



**RADIAL CEMENT BOND
GAMMA RAY/CCLVDL**

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

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Location: API #: 47095025270000

Other Services

| | | | | | |
|------------------------|------|-----|-----------|-----|-----------|
| SEC | TWP | RGE | Elevation | N/A | Elevation |
| Permanent Datum | G.L. | | K.B: | N/A | |
| Log Measured From | G.L. | | D.F: | N/A | |
| Drilling Measured From | K.B. | | G.L: | N/A | |

| | | | | | | | |
|------------------------|---------------|---------------|----|------|--------|------|-------|
| Date | 2/4/19 | | | | | | |
| Run Number | ONE | | | | | | |
| Depth Driller | 17364' | | | | | | |
| Depth Logger | 7042' | | | | | | |
| Bottom Logged Interval | 7042' | | | | | | |
| Top Log Interval | SURFACE | | | | | | |
| Open Hole Size | 8.5" | | | | | | |
| Type Fluid | H2O | | | | | | |
| Density / Viscosity | N/A | | | | | | |
| Max. Recorded Temp. | 141 DEG | | | | | | |
| Estimated Cement Top | 340 FT | | | | | | |
| Time Well Ready | N/A | | | | | | |
| Time Logger on Bottom | N/A | | | | | | |
| Equipment Number | 340 | | | | | | |
| Location | BRIDGEPORT.WV | | | | | | |
| Recorded By | JBOGGS | | | | | | |
| Witnessed By | JAY TEPFER | | | | | | |
| Borehole Record | | Casing Record | | | | | |
| Run Number | Bit | From | To | Size | Weight | From | To |
| | | | | 5.5 | 23 | 0 | 17364 |

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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
 SHIFTED DOWN HOLE 15 FT DOWN HOLE TO MATCH PIPE TALLY
 TOP OF CEMENT @ 340'
 BOTTOM HOLE TEMP- 141 DEG
 MARKER JOINT @ 5881-5891'



MAIN LOG 1500 PSI

Database File: f:\2019 antero\pyle run\heintzman_2h.db
 Dataset Pathname: pass3.1
 Presentation Format: antero
 Dataset Creation: Mon Feb 04 14:41:10 2019 by Calc 7.0 B1
 Charted by: Depth in Feet scaled 1:240

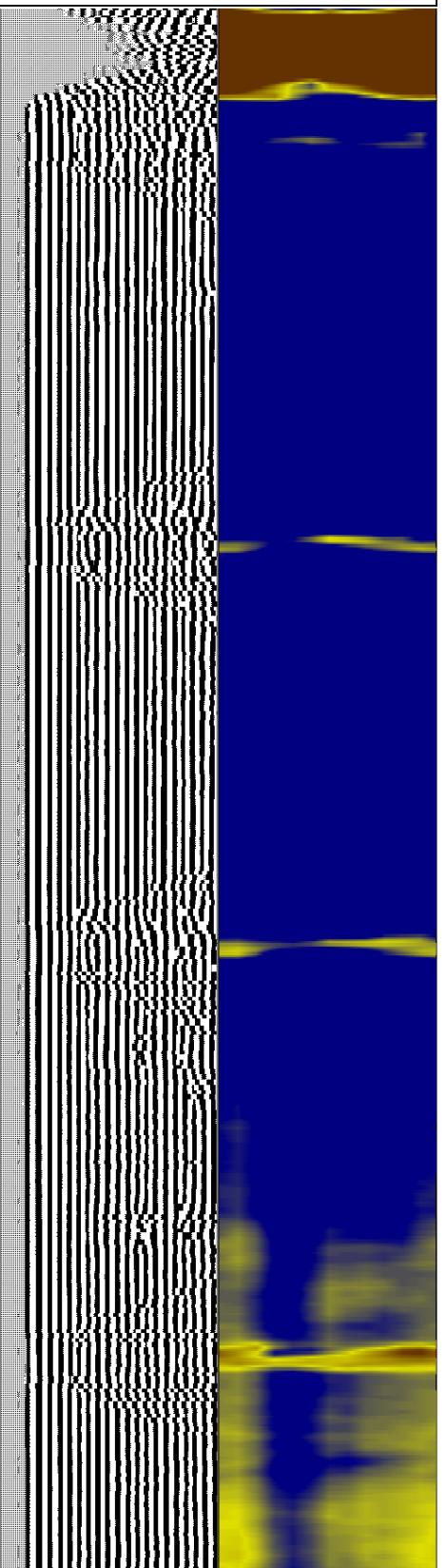
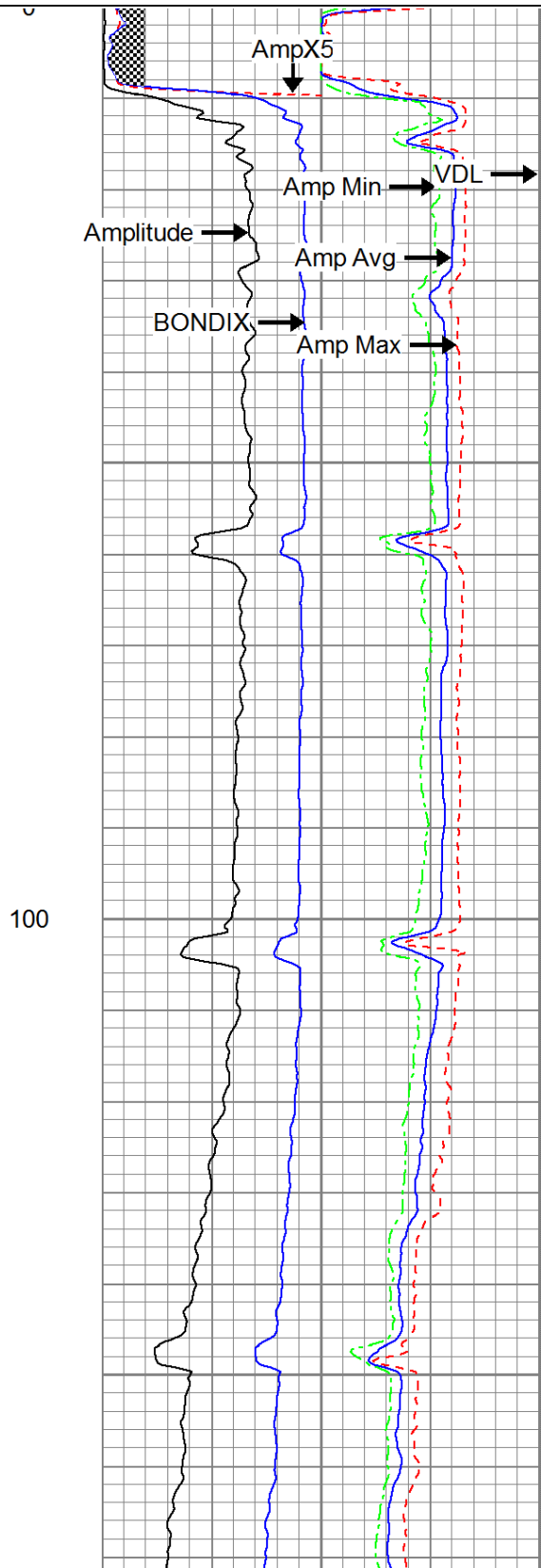
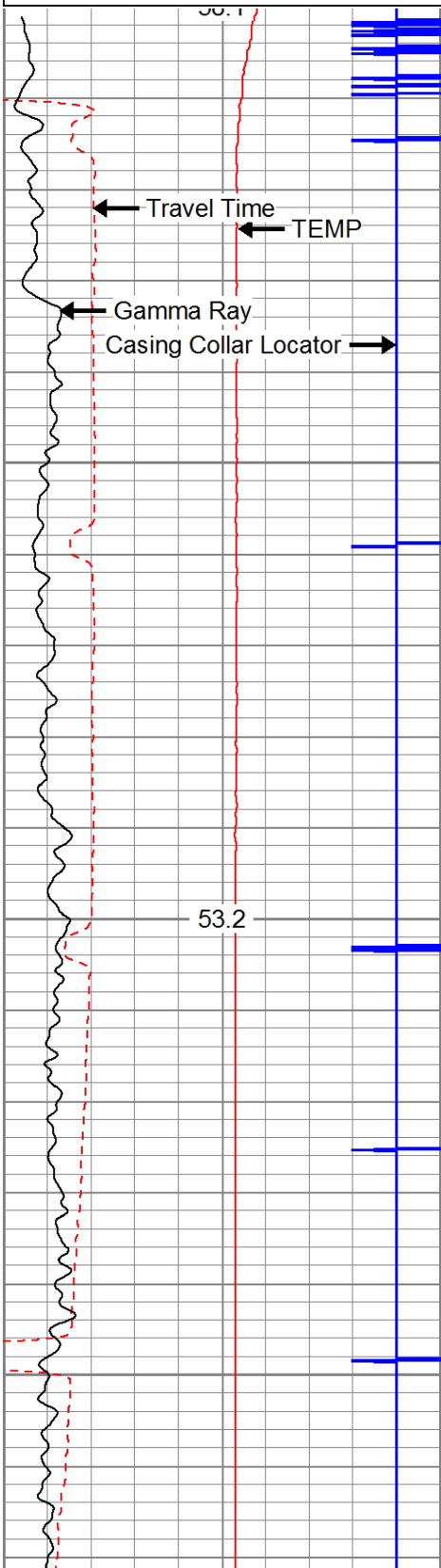
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|-----|--------------------|-----|
| 225 | Travel Time (usec) | 125 |
| 9 | Casing Collars | -1 |
| 0 | Gamma Ray | 180 |
| 0 | TEMP (degF) | 100 |

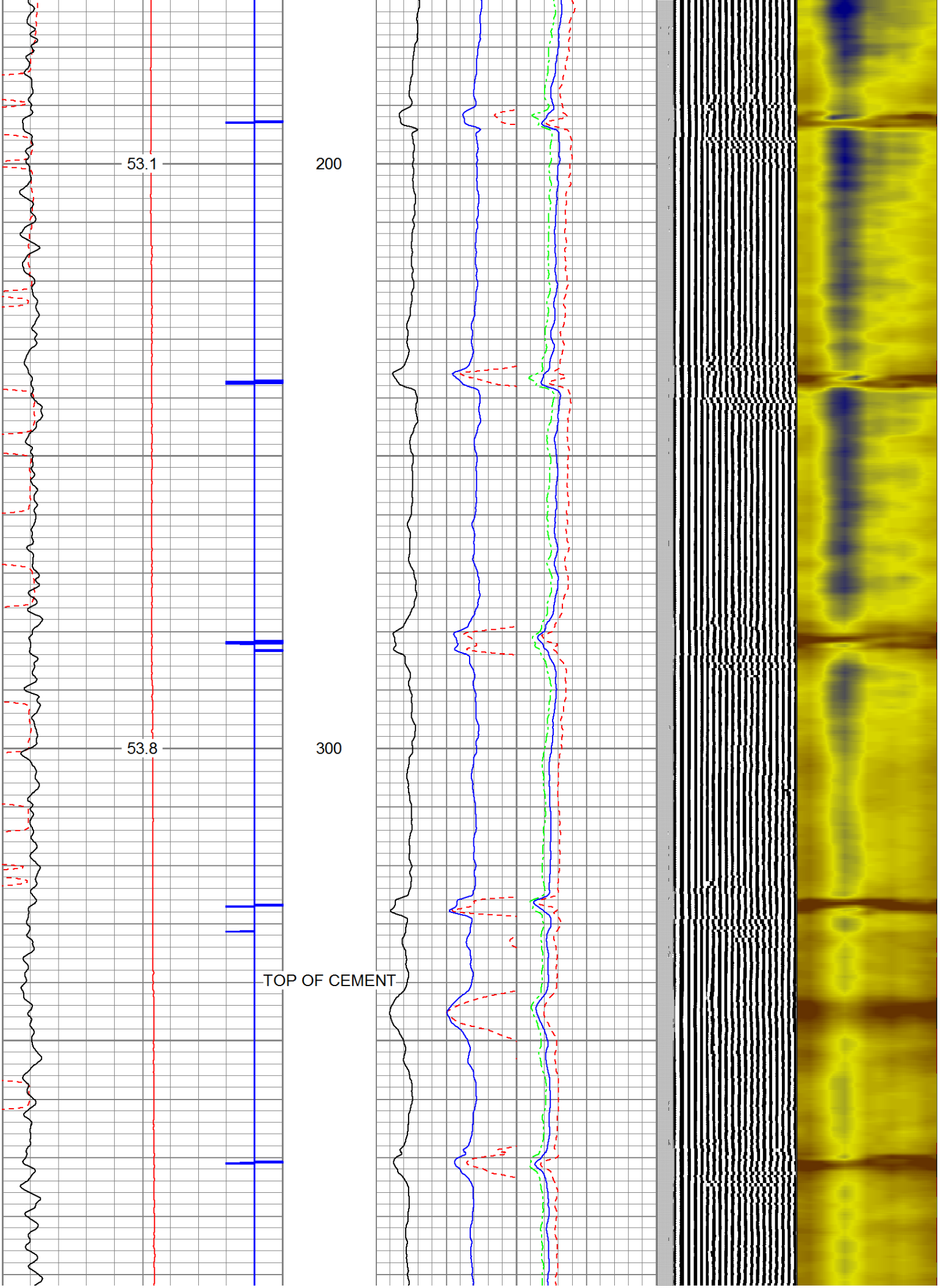
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|------------|-----|---------|-----|-----|-----|------|
| Amplitude | 0 | Amp Avg | 150 | 200 | VDL | 1200 |
| (mV) | 100 | Amp Max | 150 | | | |
| AmpX5 (mV) | 20 | Amp Min | 150 | | | |
| BONDIX | 0 | | | | | |

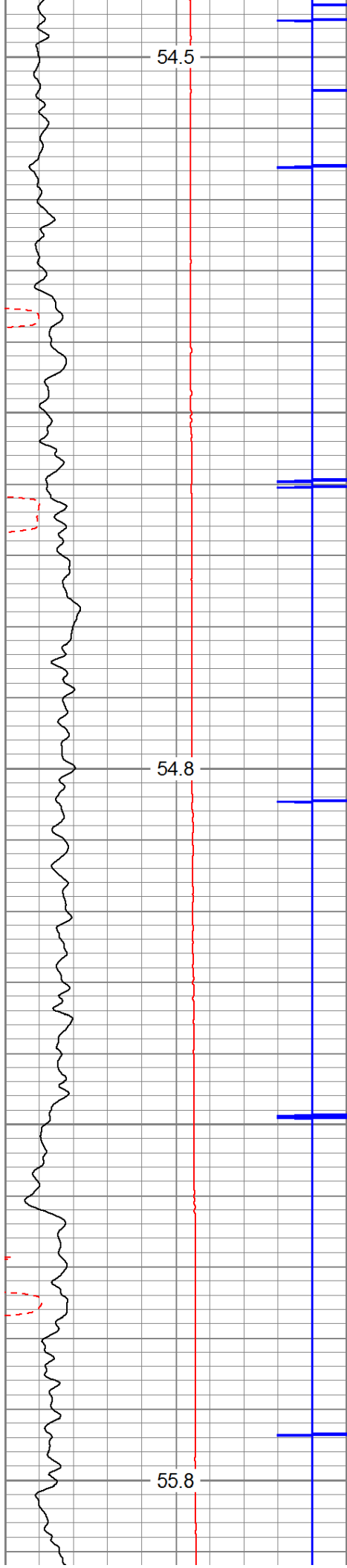
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|----|------------|----|
| 1 | Sector Map | 12 |
| 20 | | 60 |



TEMP (degF)



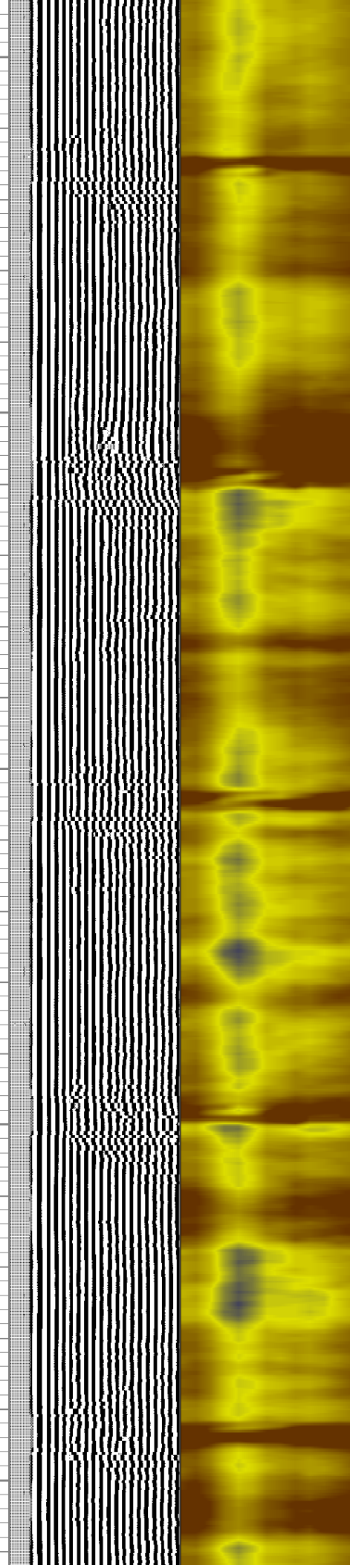
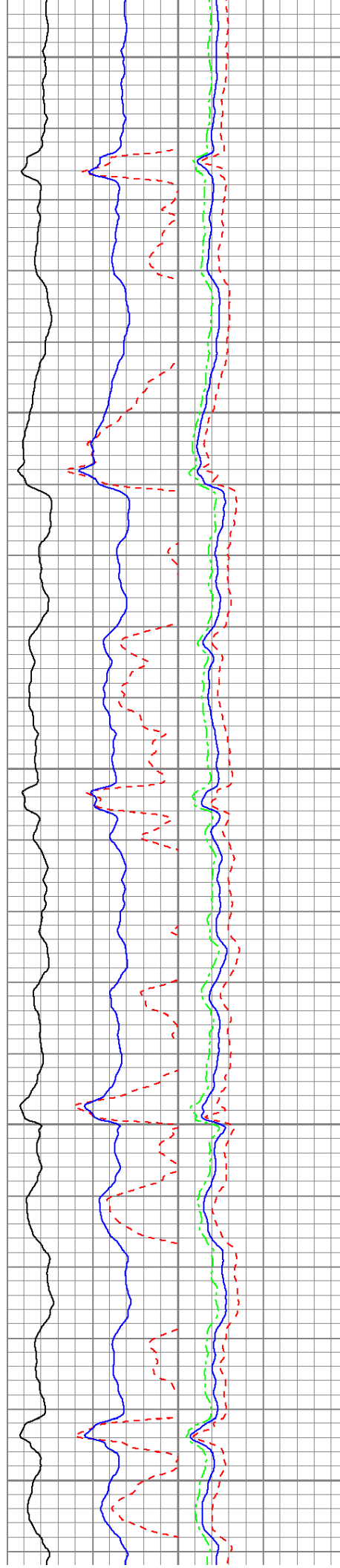


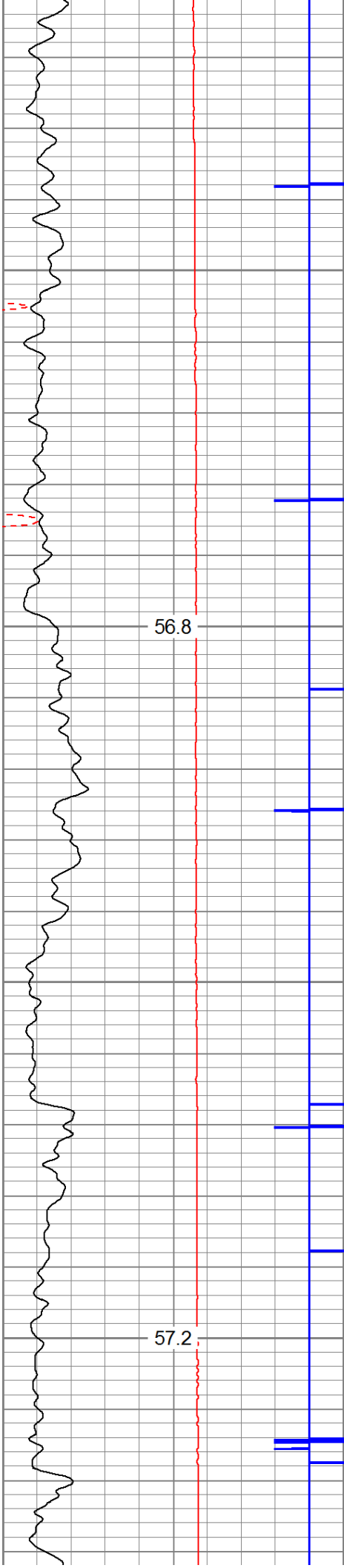


400

500

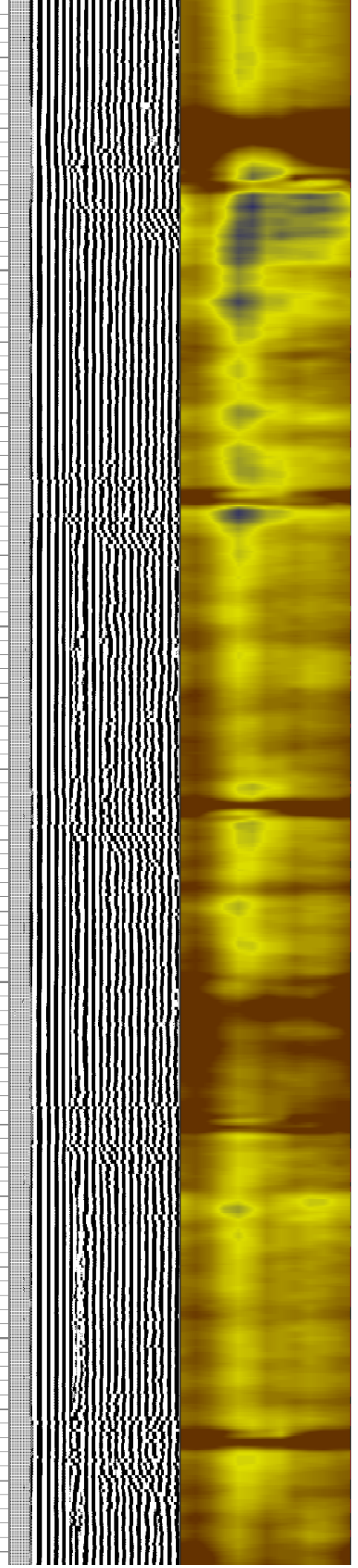
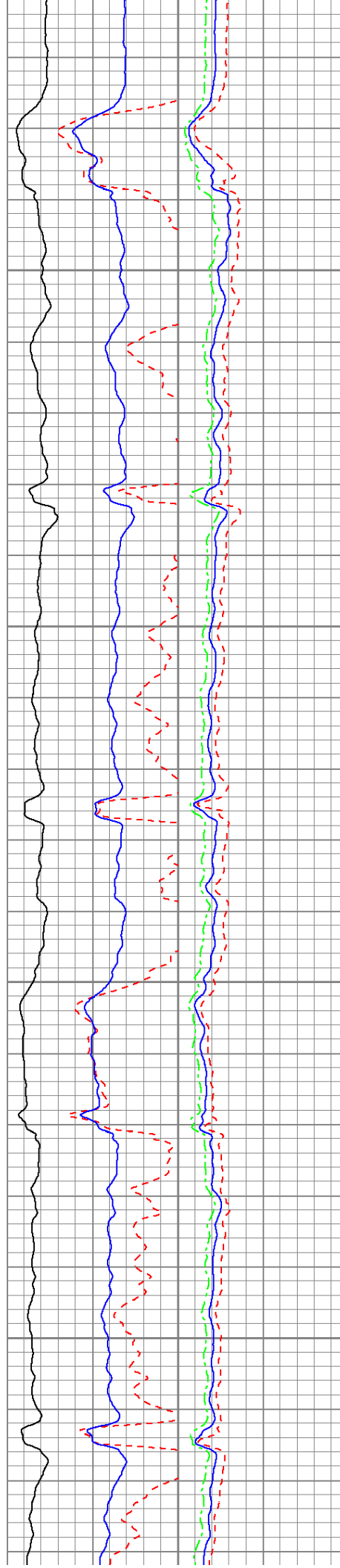
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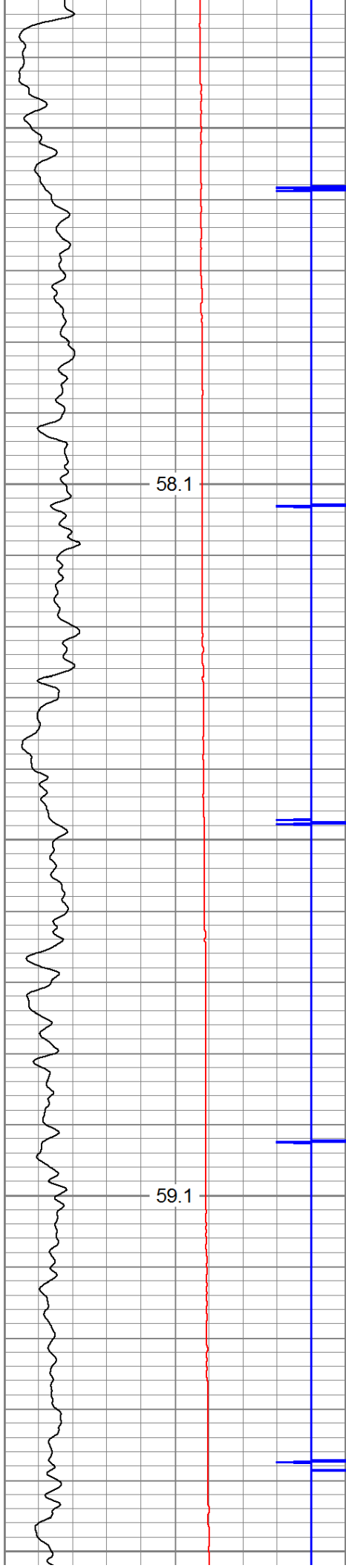




700

800



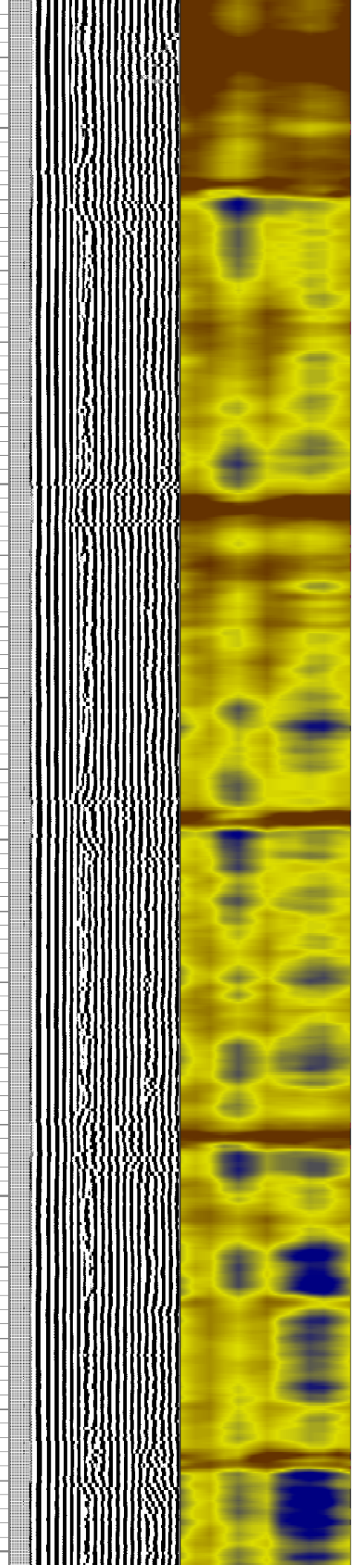
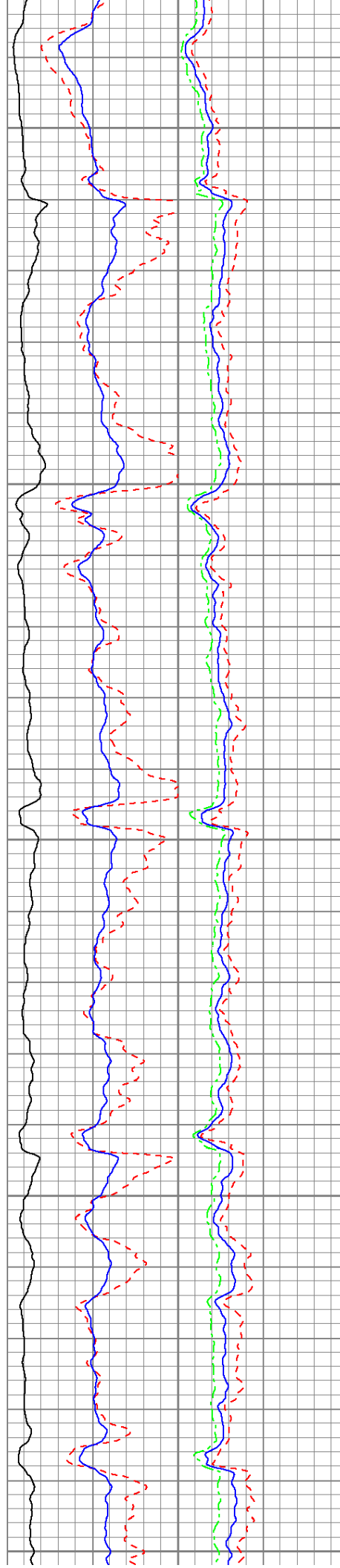


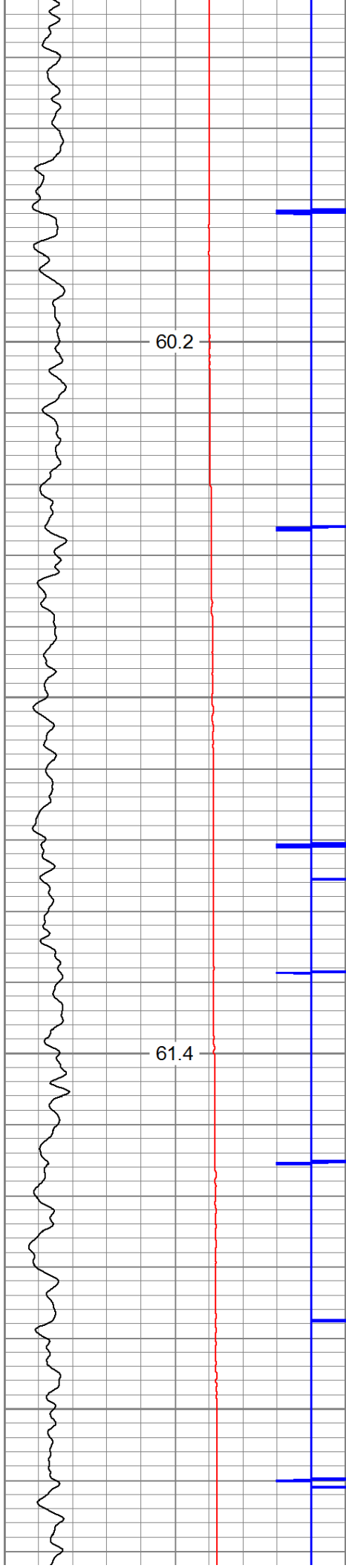
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59.1

900

1000



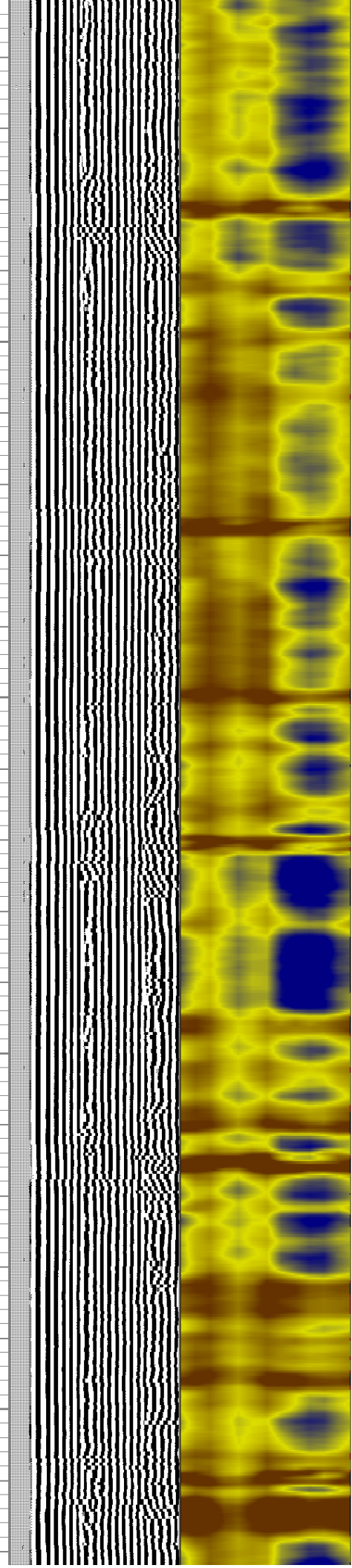
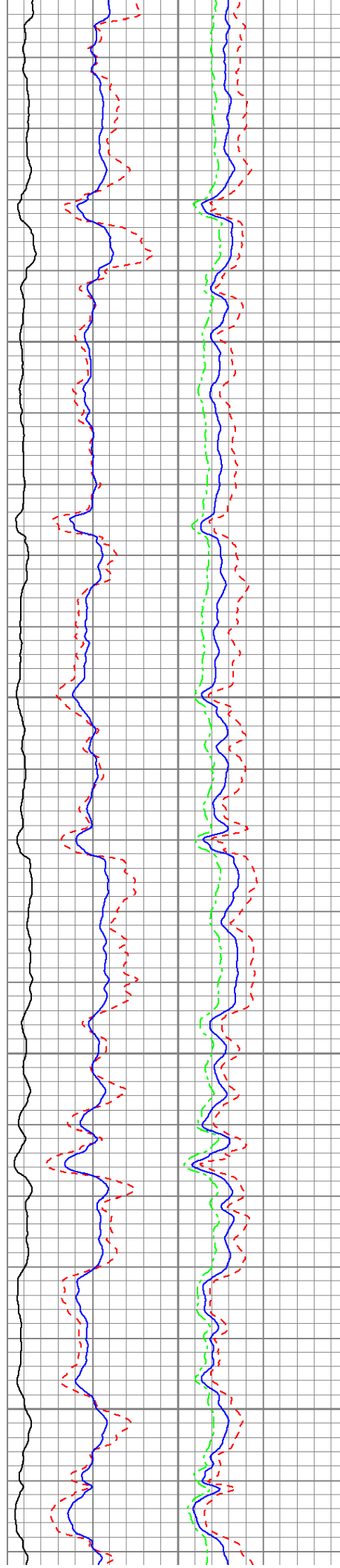


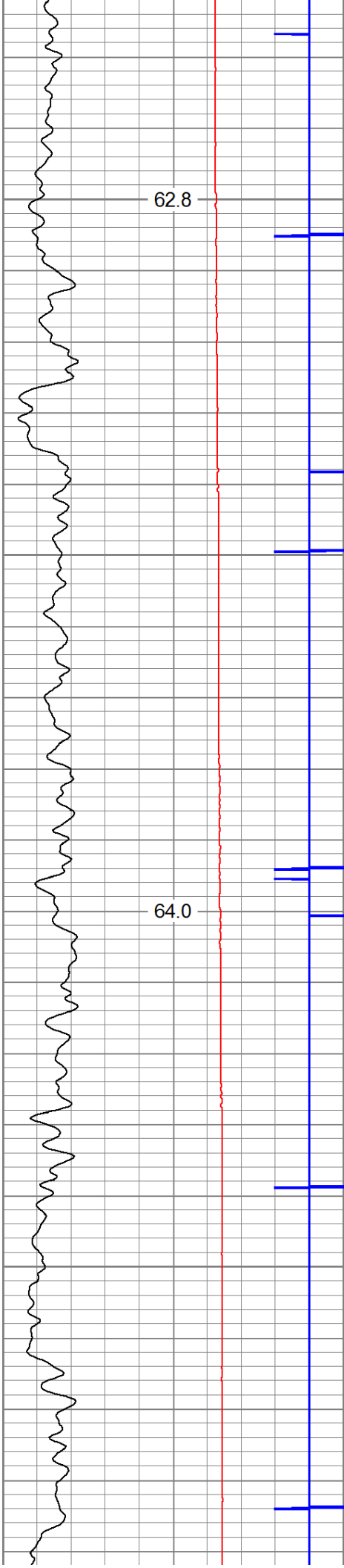
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1100

61.4

1200



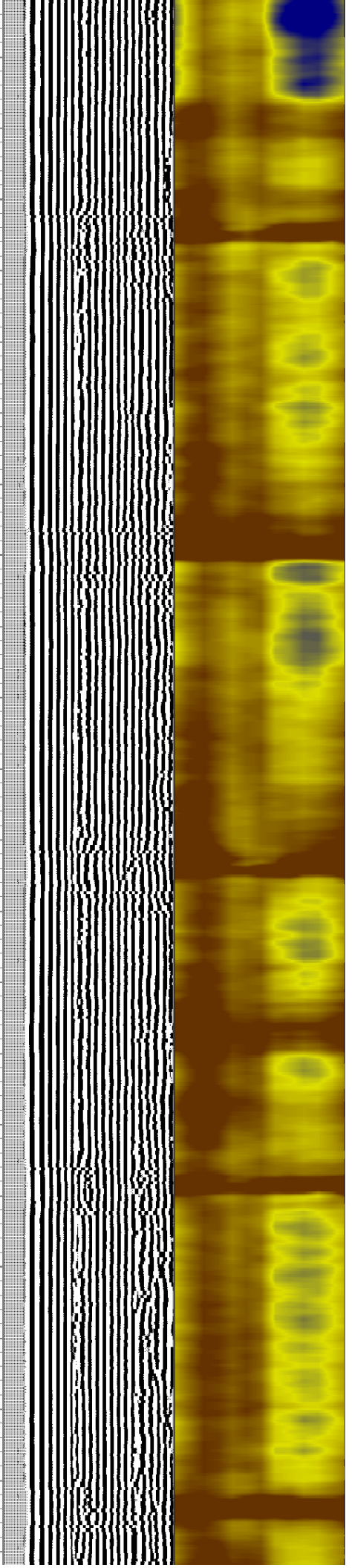
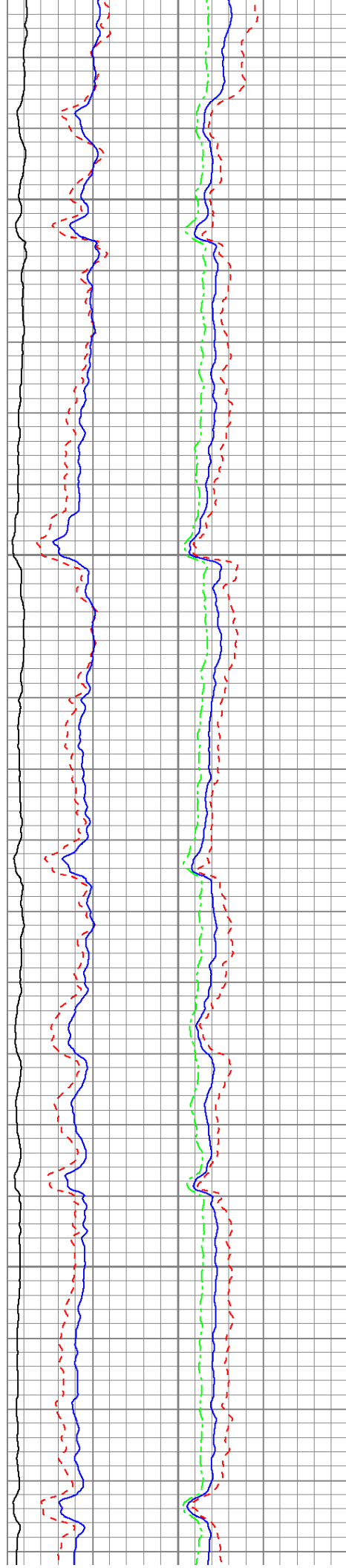


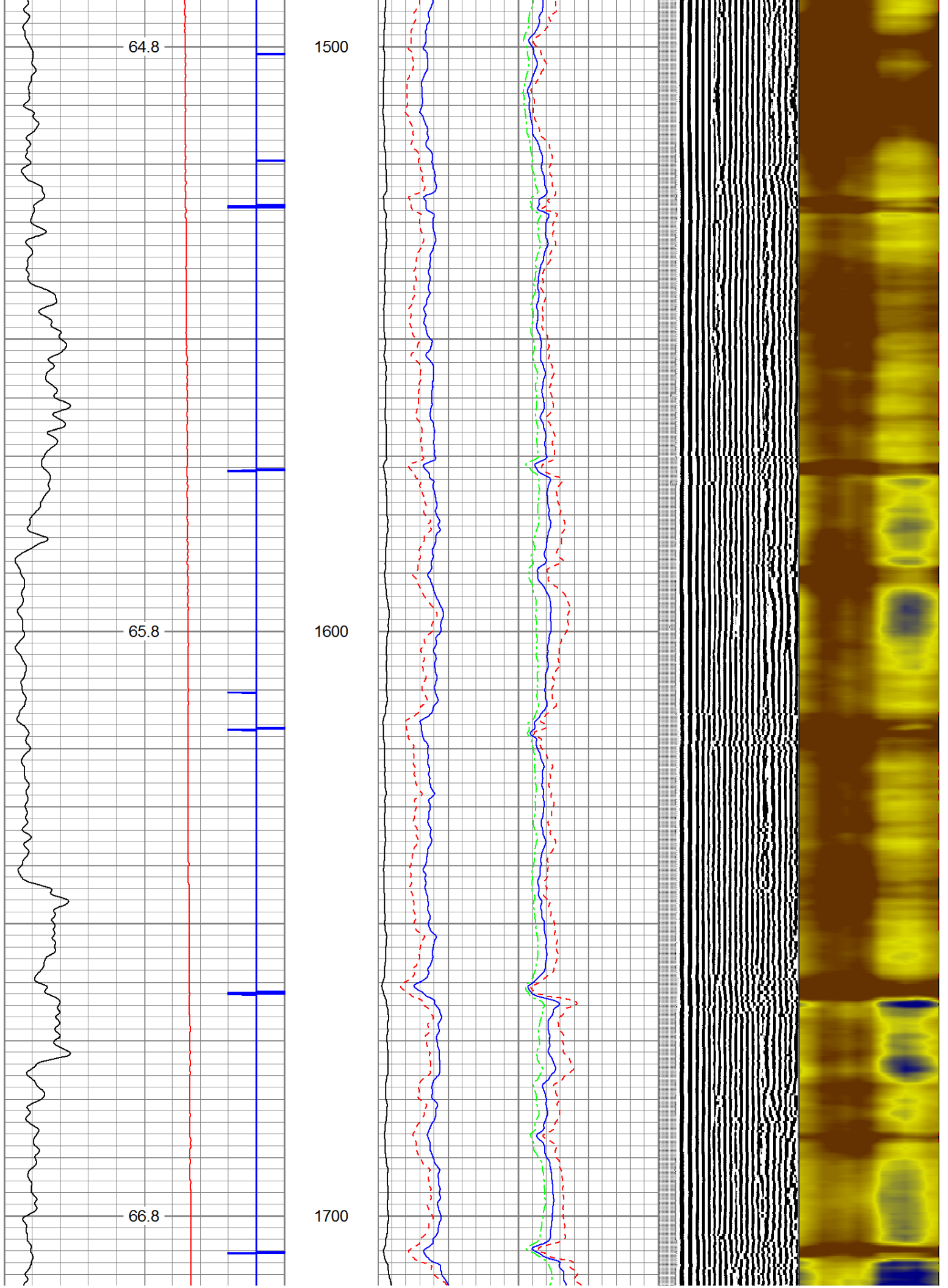
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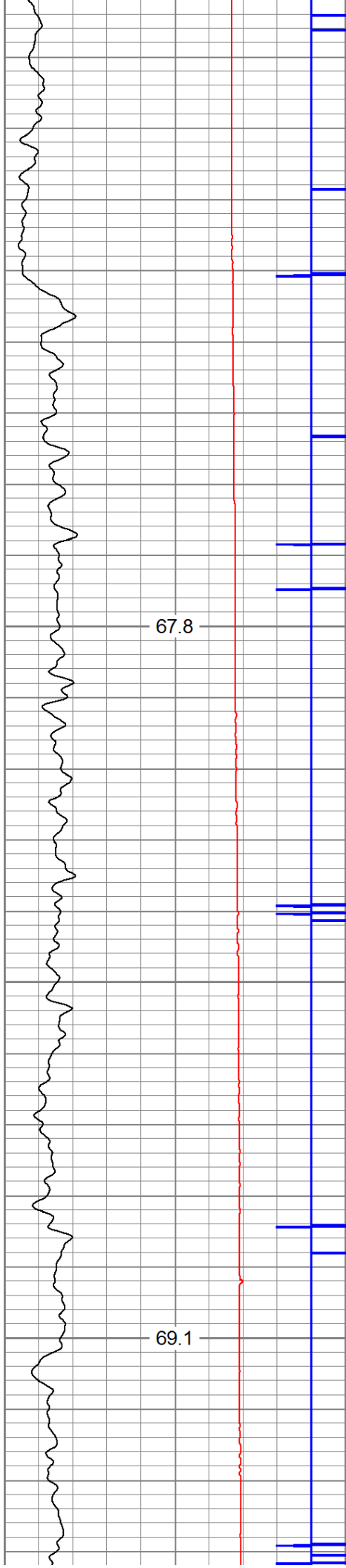
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1400

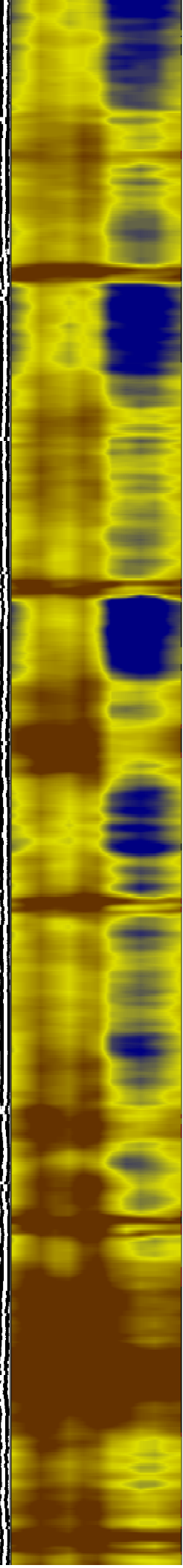
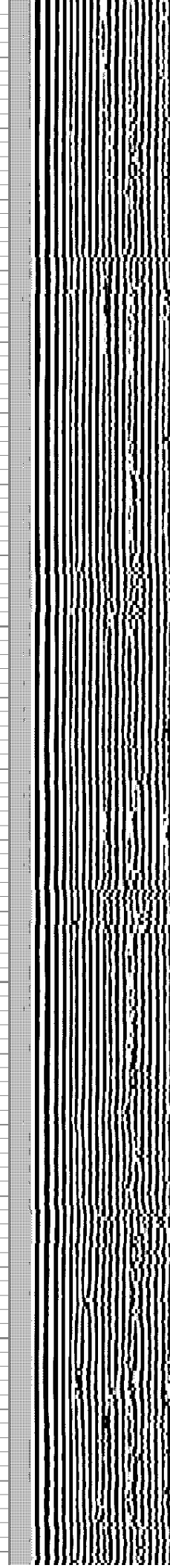
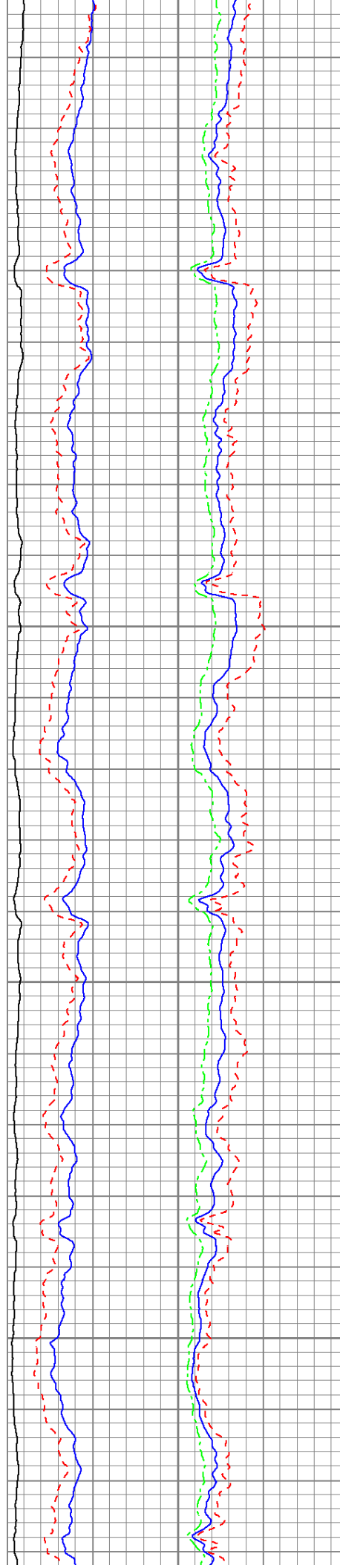


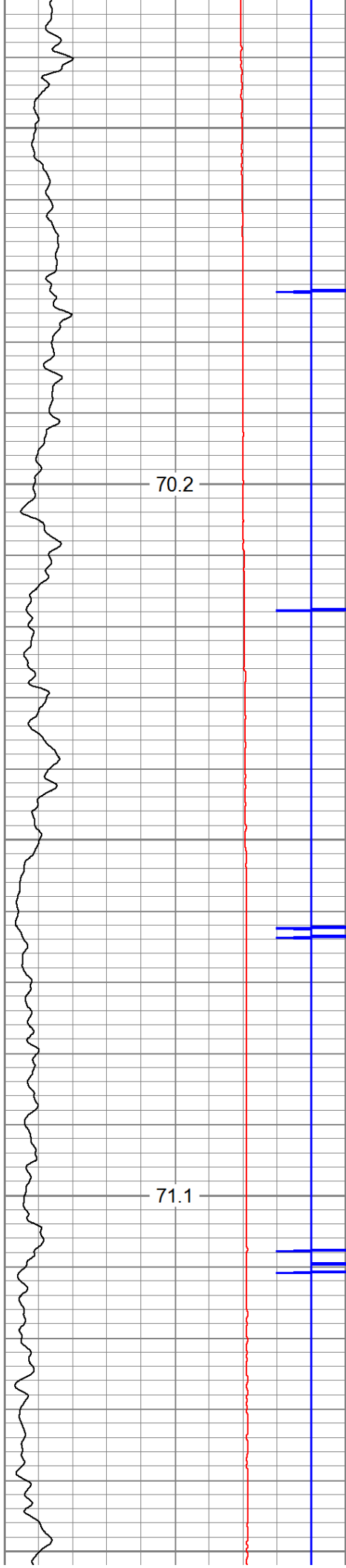




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1900



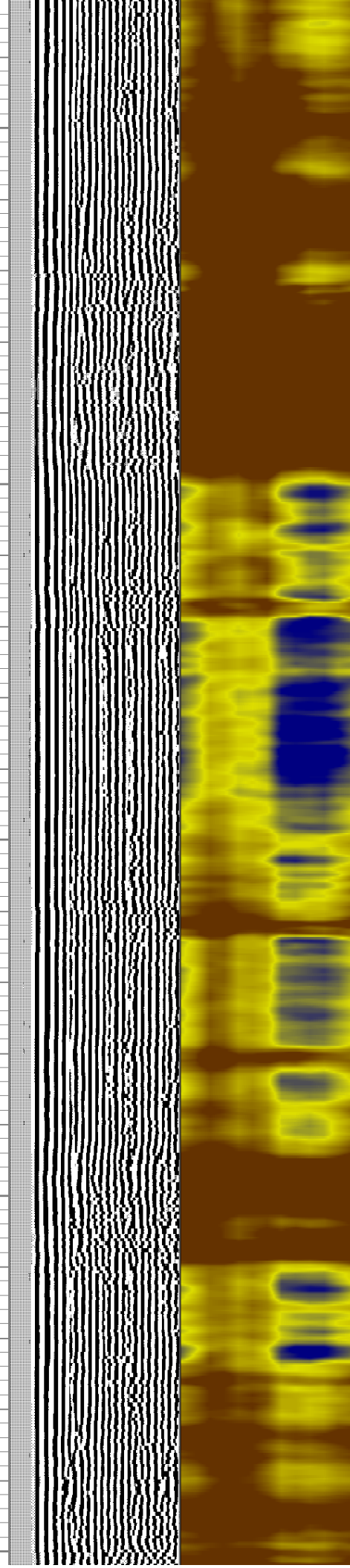
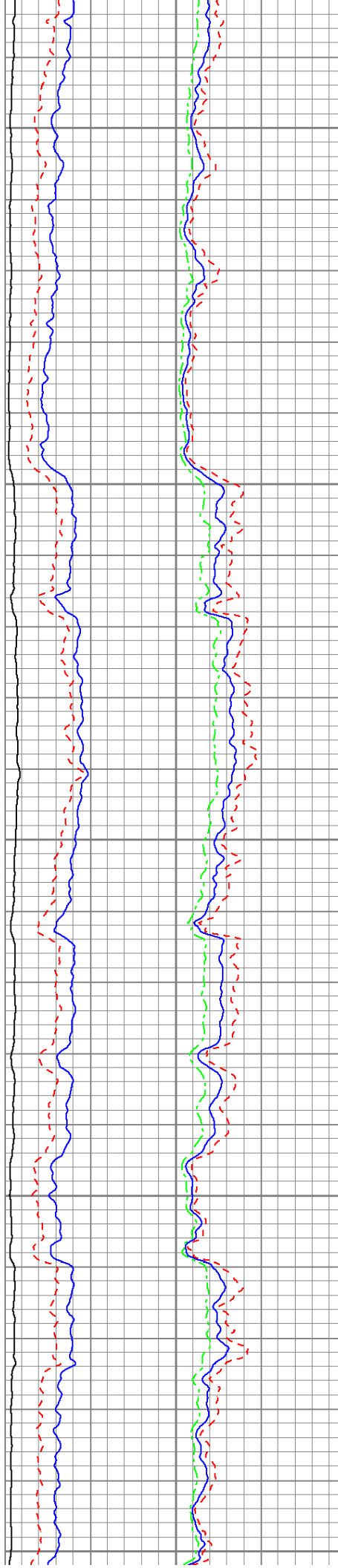


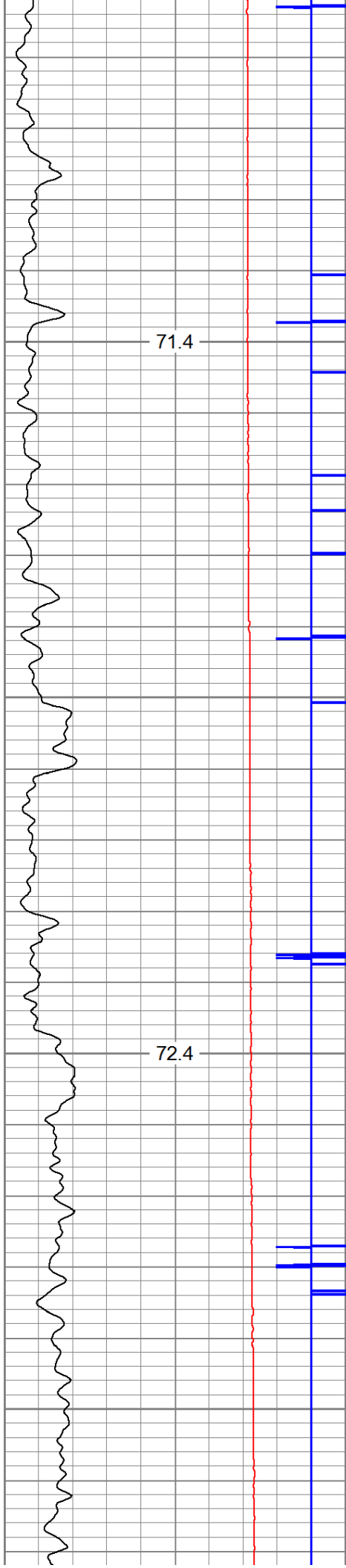
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71.1

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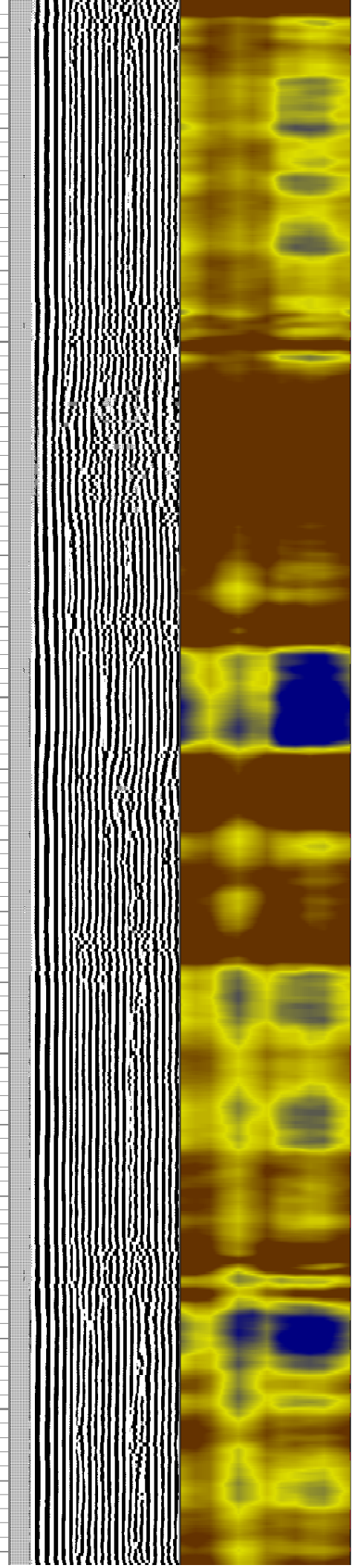
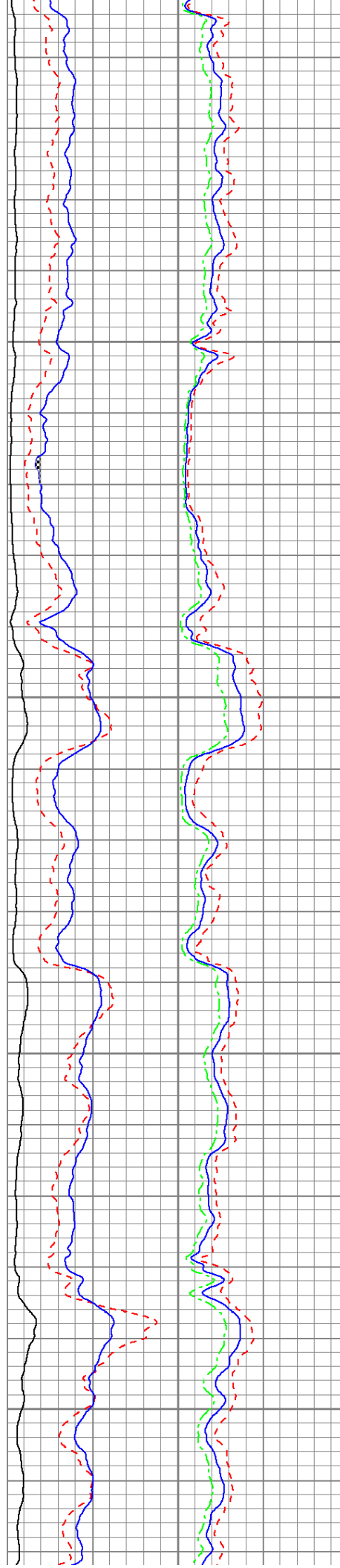
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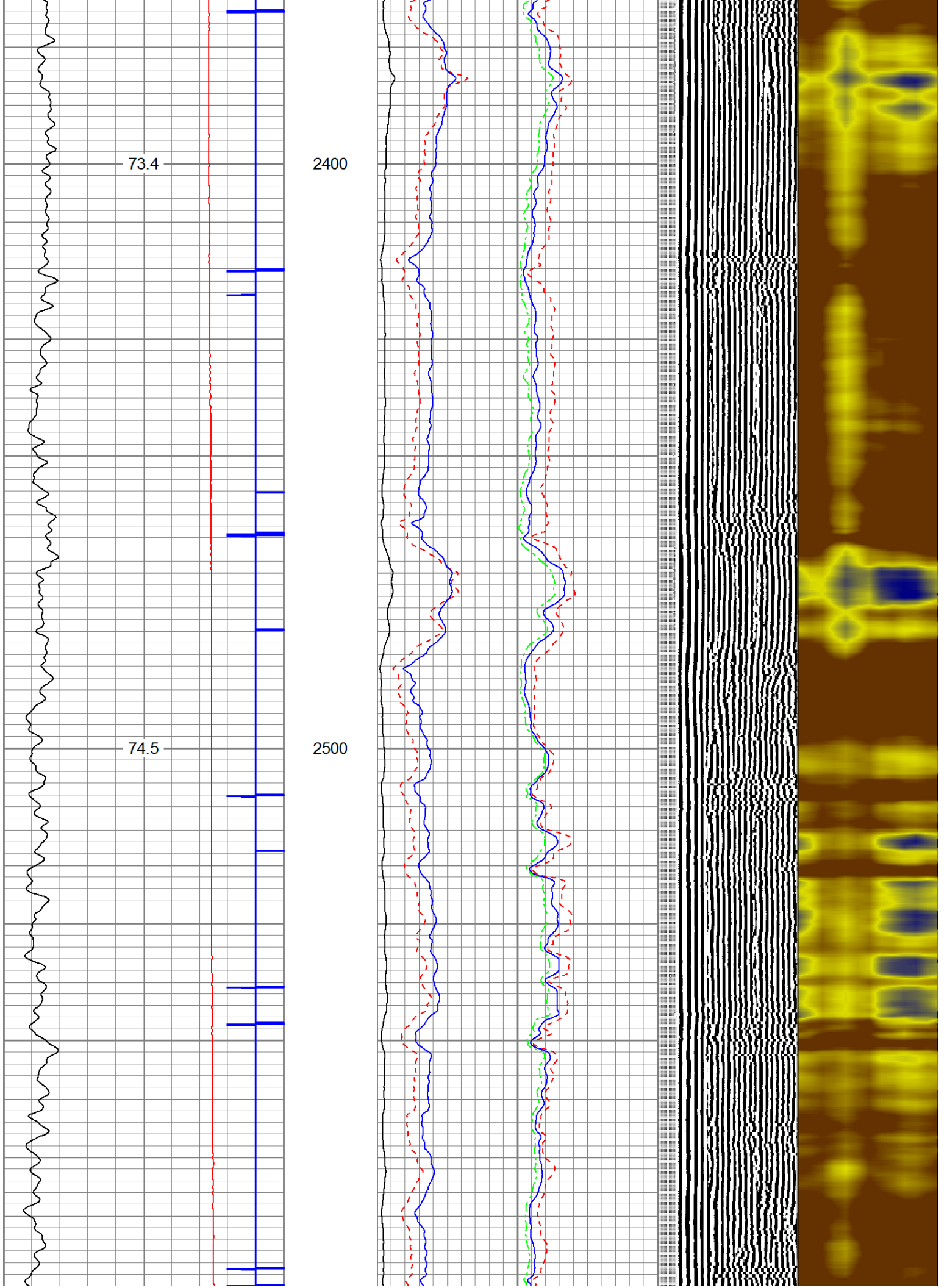


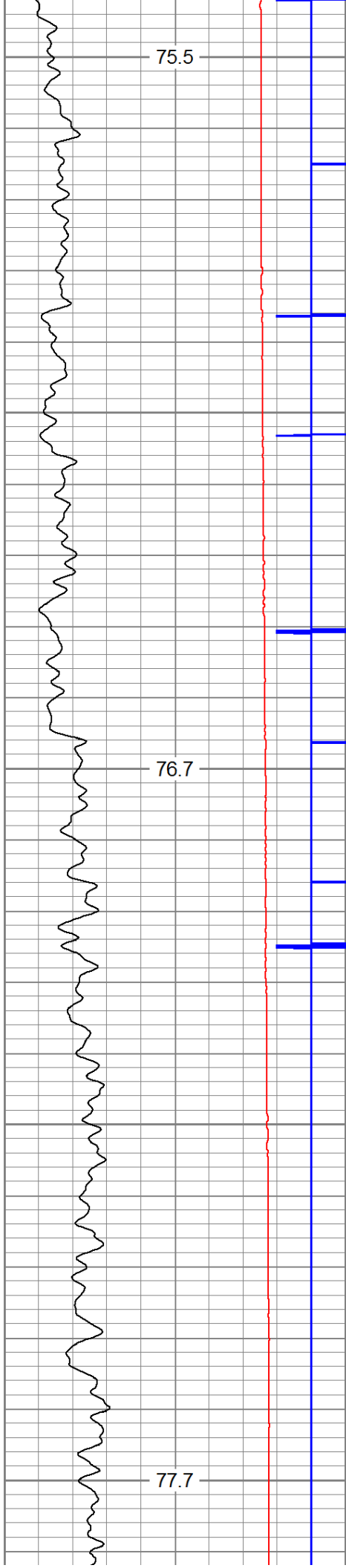


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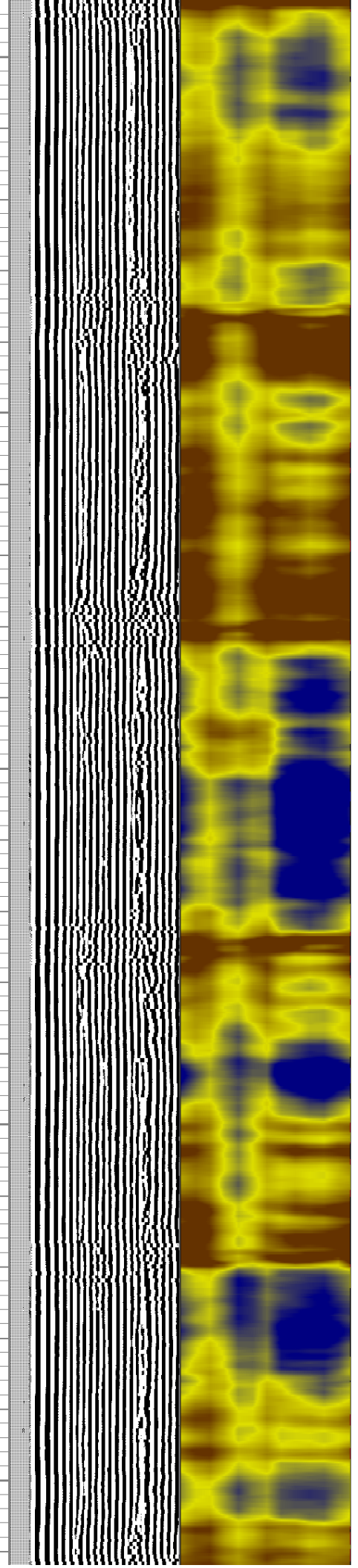
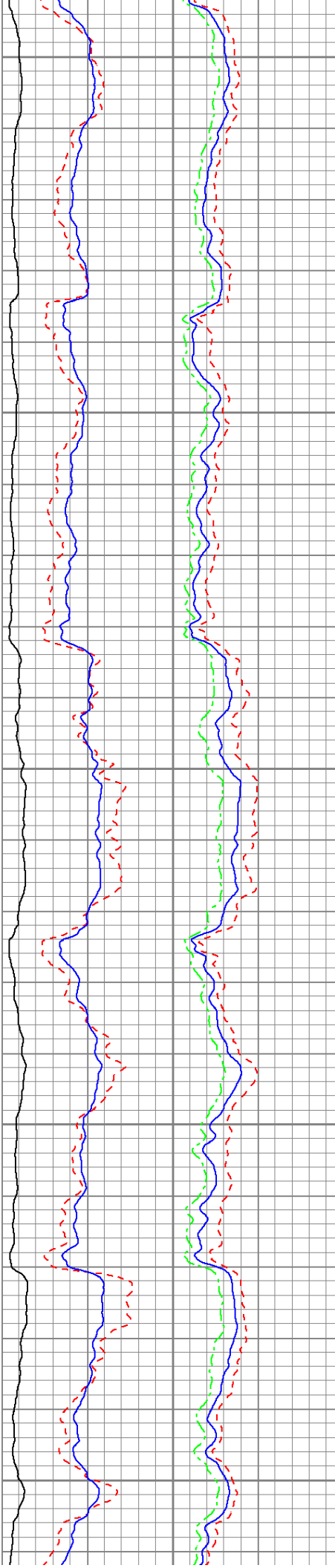


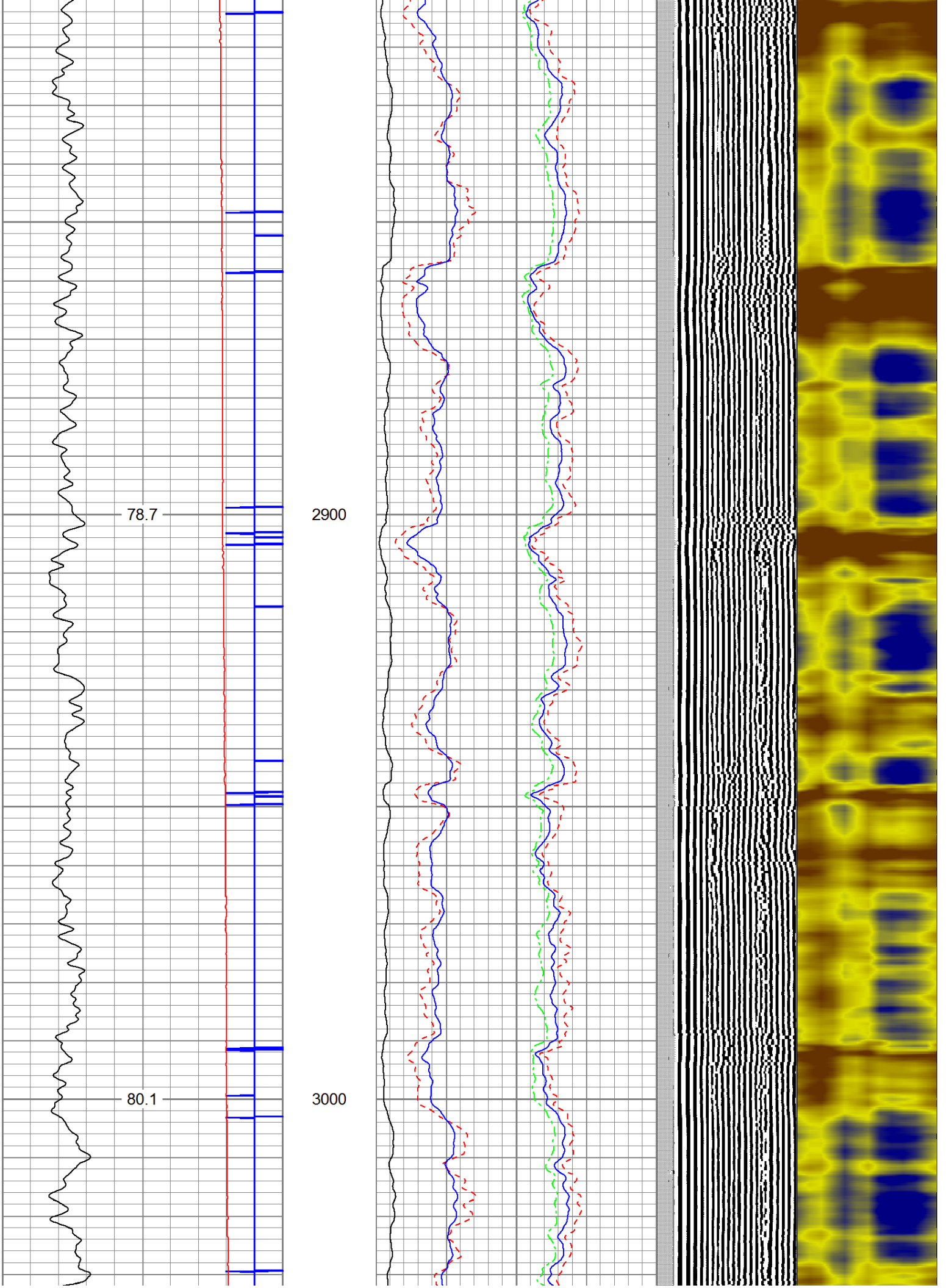


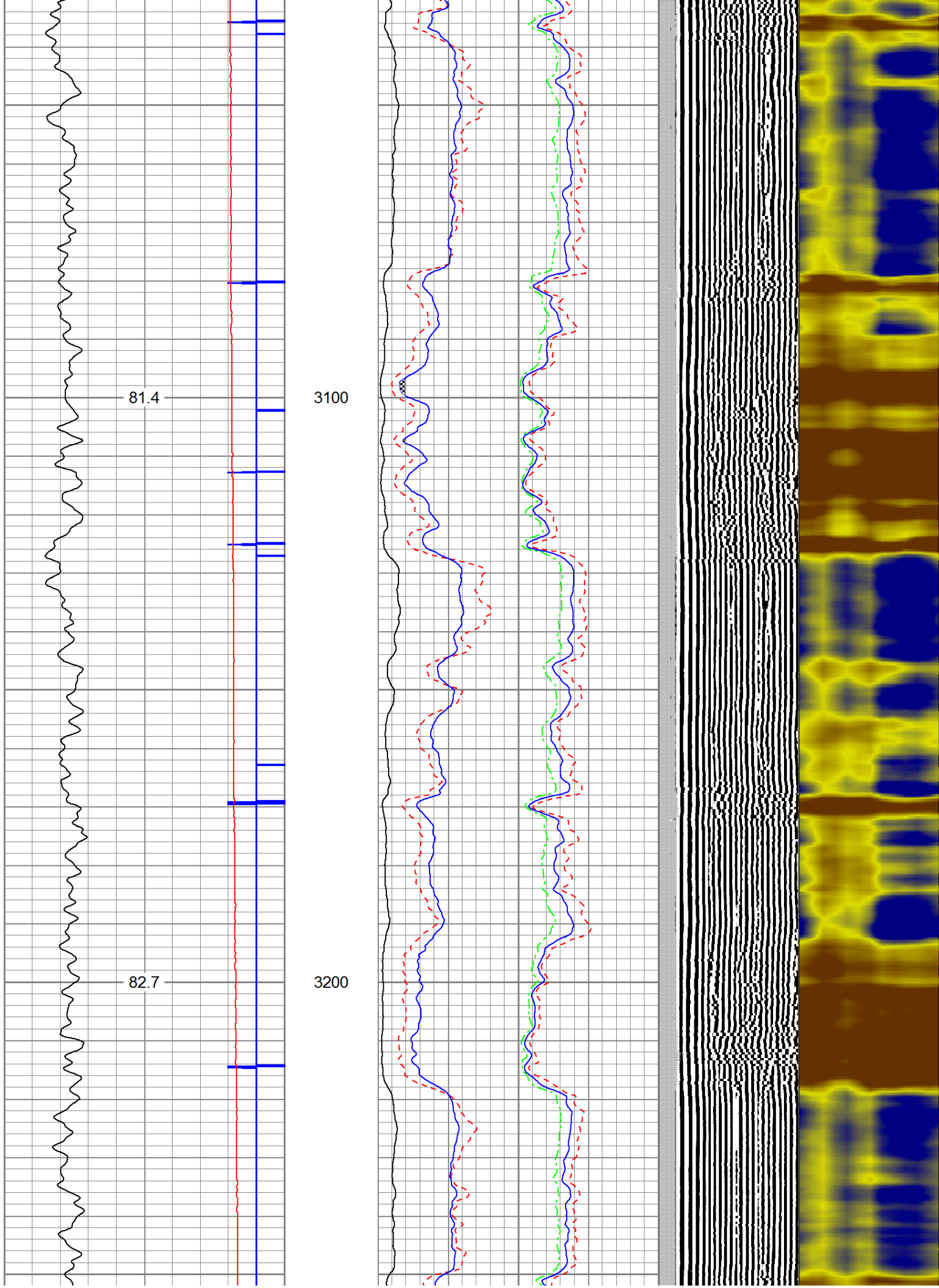
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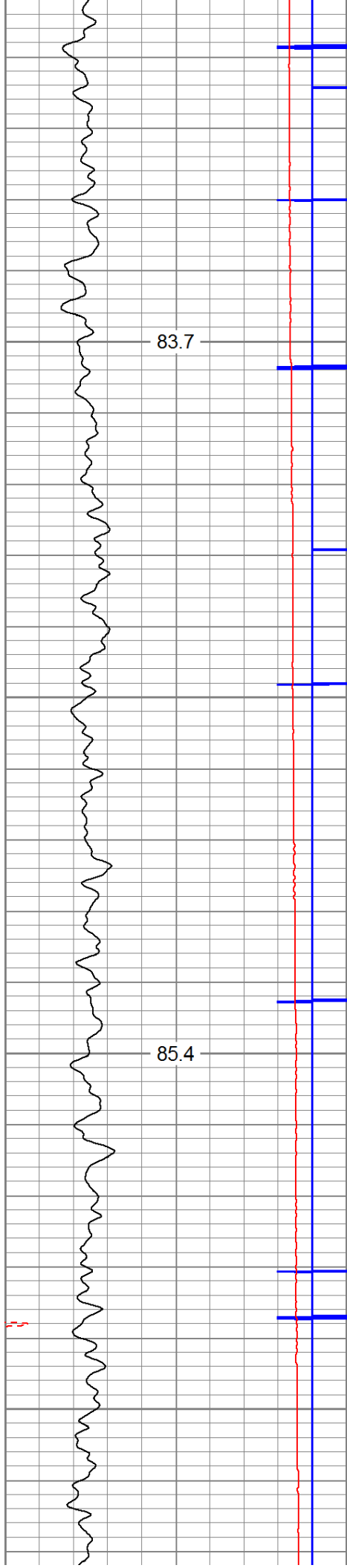
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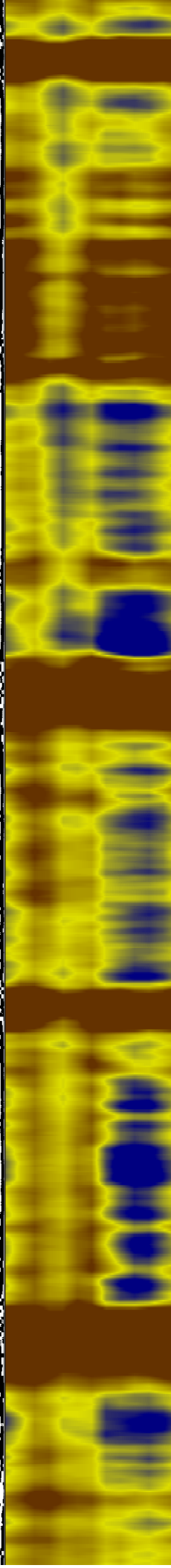
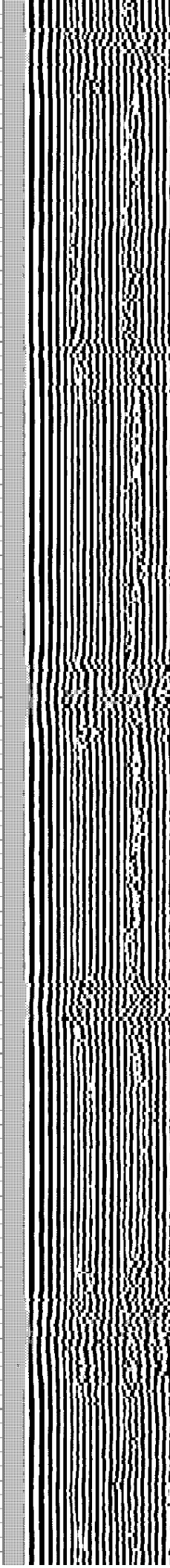
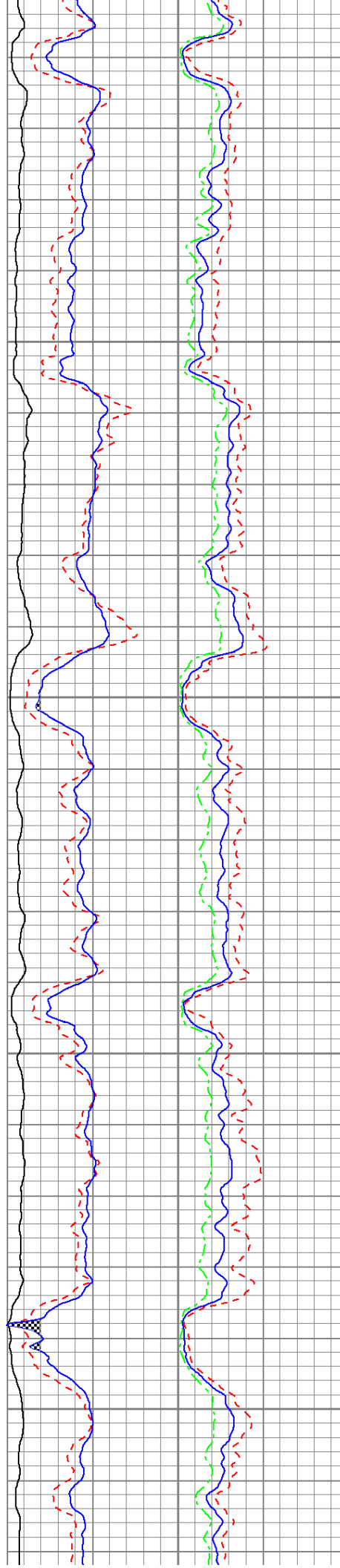


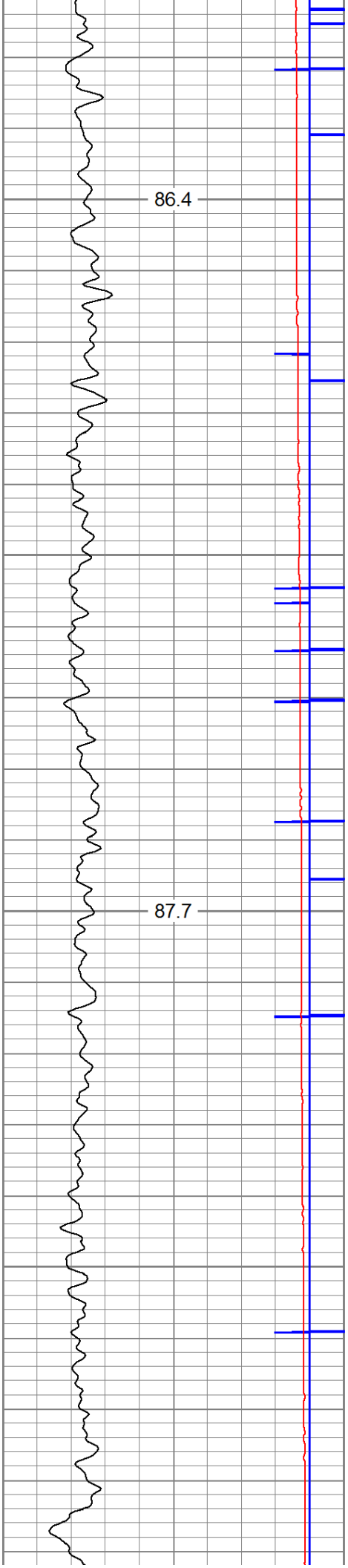




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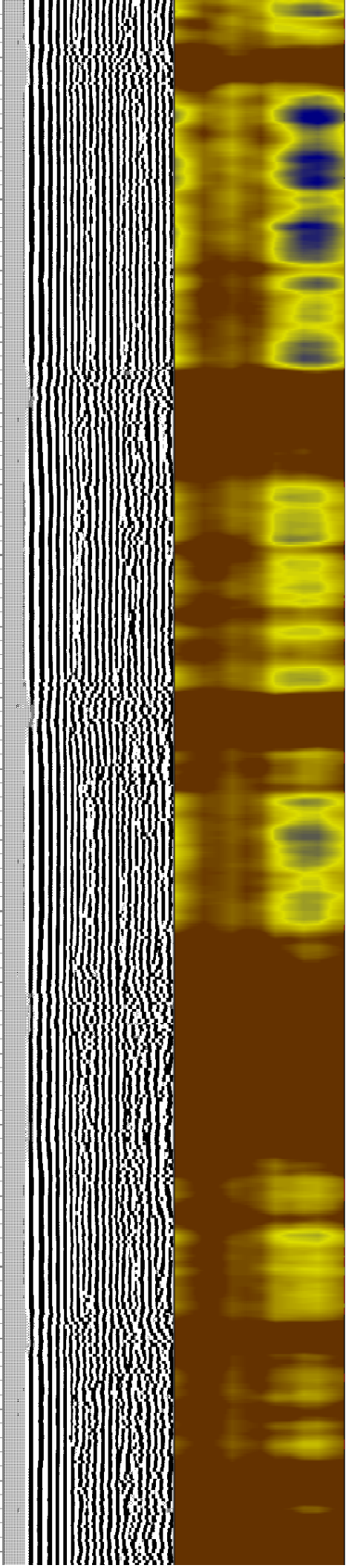
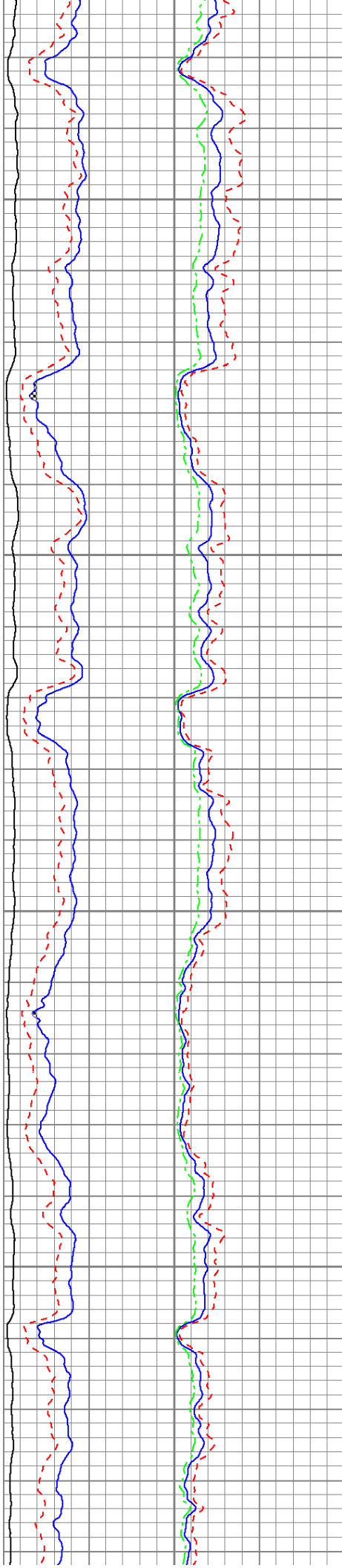
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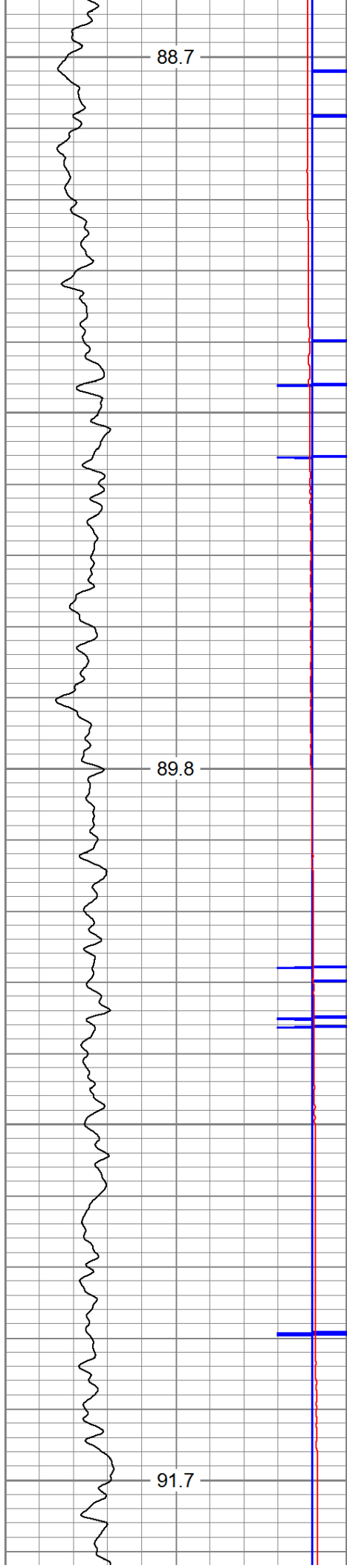




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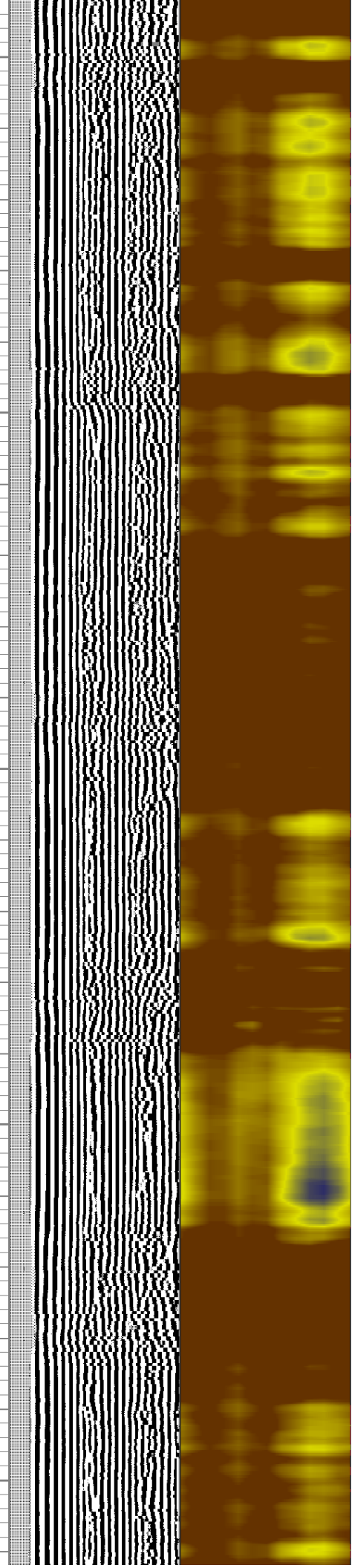
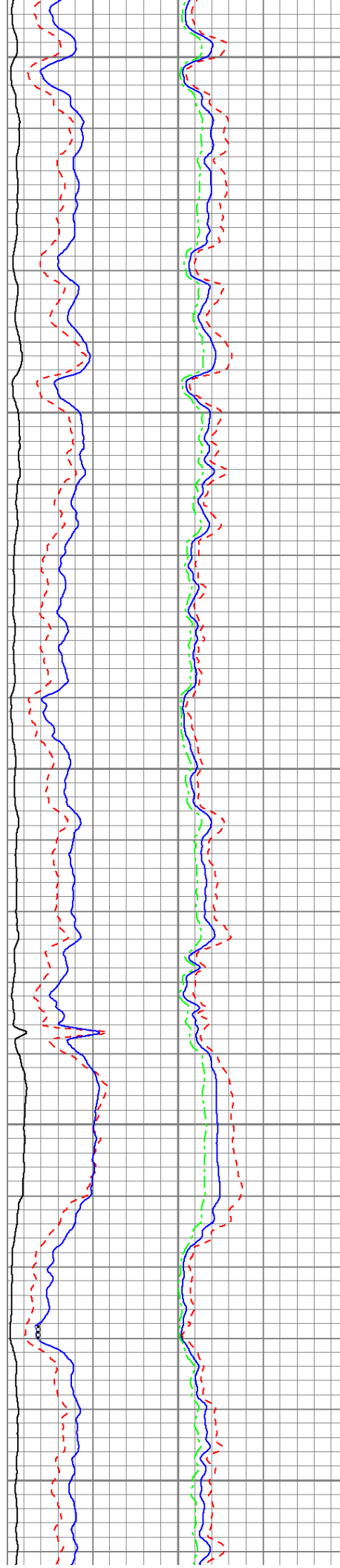


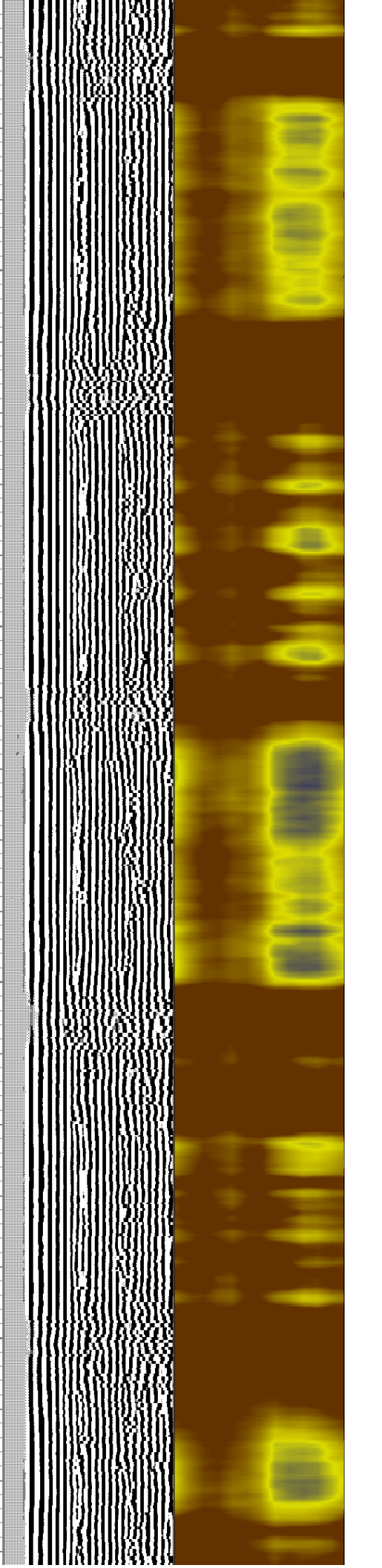
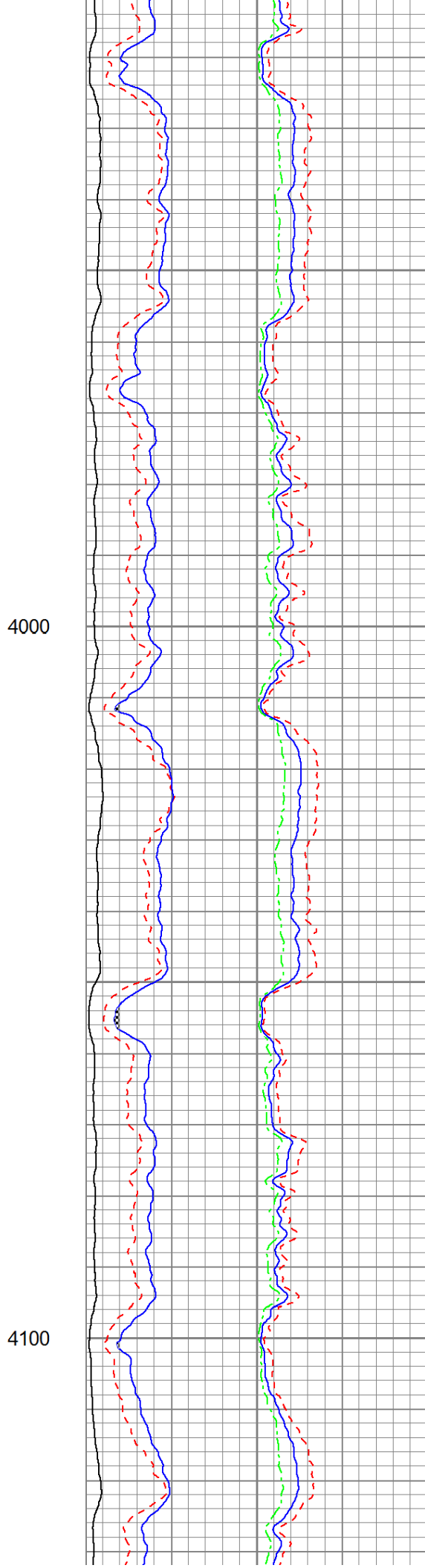
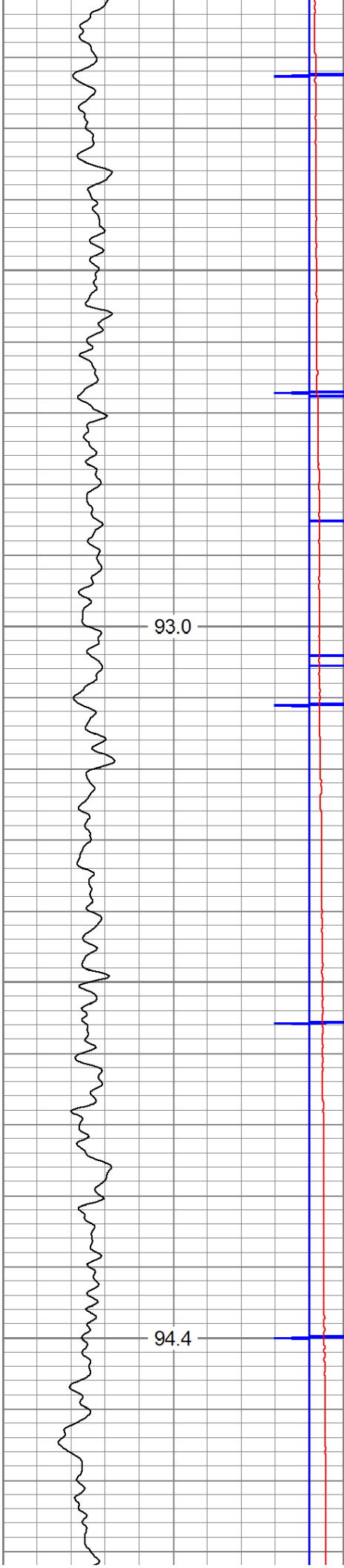


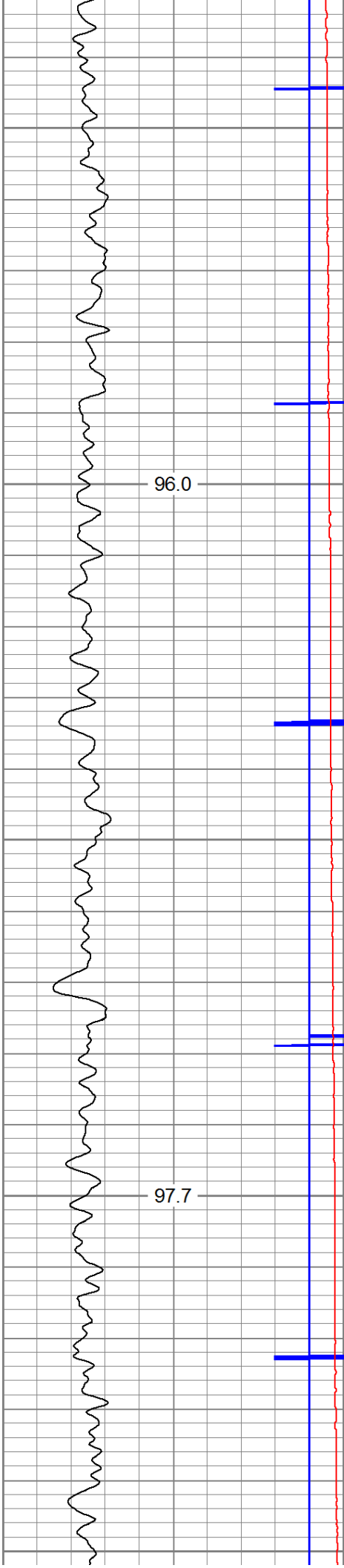
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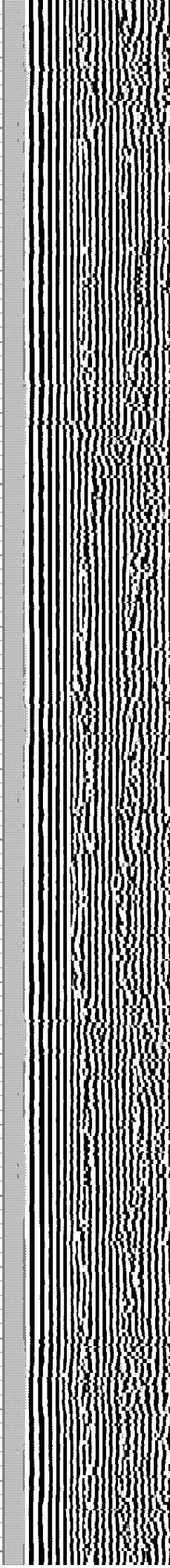
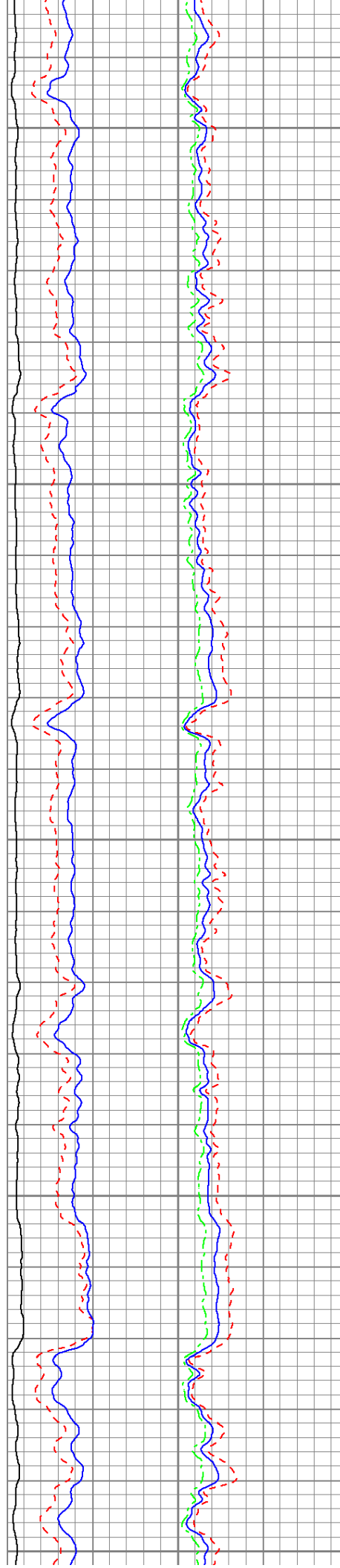


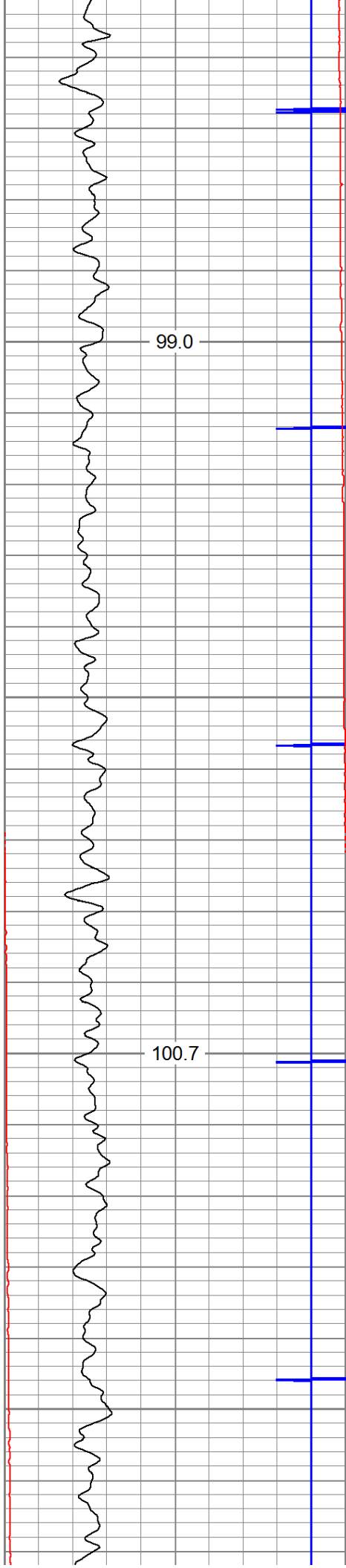
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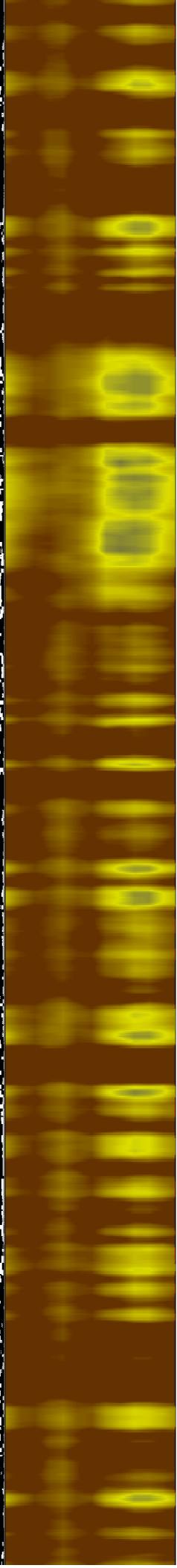
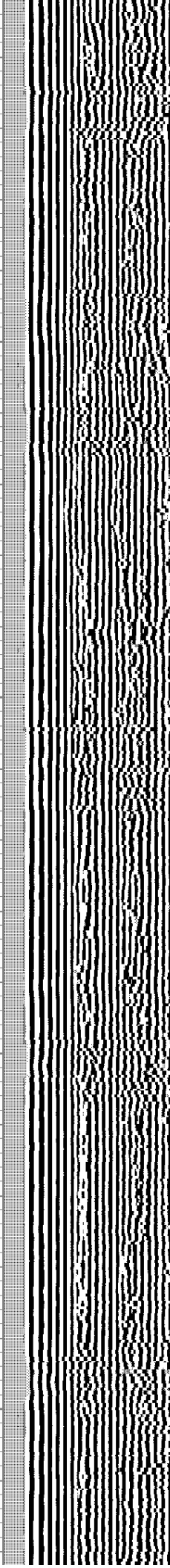
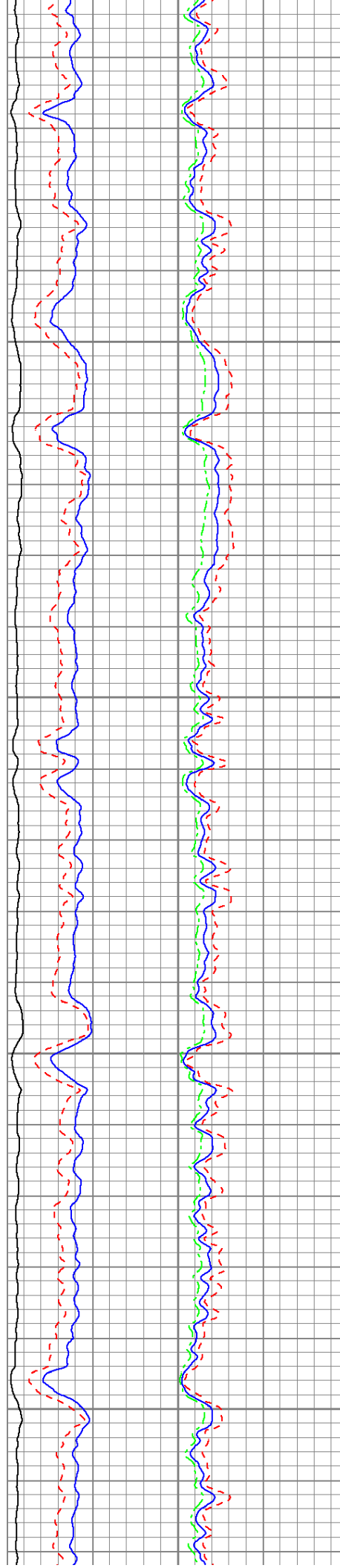
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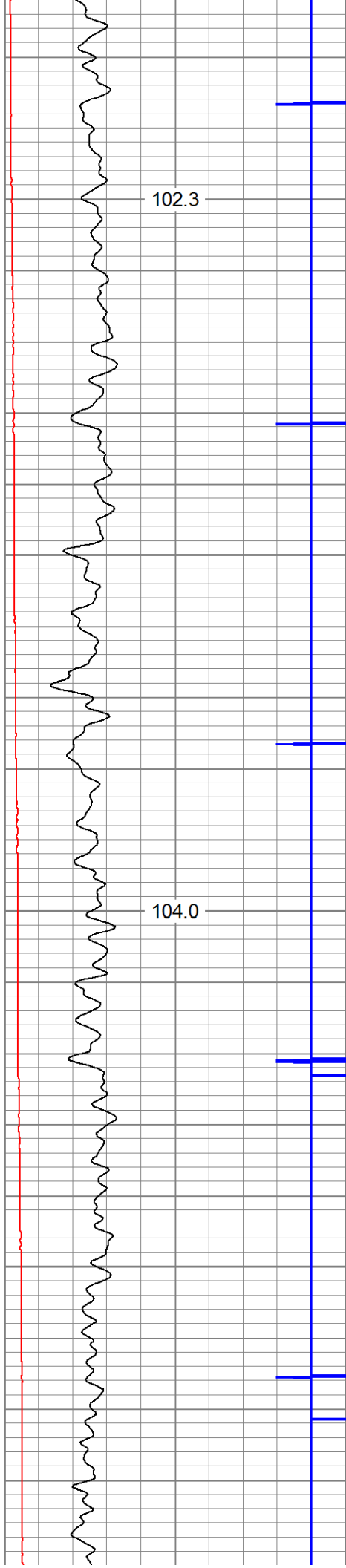




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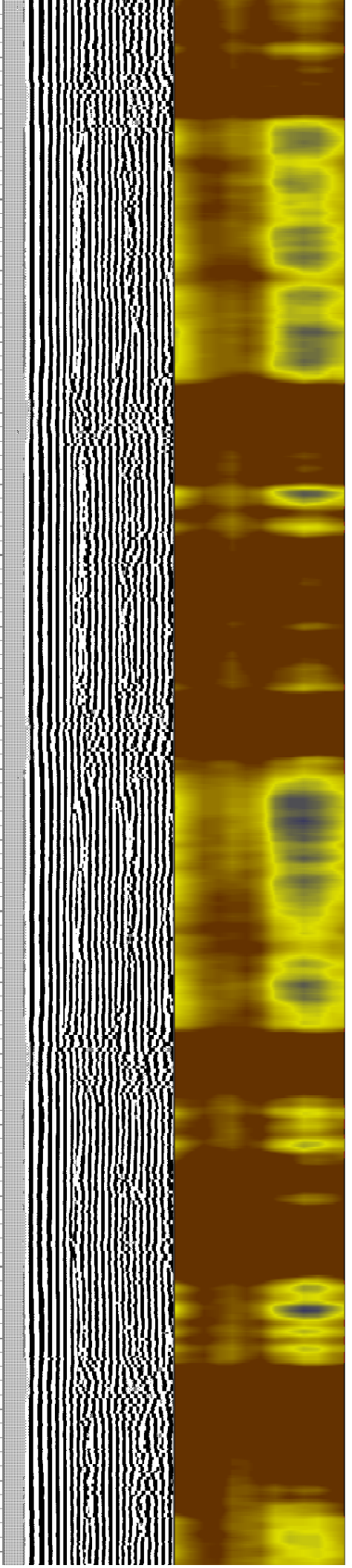
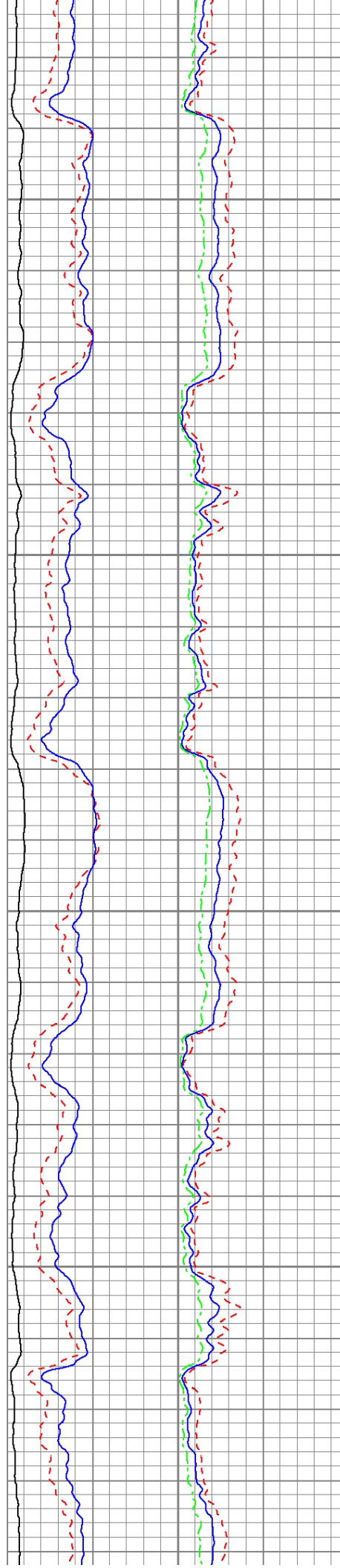
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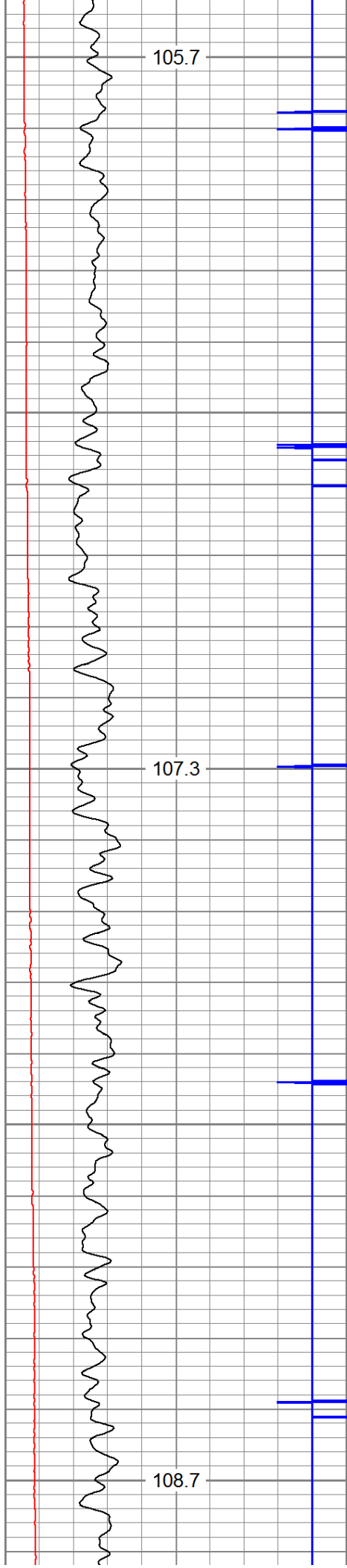




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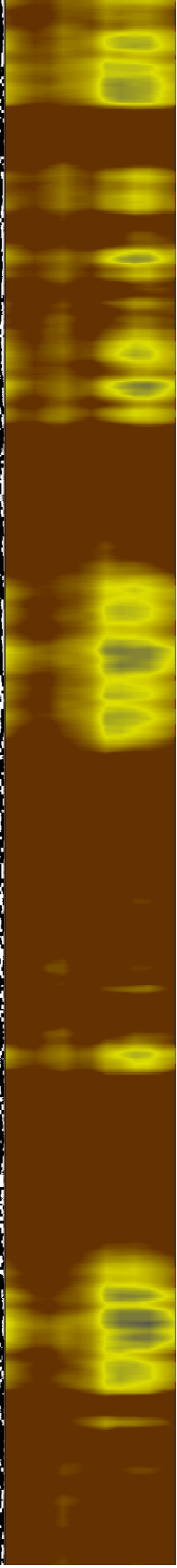
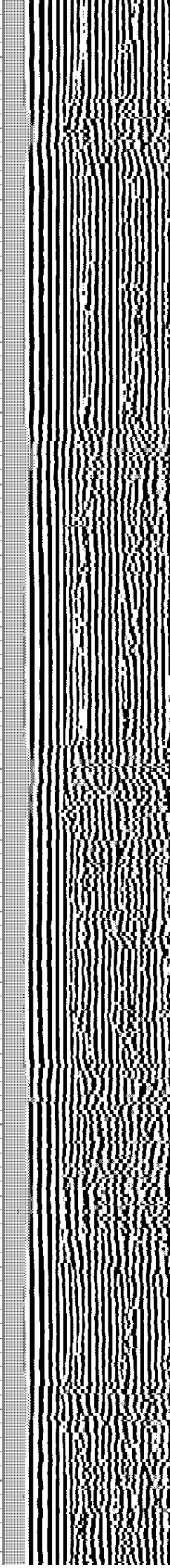
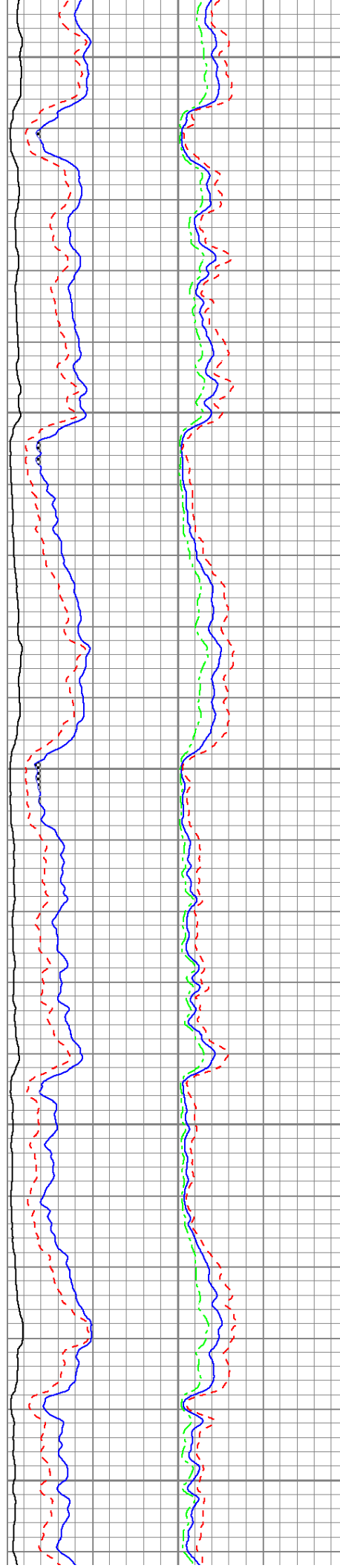


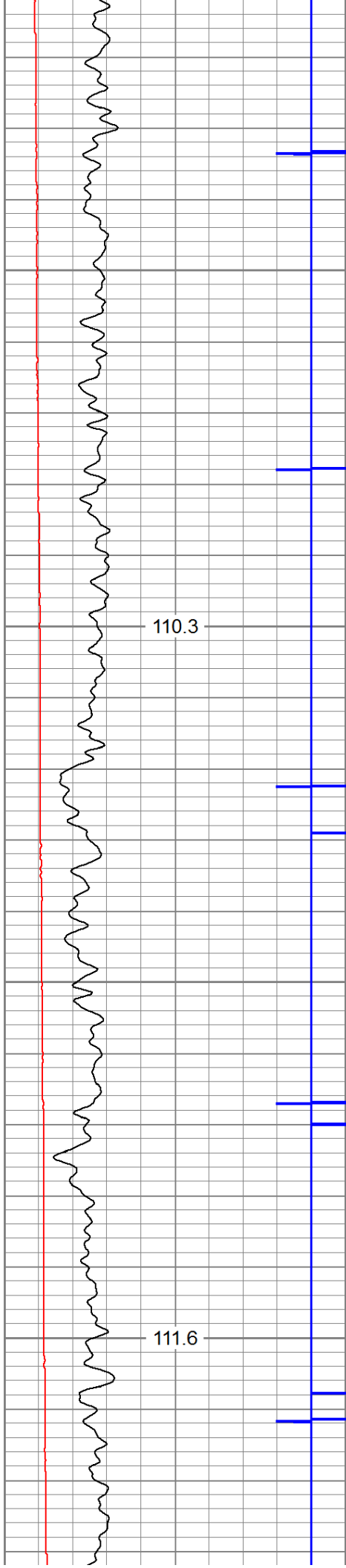


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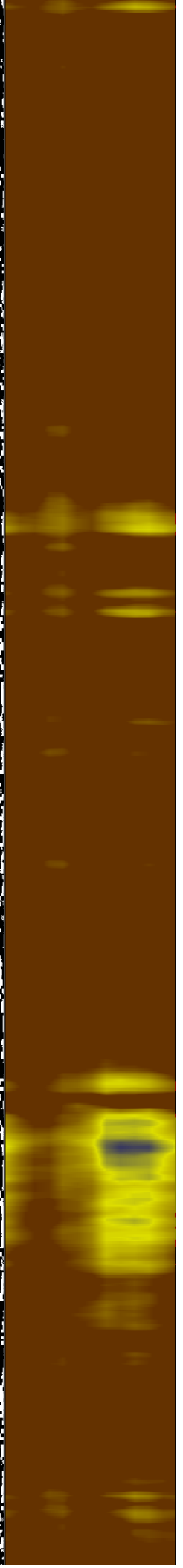
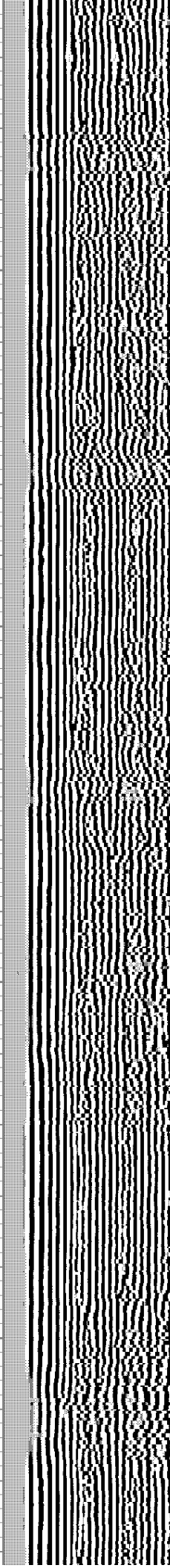
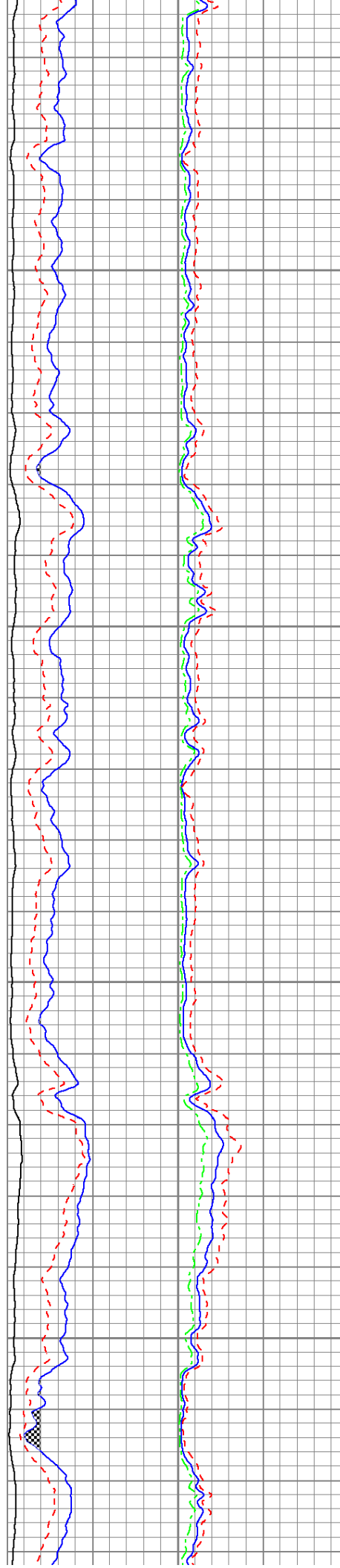
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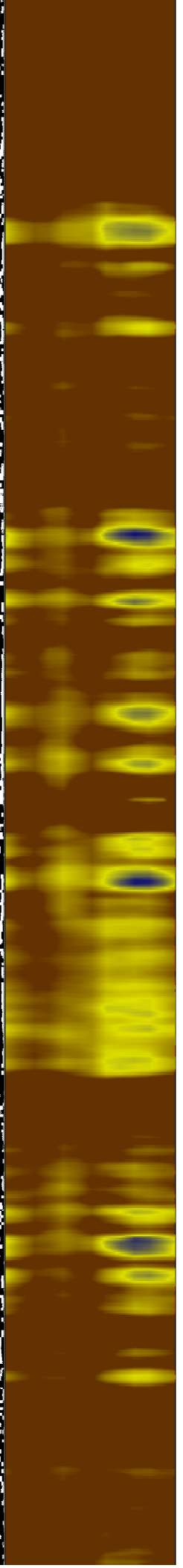
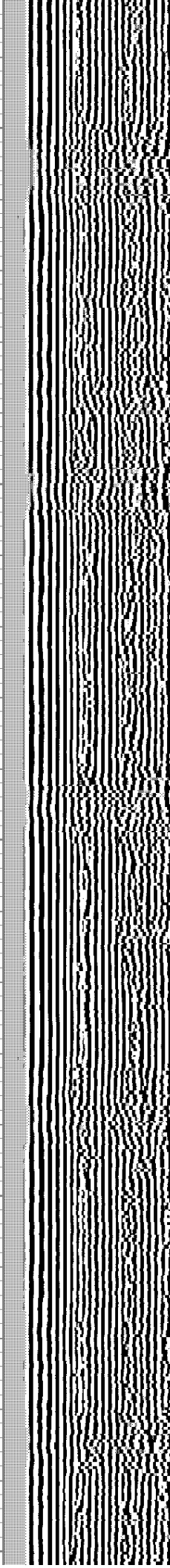
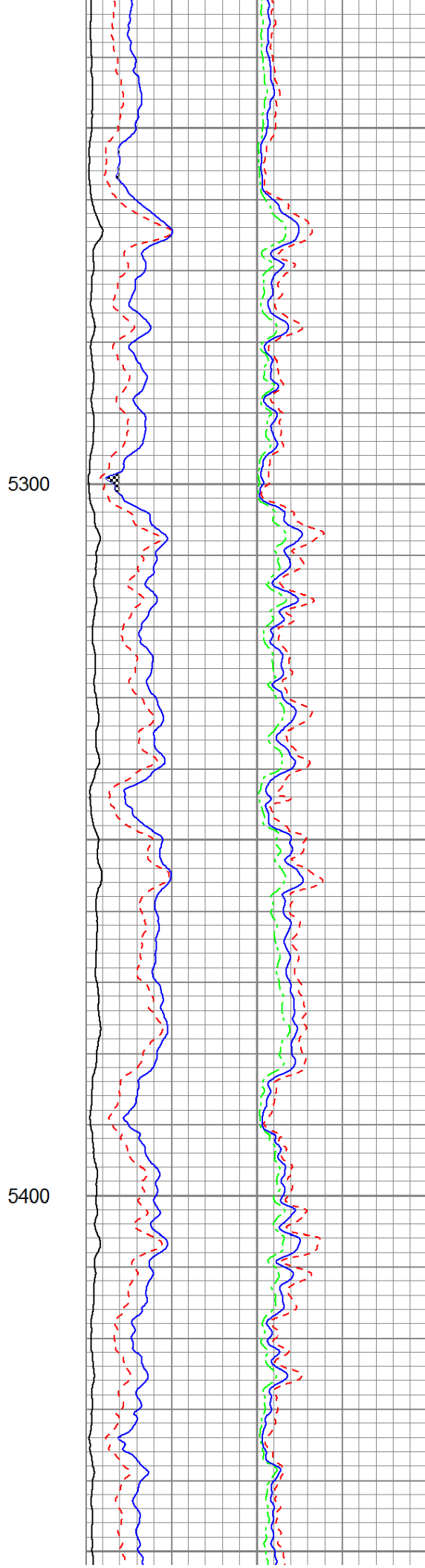
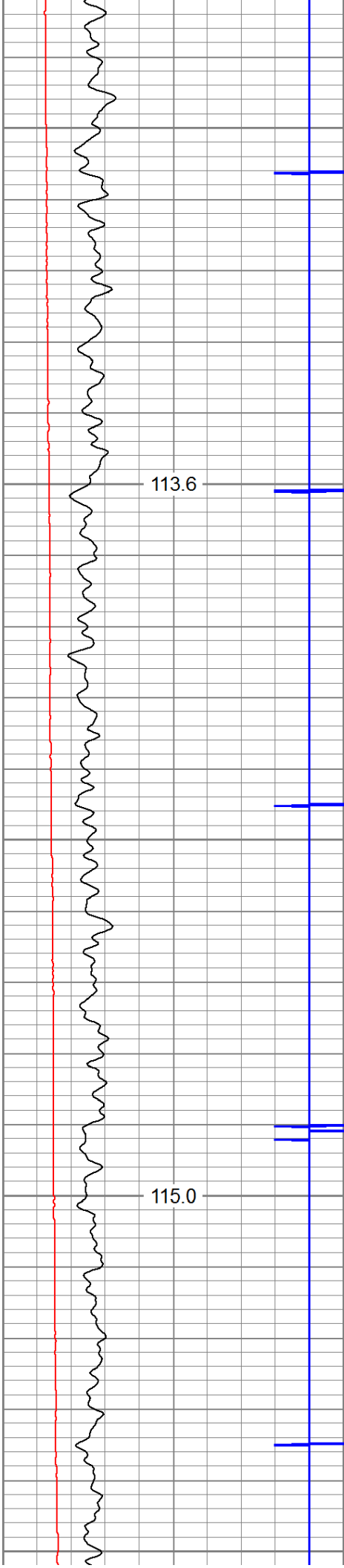


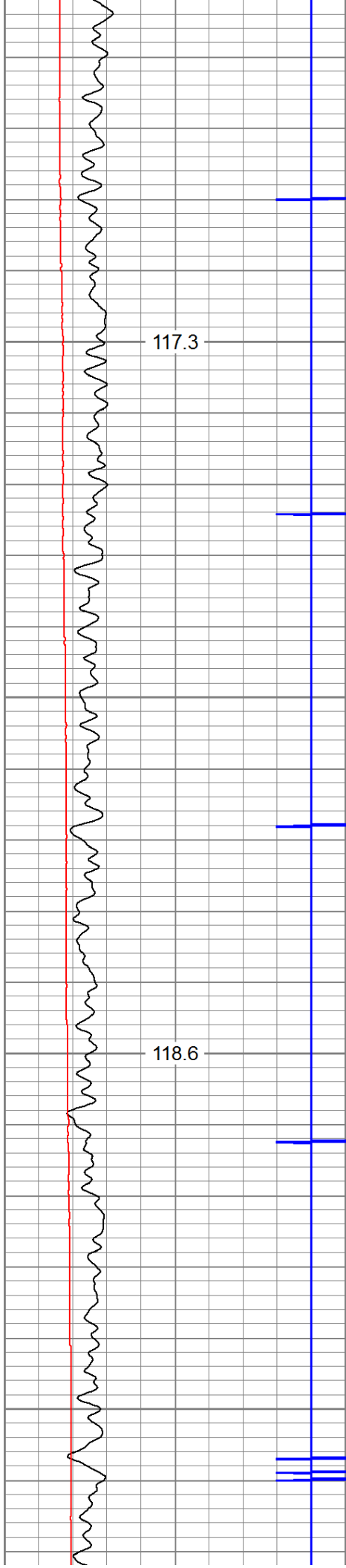


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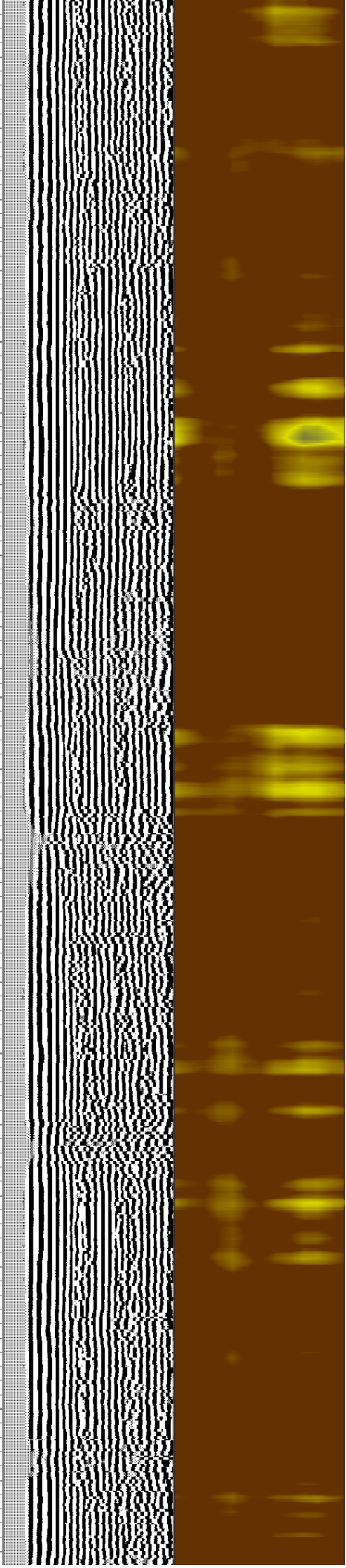
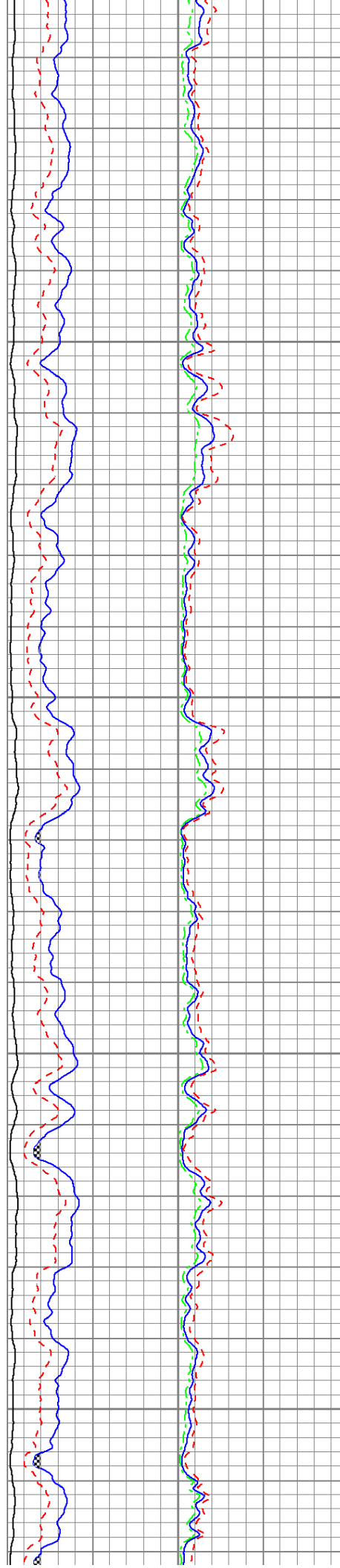


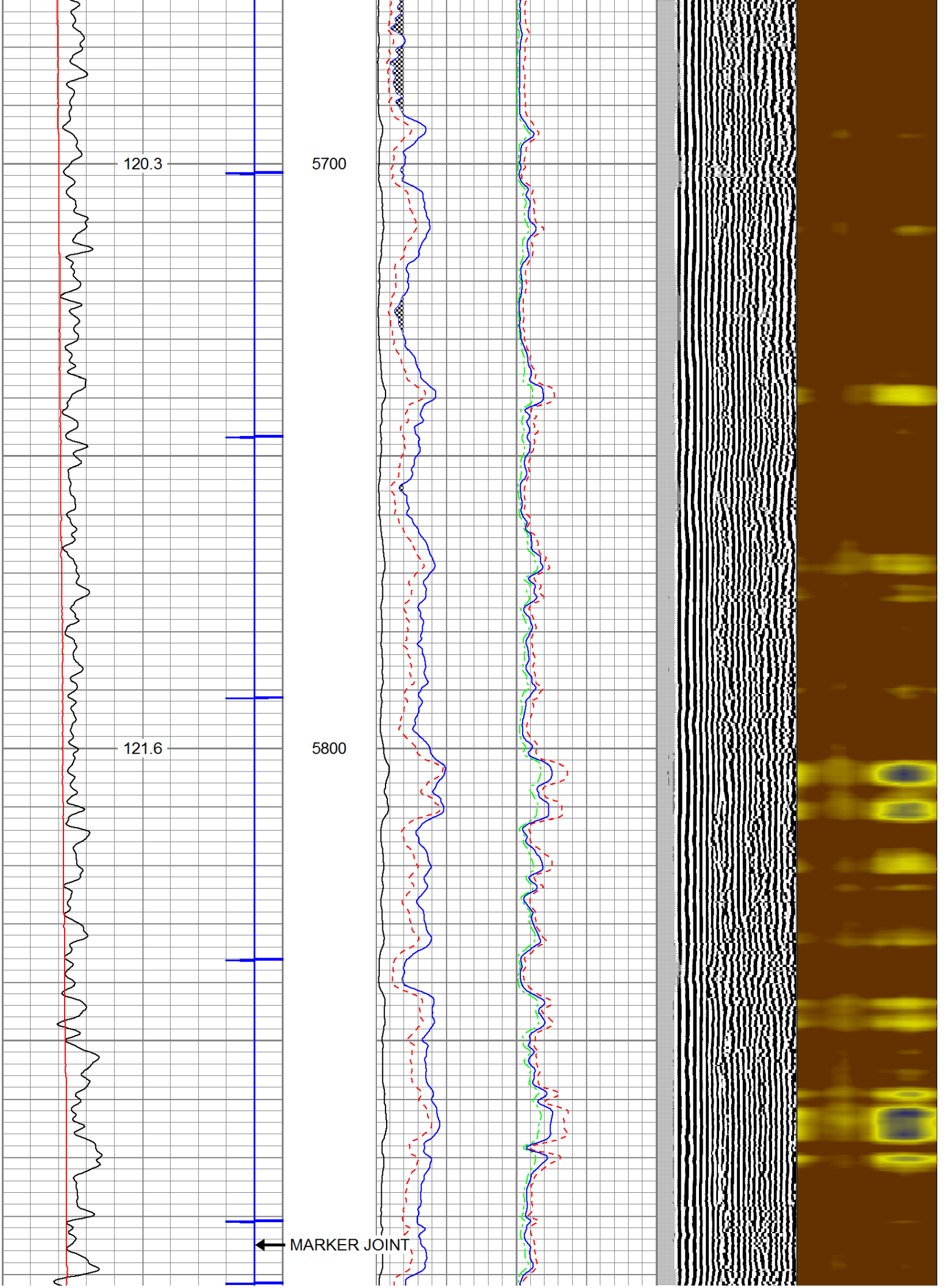


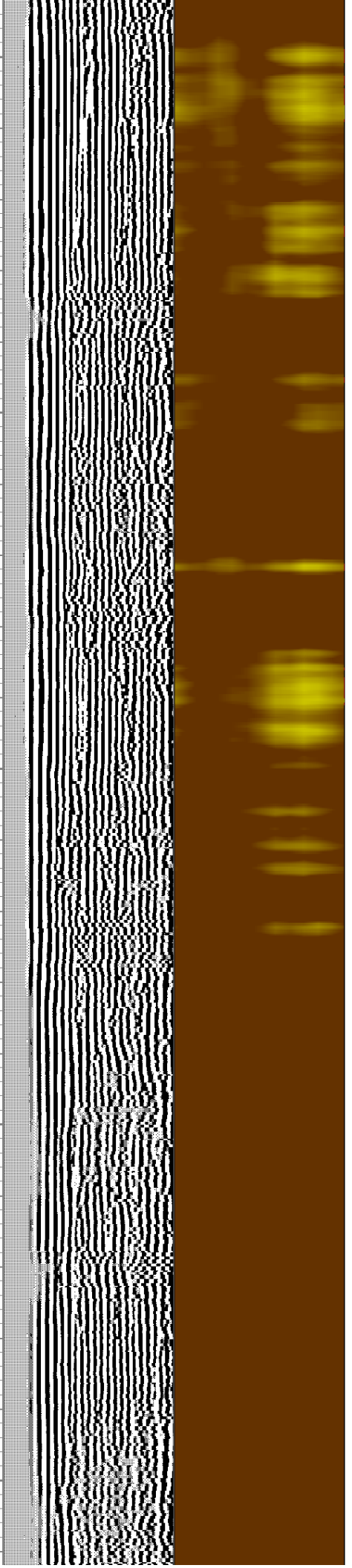
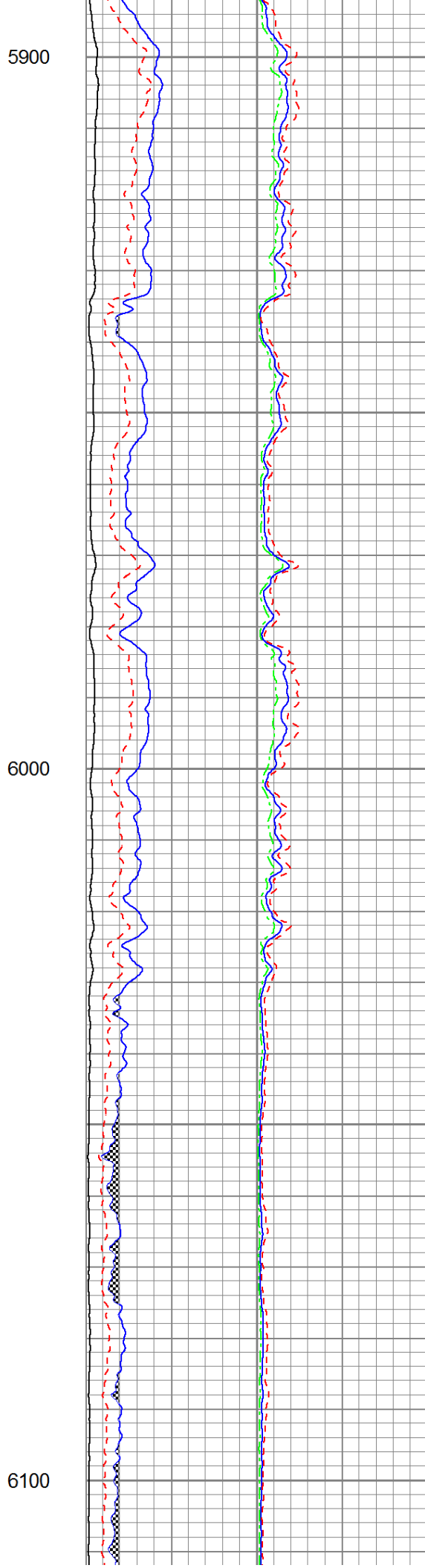
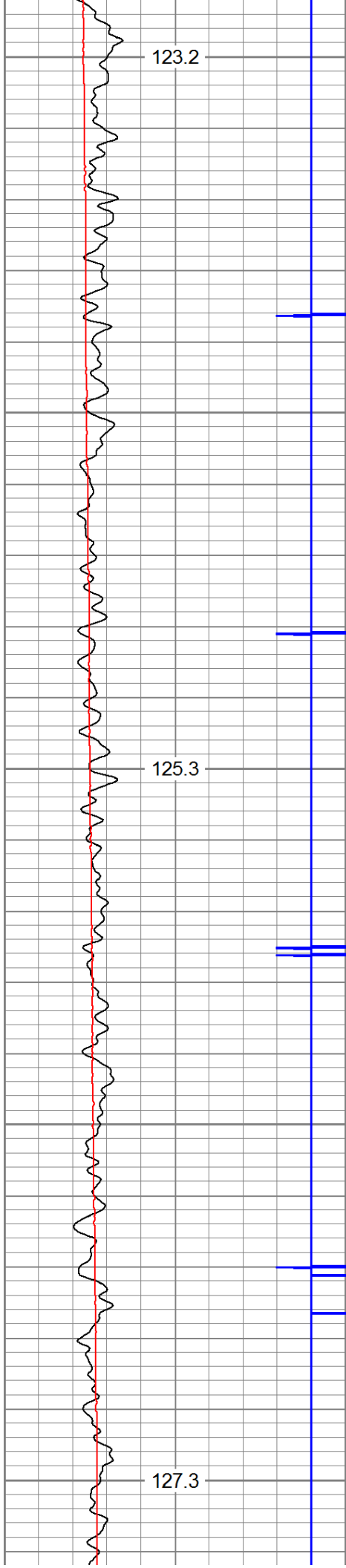


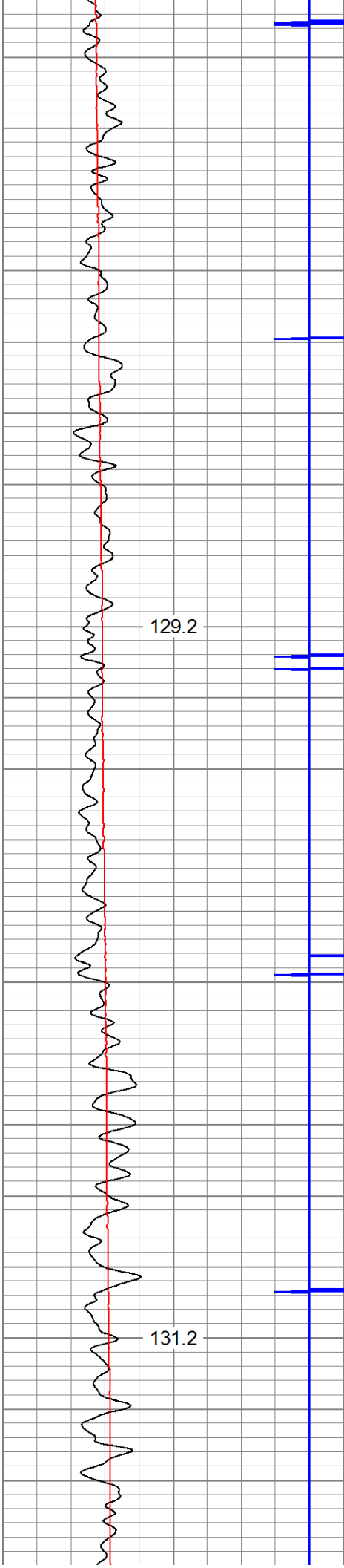
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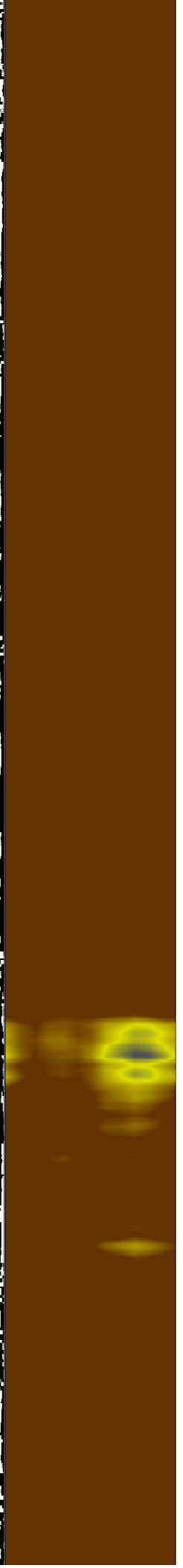
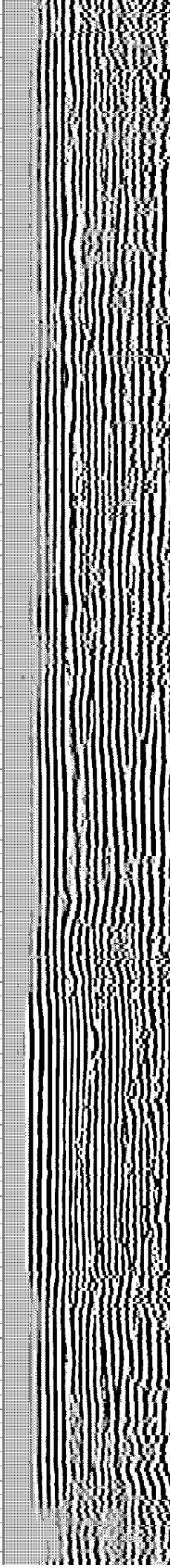
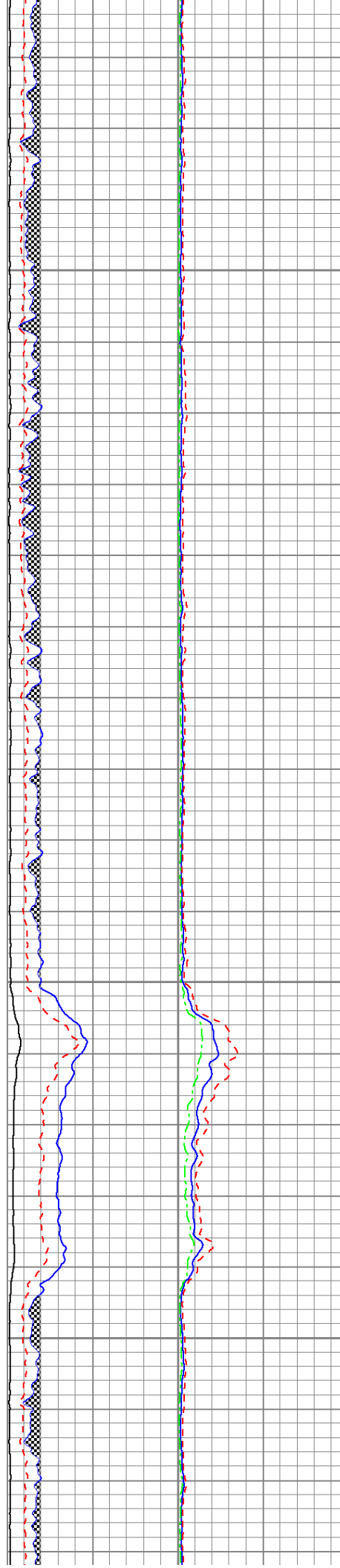


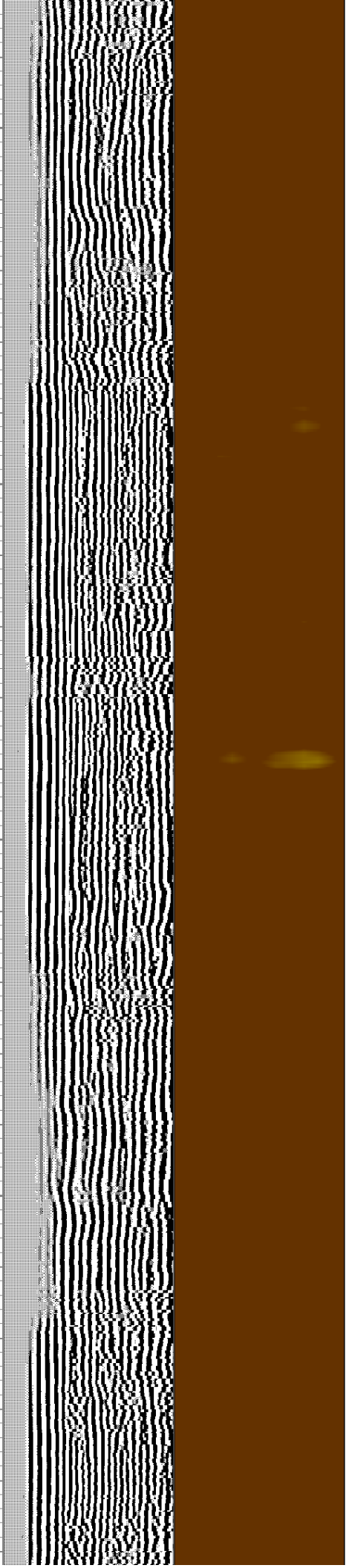
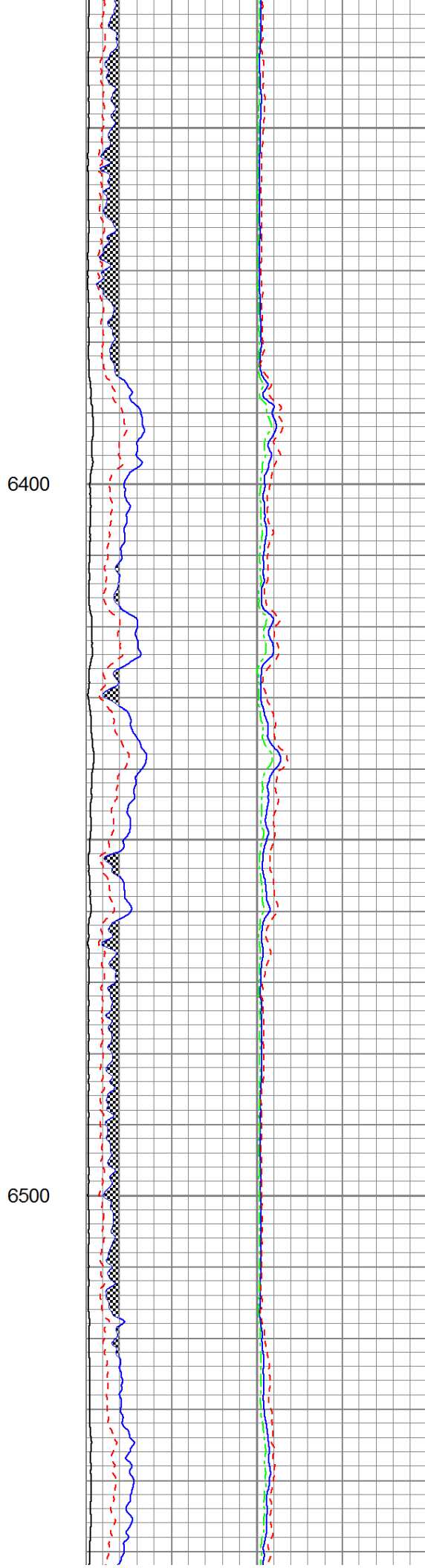
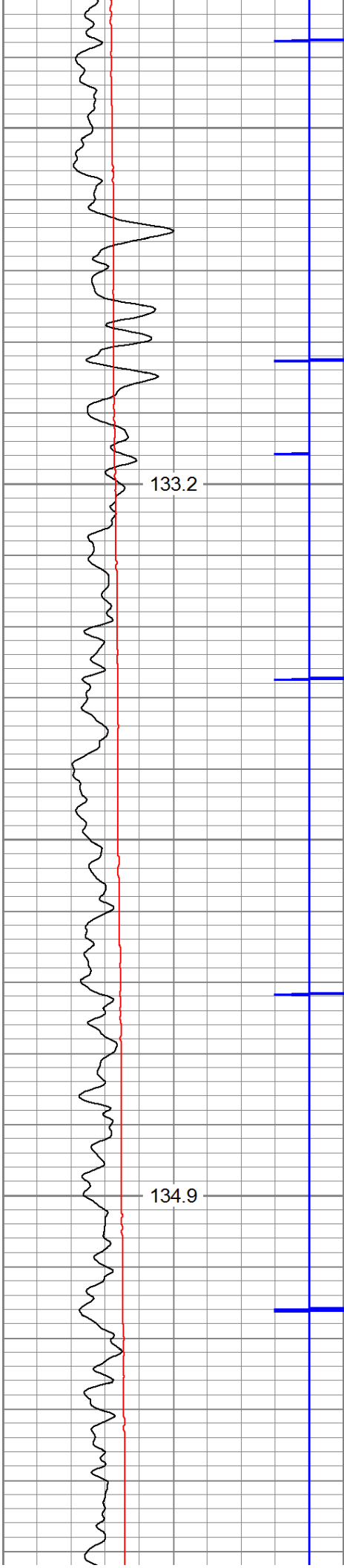


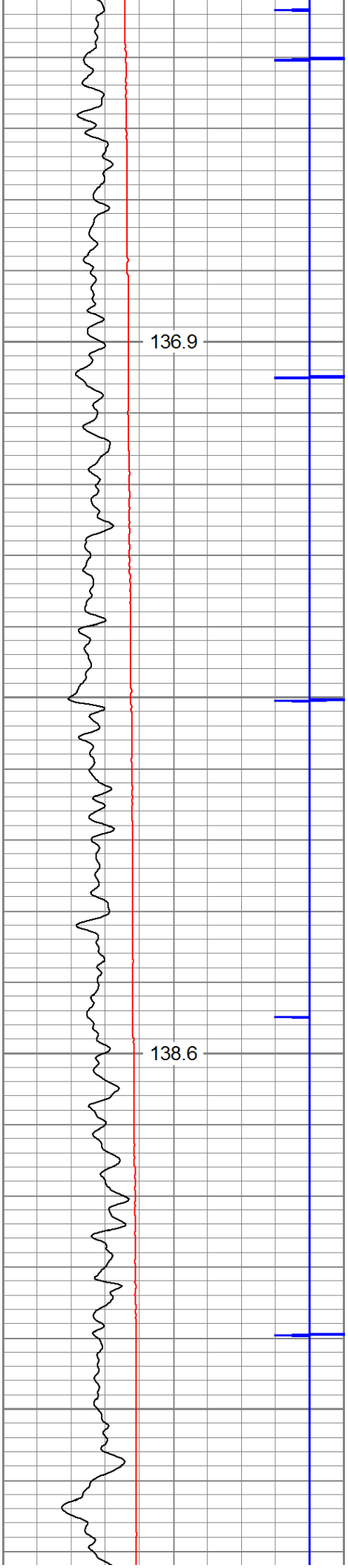


6200

6300

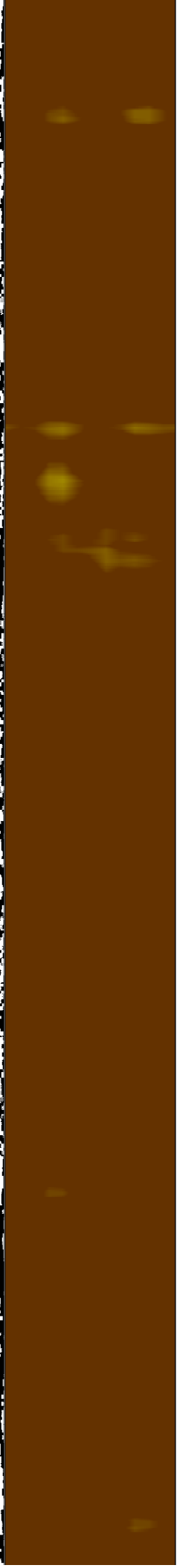
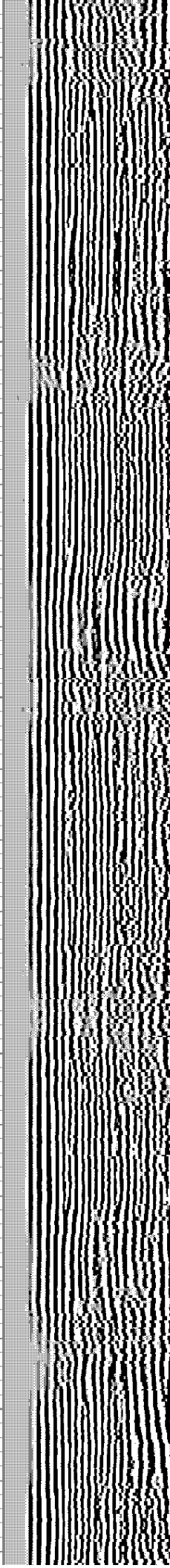
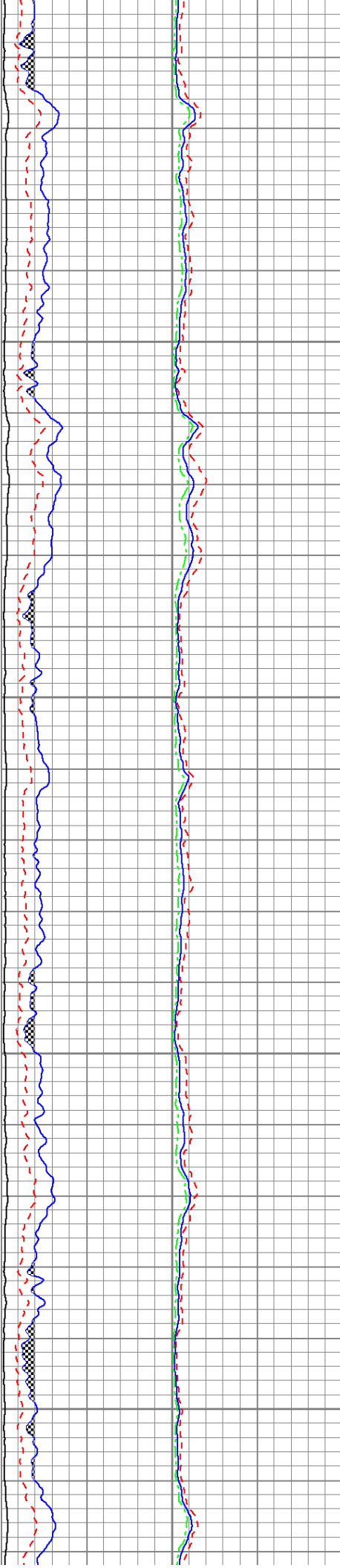


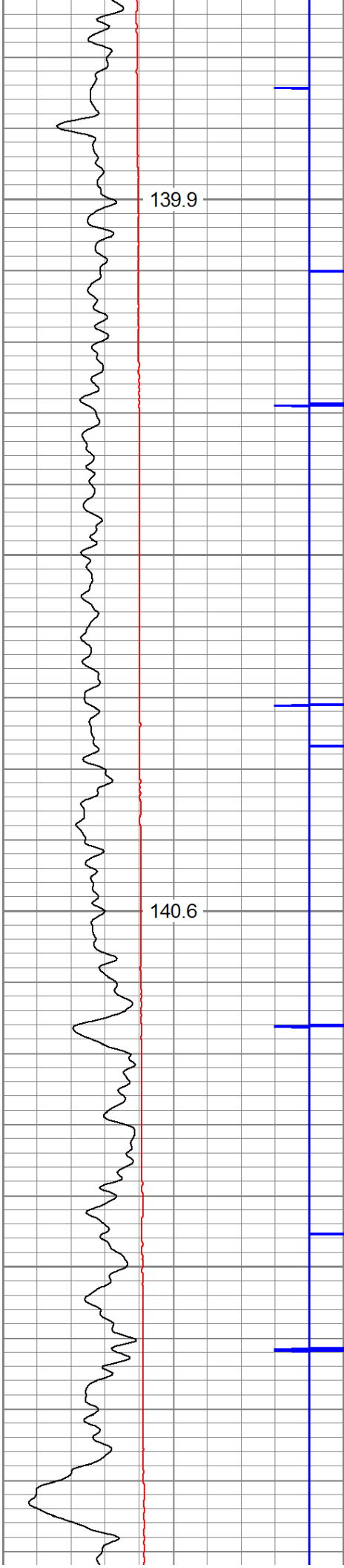




6600

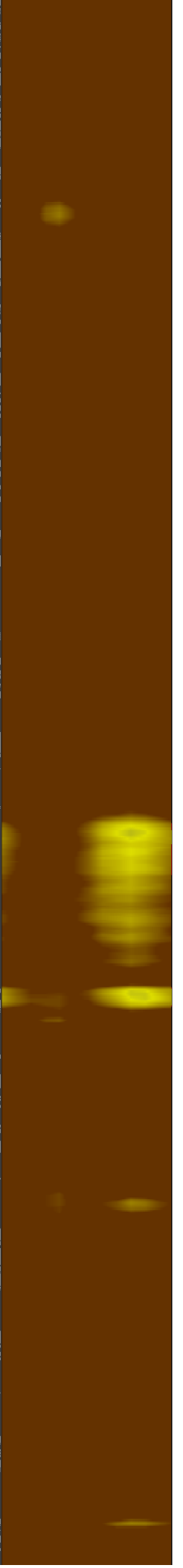
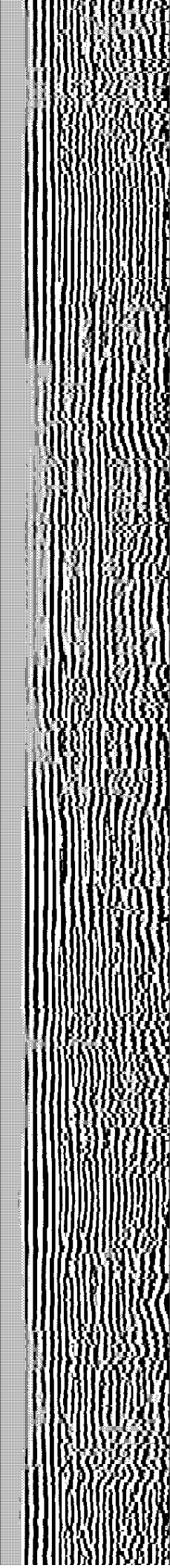
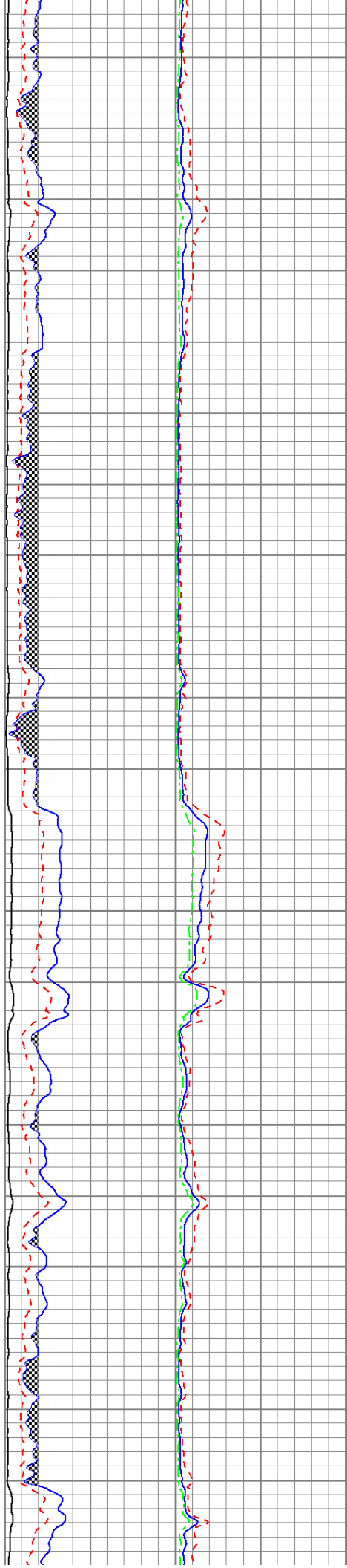
6700

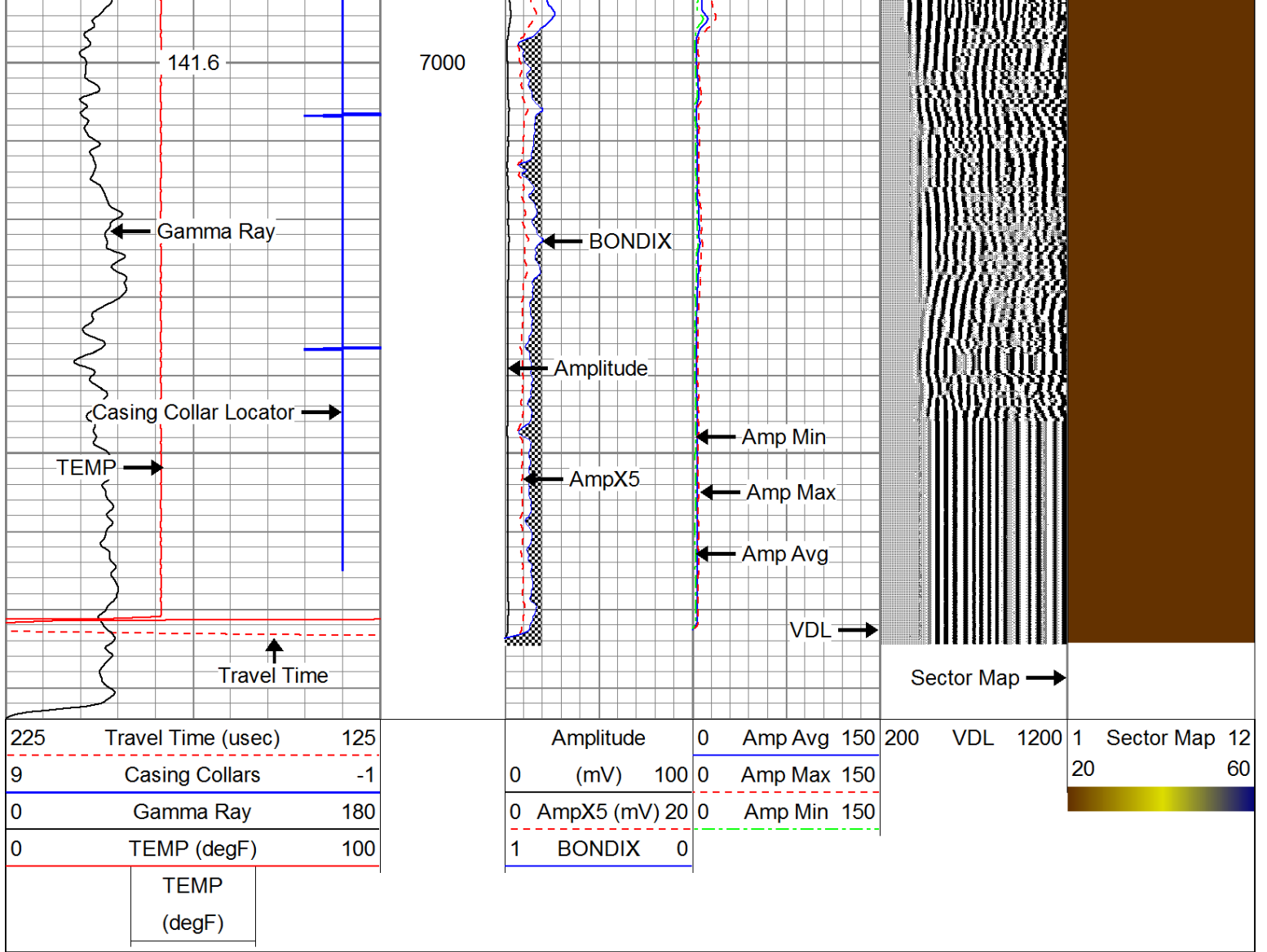




6800

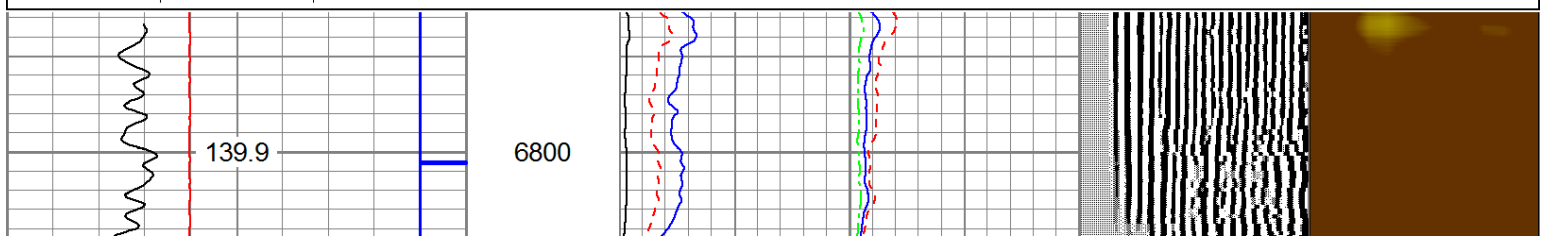
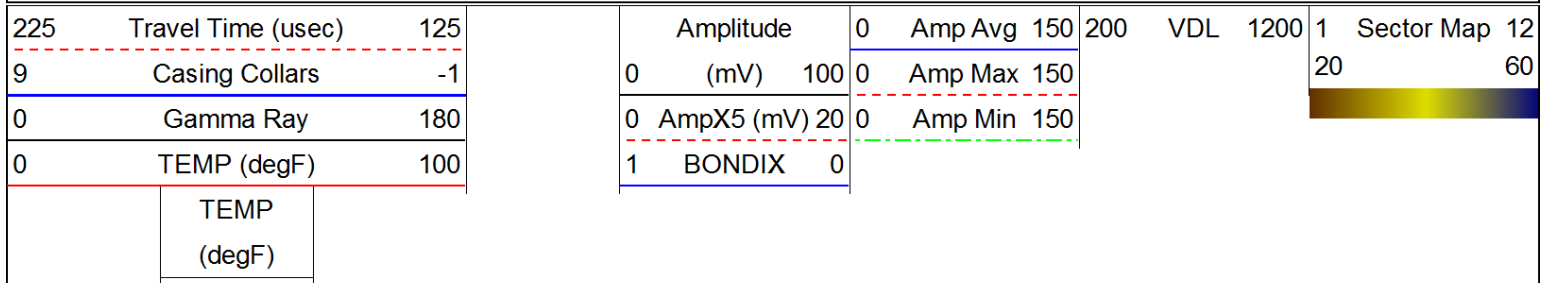
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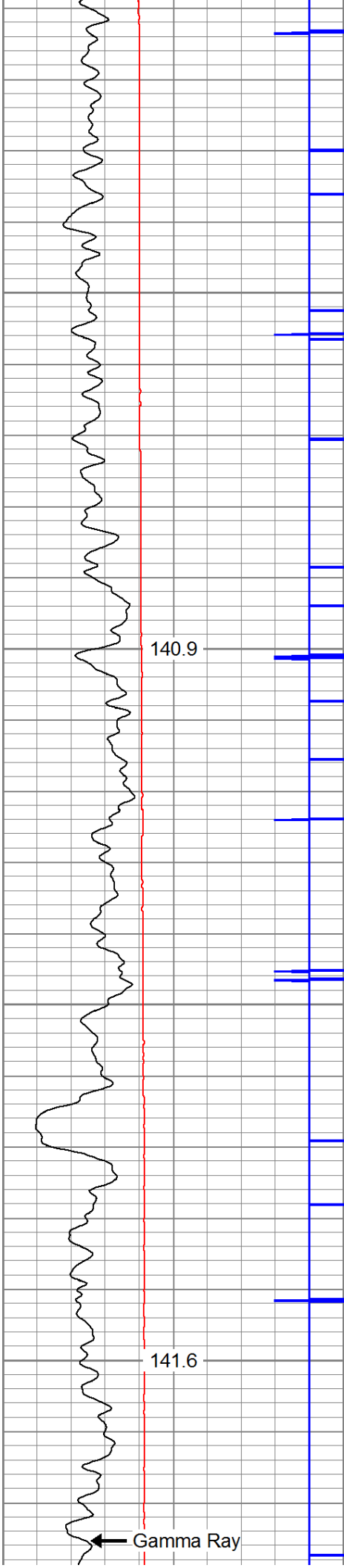




REPEAT SECTION 0 PSI

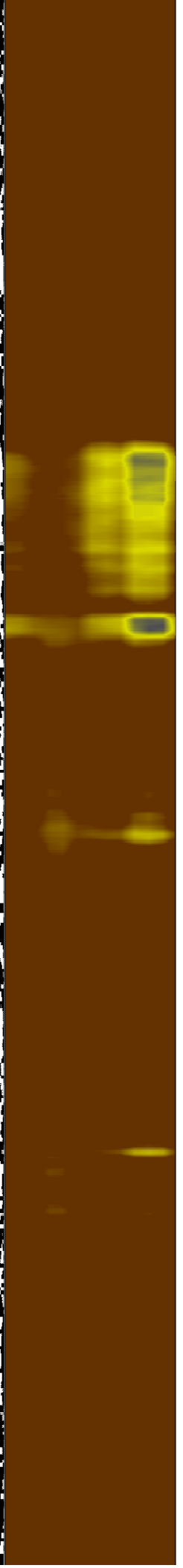
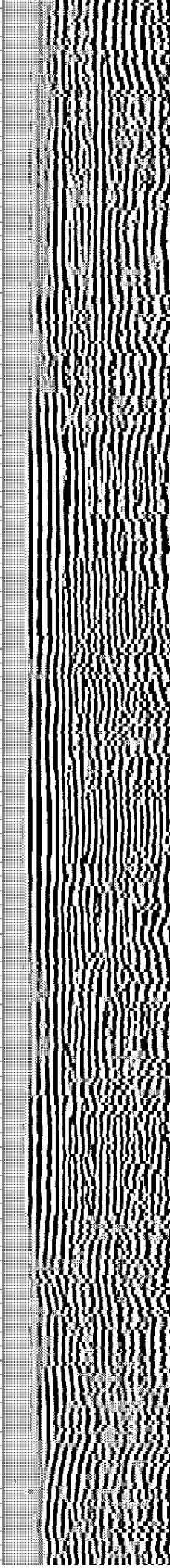
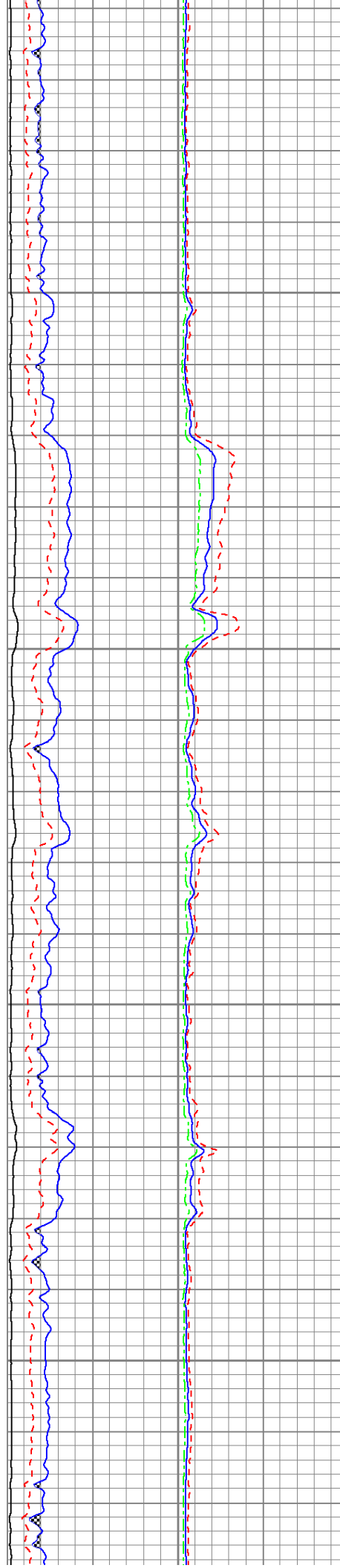
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 Dataset Pathname: pass2.2
 Presentation Format: antero
 Dataset Creation: Mon Feb 04 14:44:16 2019 by Calc 7.0 B1
 Charted by: Depth in Feet scaled 1:240

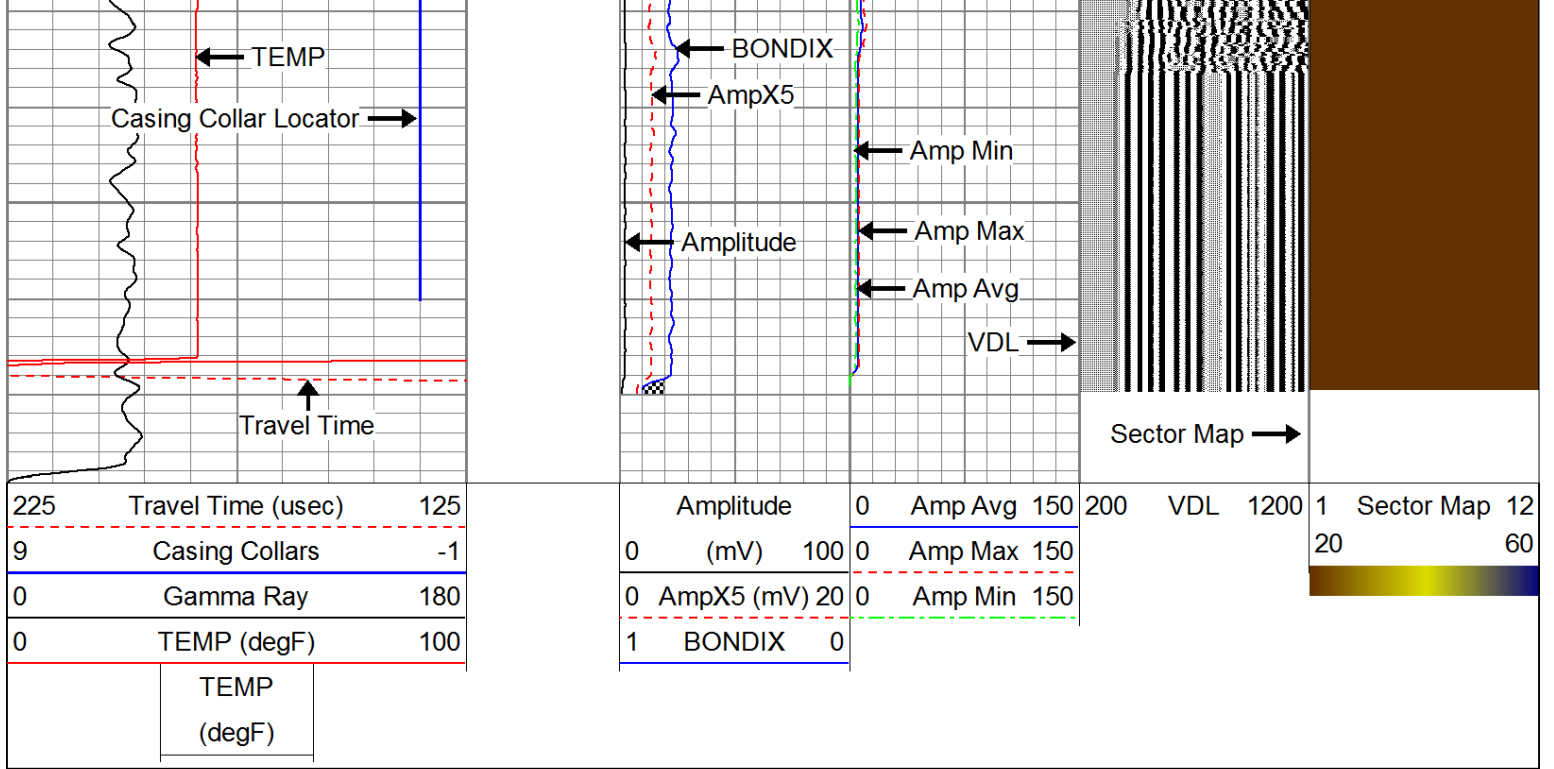




6900

7000





| 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 | | | | | |
| WVFS10 | 11.48 | | | | | |
| WVFS11 | 11.48 | | | | | |
| WVFS12 | 11.48 | | | | | |

| | | | | | |
|---------|-------|-------------------------------------------------------------------------|---------------------------------------------|------|-------|
| WVF3FT | 10.73 | | | | |
| WVFCAL | 10.73 | | | | |
| WVF5FT | 9.73 | | | | |
| WVFTEMP | 6.40 | | | | |
| WVFSYNC | 6.40 | | 2.75 2 3/4" Tekco Adjustable Centralizer | 2.73 | 2.75 |
| GR | 1.04 | GR-Tek-Co 2 3/4 (IPSNO-03) Tekco 2 3/4" 400 Deg. F Logging Gamma Ray | 3.67 | 2.75 | 40.00 |
| | | Dataset: heintzman_2h.db: field/well/run1/pass3.1 | | | |
| | | Total Length: 20.07 ft | | | |
| | | Total Weight: 250.00 lb | | | |
| | | O.D. 3.25 in | | | |

Calibration Report

Database File: F:\2019 ANTERO\pyle run\heintzman_2h.db
Dataset Pathname: pass3.1
Dataset Creation: Mon Feb 04 14:41:10 2019 by Calc 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 HEINTZMAN UNIT 2H
Field MARCELLUS



County TYLER
State W.V.

Country USA