



**RADIAL CEMENT BOND
GAMMA RAY/CCL/VDL**

Company ANTERO RESOURCES CORPORATION
 Well ORVIS UNIT 2H
 Field MARCELLUS
 County TYLER
 State W.V.

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Location: API #: 47095025320000 Other Services
 SEC TWP RGE Elevation N/A
 Permanent Datum G.L. K.B. N/A
 Log Measured From K.B. D.F. N/A
 Drilling Measured From K.B. OF 25' G.L. N/A

| | |
|------------------------|----------------|
| Date | 3/31/19 |
| Run Number | ONE |
| Depth Driller | 17092' |
| Depth Logger | 6923' |
| Bottom Logged Interval | 6923' |
| Top Log Interval | SURFACE |
| Open Hole Size | N/A |
| Type Fluid | H2O |
| Density / Viscosity | N/A |
| Max. Recorded Temp. | 141 DEG |
| Estimated Cement Top | 110' |
| Time Well Ready | N/A |
| Time Logger on Bottom | 14.40 |
| Equipment Number | 340 |
| Location | BRIDGEPORT, WV |
| Recorded By | JBOGGS |
| Witnessed By | MR. BOB REED |

| Borehole Record | | | | Casing Record | | | |
|-----------------|-----|------|----|---------------|--------|---------|--------|
| Run Number | Bit | From | To | Size | Weight | From | To |
| | | | | 20" | 94LB | SURFACE | 120' |
| | | | | 13 3/8" | 54.5LB | SURFACE | 394' |
| | | | | 9 5/8" | 36LB | SURFACE | 2721' |
| | | | | 5 1/2" | 23LB | SURFACE | 17092' |

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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 KLX ENERGY SERVICES
 LOG WAS RAN ON 5 1/2" CASING WITH 1500PSI ON CASING
 TOP OF CEMENT- 110'
 BOTTOM HOLE TEMP- 141 DEG
 MARKER JOINT ON LOG @ 5666'-5676'
 CORRECTED UP HOLE 12' TO PUT MARKER ON DEPTH WITH PIPE TALLY

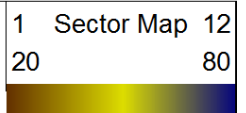


Main Log @ 1500 PSI

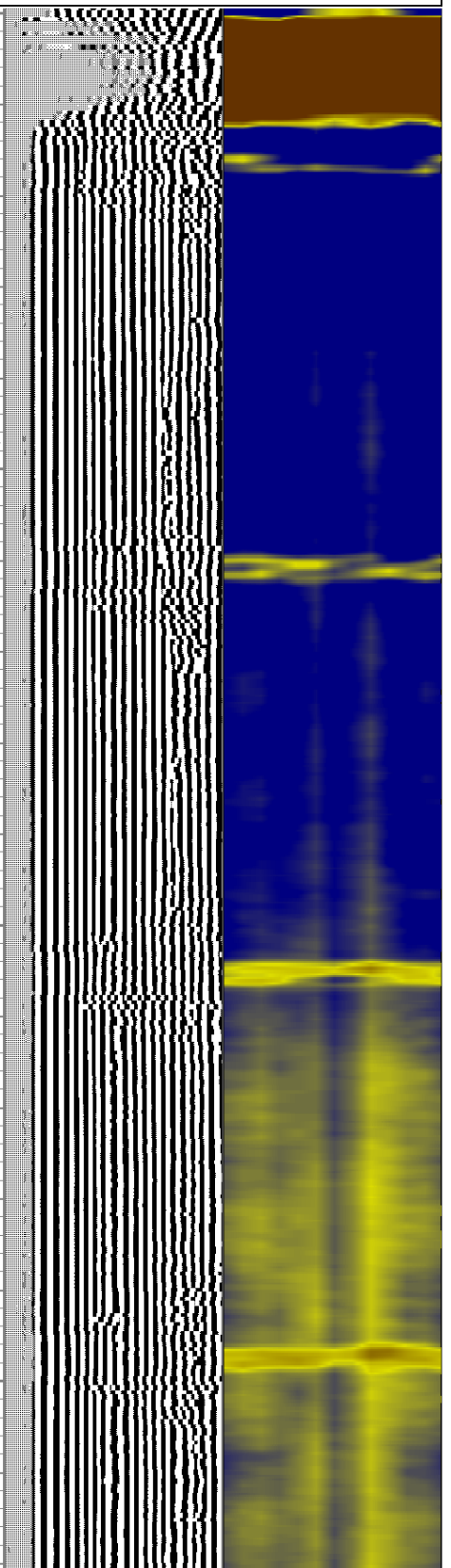
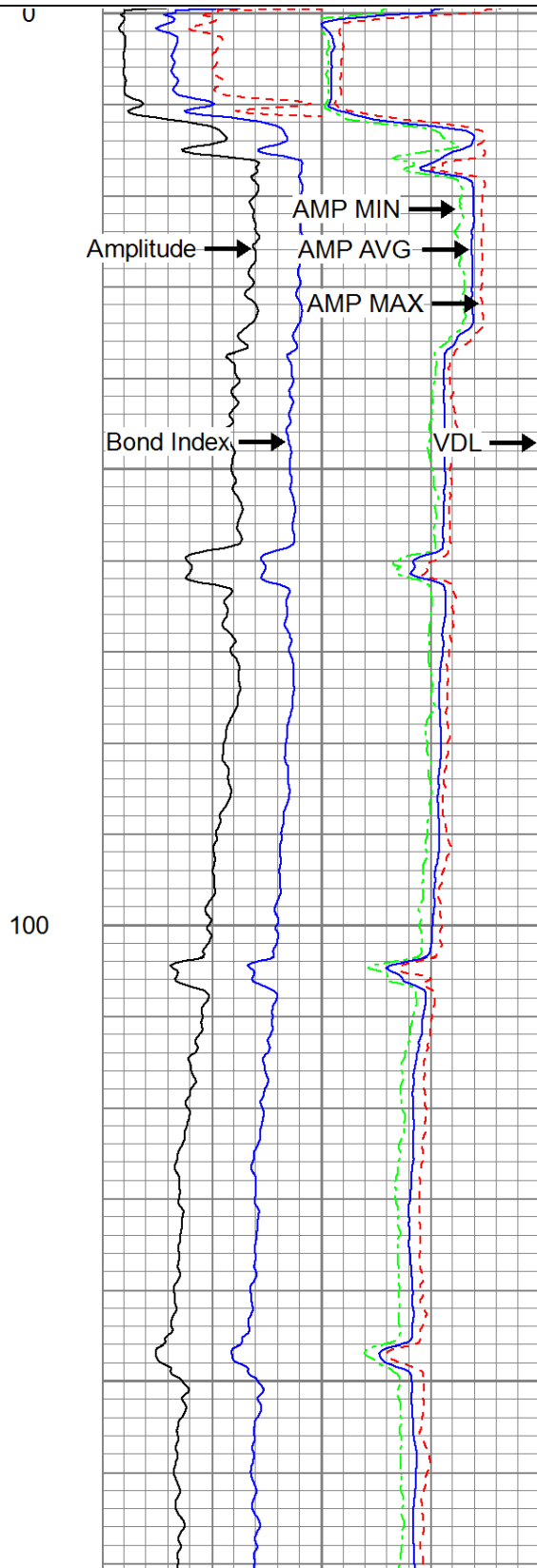
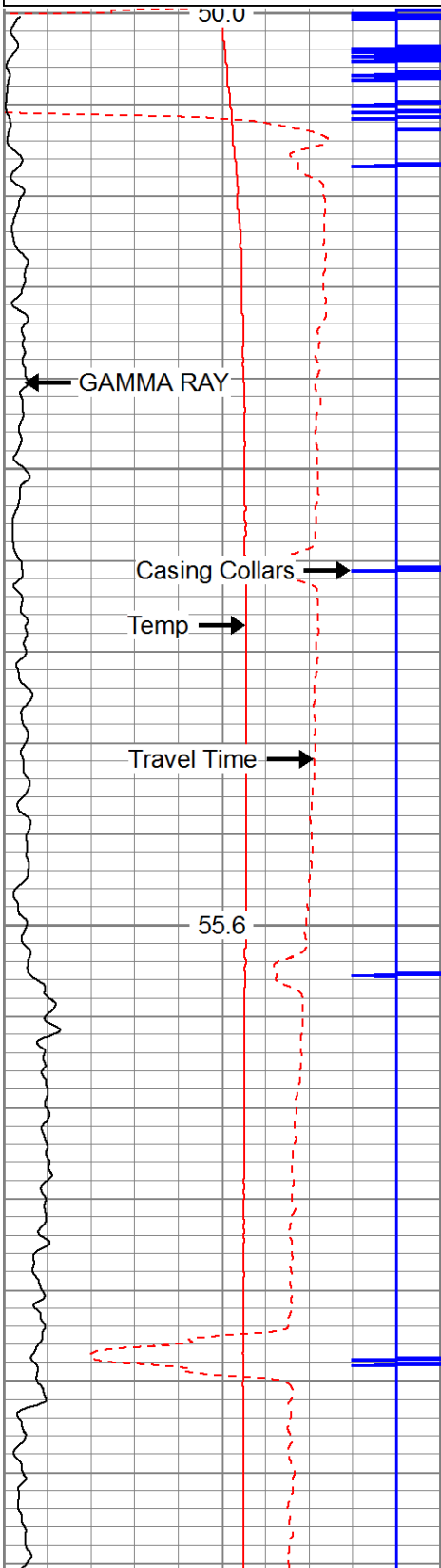
Database File: c:\warrior\data\2019 antero\antero-orvis unit 2h.db
 Dataset Pathname: pass3.1
 Presentation Format: antero f
 Dataset Creation: Mon Apr 01 08:08:00 2019 by Calc Std Casedhole 10081
 Charted by: Depth in Feet scaled 1:240

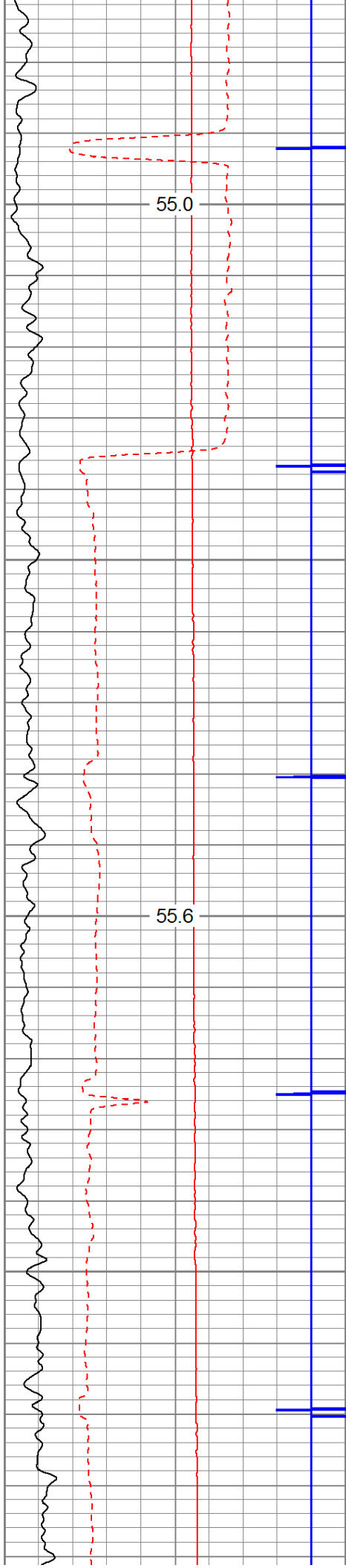
| | | |
|-----|--------------------|-----|
| 280 | Travel Time (usec) | 180 |
| 9 | Casing Collars | -1 |
| 0 | Gamma Ray | 180 |
| 0 | TEMP (degF) | 100 |

| | | | | | | |
|--------------|-----|---------|---------|-----|-----|------|
| Amplitude | 0 | Amp Avg | 150 | 200 | VDL | 1200 |
| 0 (mV) | 100 | 0 | Amp Max | 150 | | |
| 0 AmpX5 (mV) | 20 | 0 | Amp Min | 150 | | |
| 1 BONDIX | 0 | | | | | |



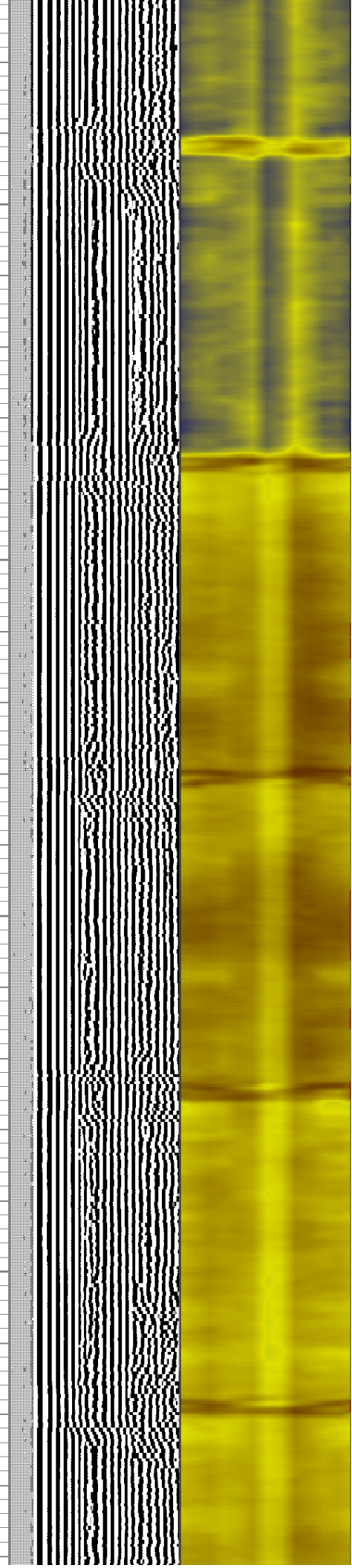
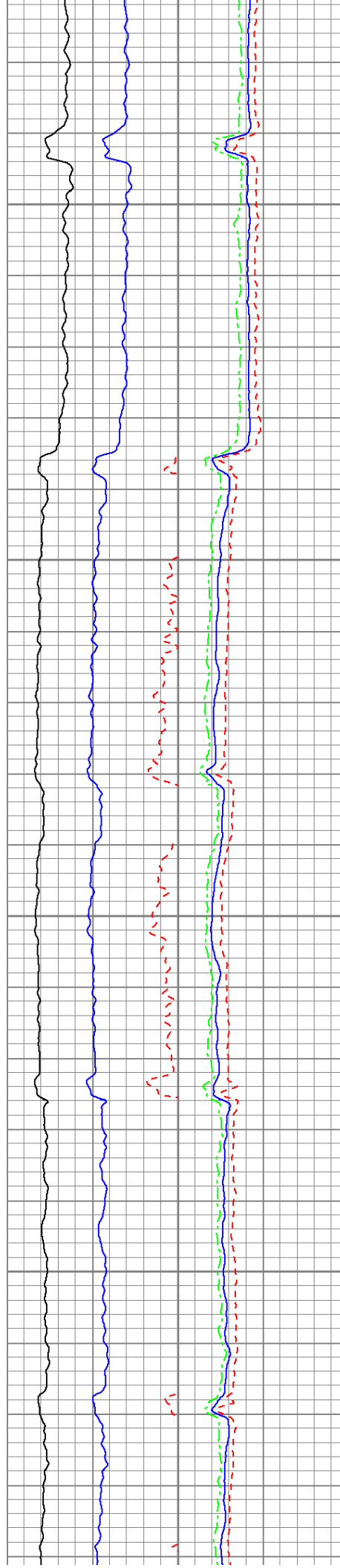
TEMP
(degF)

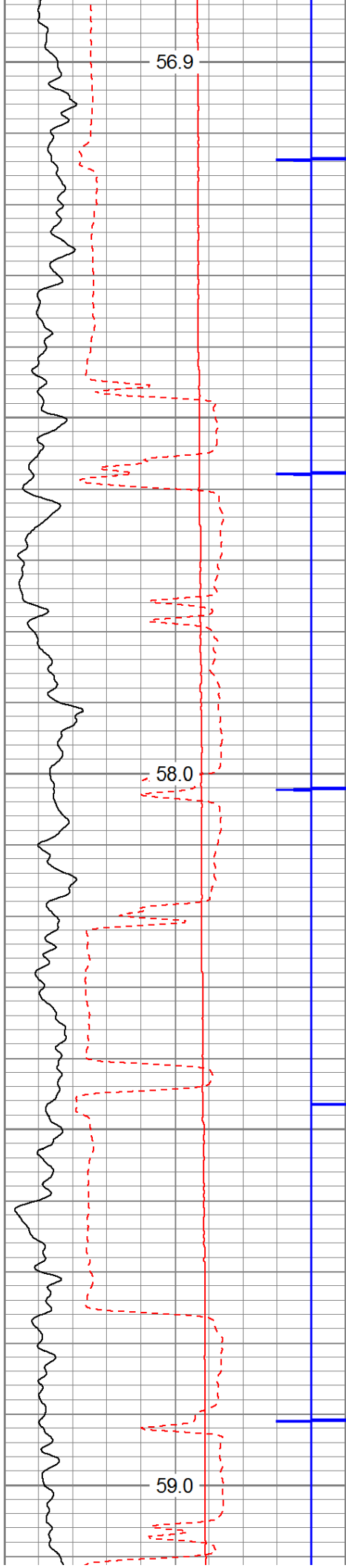




200

300

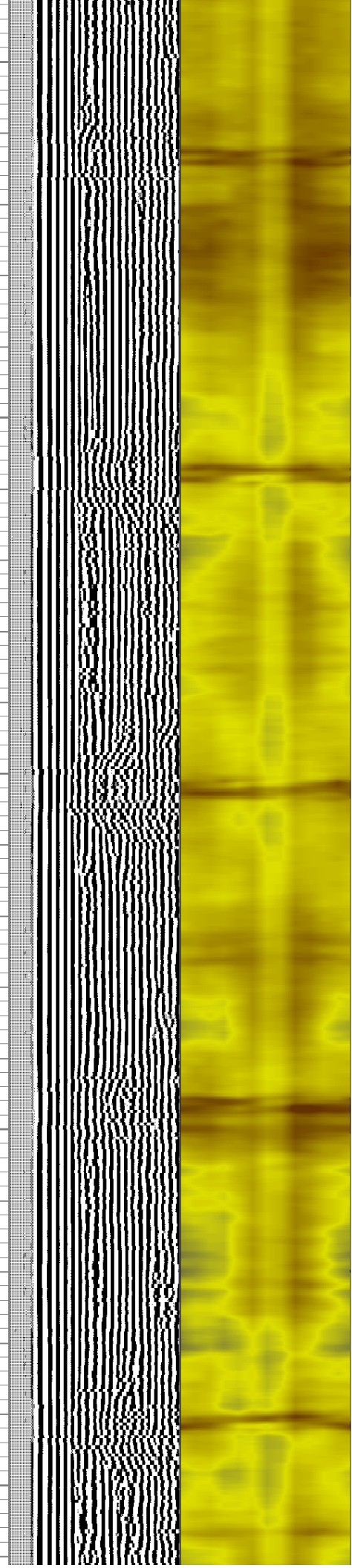
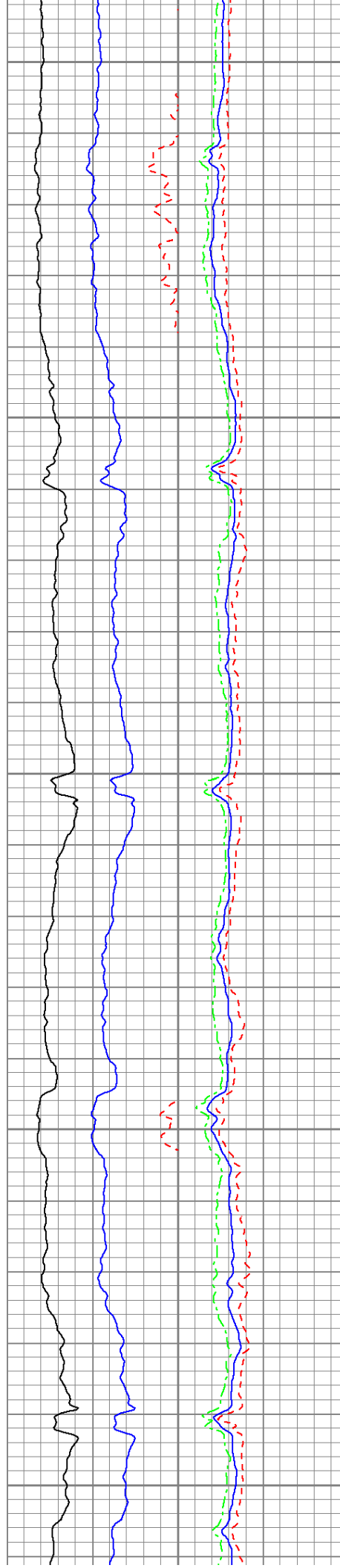


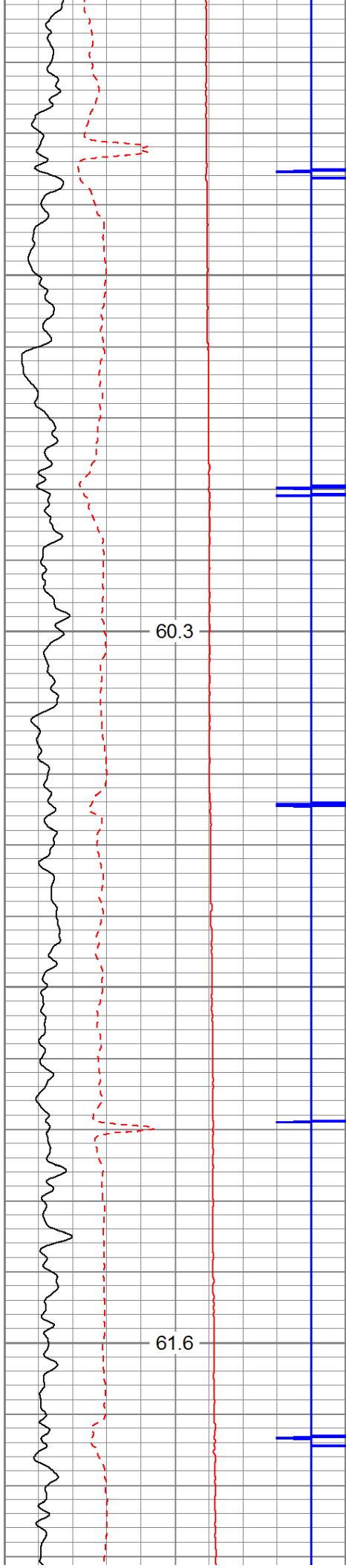


400

500

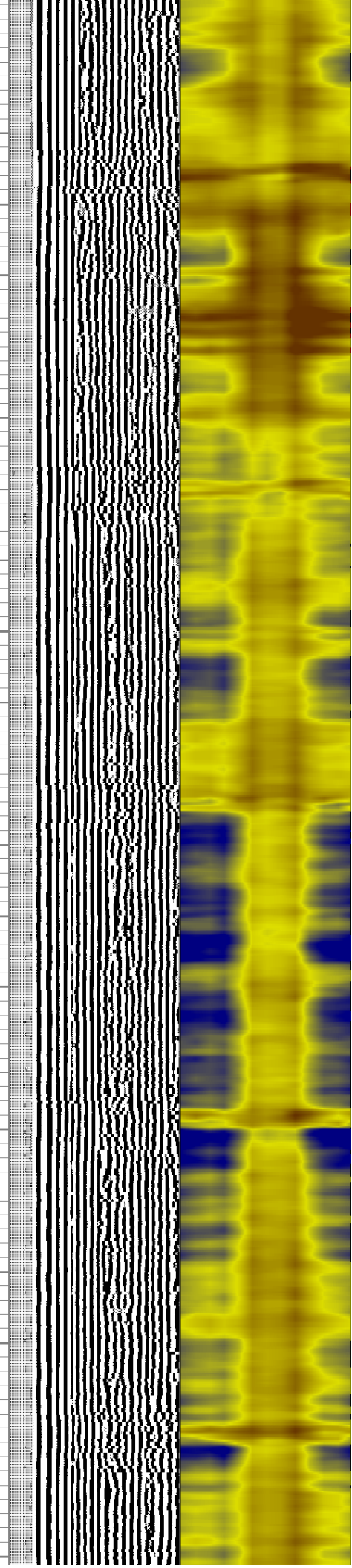
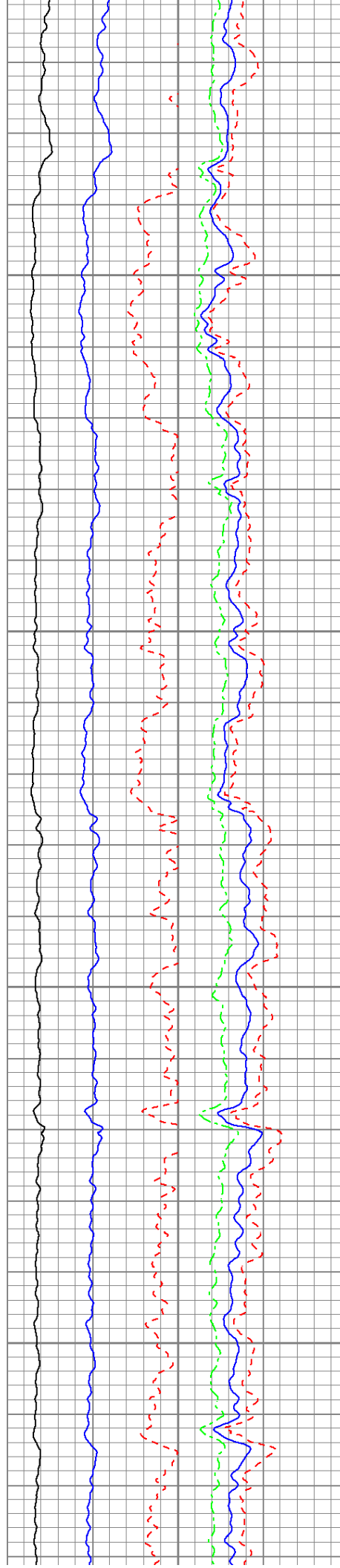
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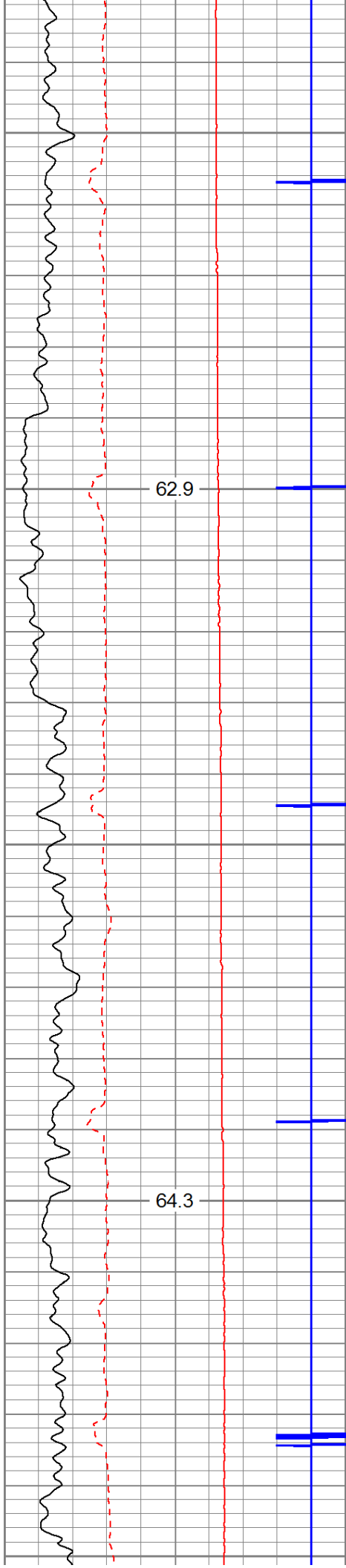




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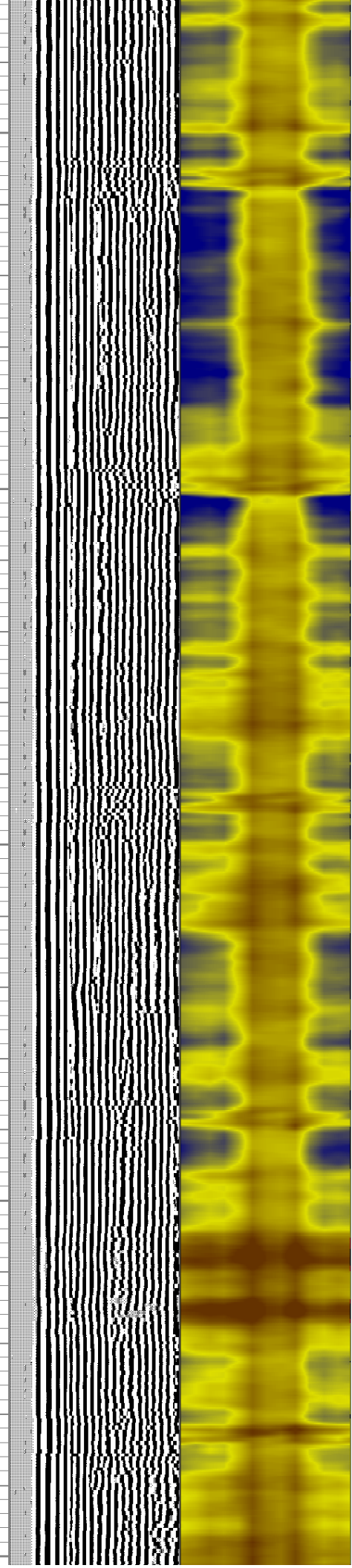
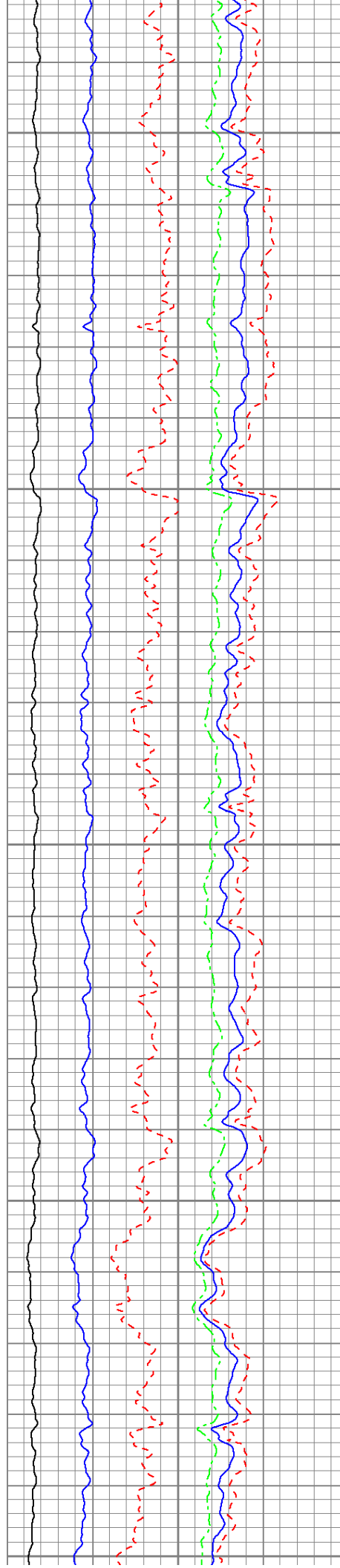
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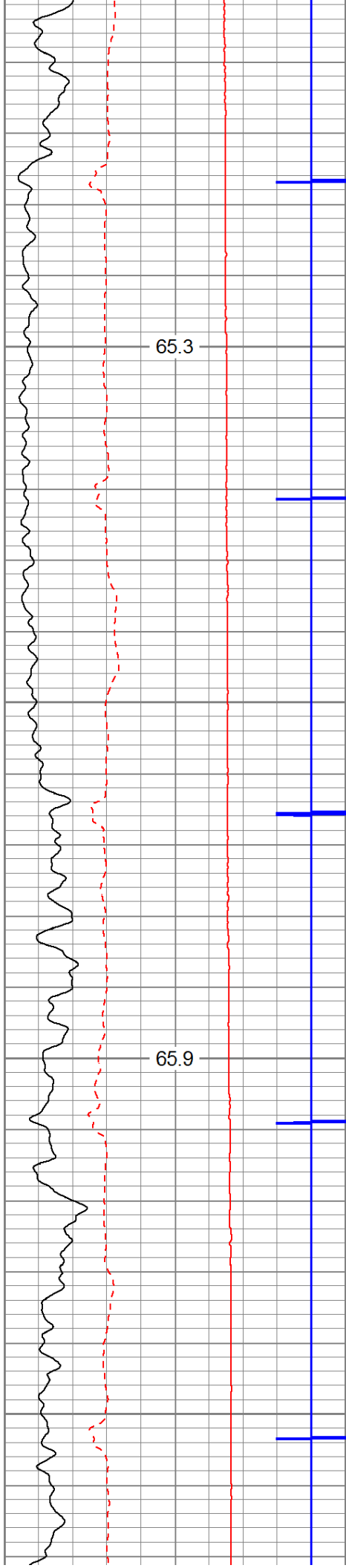




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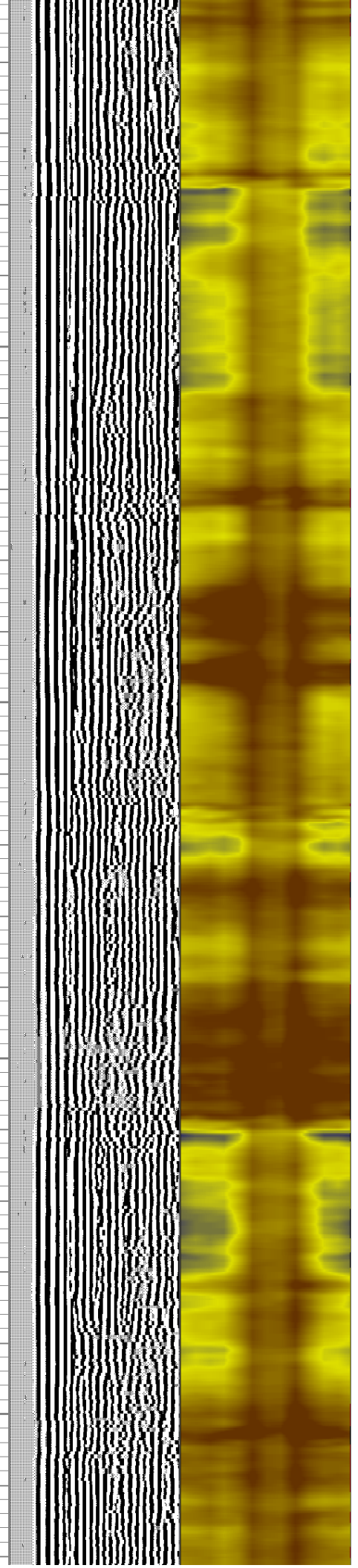
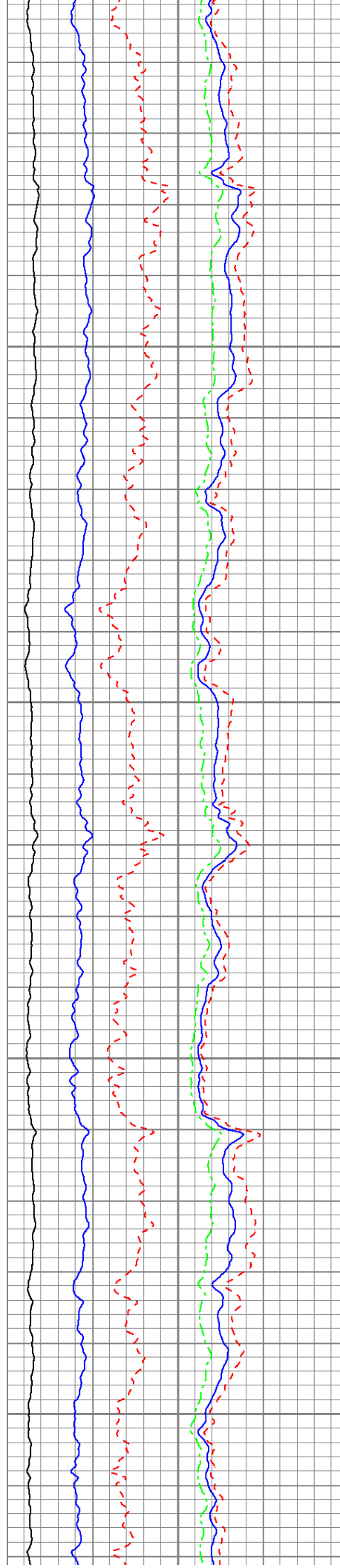
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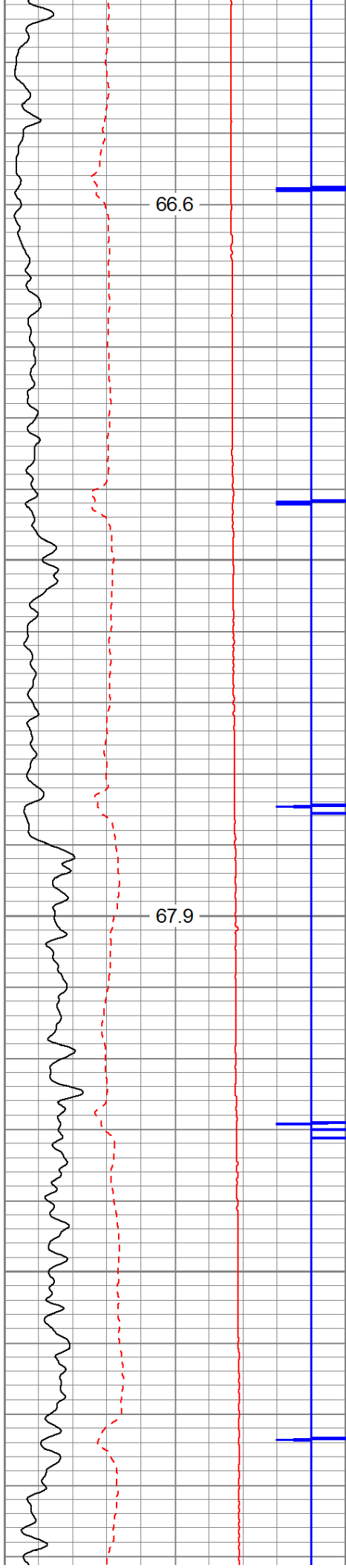




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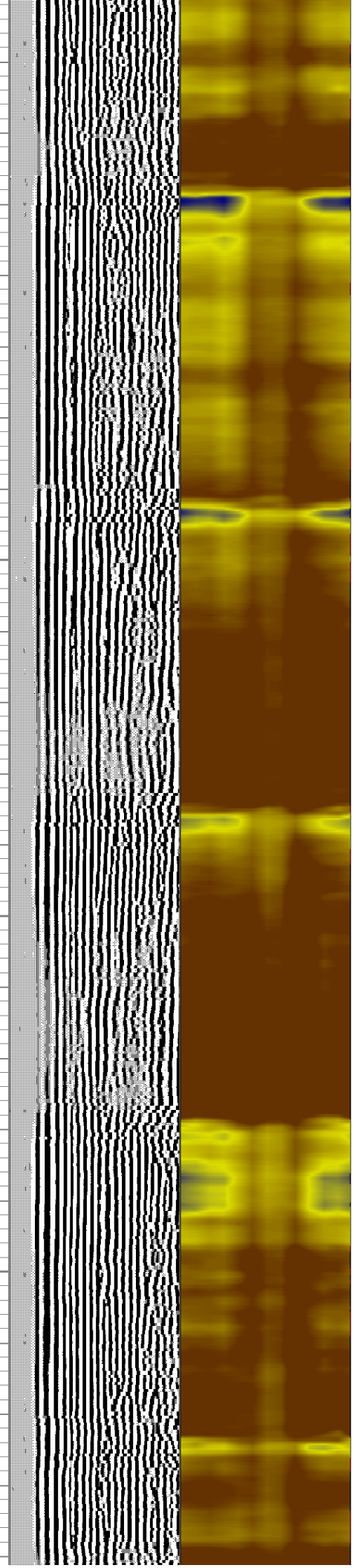
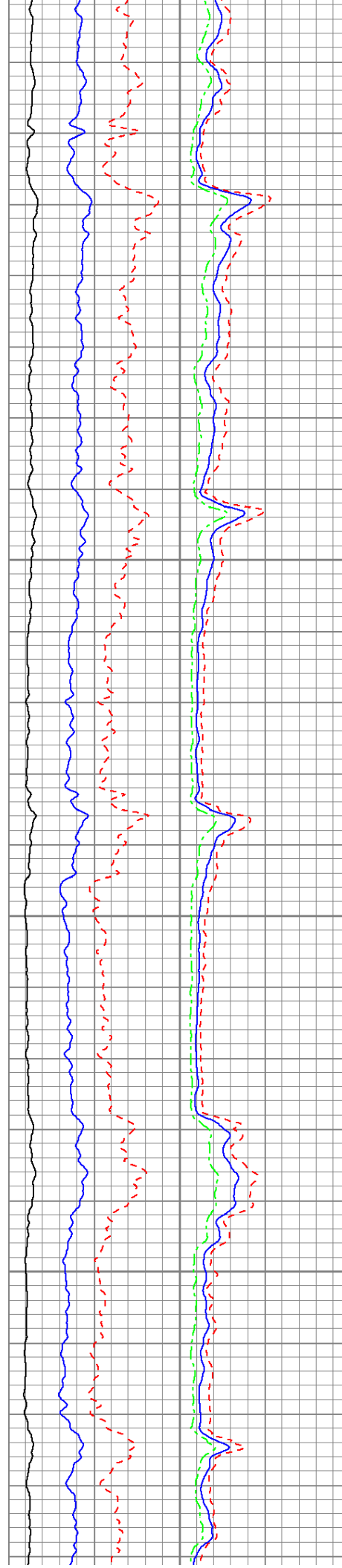
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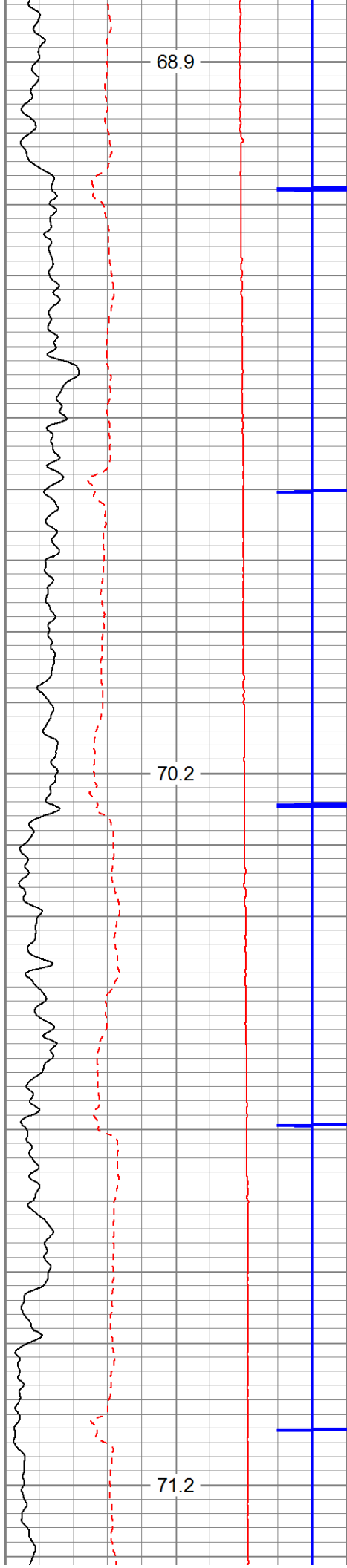




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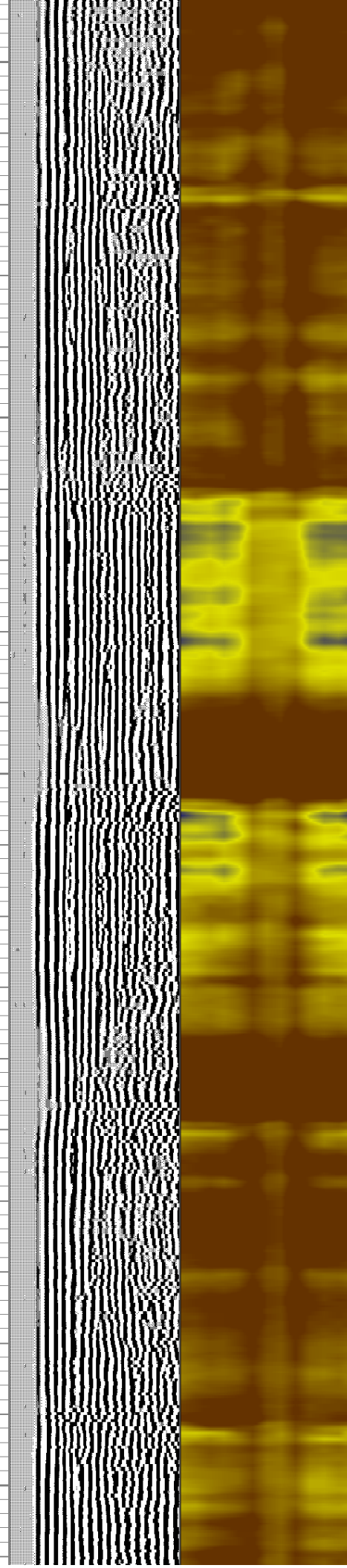
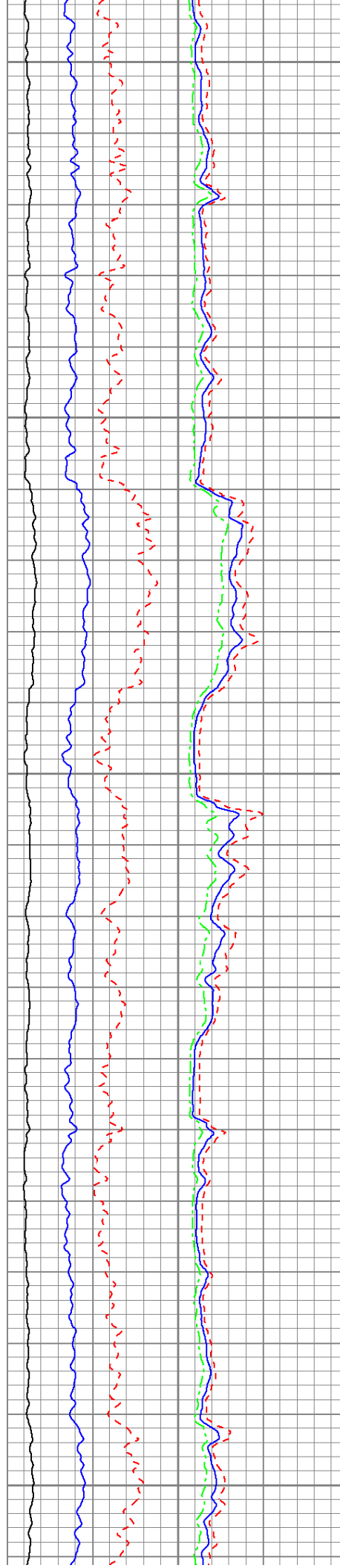


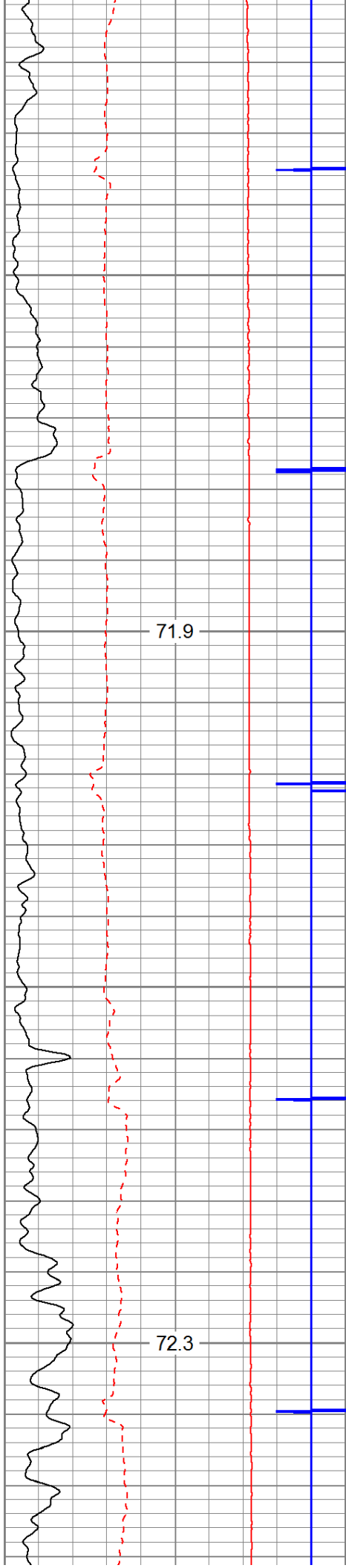


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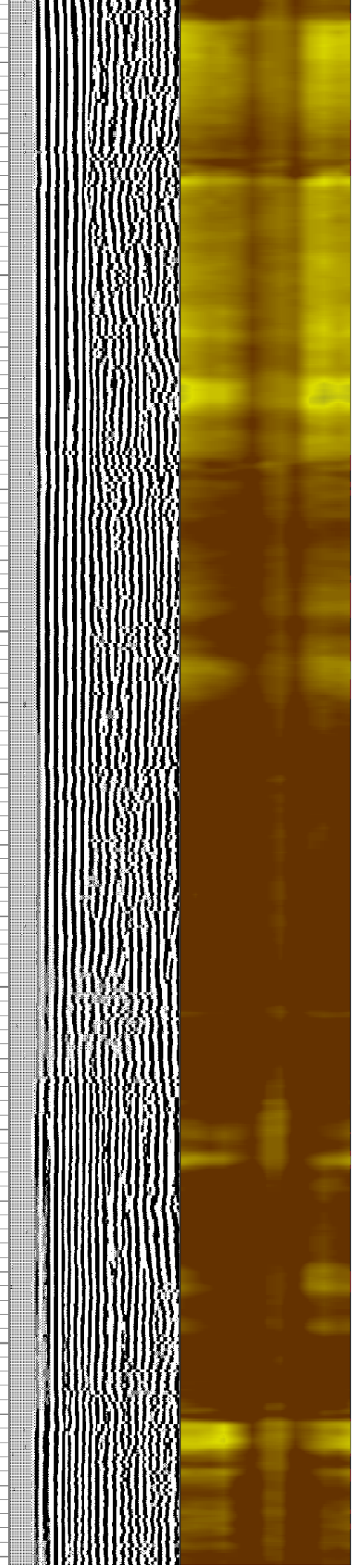
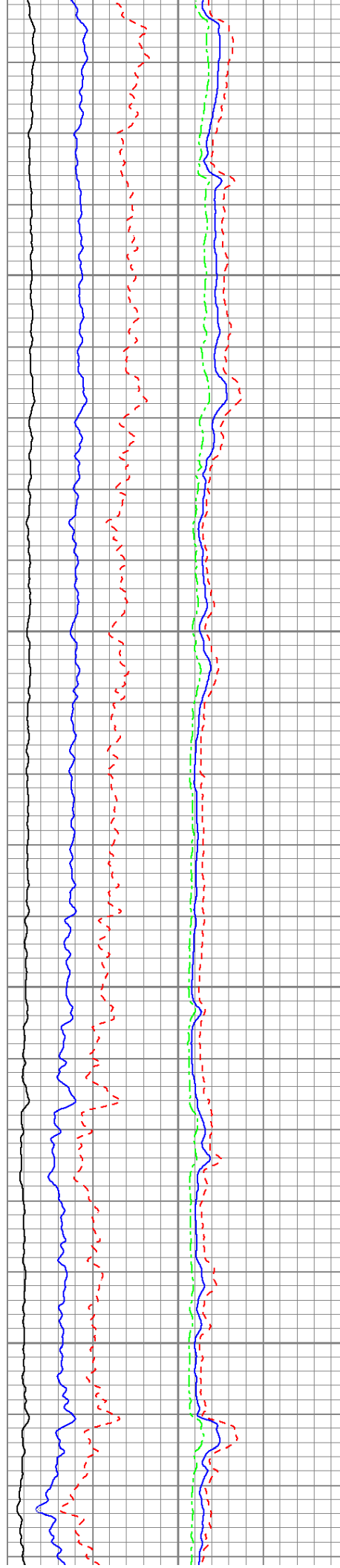
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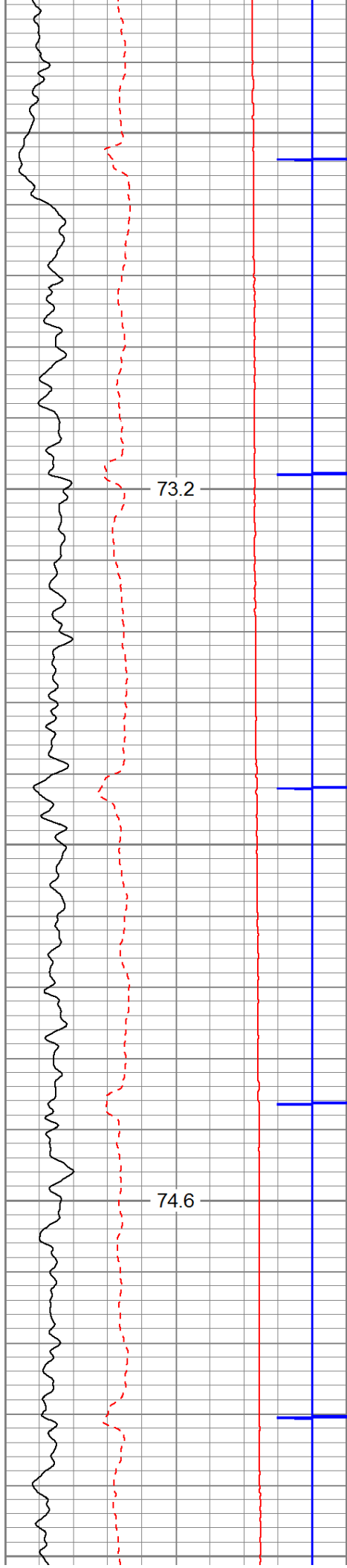




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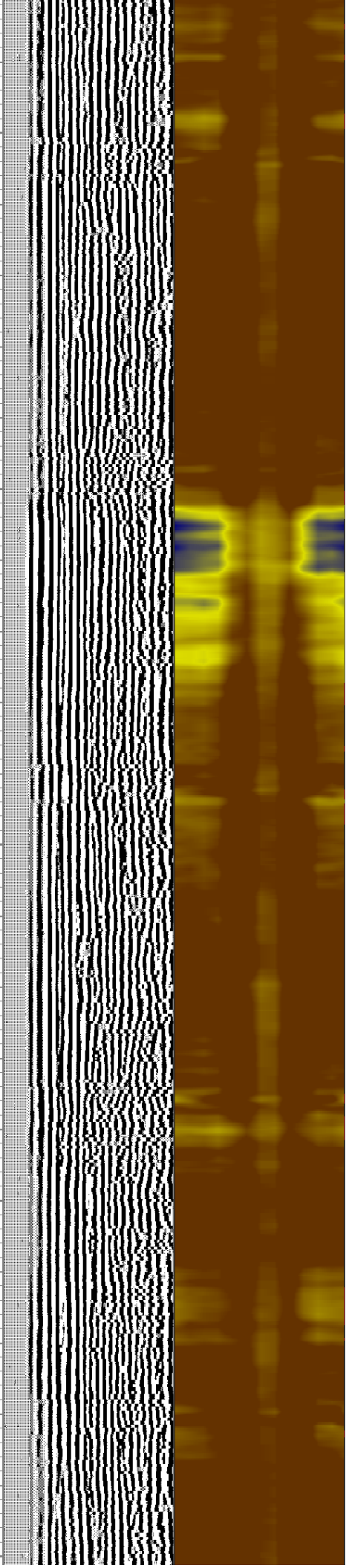
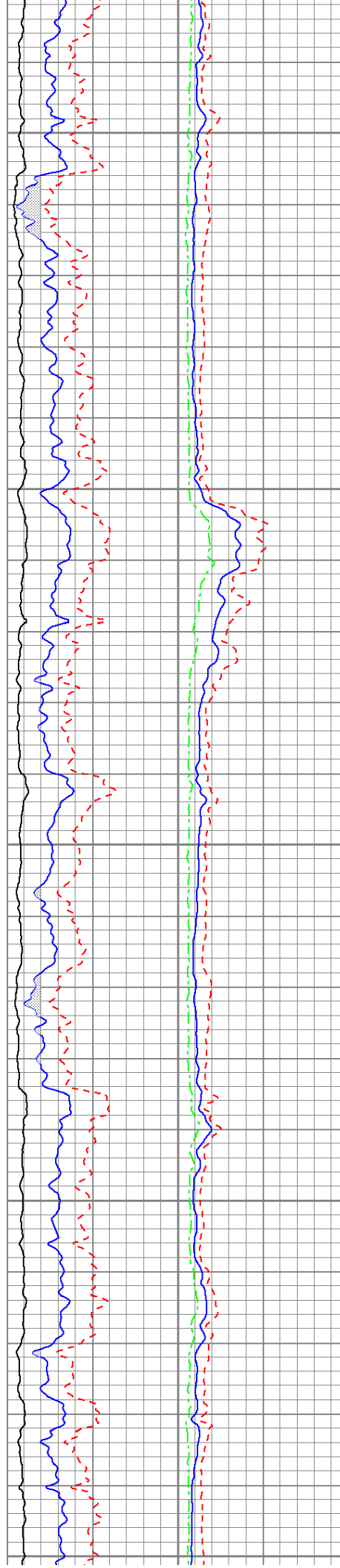
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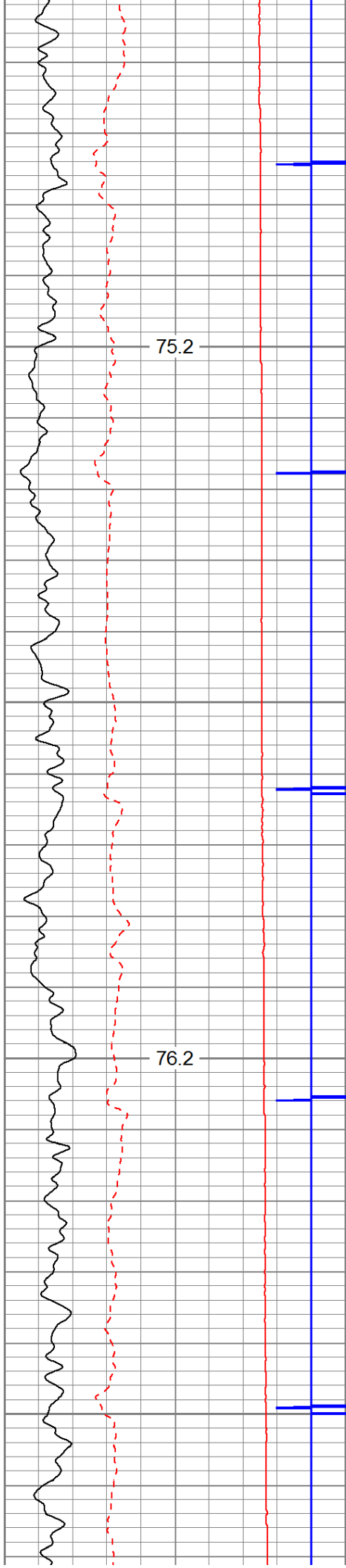




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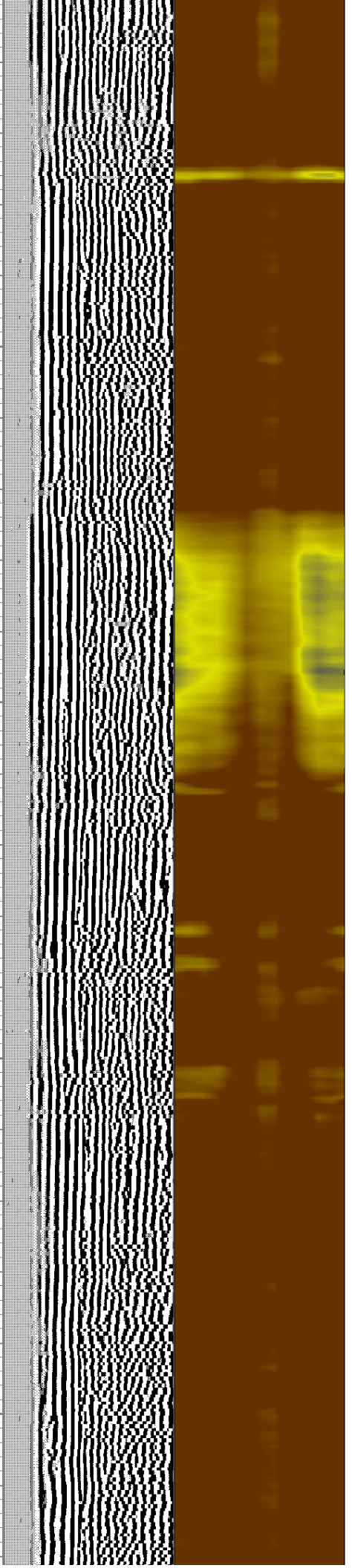
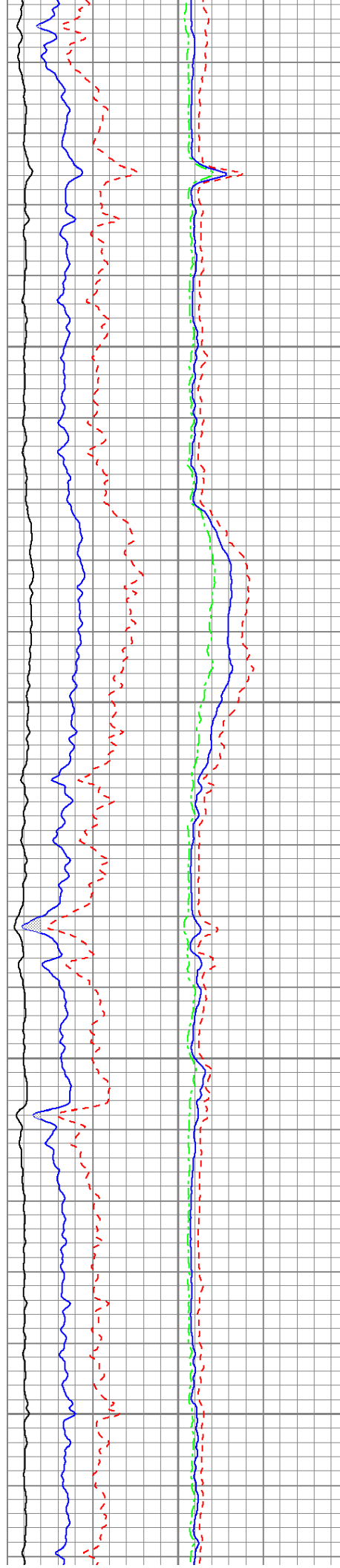
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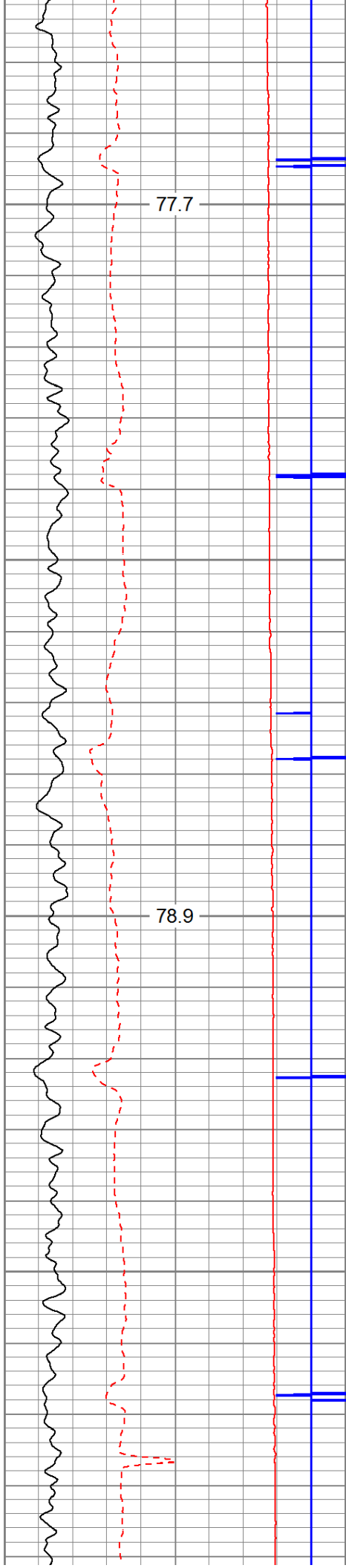




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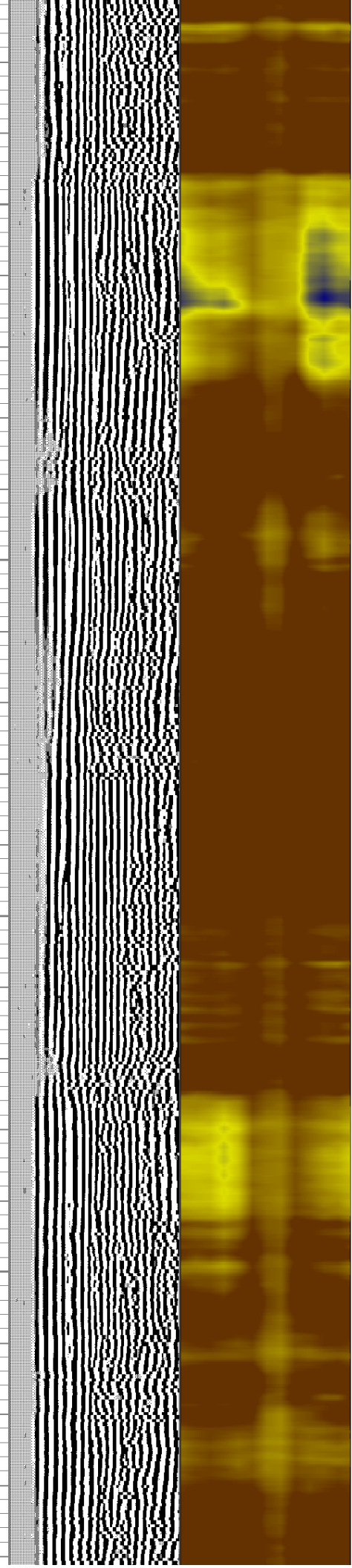
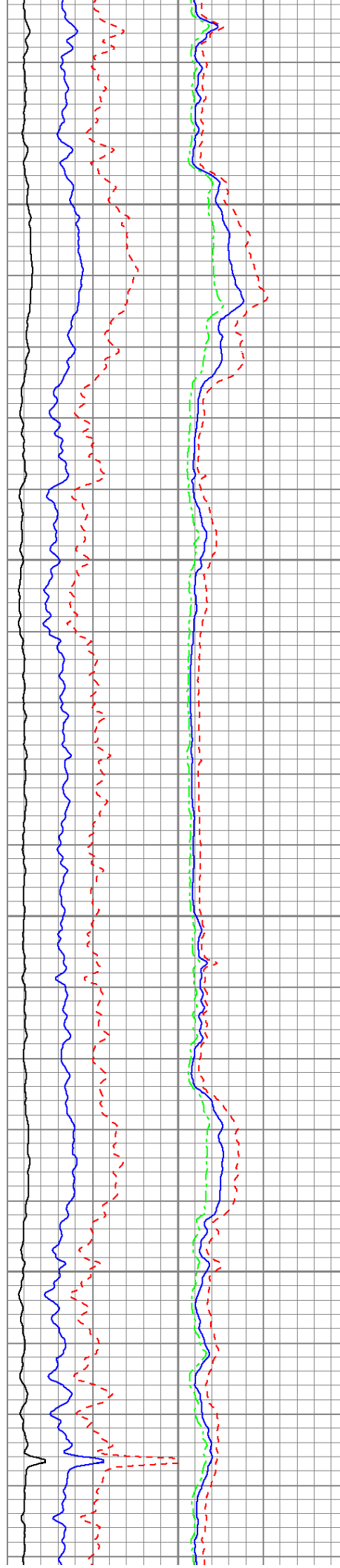
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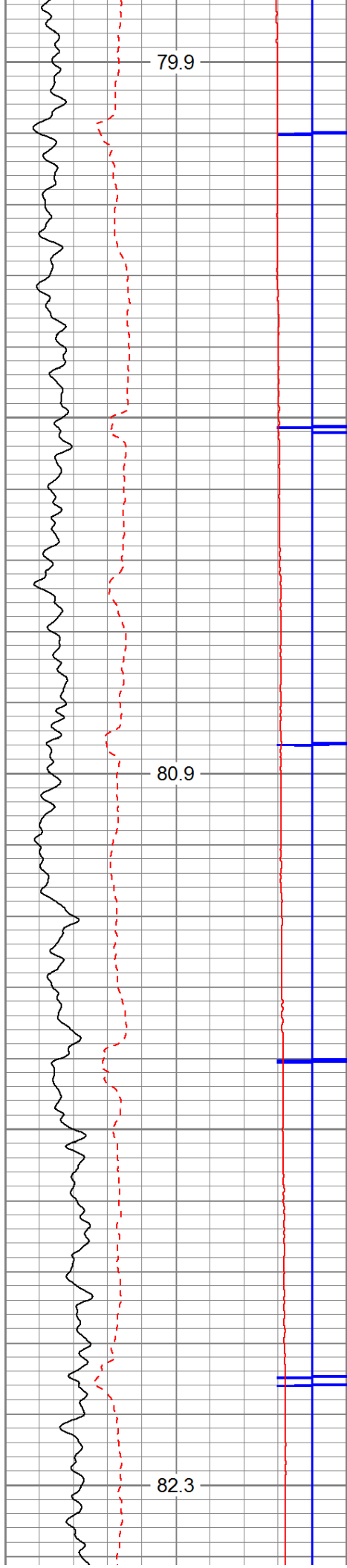




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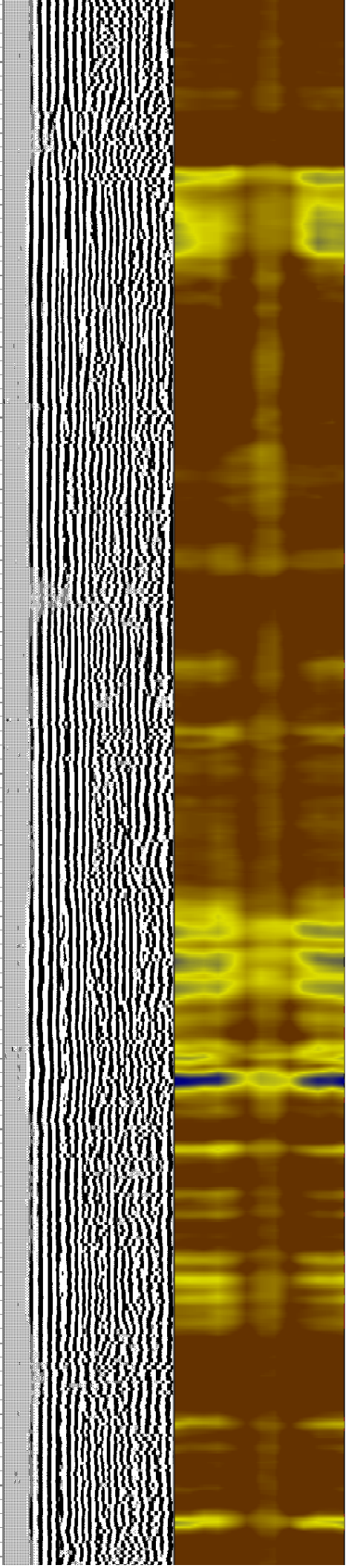
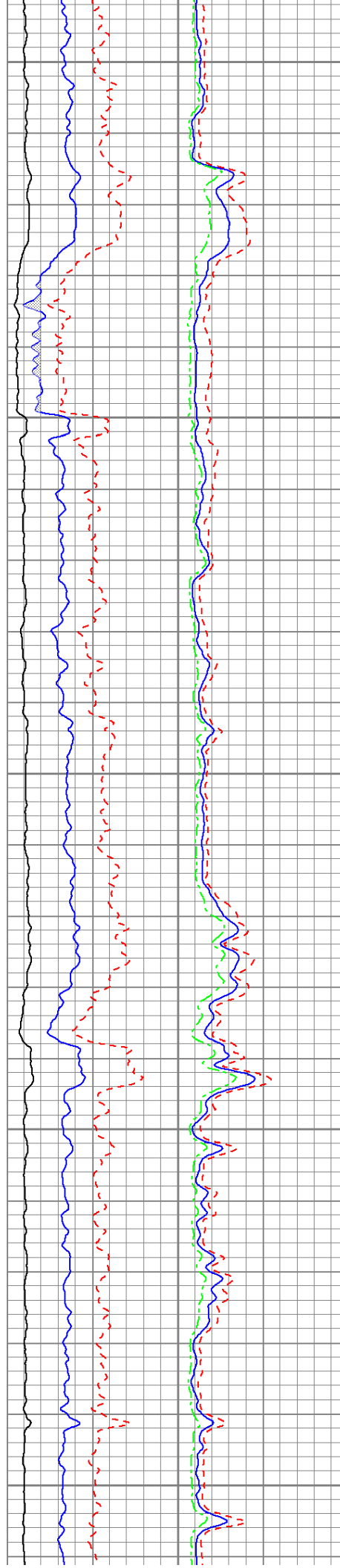


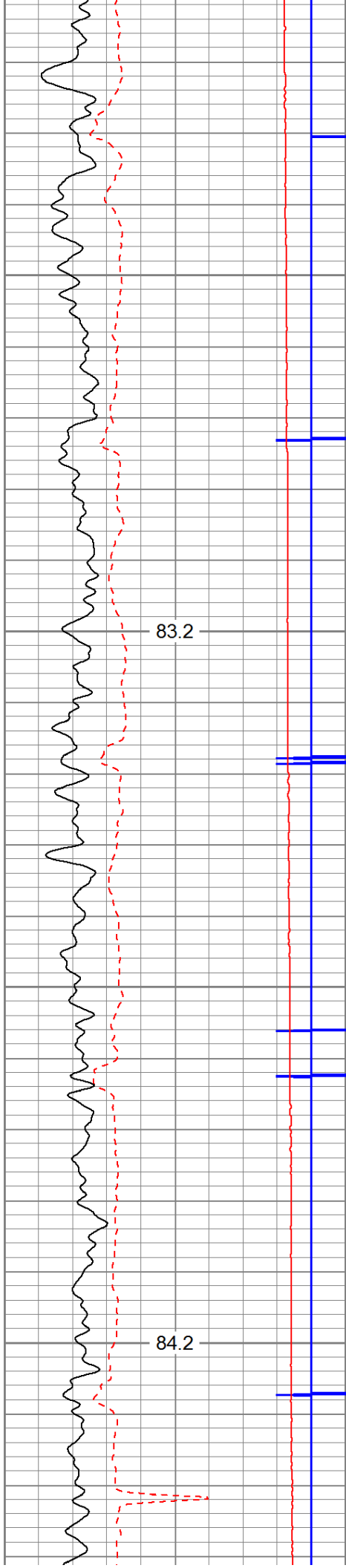


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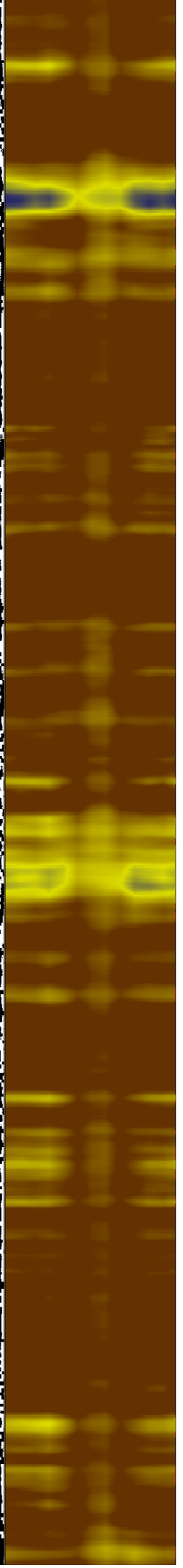
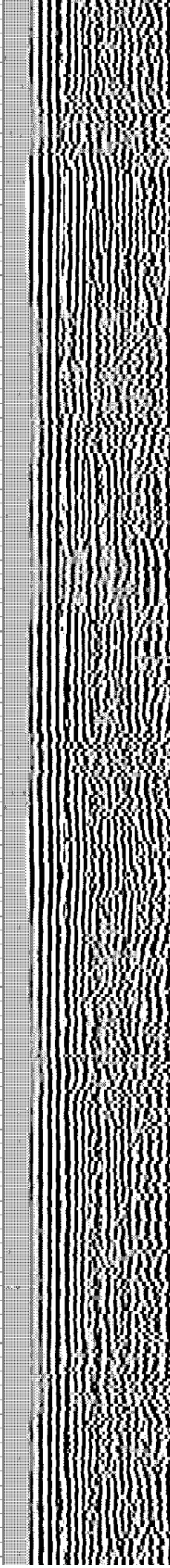
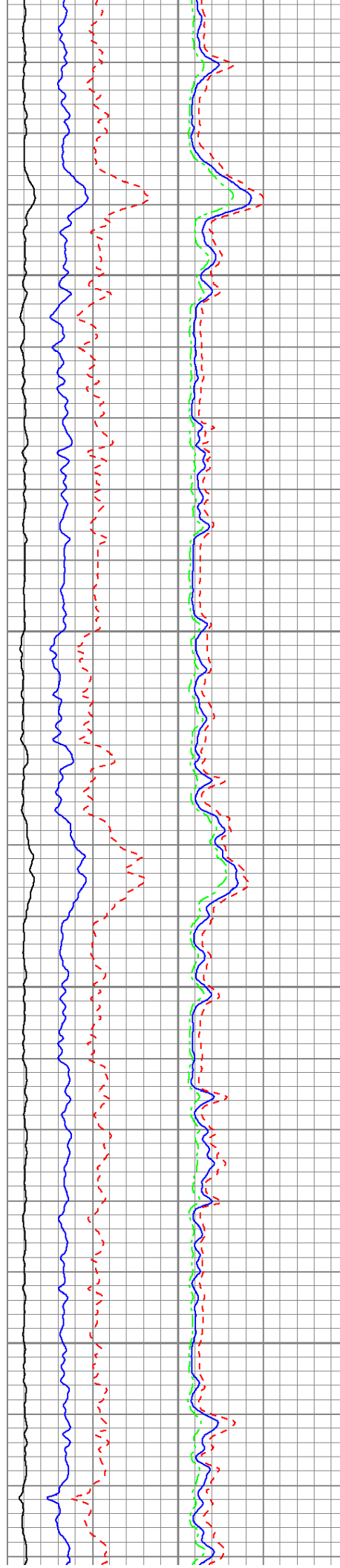
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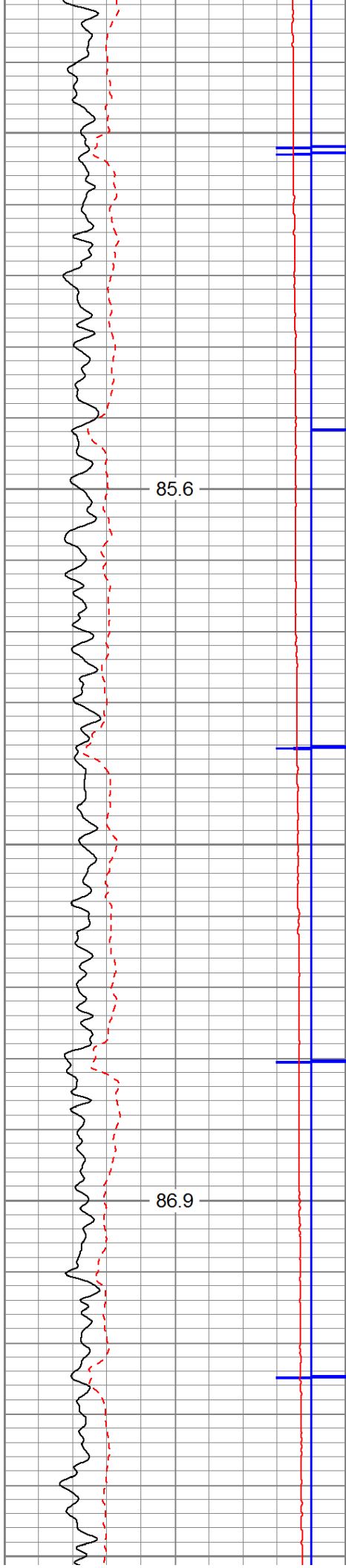




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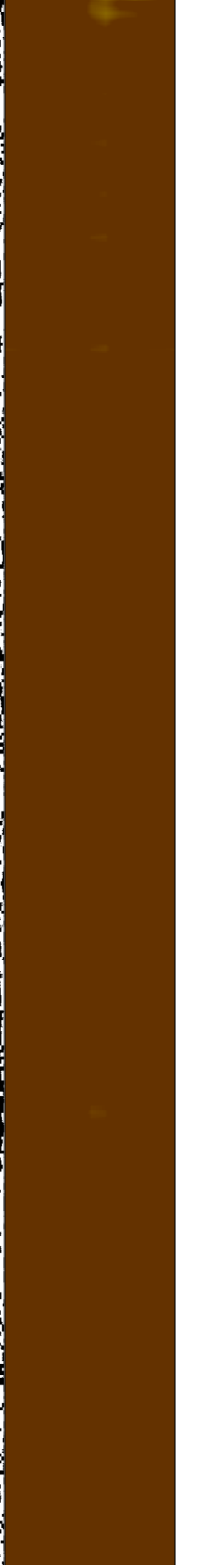
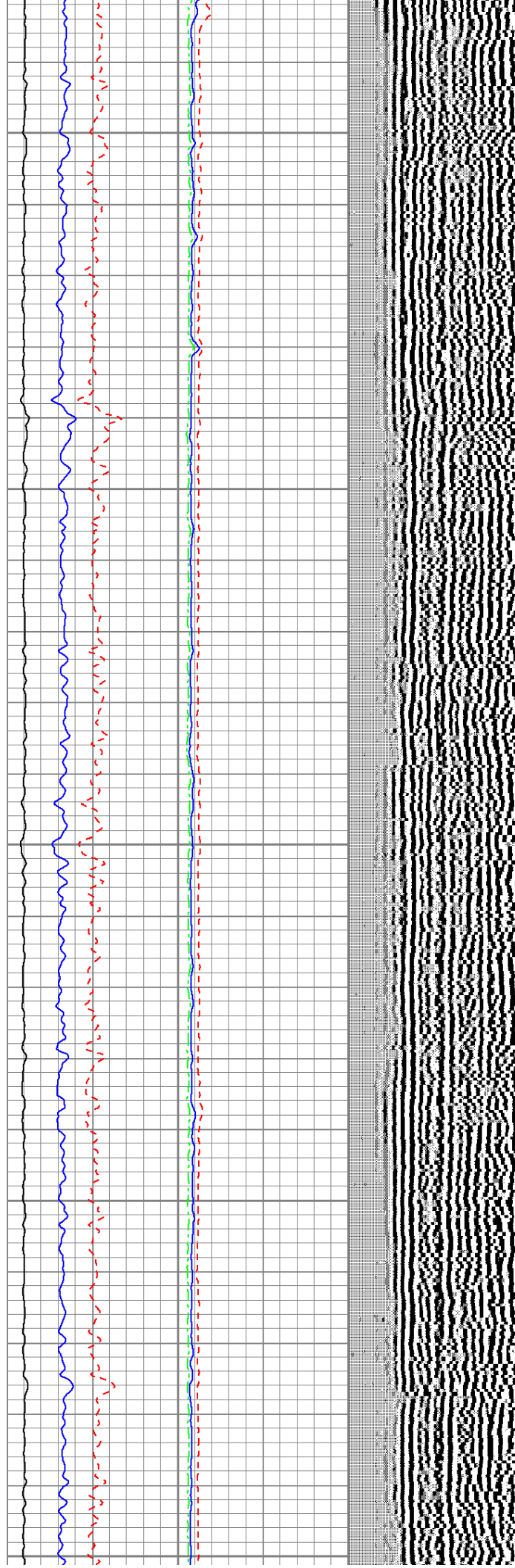
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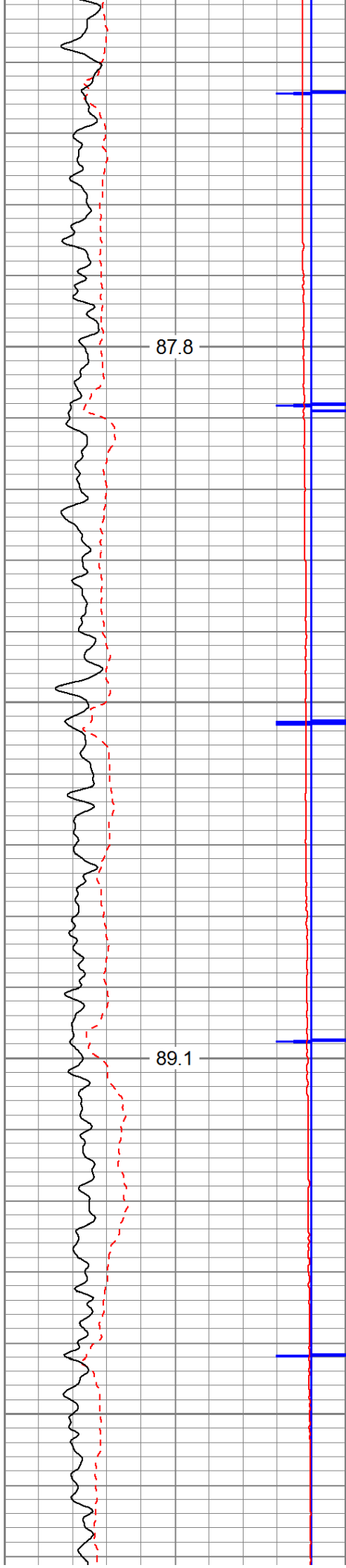




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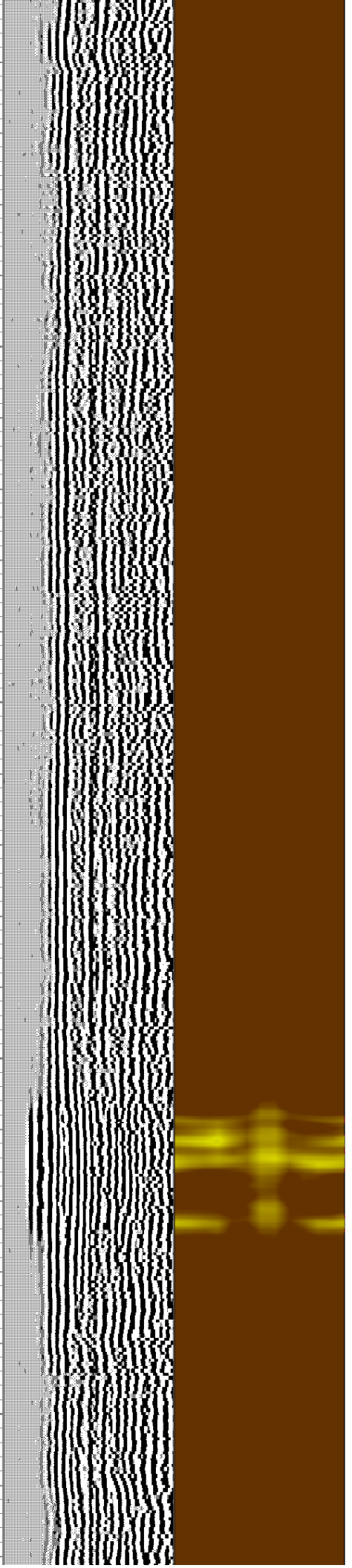
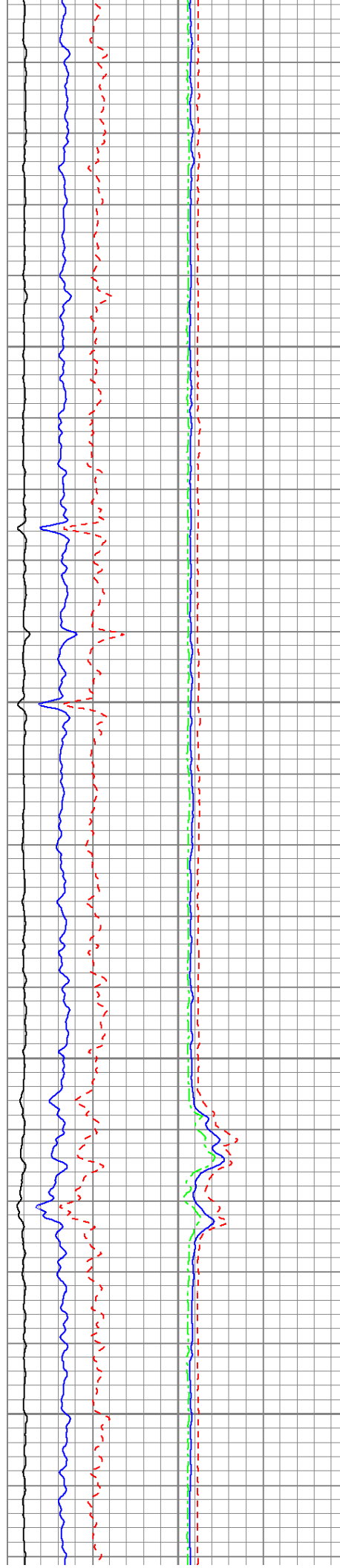
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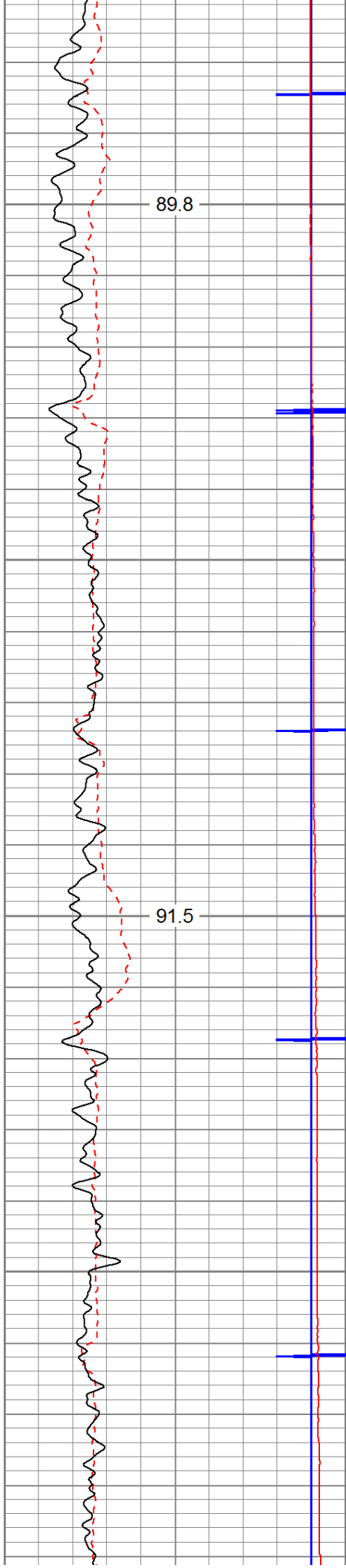




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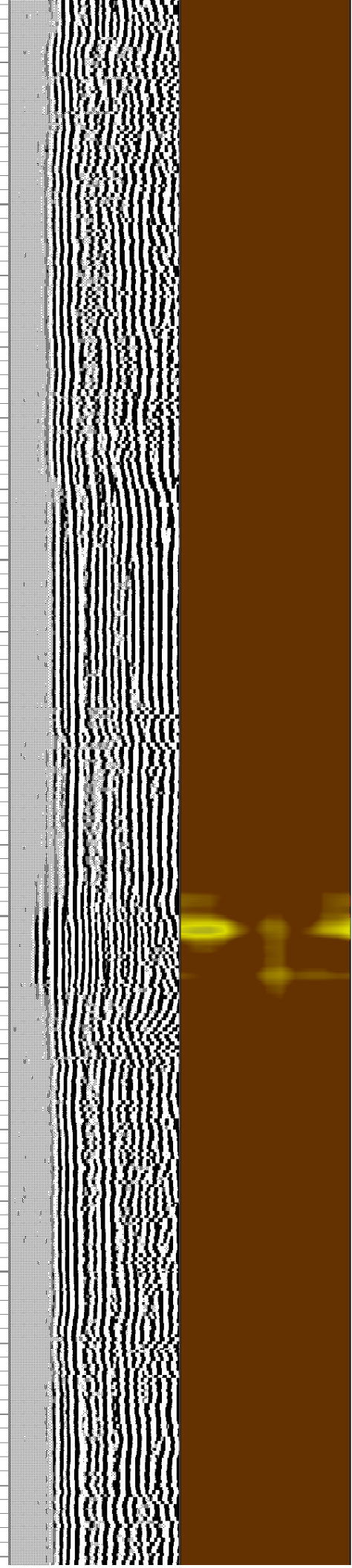
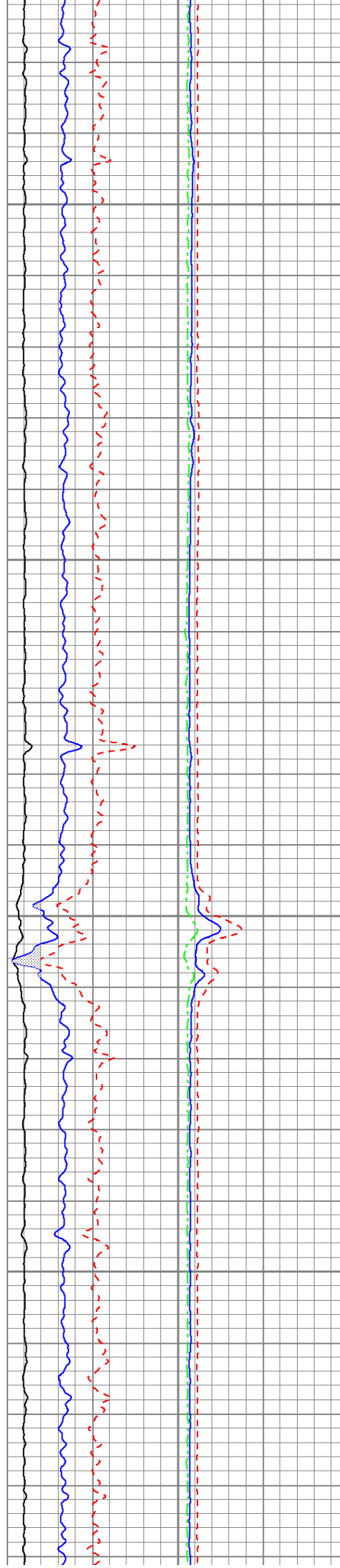
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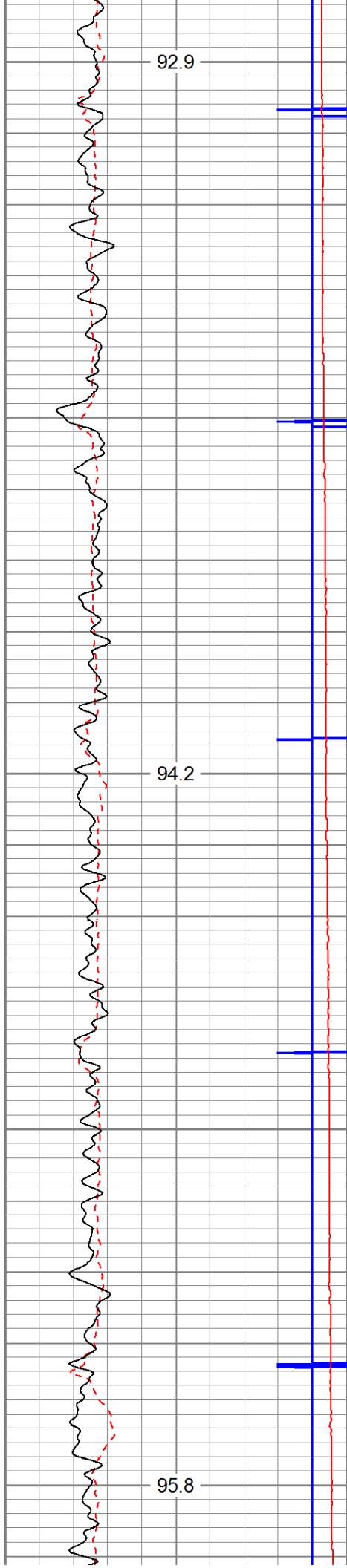




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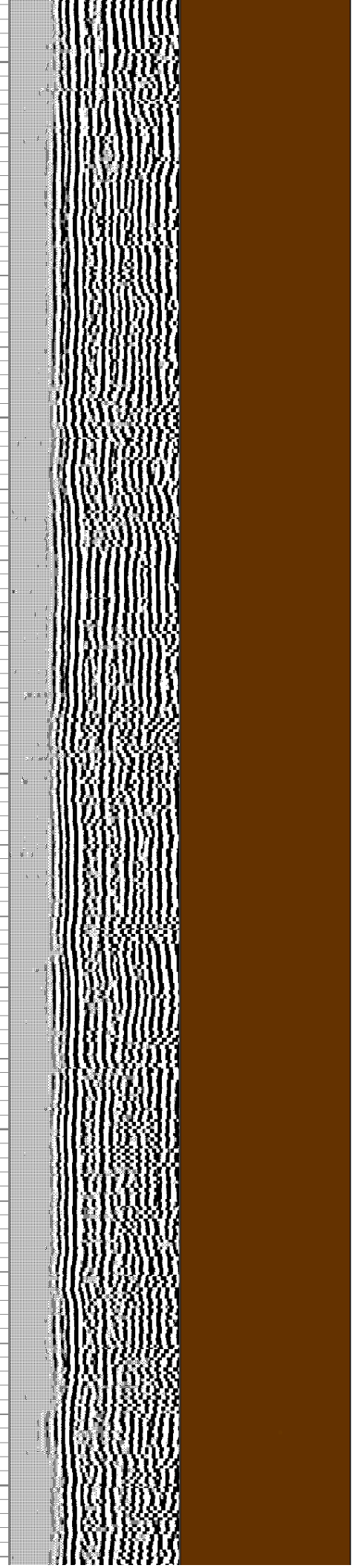
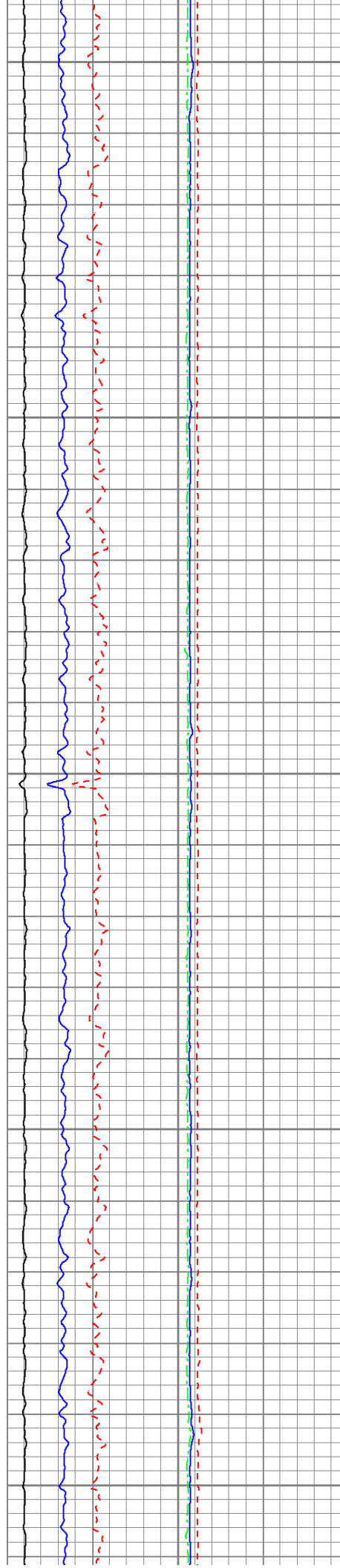


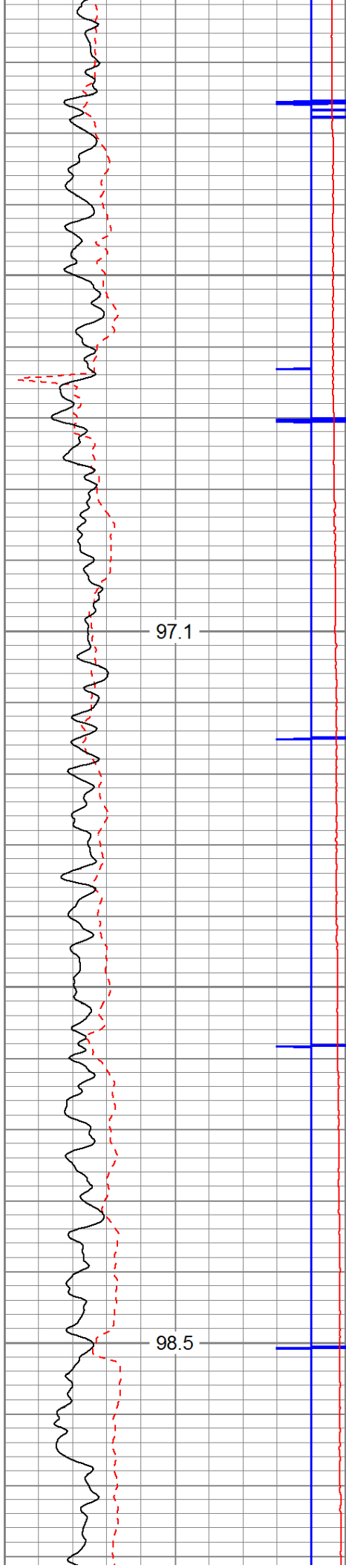


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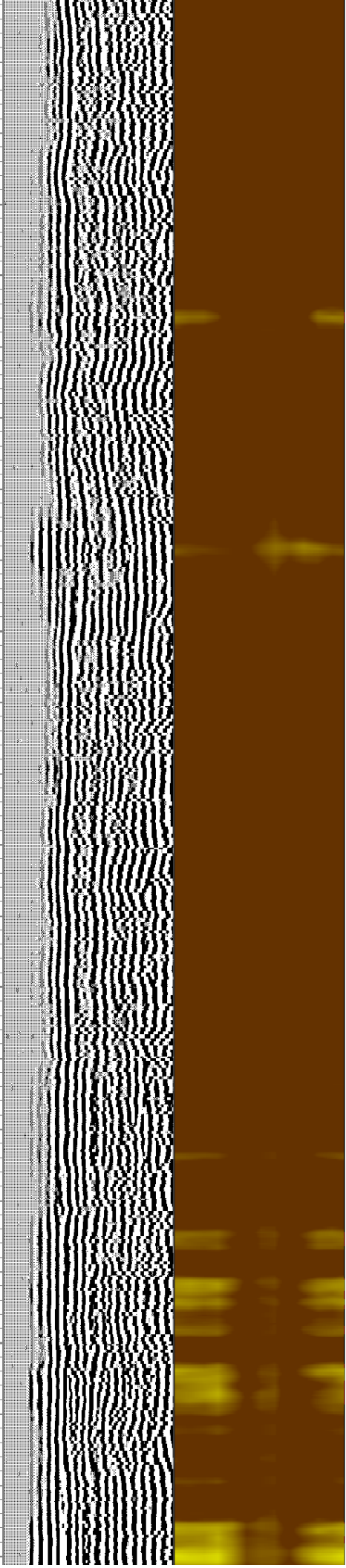
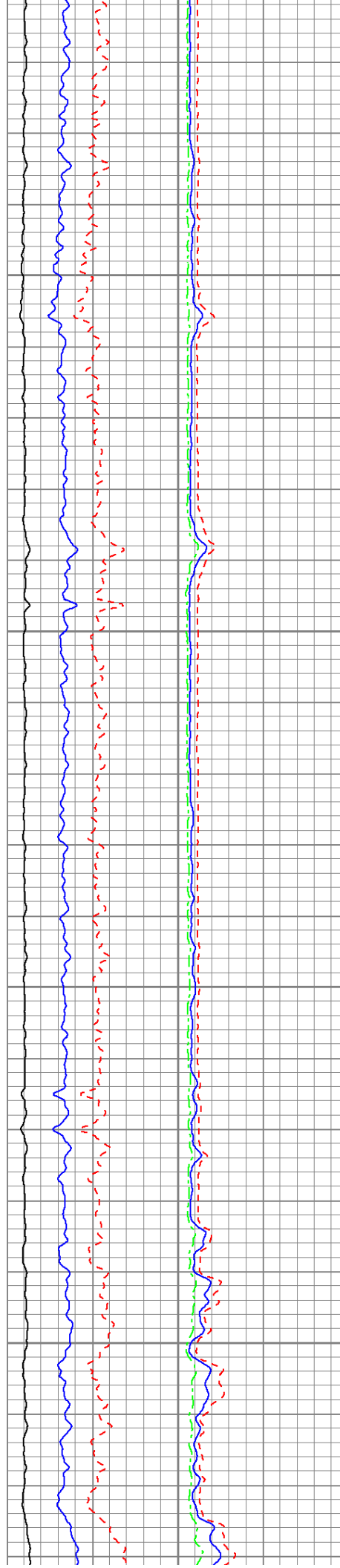
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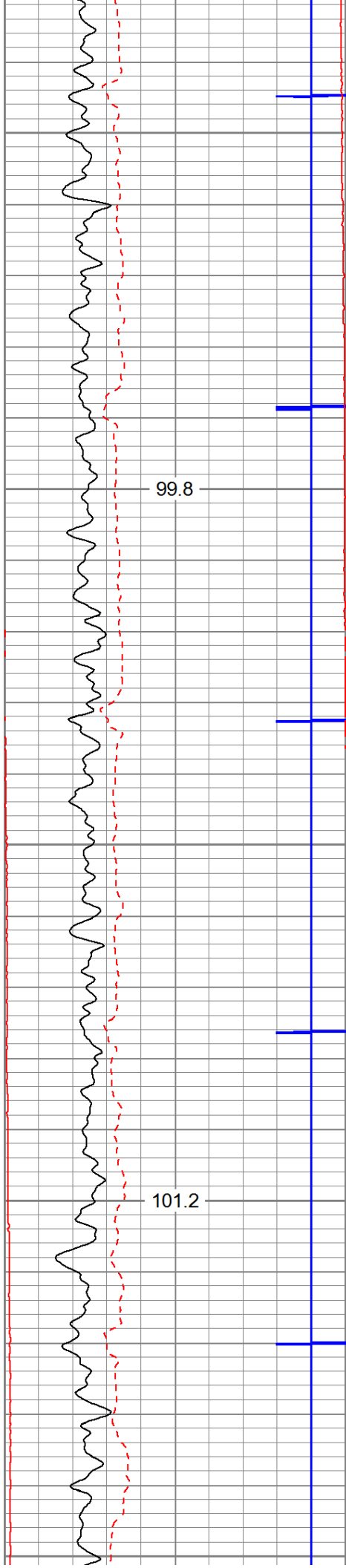




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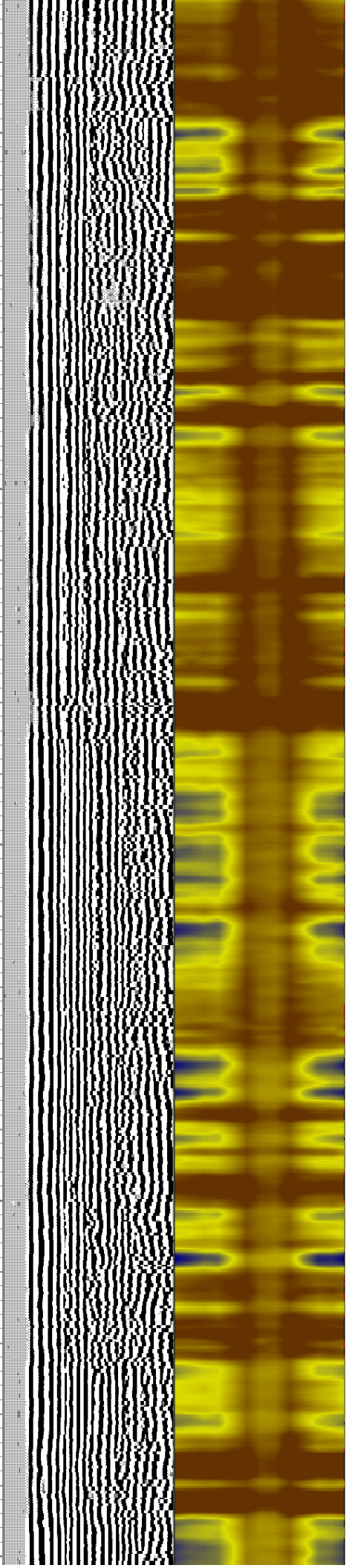
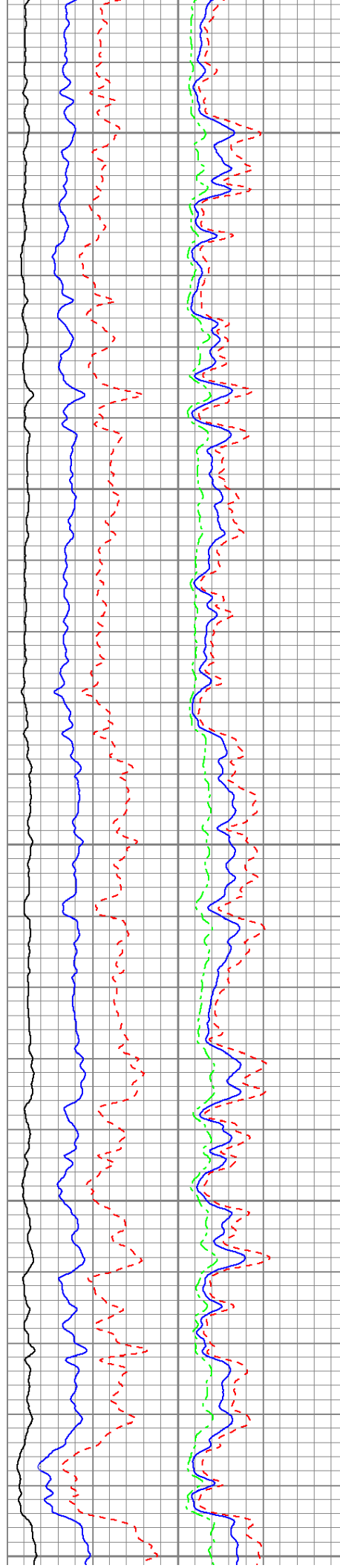
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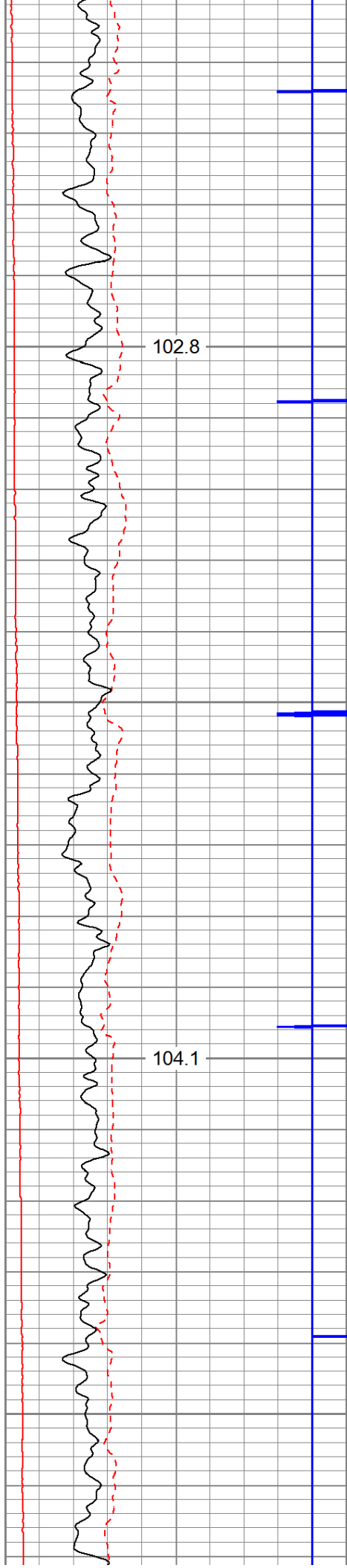




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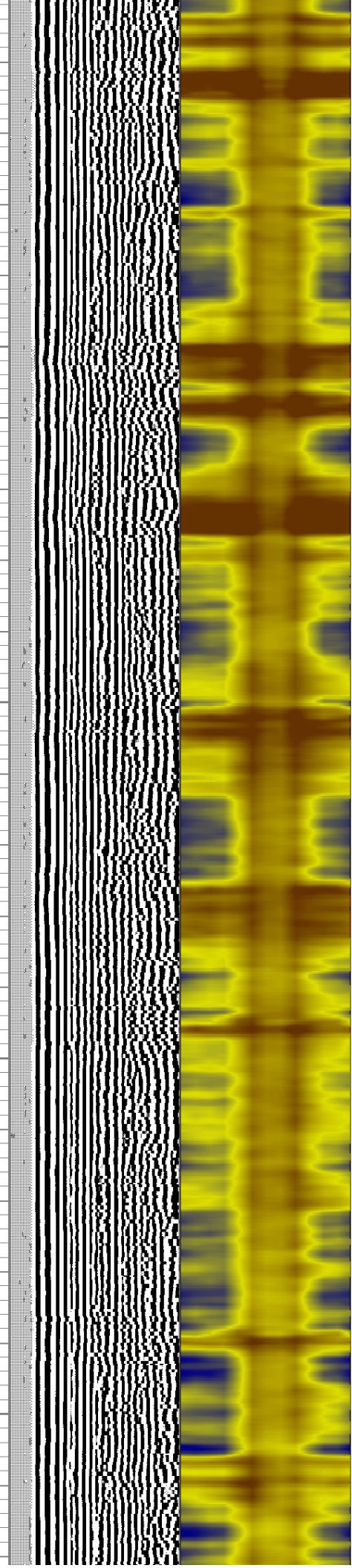
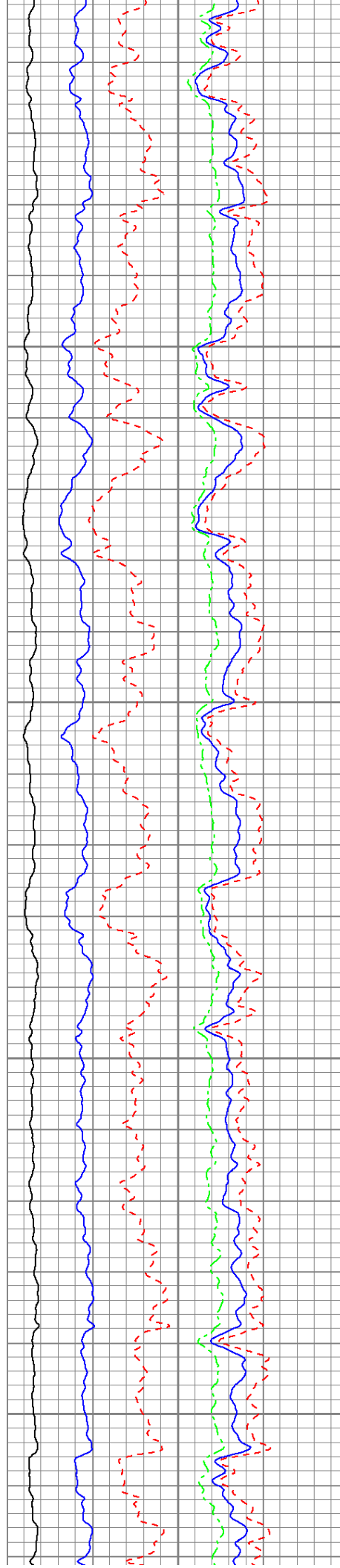
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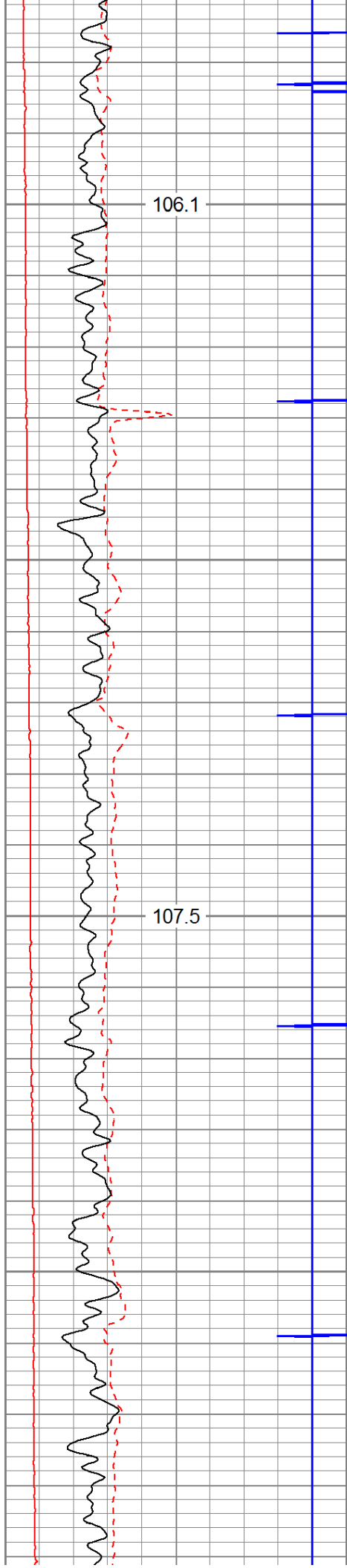




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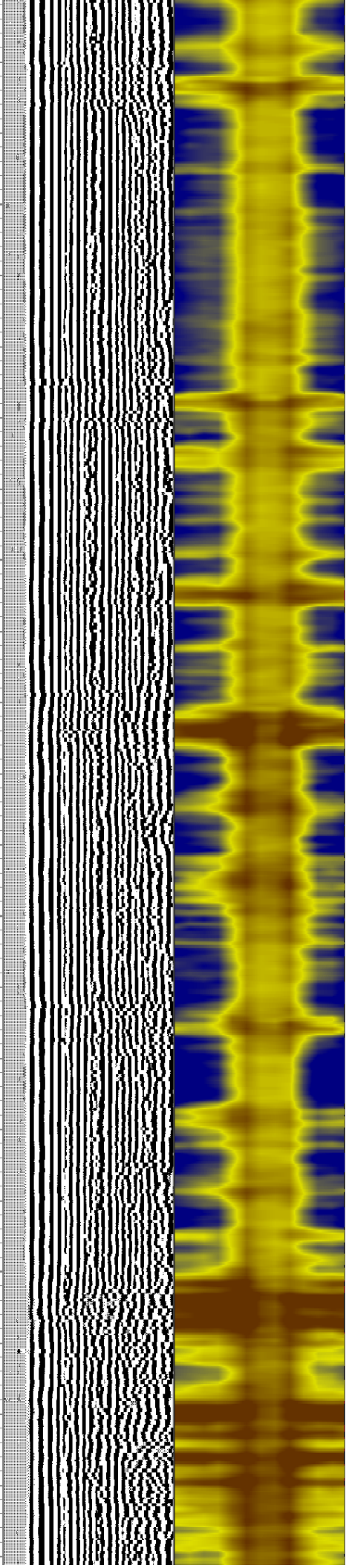
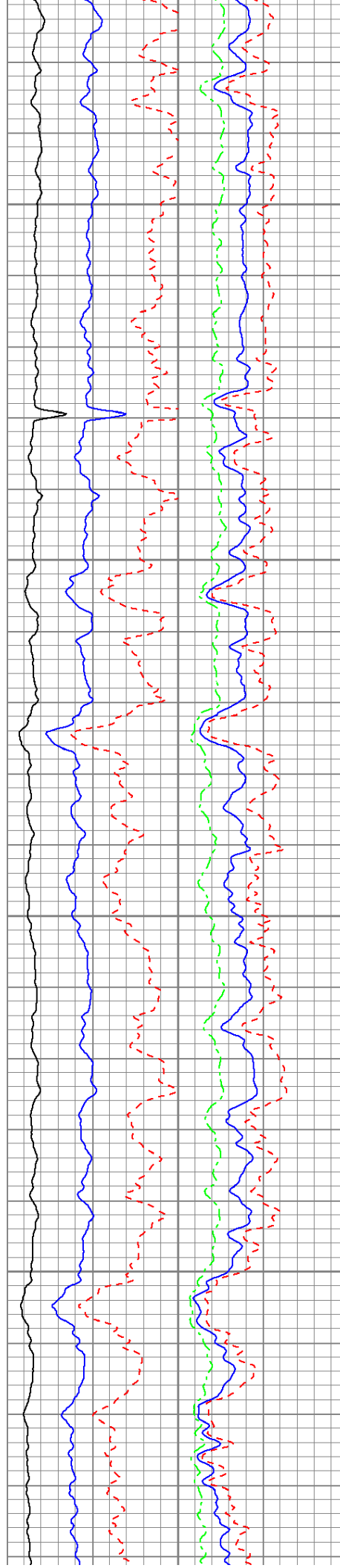
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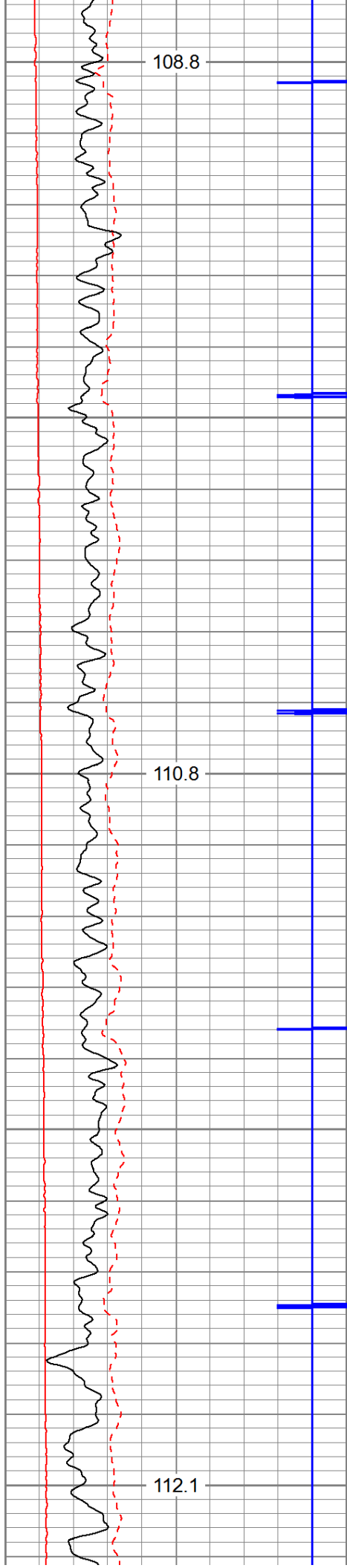




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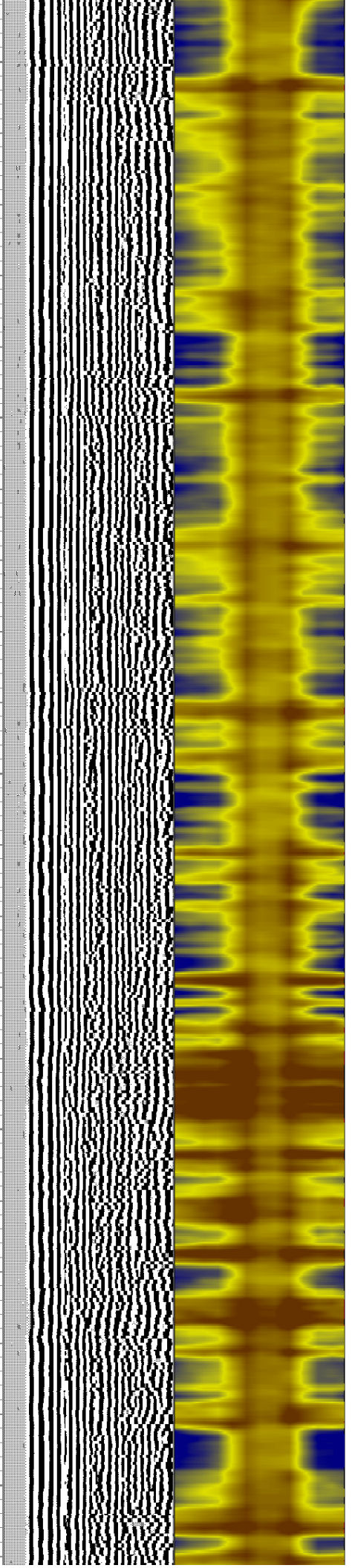
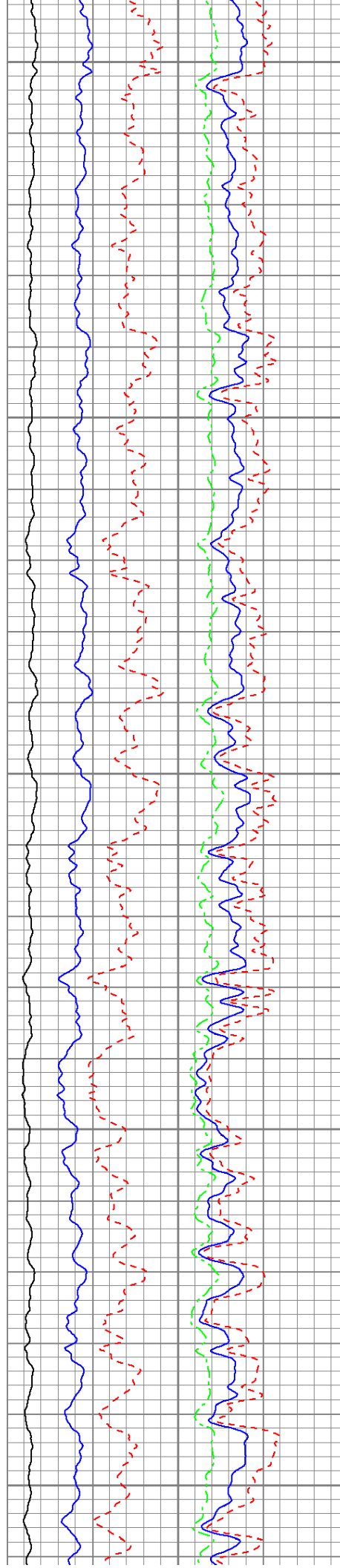


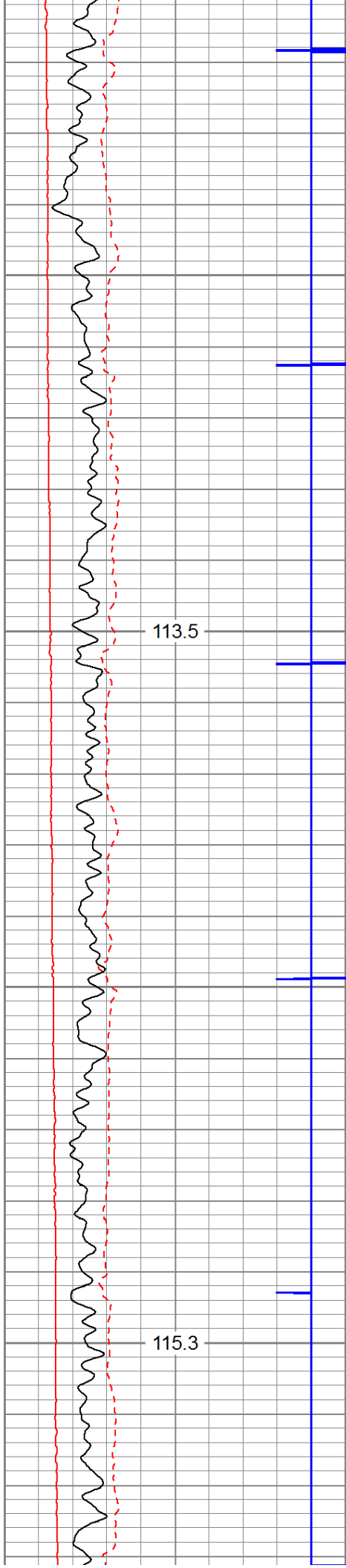


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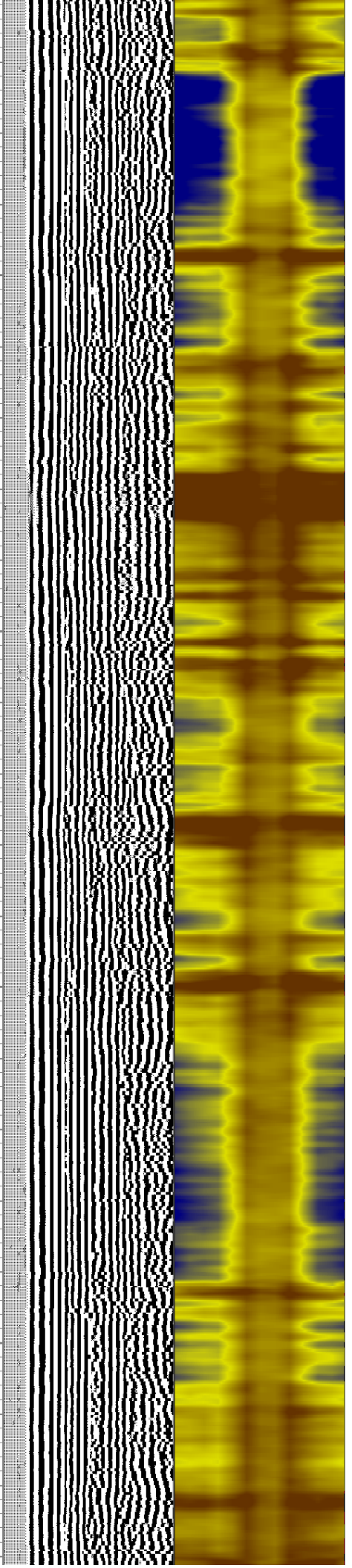
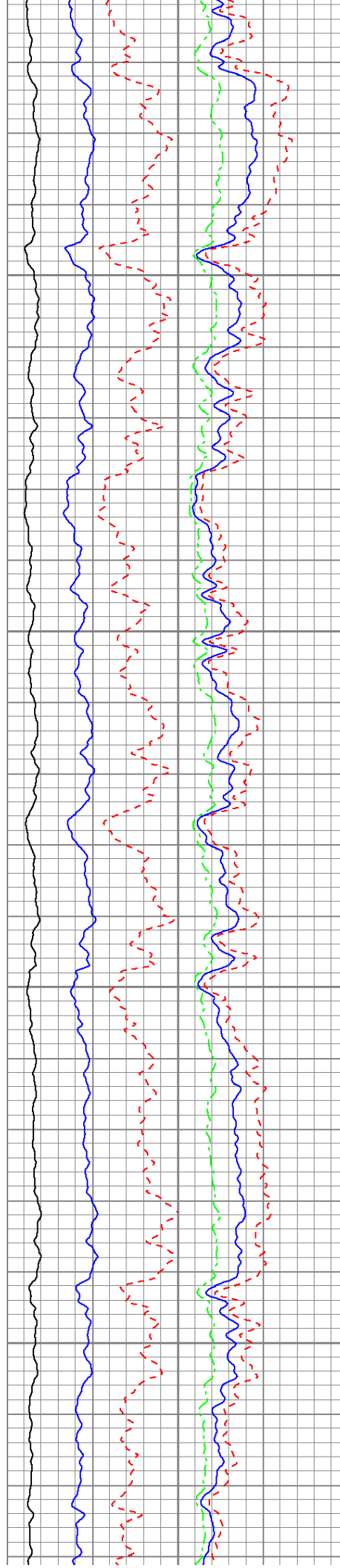
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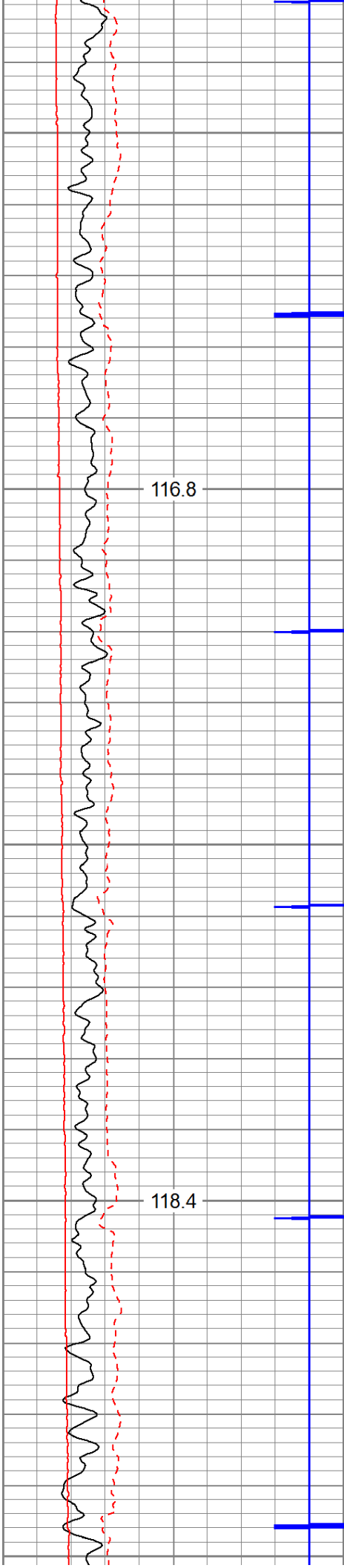




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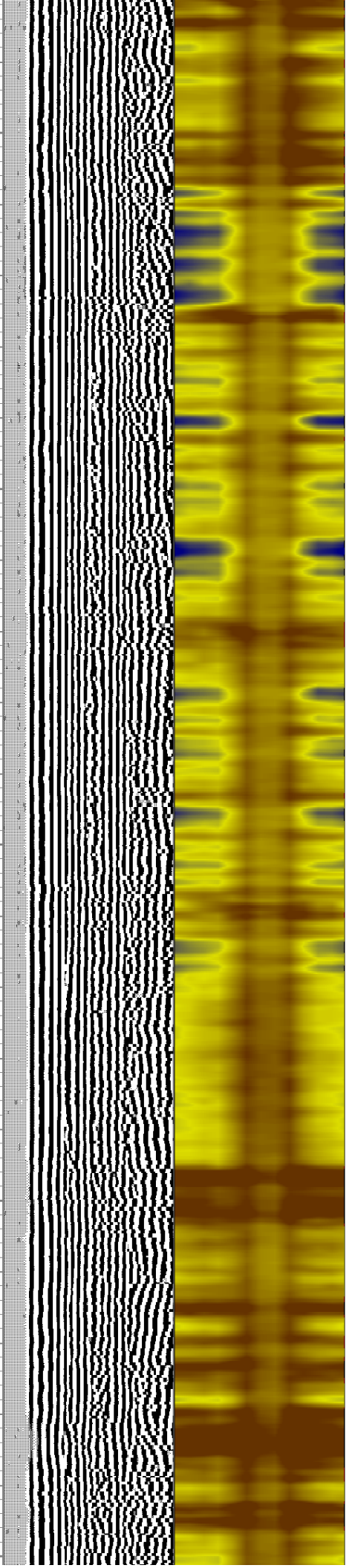
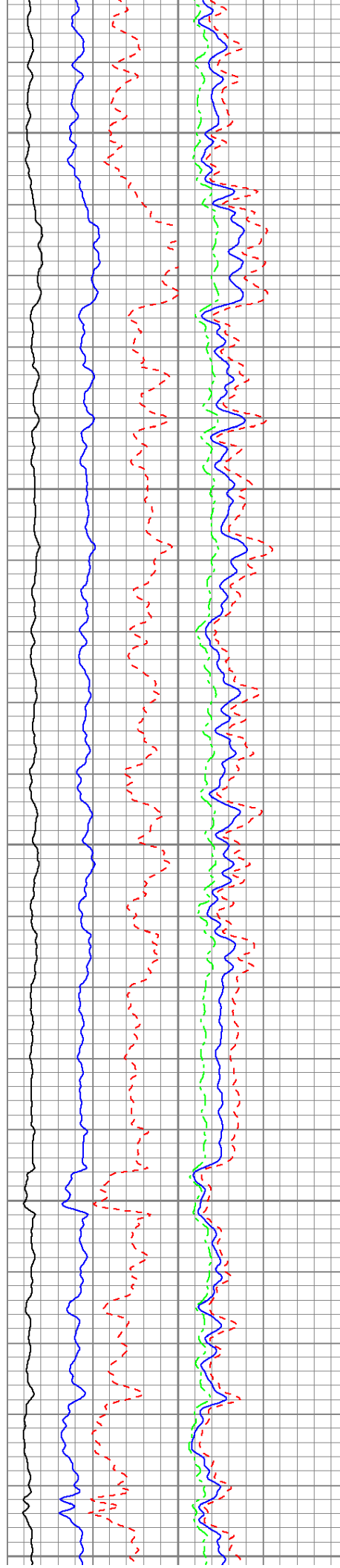
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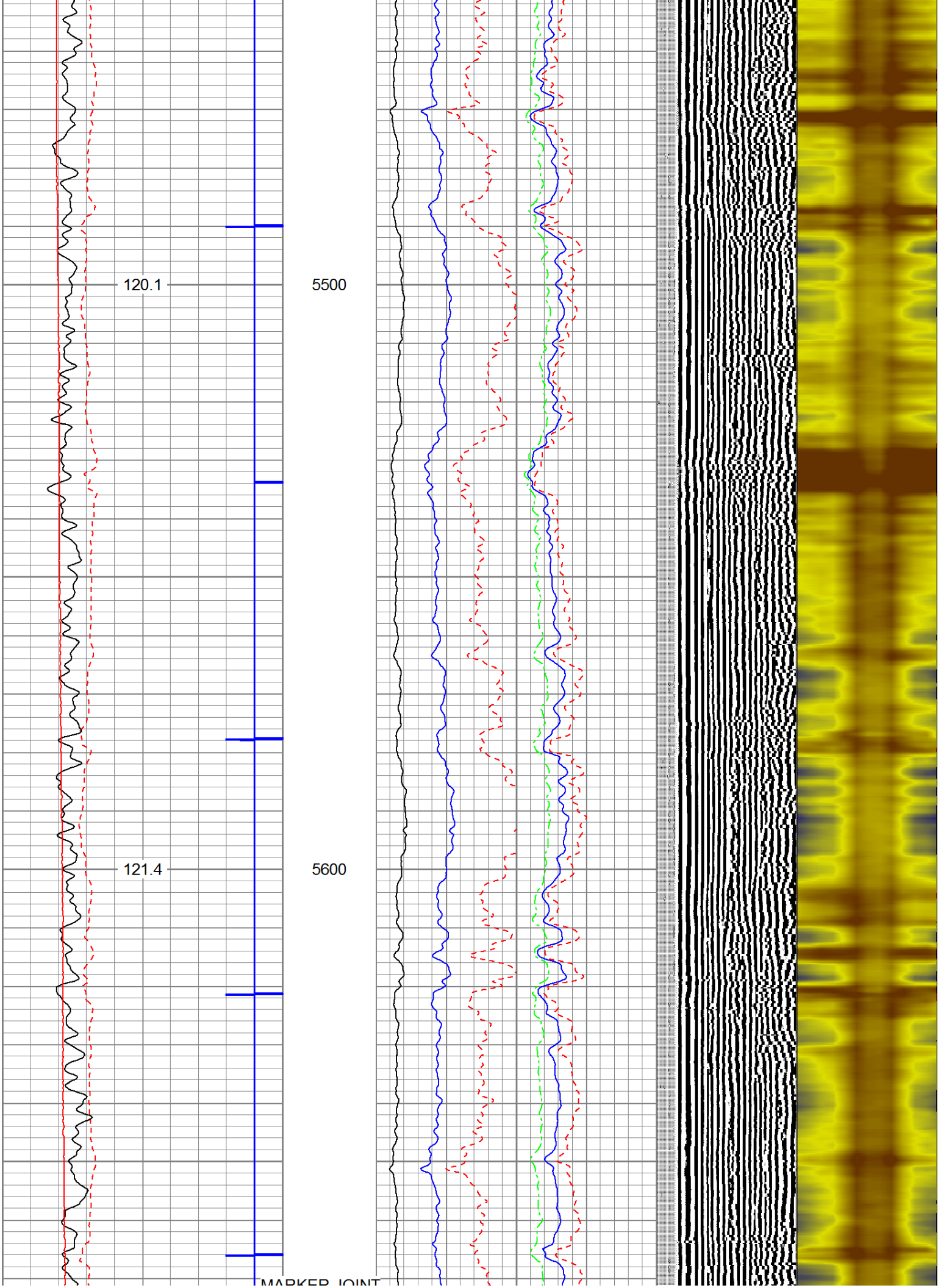




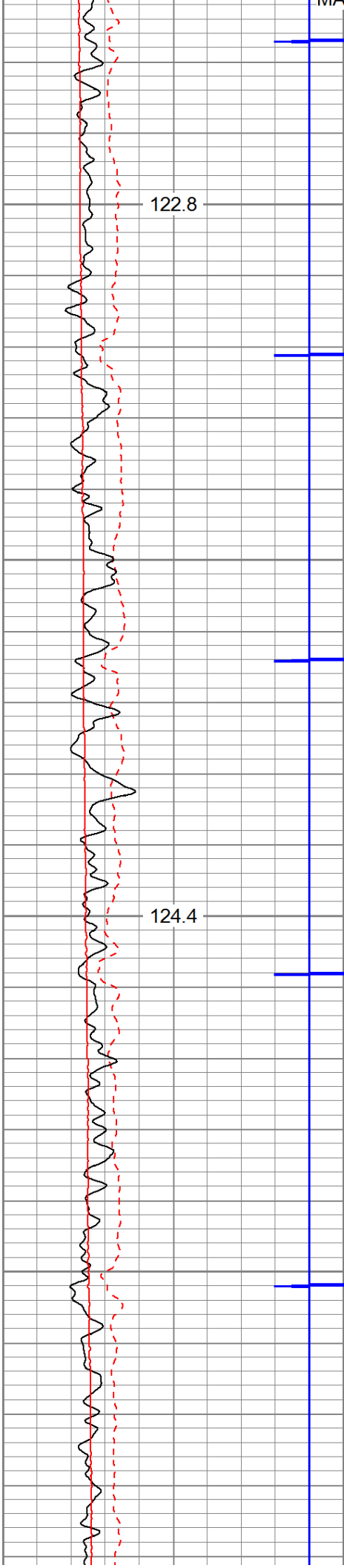
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5400



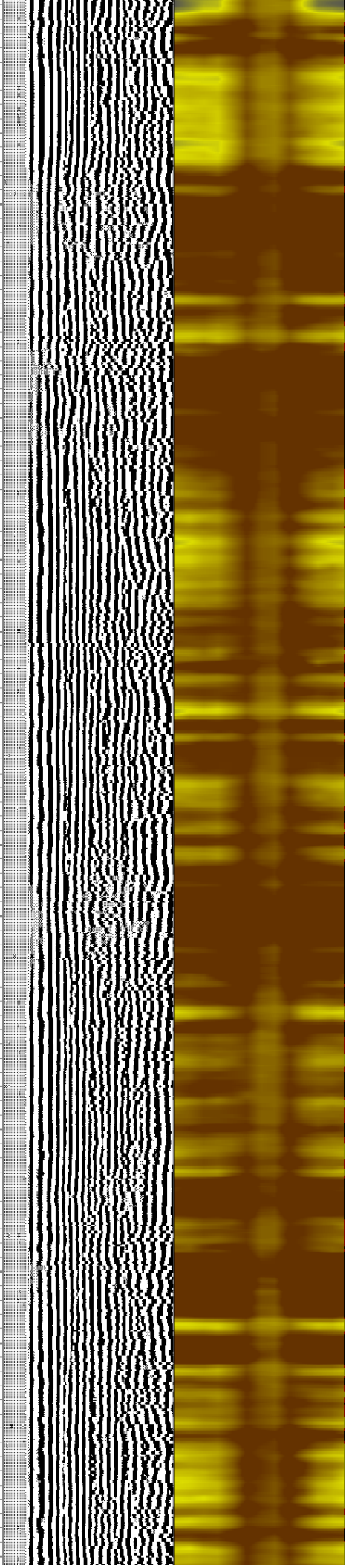
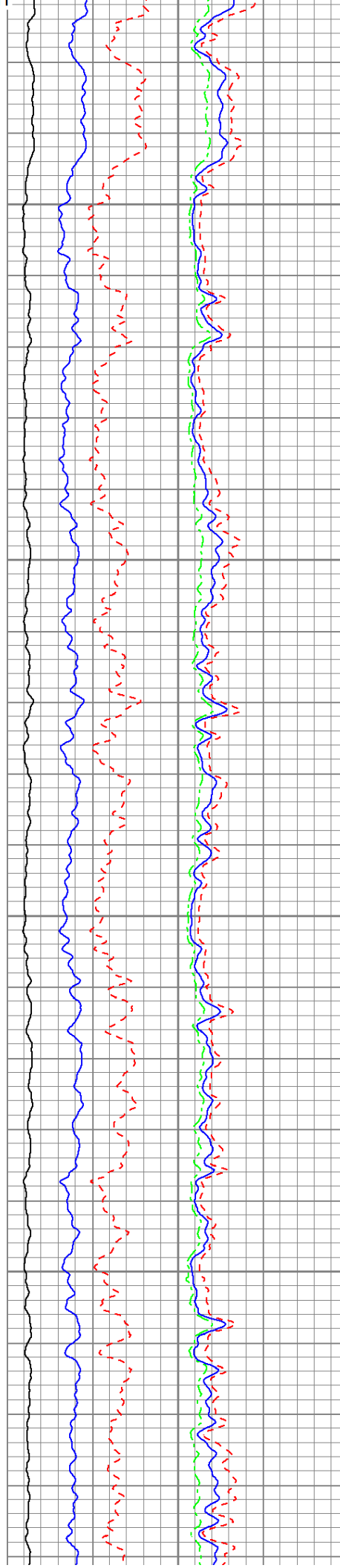


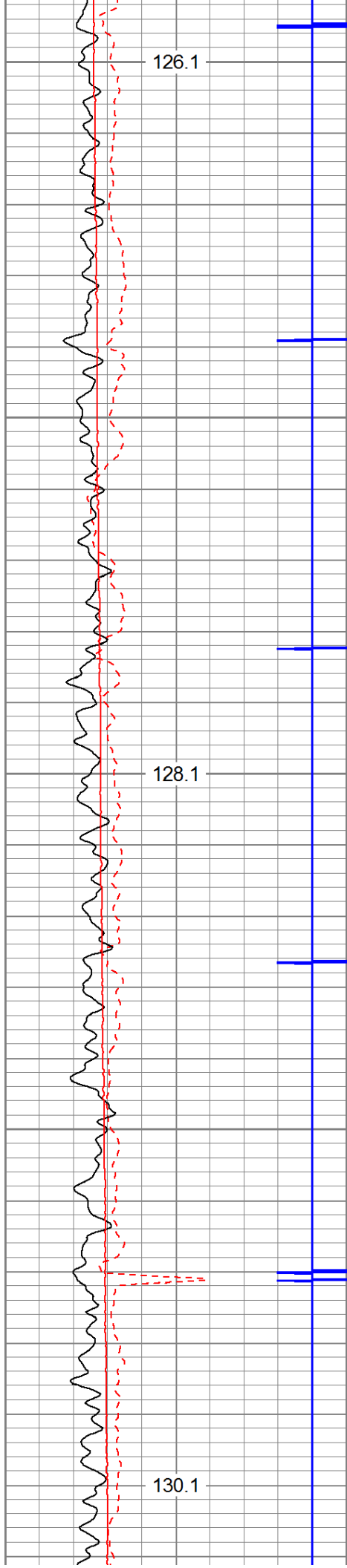
MARKER JOINT



5700

5800

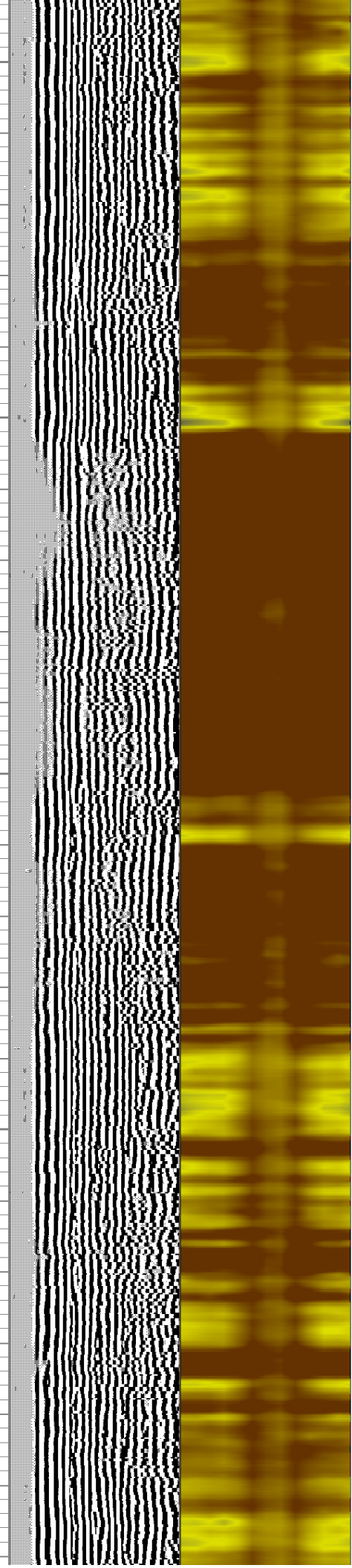
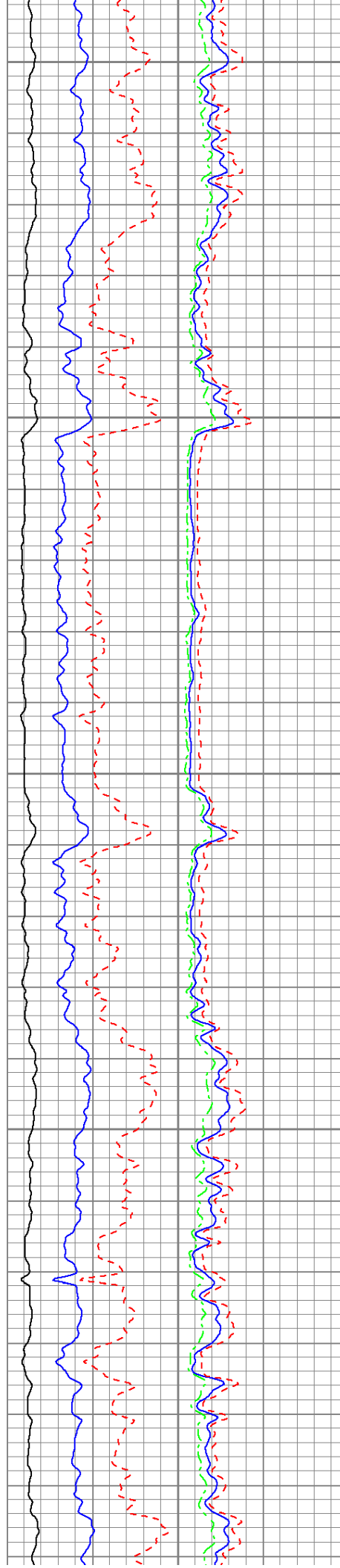


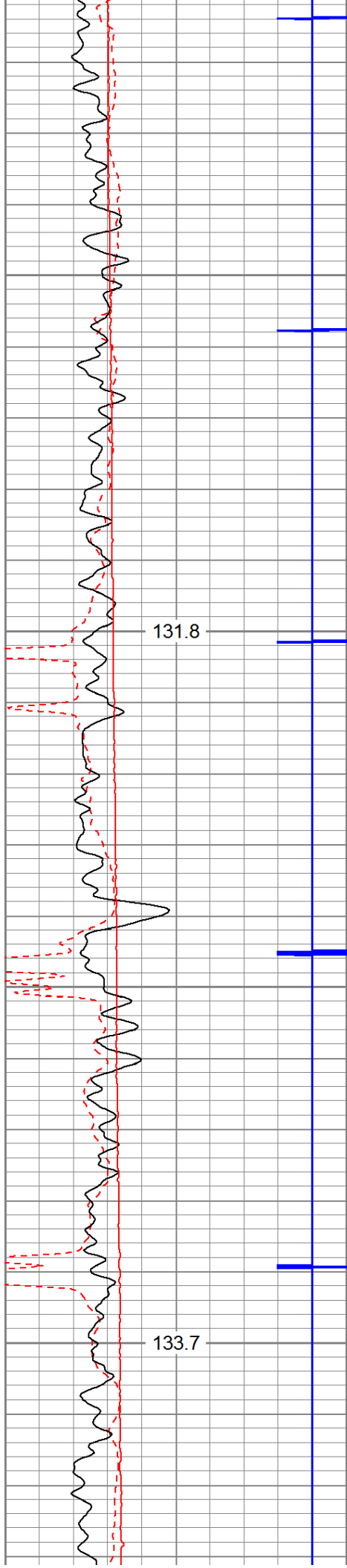


5900

6000

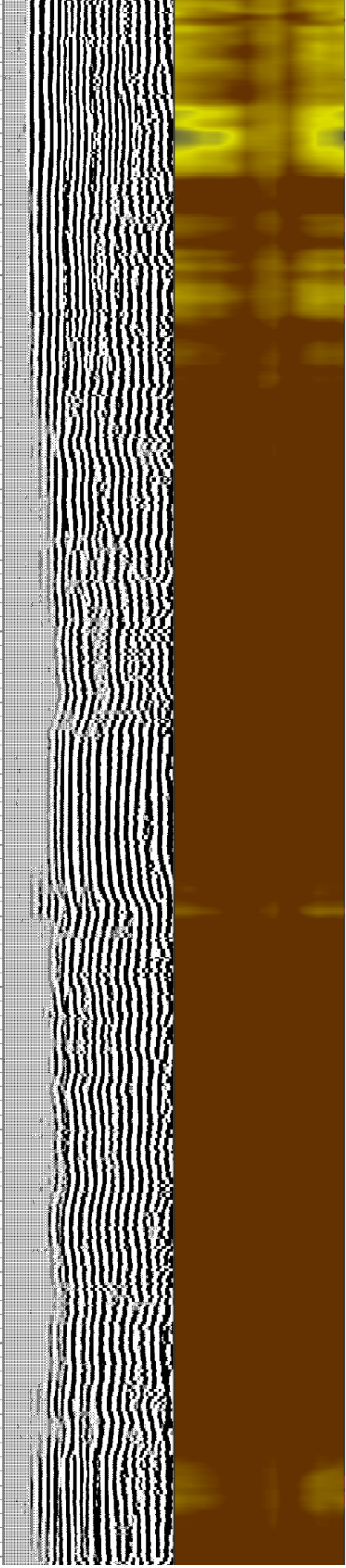
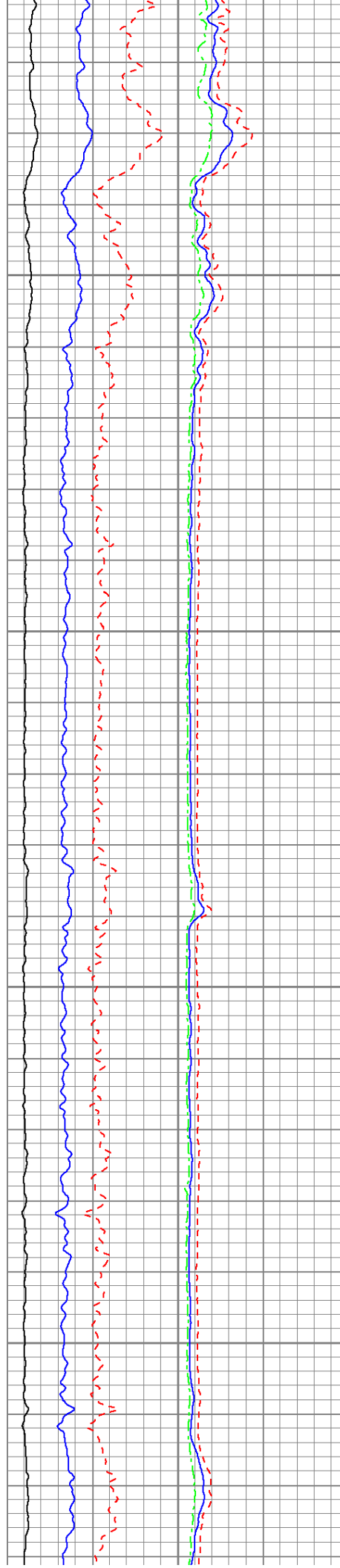
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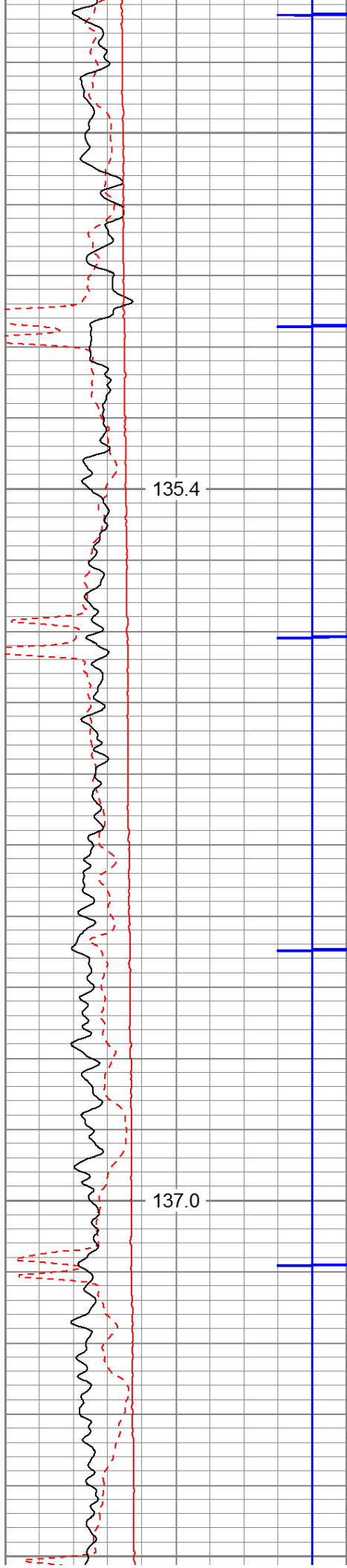




6200

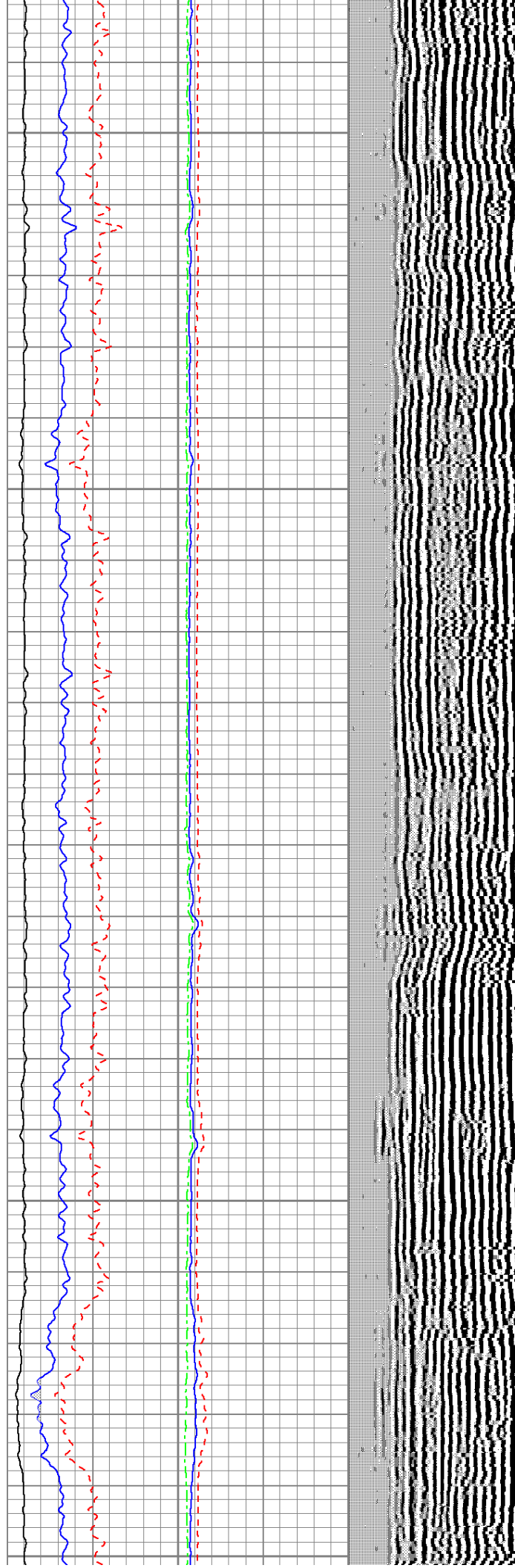
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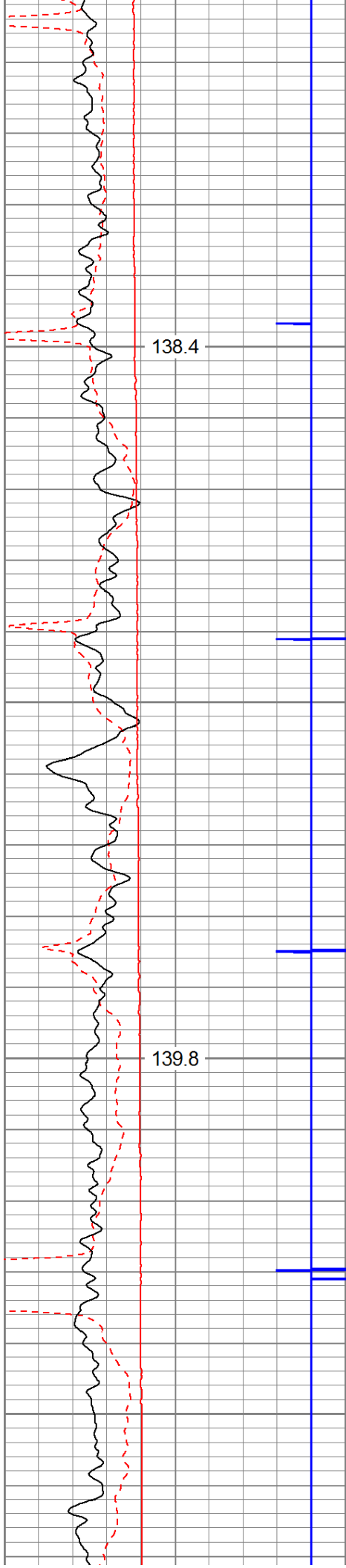




6400

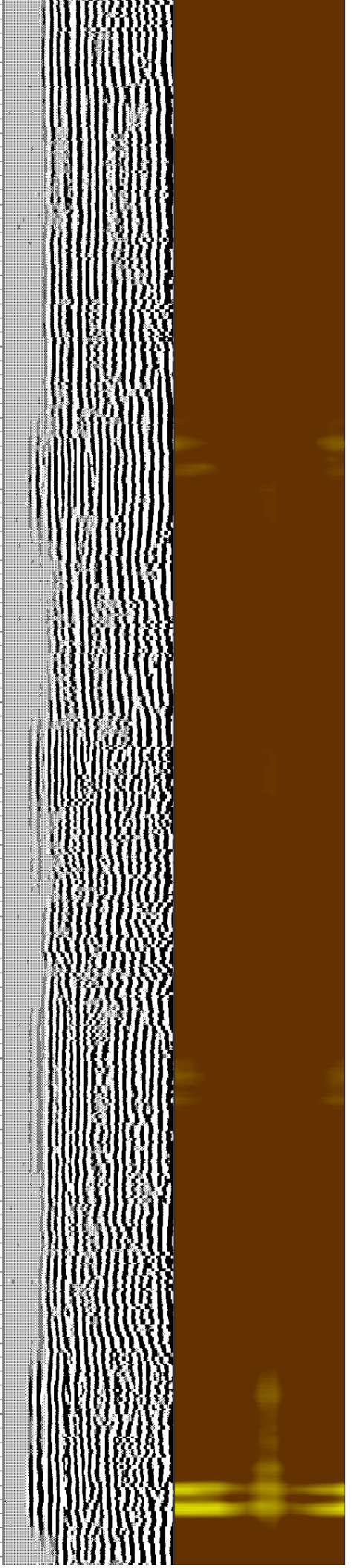
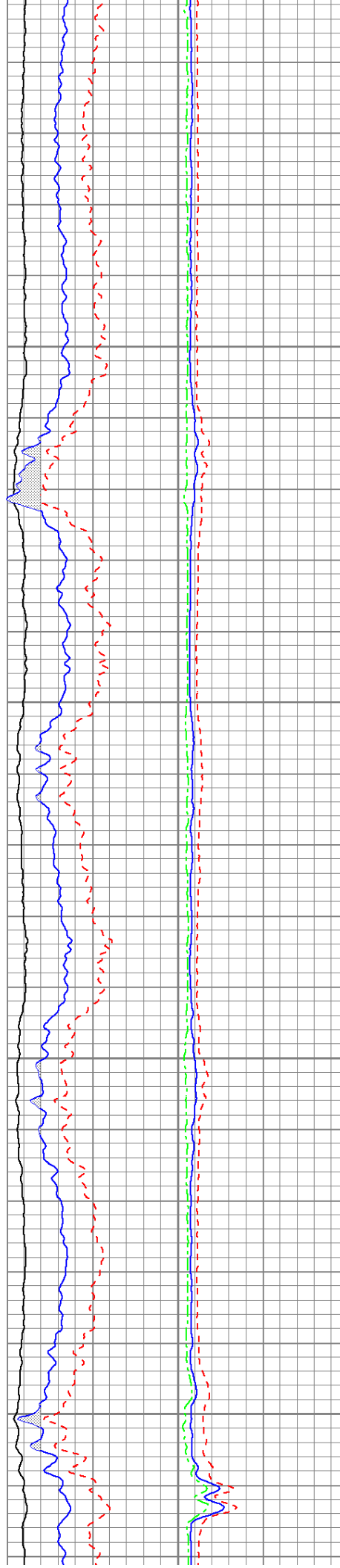
6500

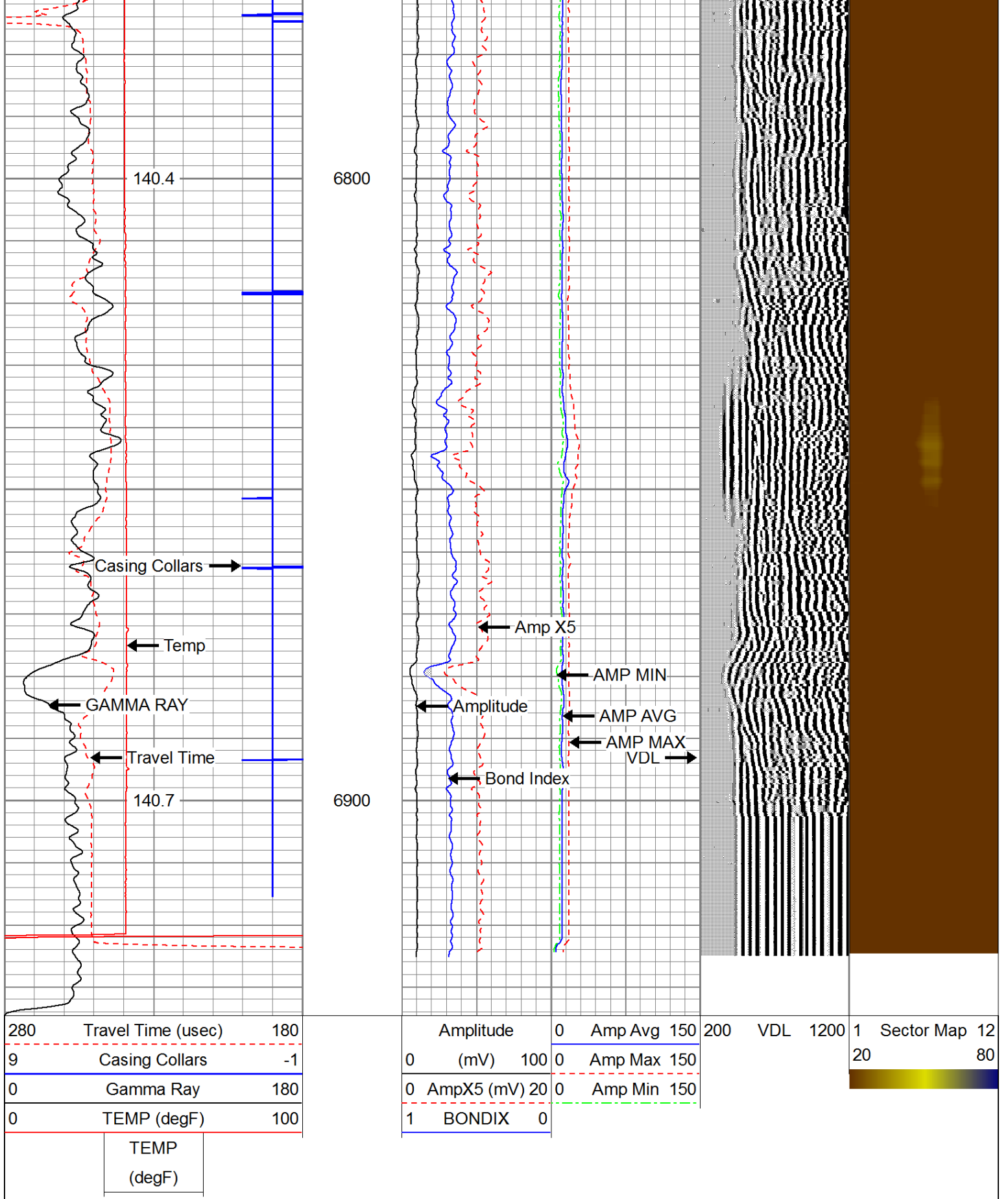




6600

6700





REPEAT SECTION

Database File: c:\warrior\data\2019 antero\antero-orvis unit 2h.db
 Dataset Pathname: pass2
 Presentation Format: antero f
 Dataset Creation: Sun Mar 31 14:31:58 2019 by Log 7.0 B1
 Charted by: Depth in Feet scaled 1:240

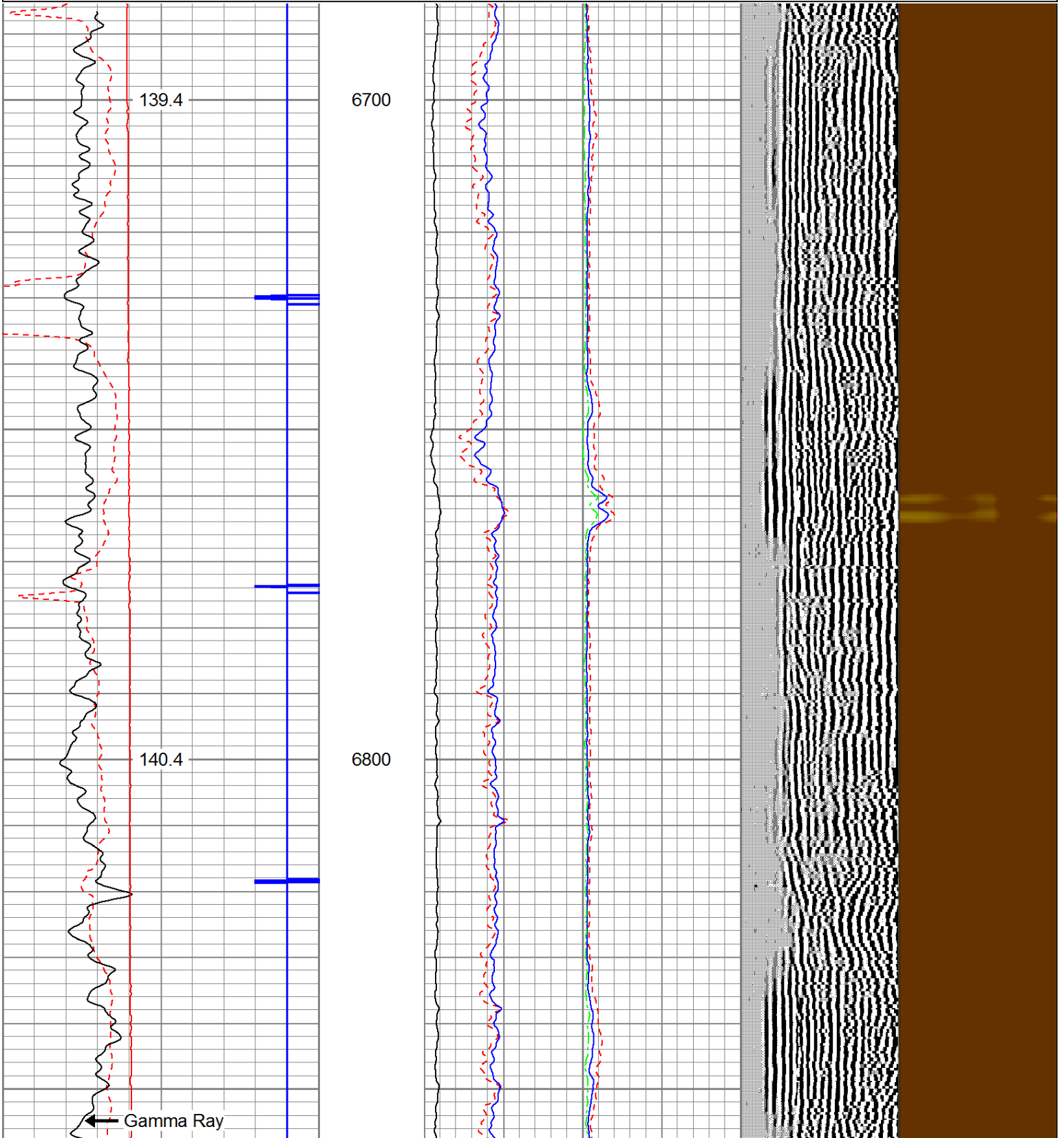
| | | |
|-----|--------------------|-----|
| 280 | Travel Time (usec) | 180 |
| 9 | Casing Collars | -1 |
| 0 | Gamma Ray | 180 |
| 0 | TEMP (degF) | 100 |

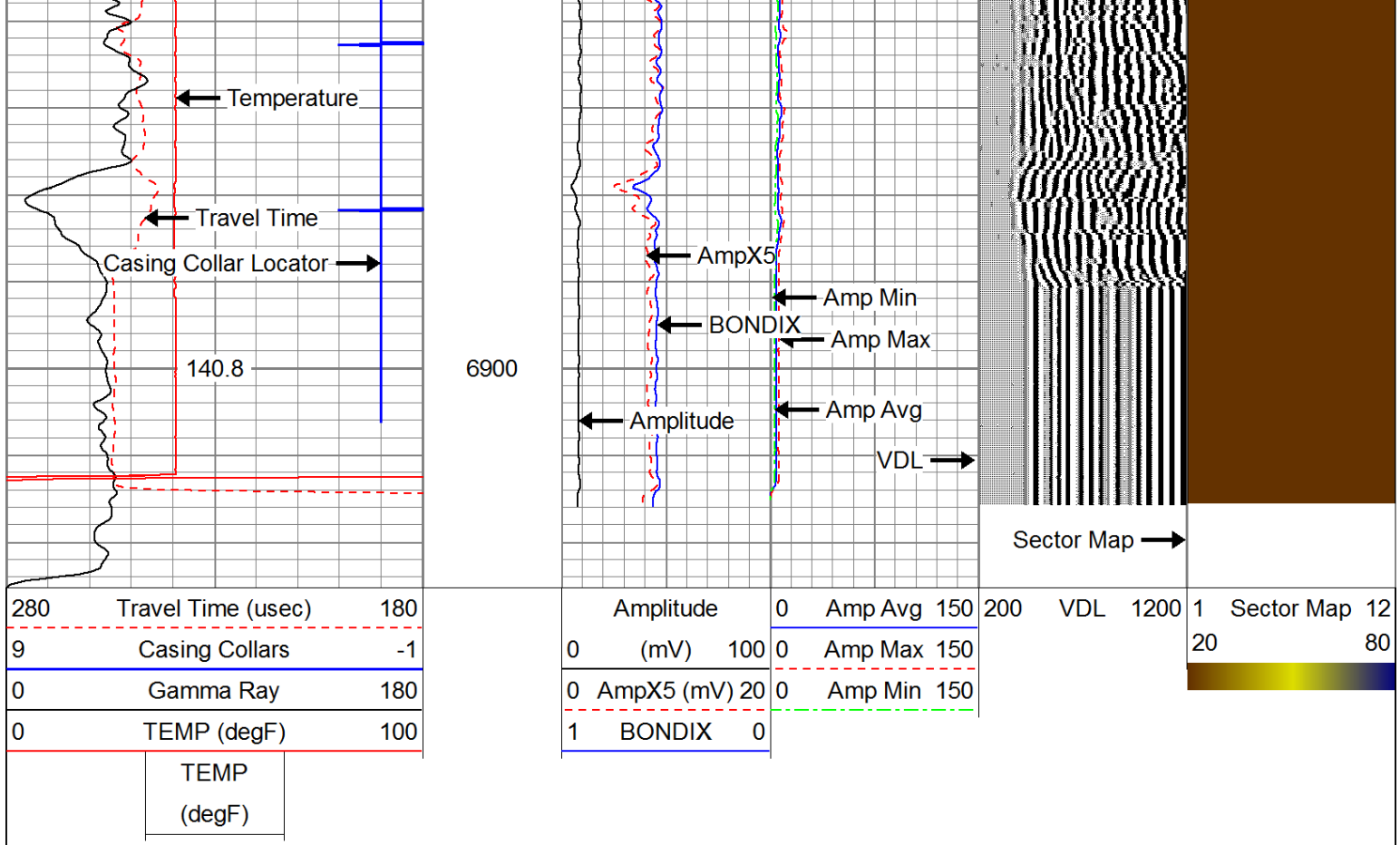
| | | | |
|------------|-----|---------|-----|
| Amplitude | 0 | Amp Avg | 150 |
| (mV) | 100 | Amp Max | 150 |
| AmpX5 (mV) | 20 | Amp Min | 150 |
| BONDIX | 0 | | |

| | | | | | |
|-----|-----|------|----|------------|----|
| 200 | VDL | 1200 | 1 | Sector Map | 12 |
| | | | 20 | | 80 |



TEMP (degF)





| Sensor | Offset (ft) | Schematic | Description | Len (ft) | OD (in) | Wt (lb) |
|--------|-------------|-----------|--|----------|---------|---------|
| CCL | 18.93 | | CCL-312tekco (3.12TEKCO) Tekco 3 1/8" 450 Deg. "F" SmCo Logging CCL | 1.82 | 3.12 | 25.00 |
| | | | 2.75 2 3/4" Tekco Adjustable Centralizer | 2.73 | 2.75 | 25.00 |
| TEMP | 12.77 | | | | | |
| WVFS1 | 11.48 | | SCBL-Tek12 (IOL40-05) Tekco 400 Deg F 12 Sector RIB with Temp | 9.13 | 3.25 | 135.00 |
| WVFS2 | 11.48 | | | | | |
| WVFS3 | 11.48 | | | | | |
| WVFS4 | 11.48 | | | | | |
| WVFS5 | 11.48 | | | | | |
| WVFS6 | 11.48 | | | | | |
| WVFS7 | 11.48 | | | | | |
| WVFS8 | 11.48 | | | | | |

| | | | | | | |
|---------|-------|--|---|------|------|-------|
| WVFS9 | 11.48 | | 2.75 2 3/4" Tekco Adjustable Centralizer | 2.73 | 2.75 | 25.00 |
| WVFS10 | 11.48 | | | | | |
| WVFS11 | 11.48 | | | | | |
| WVFS12 | 11.48 | | | | | |
| WVF3FT | 10.73 | | | | | |
| WVFCAL | 10.73 | | | | | |
| WVF5FT | 9.73 | | | | | |
| WVFTEMP | 6.40 | | | | | |
| WVFSYNC | 6.40 | | | | | |
| GR | 1.04 | | | | | |

Dataset: antero-orvis unit 2h.db: field/well/run1/pass3
Total Length: 20.07 ft
Total Weight: 250.00 lb
O.D.: 3.25 in

Calibration Report

Database File: C:\Warrior\Data\2019 antero\antero-orvis unit 2h.db
Dataset Pathname: pass3
Dataset Creation: Sun Mar 31 14:37:21 2019 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number: IPSNO-03
Tool Model: Tek-Co 2 3/4
Performed: Mon Nov 07 10:23:17 2016

Calibrator Value: 1.0

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 /cps

Temperature Calibration Report

Serial Number: IOL40-05
Tool Model: Tek12
Performed: Wed Jul 31 10:53:14 2013

| | Reference | Reading |
|--|-----------|---------|
|--|-----------|---------|

| | | |
|-----------------|-----------|-----------|
| Low Reference: | 0.00 degF | 0.00 usec |
| High Reference: | 1.00 degF | 1.00 usec |

Gain: 0.33
Offset: 0.00
Delta Spacing: 2



Company ANTERO RESOURCES CORPORATION

Well ORVIS UNIT 2H

Field MARCELLUS

County TYLER

State W.V.

Country