
| State   | Kansas                 |