



RADIAL BOND LOG
GAMMA RAY
VDL,CCL

| | | | |
|---------|------------------------------|---------|------------------------------|
| Company | ANTERO RESOURCES CORPORATION | Company | ANTERO RESOURCES CORPORATION |
| Well | SCHRADER UNIT 2H | Well | SCHRADER UNIT 2H |
| Field | MARCELLUS | Field | MARCELLUS |
| County | DODDRIDGE | County | DODDRIDGE |
| State | W.VA. | State | W.VA. |
| | | Country | USA |

| | | | | |
|------------------------|----------------|---------|------------------|----------------|
| Location: | AFEE# A08791-D | API # : | 47-017-068790000 | Other Services |
| Permanent Datum | SEC | TWP | RGE | Elevation |
| Log Measured From | | G.L. | | K.B. |
| Drilling Measured From | | K.B. | | D.F. |
| | | G.L. | | |

| | | |
|------------------------|--------------|---------|
| Date | 10-23-19 | |
| Run Number | ONE | |
| Depth Driller | 16345 | |
| Depth Logger | 7817 | |
| Bottom Logged Interval | 7817 | |
| Top Log Interval | SURFACE | |
| Open Hole Size | N/A | |
| Type Fluid | WATER | |
| Density / Viscosity | N/A | |
| Max. Recorded Temp. | 140 | |
| Estimated Cement Top | 3130 | |
| Time Well Ready | N/A | |
| Time Logger on Bottom | 17:42 | |
| Equipment Number | 214181 | |
| Location | BRIDGEPORT | |
| Recorded By | T.MILLER | KLINGER |
| Witnessed By | JAYSON LUKES | |

| Borehole Record | | Tubing Record | |
|-----------------|-----|---------------|--------|
| Run Number | Bit | From | To |
| | | Size | Weight |
| | | From | From |
| | | To | To |

| Casing Record | Size | Wdth/Ft | Top | Bottom |
|-------------------|--------|---------|---------|--------|
| Surface String | 13.375 | 54.5 | SURFACE | 351 |
| Prot. String | 9.625 | 36 | SURFACE | 2698 |
| Production String | 5.50 | 23 | SURFACE | 16325 |
| 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

MARKER JOINT@ 6581-6591
 LOG T.D. @7815
 LOG RAN UNDER 1500 PSI

 THANK YOU FOR USING KLX ENERGY

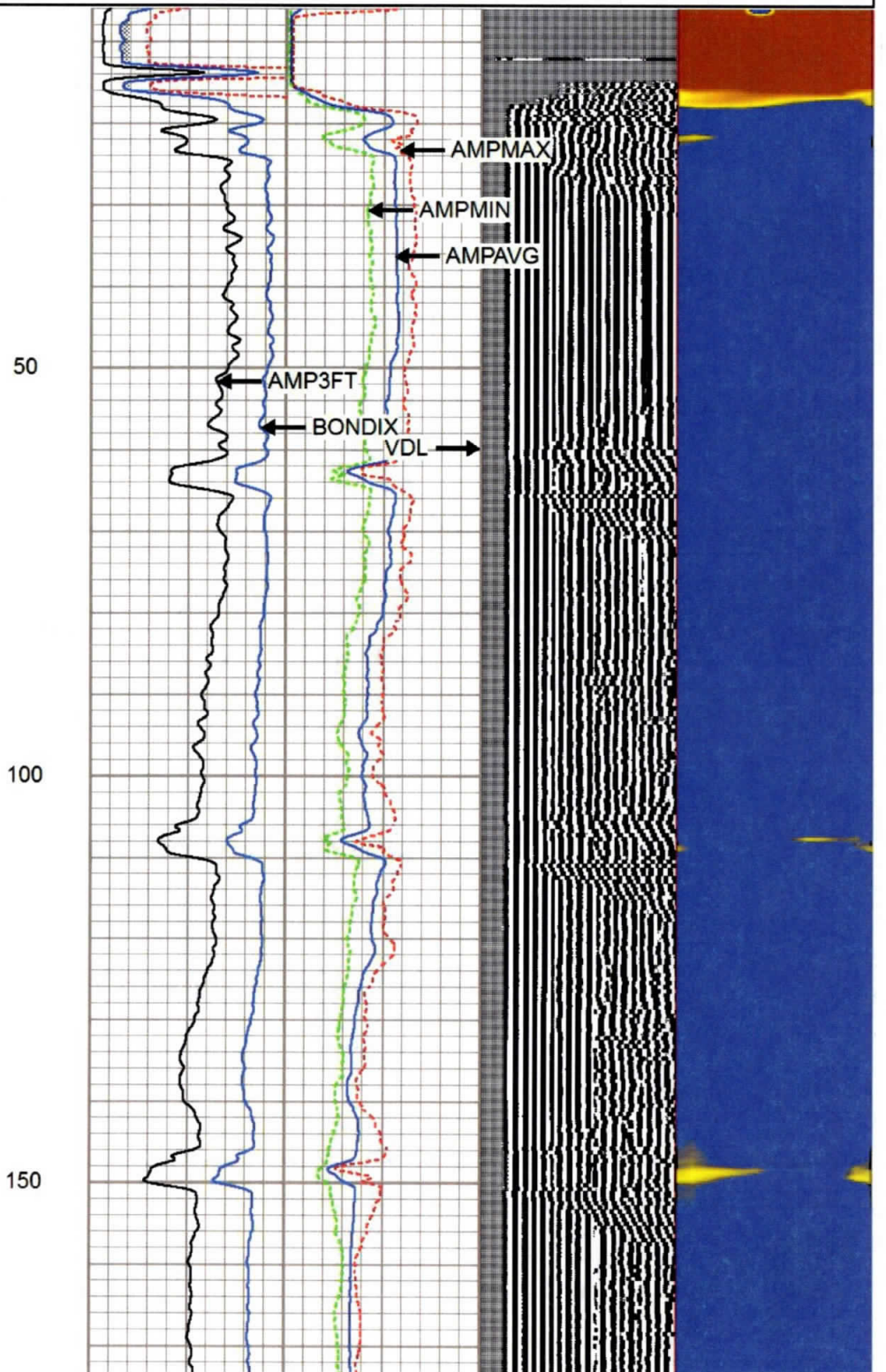
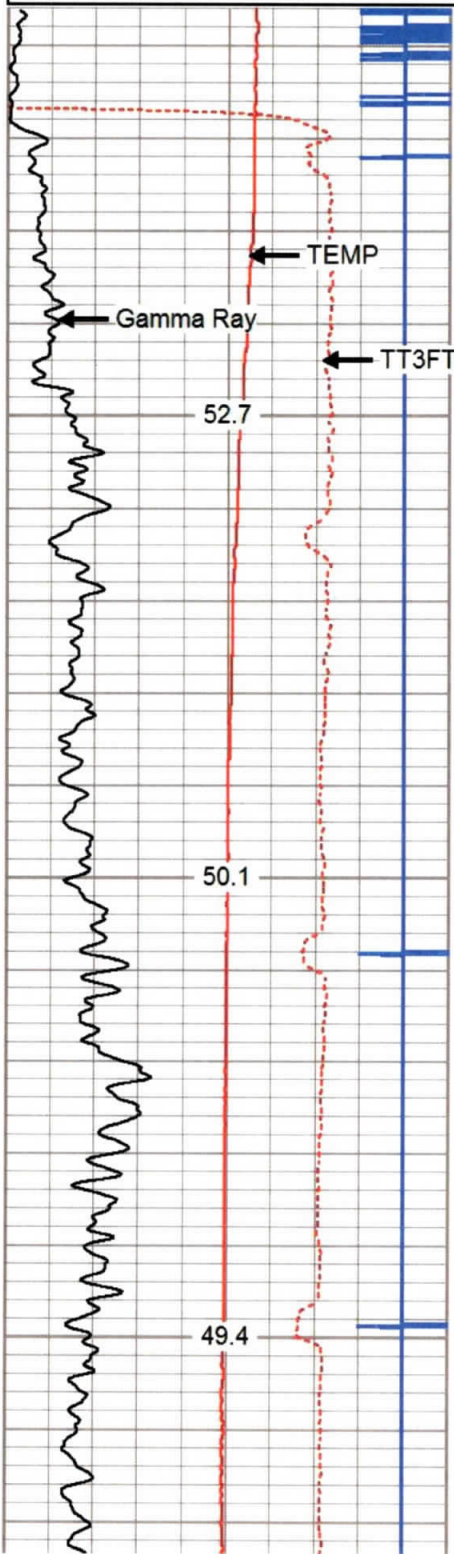
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 Dataset Pathname pass1.9
 Presentation Format antero
 Dataset Creation Fri Oct 25 18:30:49 2019
 Charted by Depth in Feet scaled 1:240

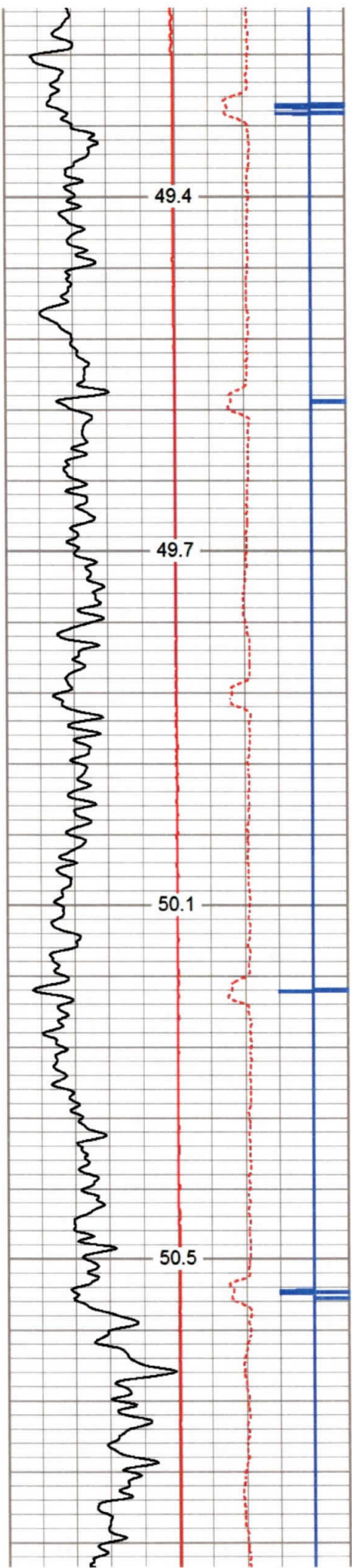
| | | |
|-----|--------------------|-----|
| 280 | Travel Time (usec) | 180 |
| 9 | Casing Collar | -1 |
| 0 | Gamma Ray (GAPI) | 180 |
| 0 | TEMP (degF) | 100 |
| 180 | GR (GAPI) | 360 |

| | | |
|-----------|----------|----------------|
| Amplitude | | Sector Amp AVG |
| 0 | (mV) 100 | Sector Amp MAX |
| Amp X5 | | Sector Amp MIN |
| 0 | (mV) 20 | |
| 1 | BONDIX 0 | |

| | | | |
|--------|-----|------------|----|
| VDL | 1 | Sector Map | 12 |
| (usec) | 200 | | |

TEMP
(degF)



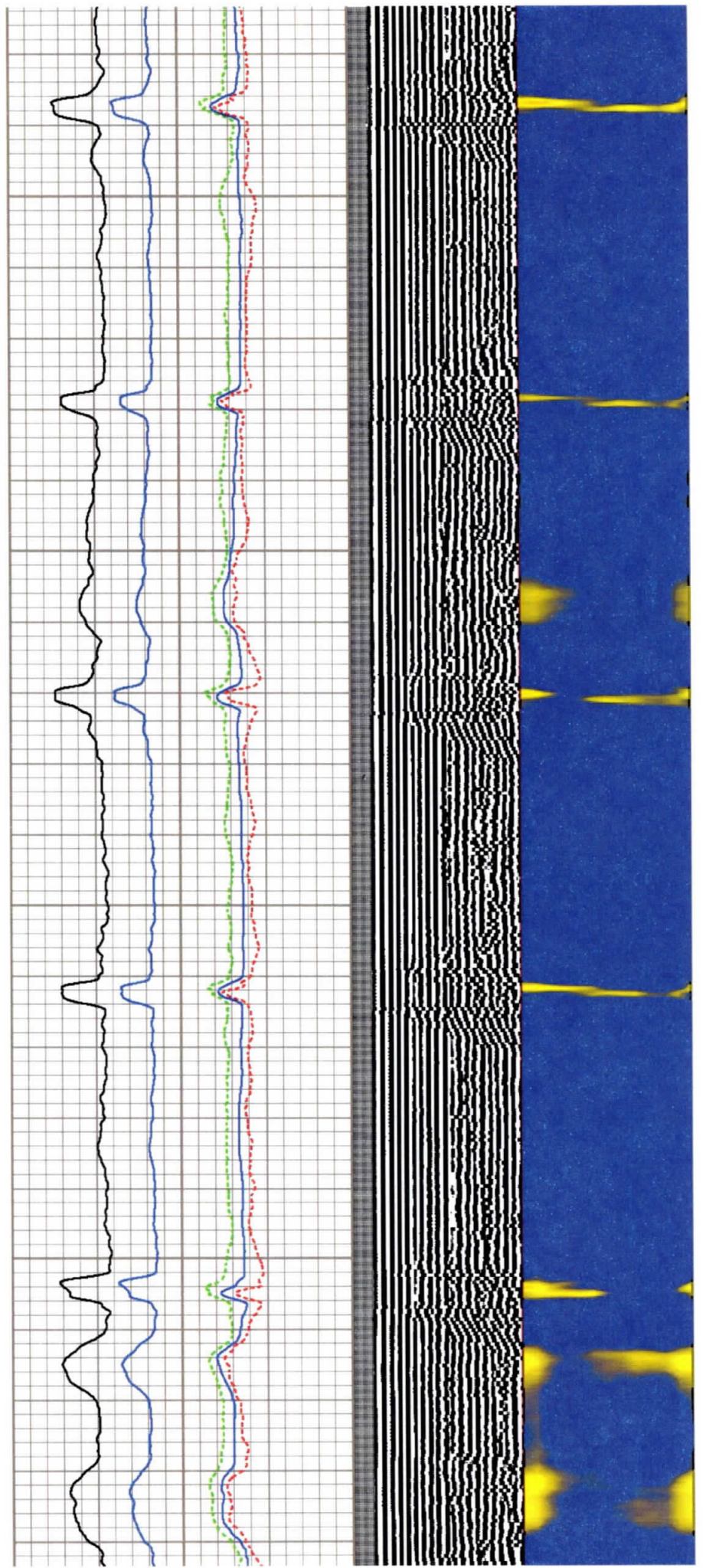


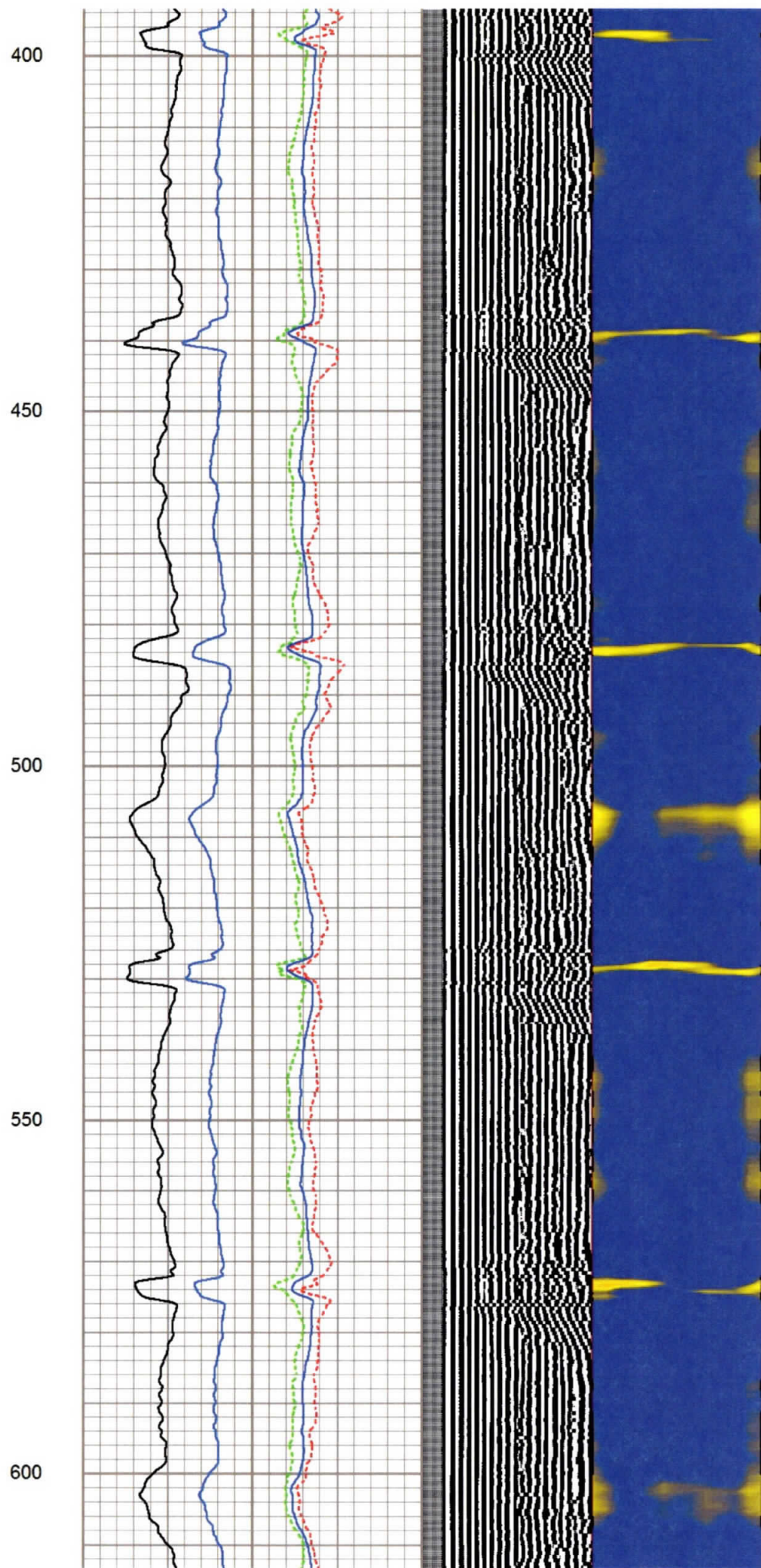
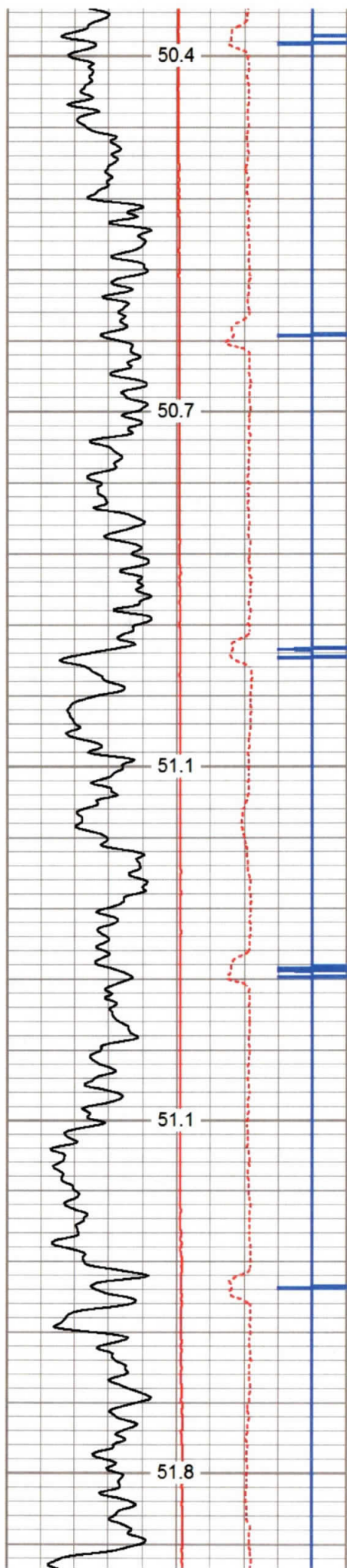
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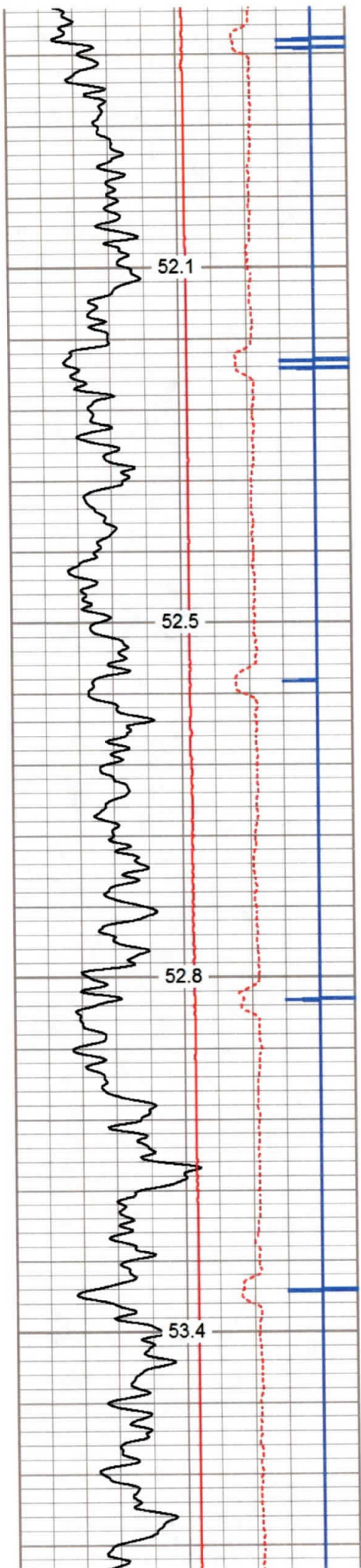
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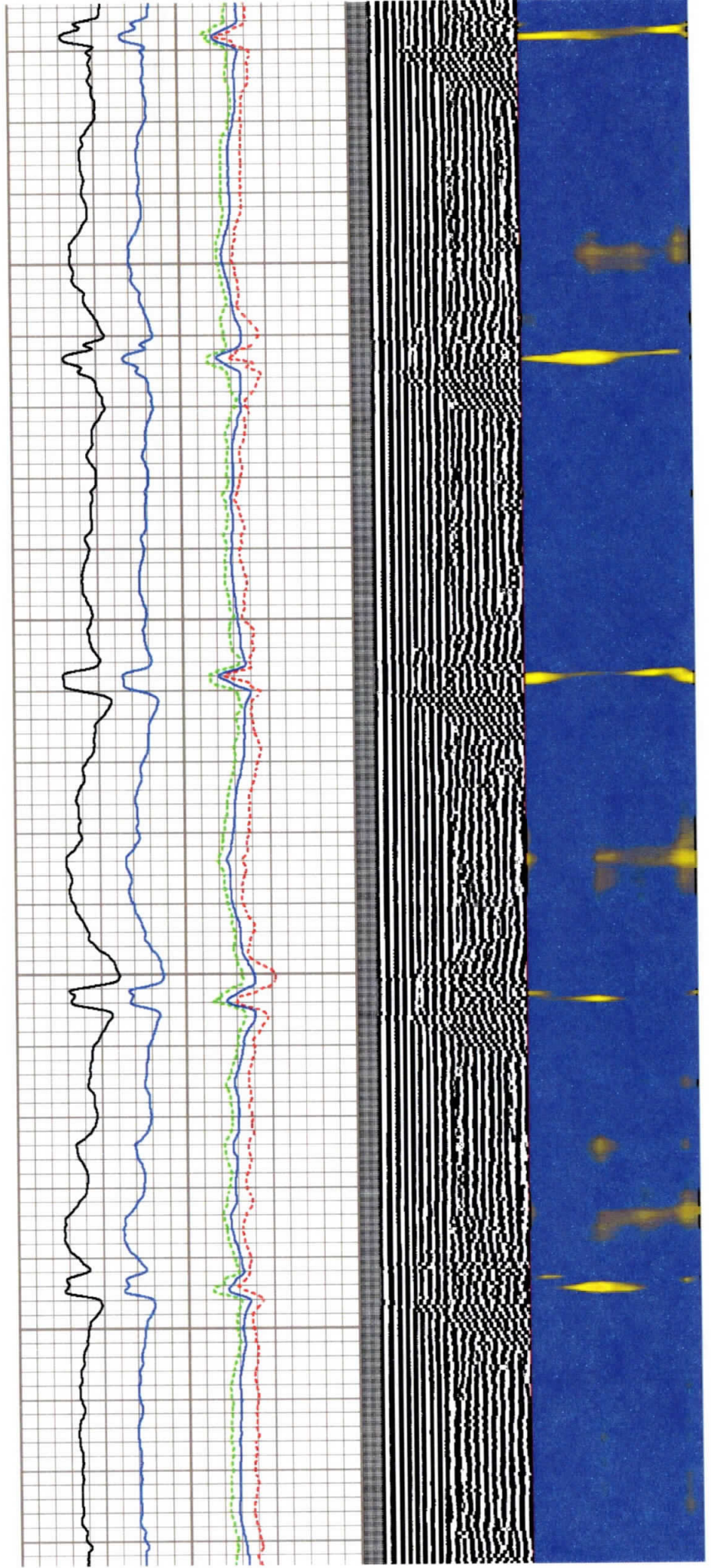
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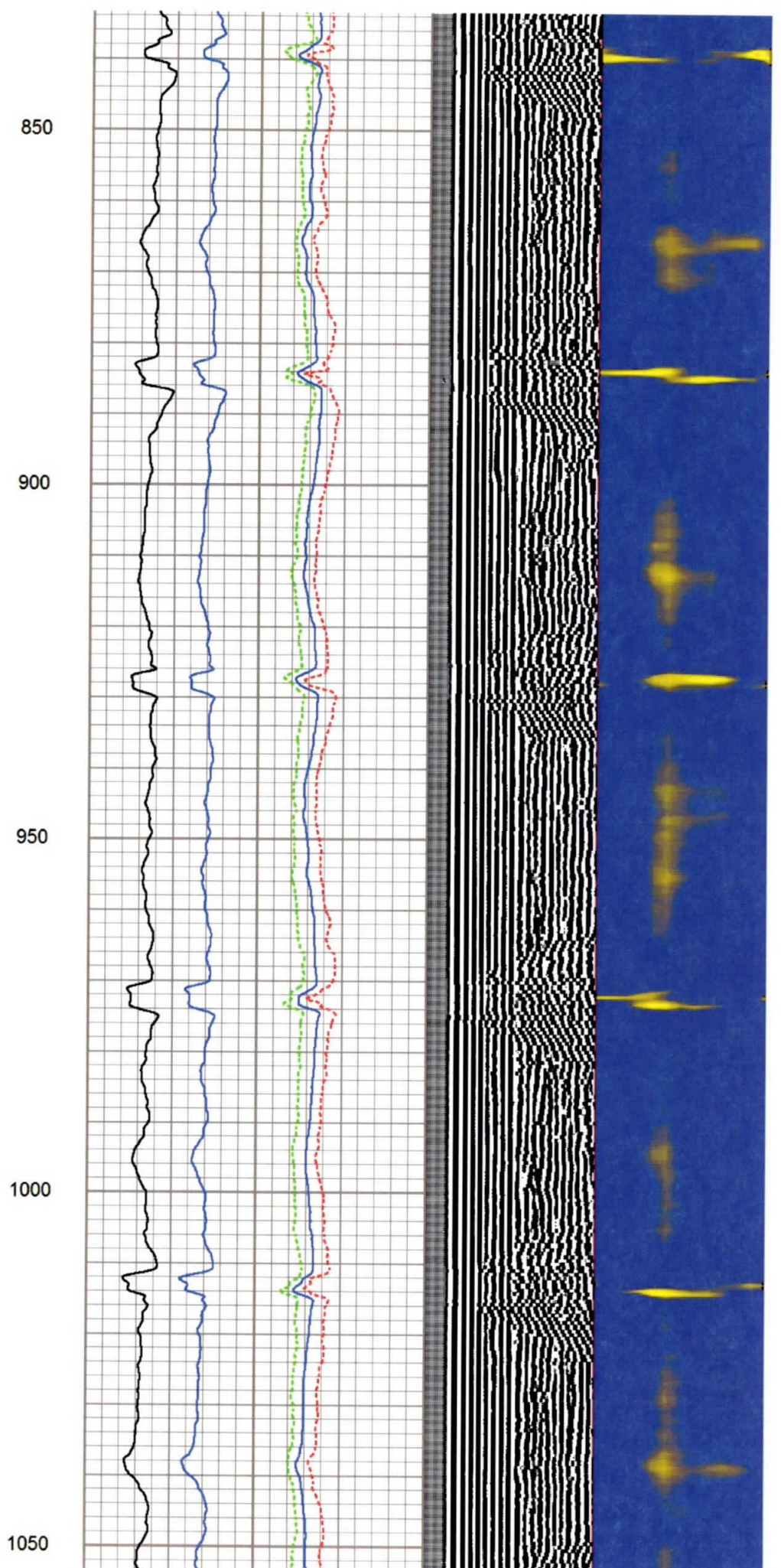
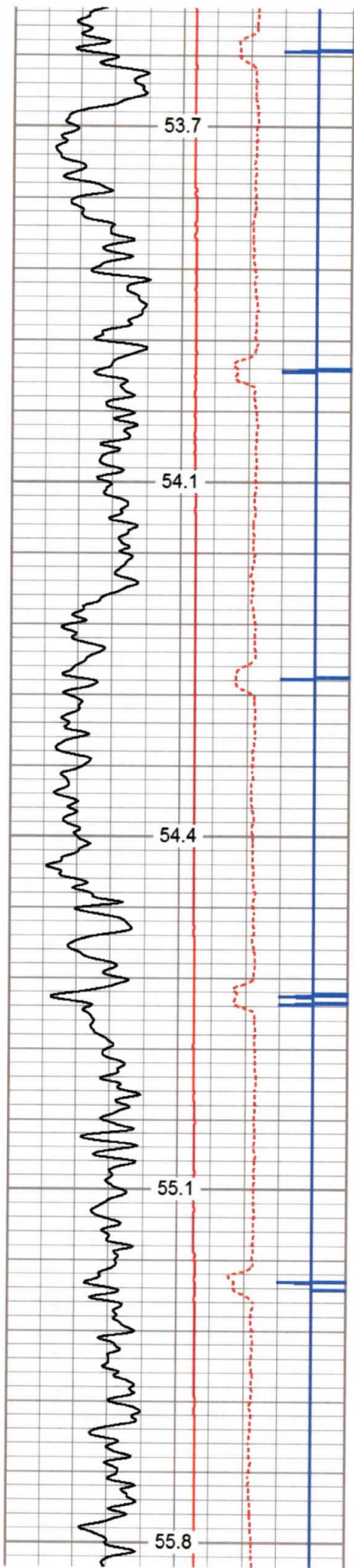


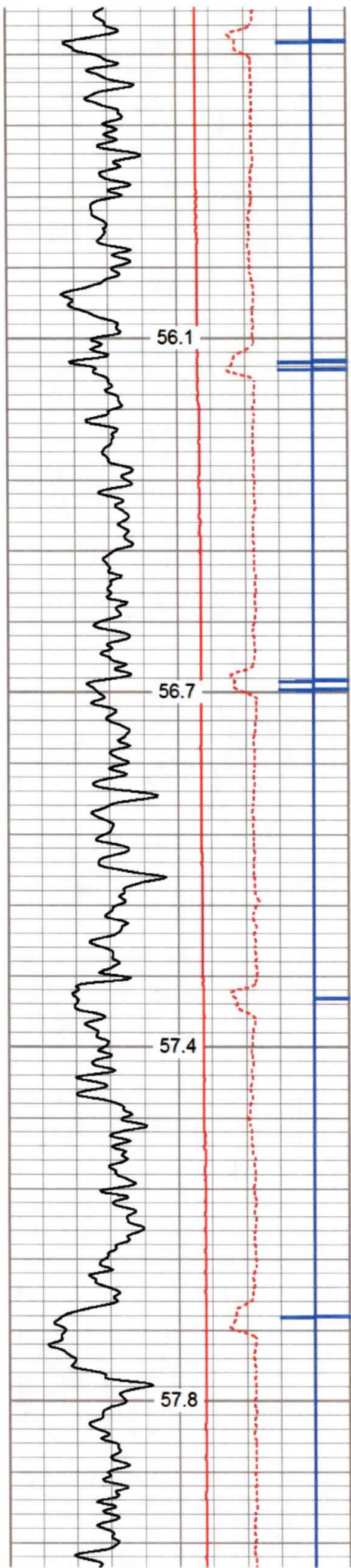




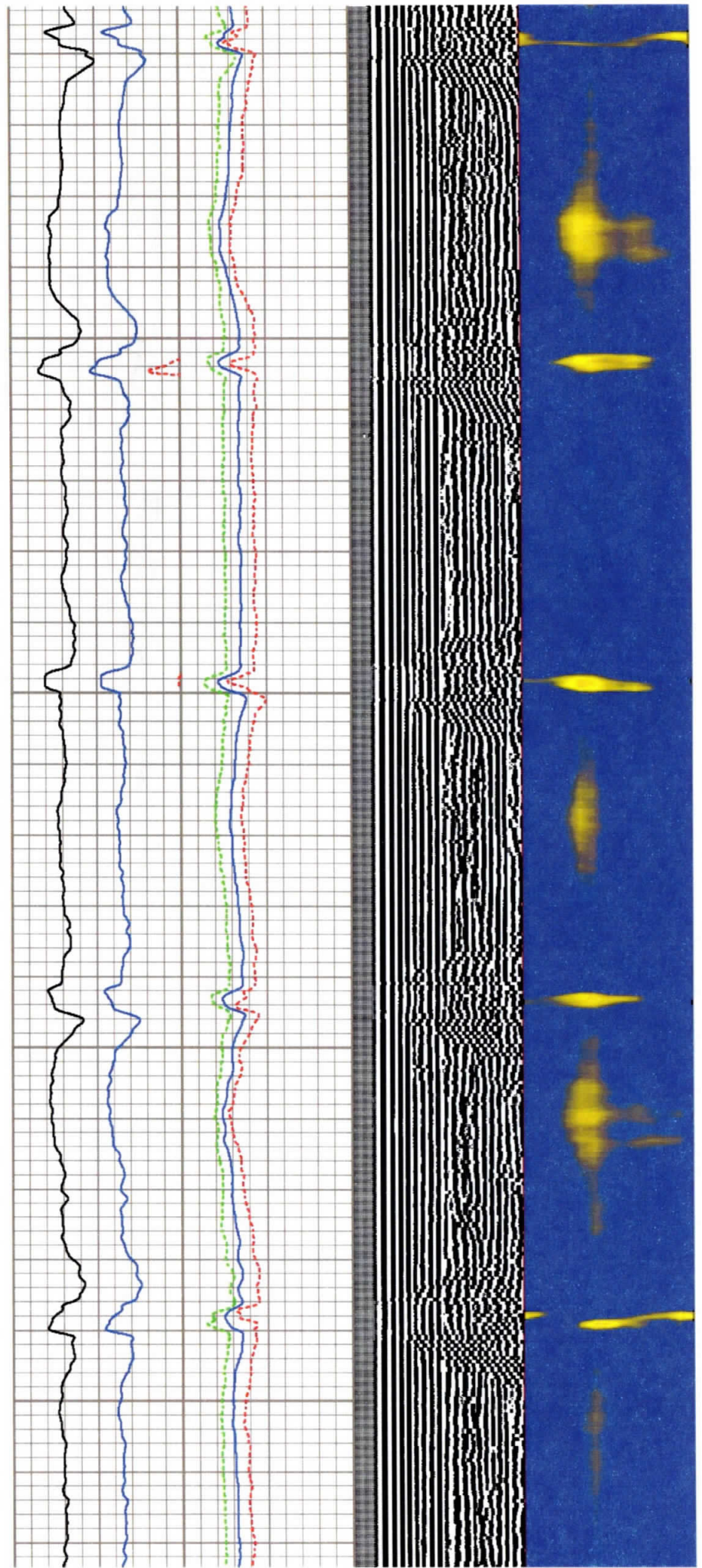
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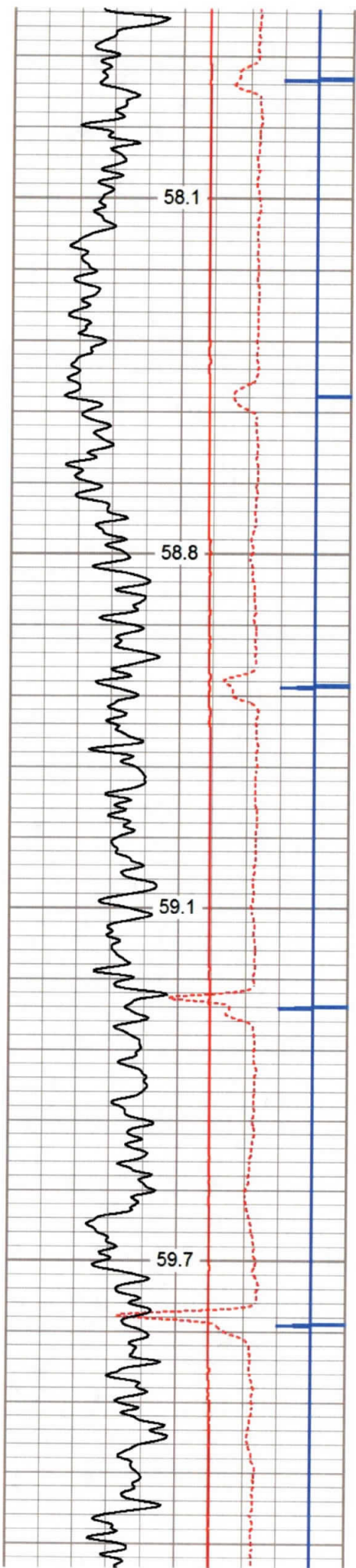






1100
1150
1200
1250



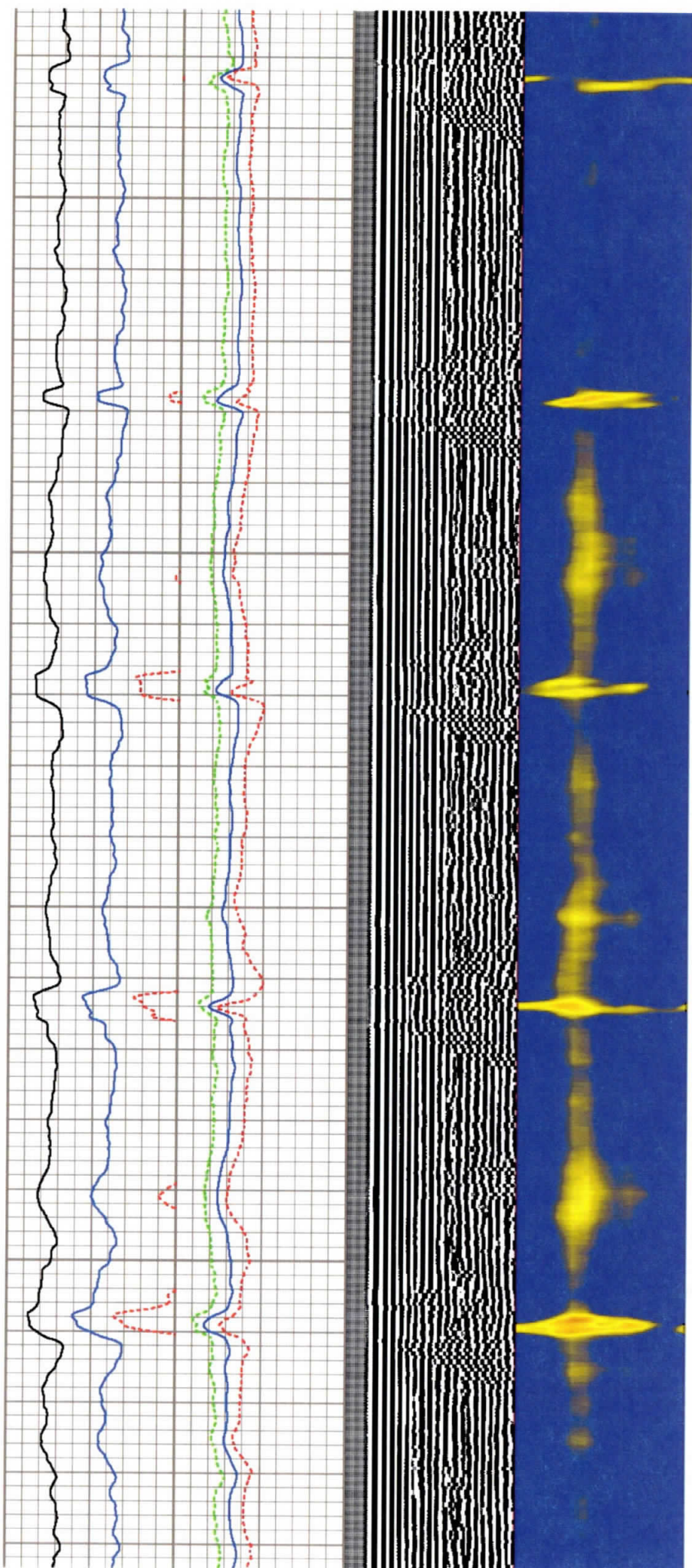


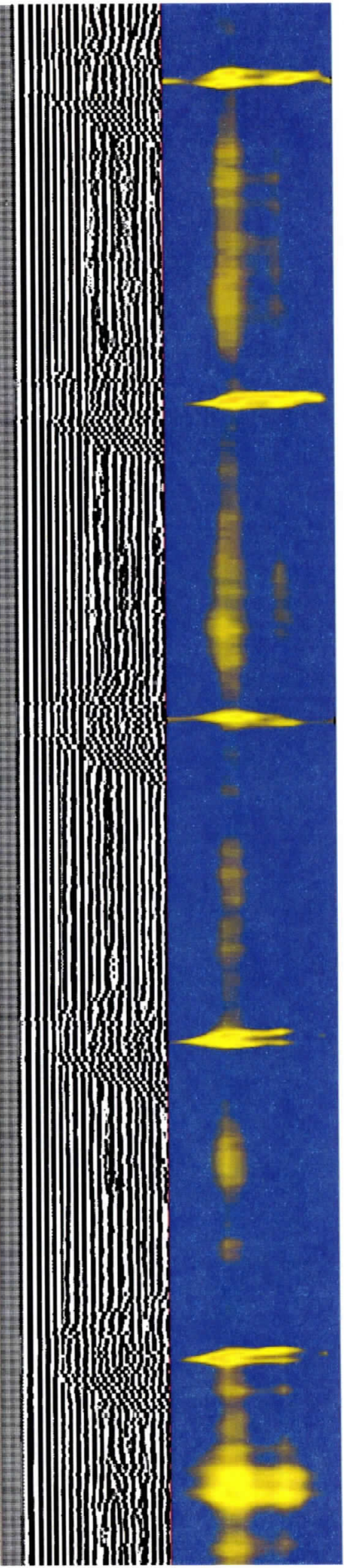
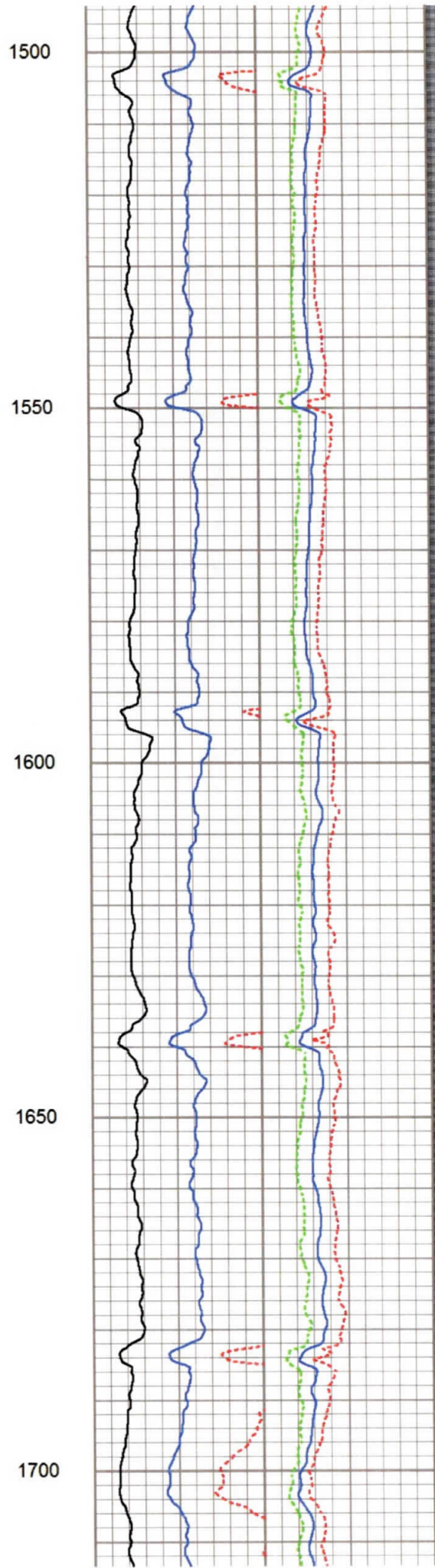
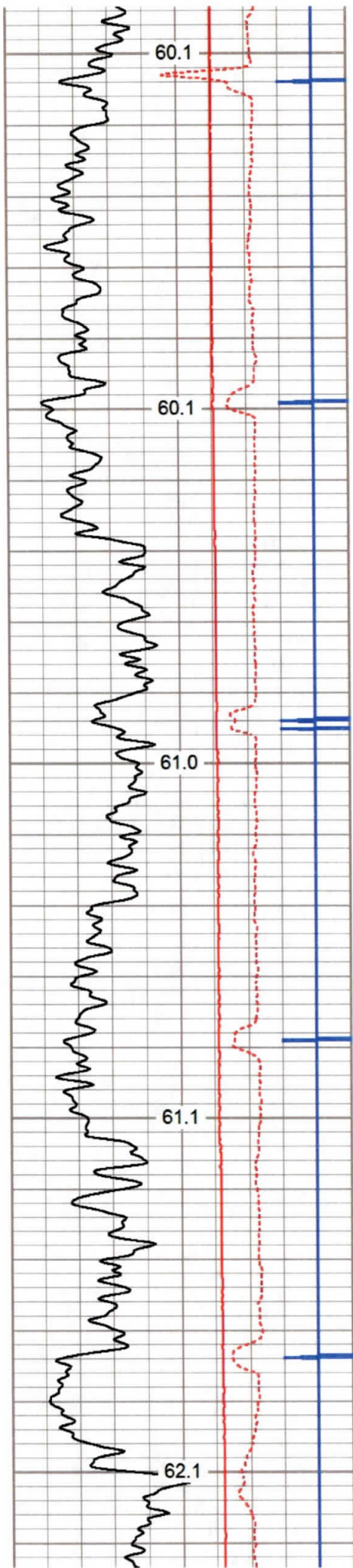
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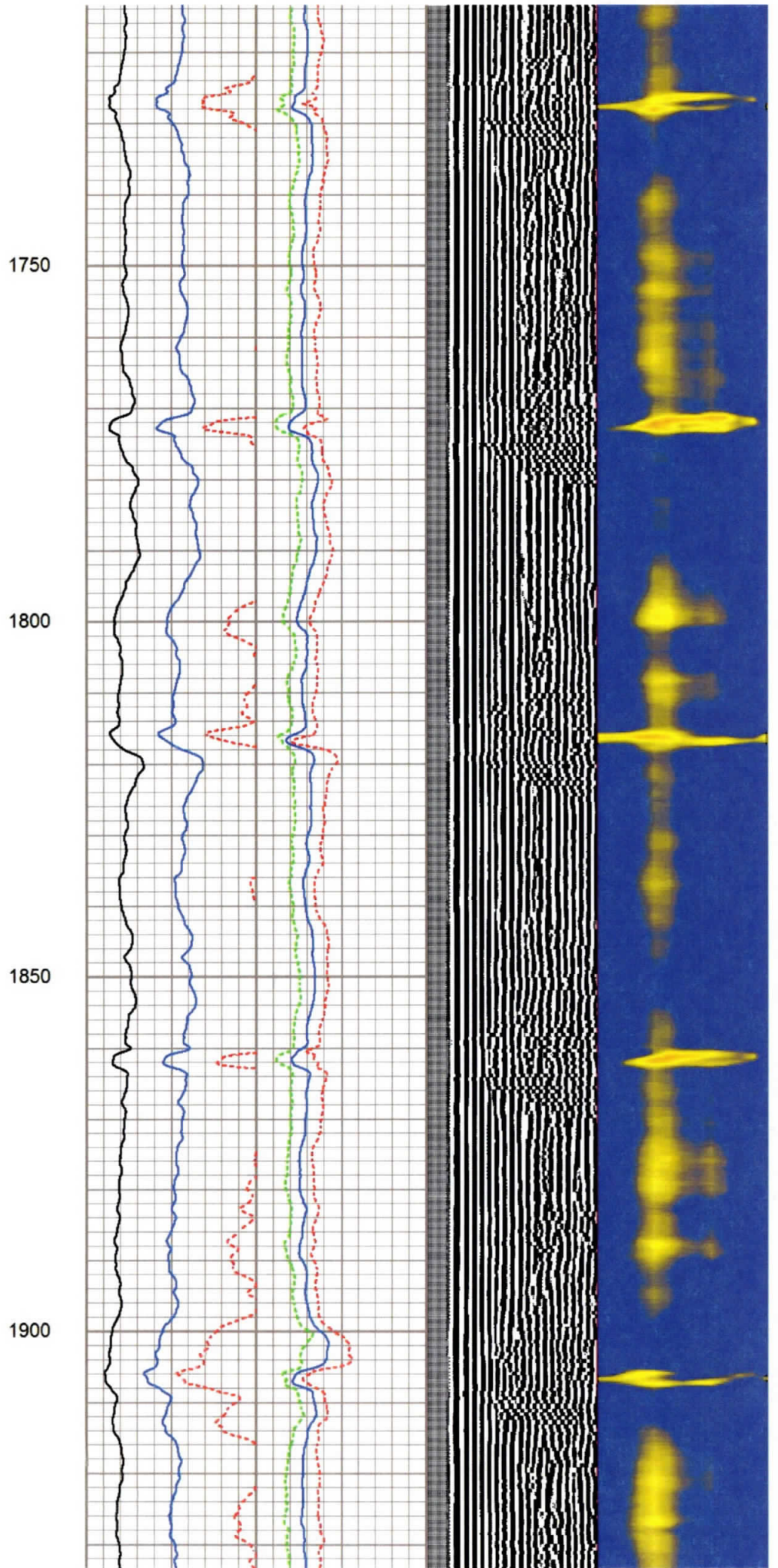
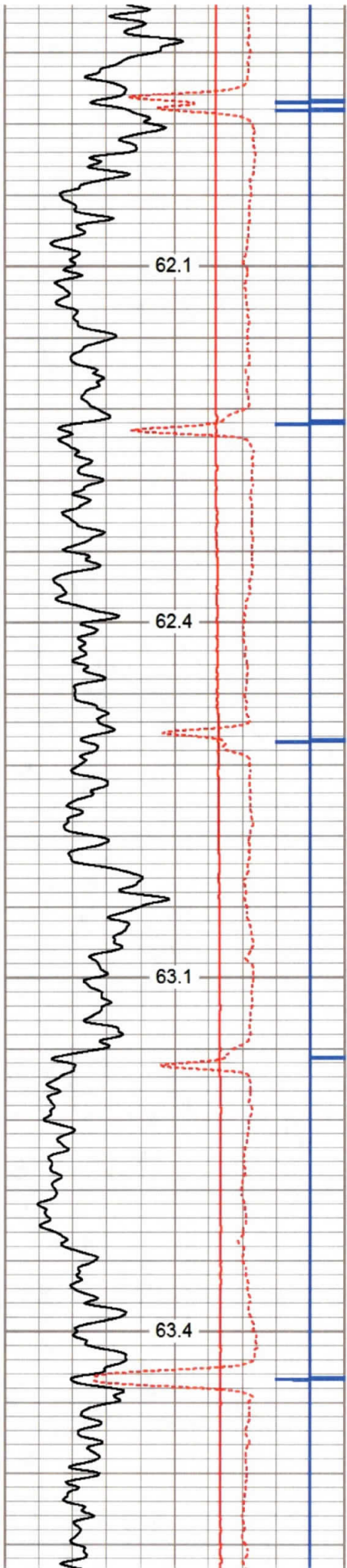
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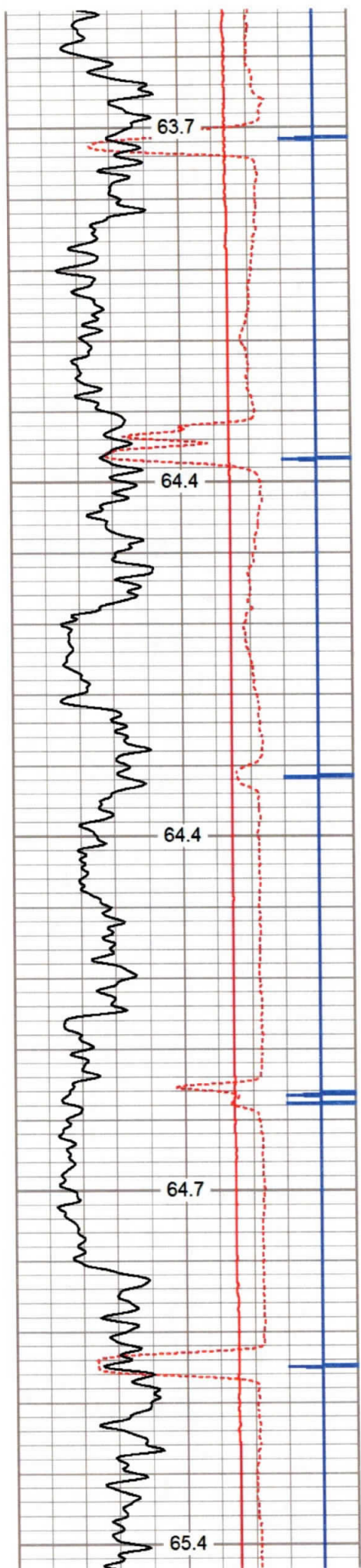
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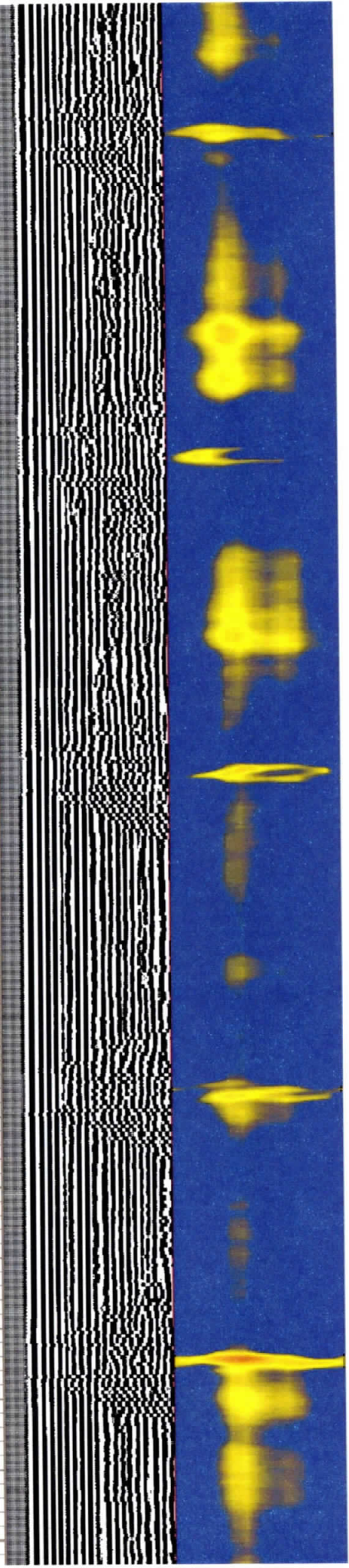
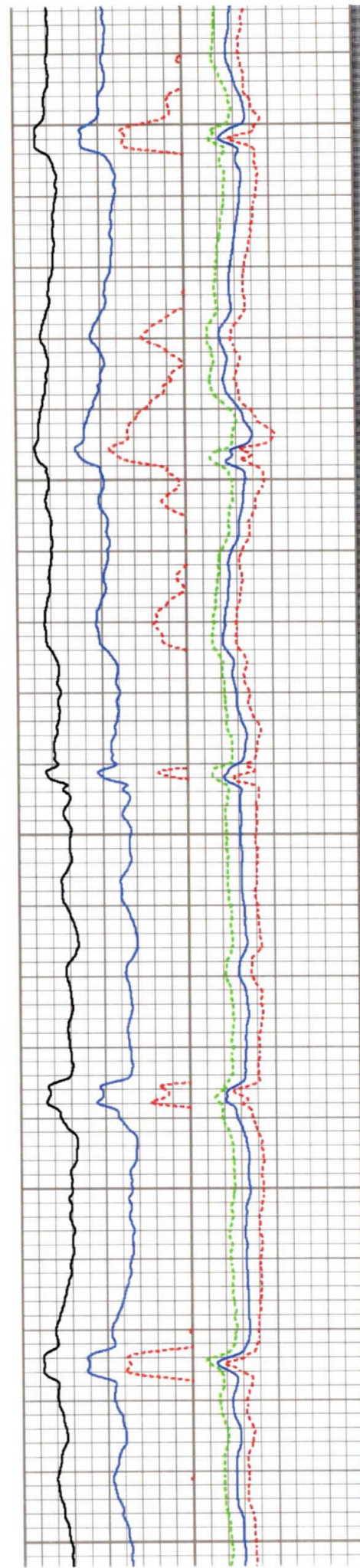


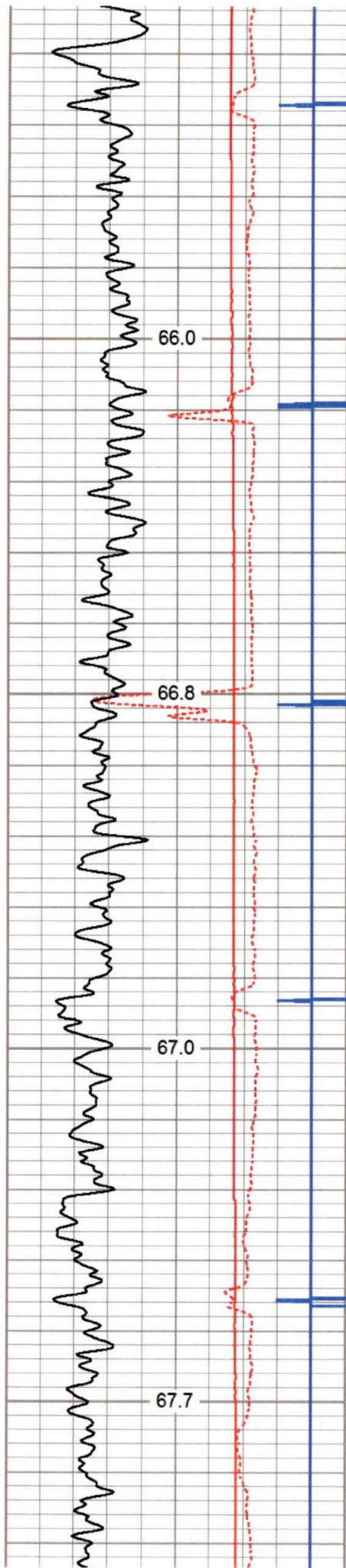






1950
2000
2050
2100
2150



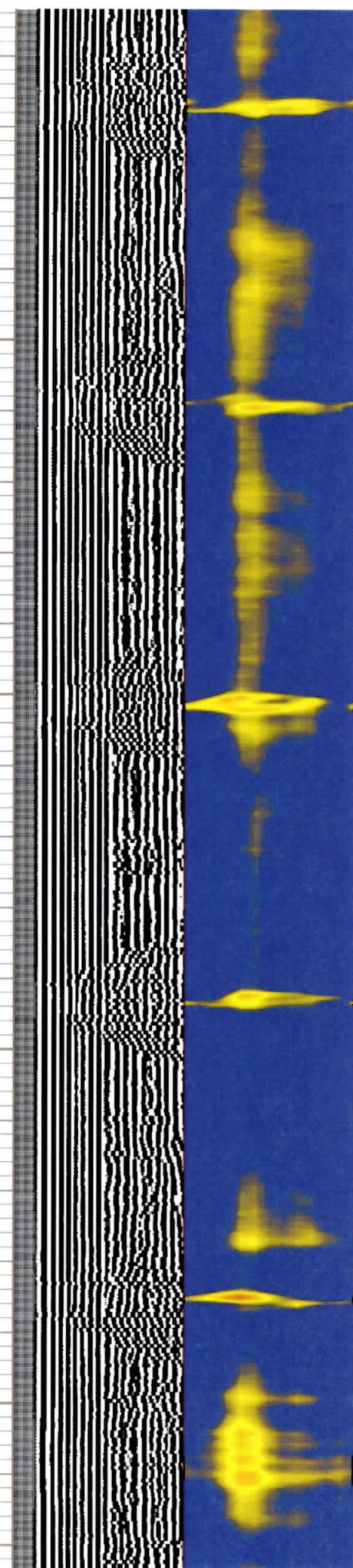
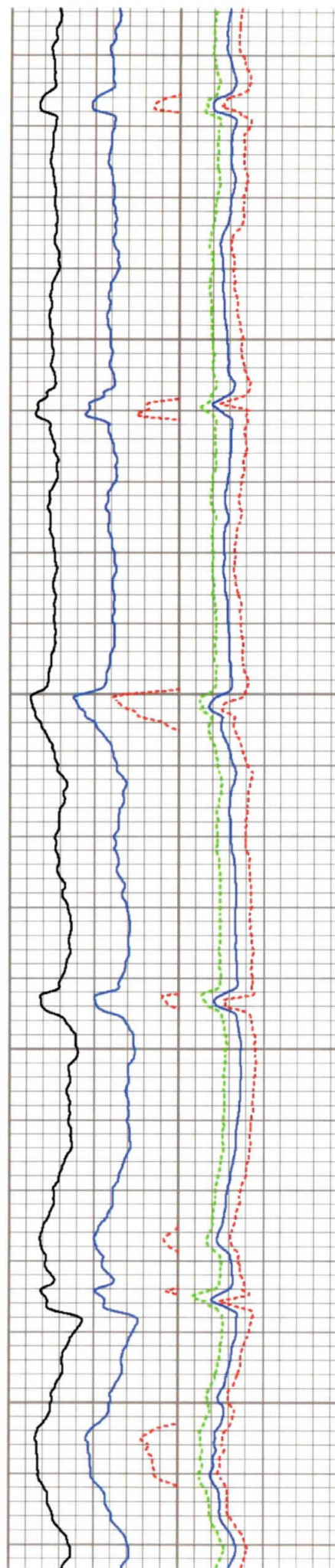


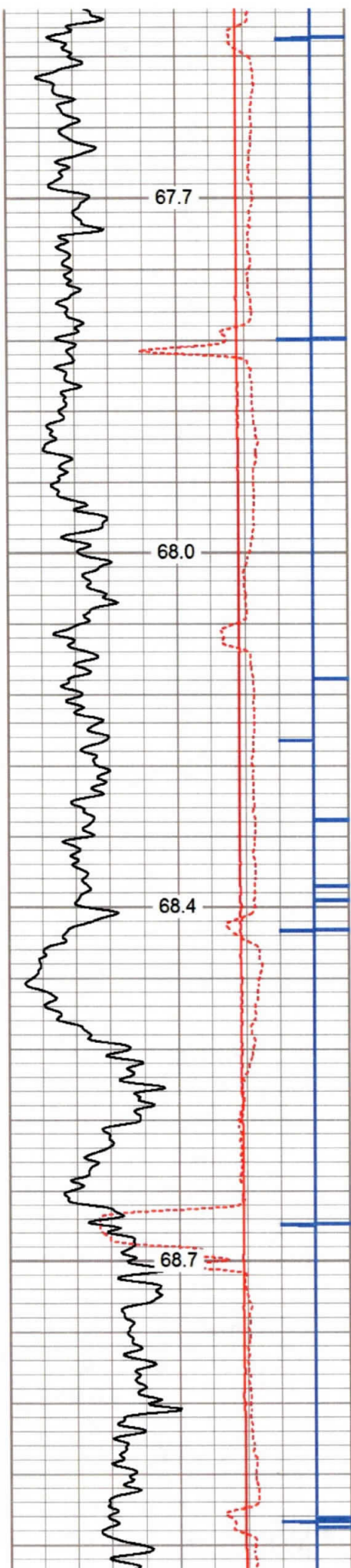
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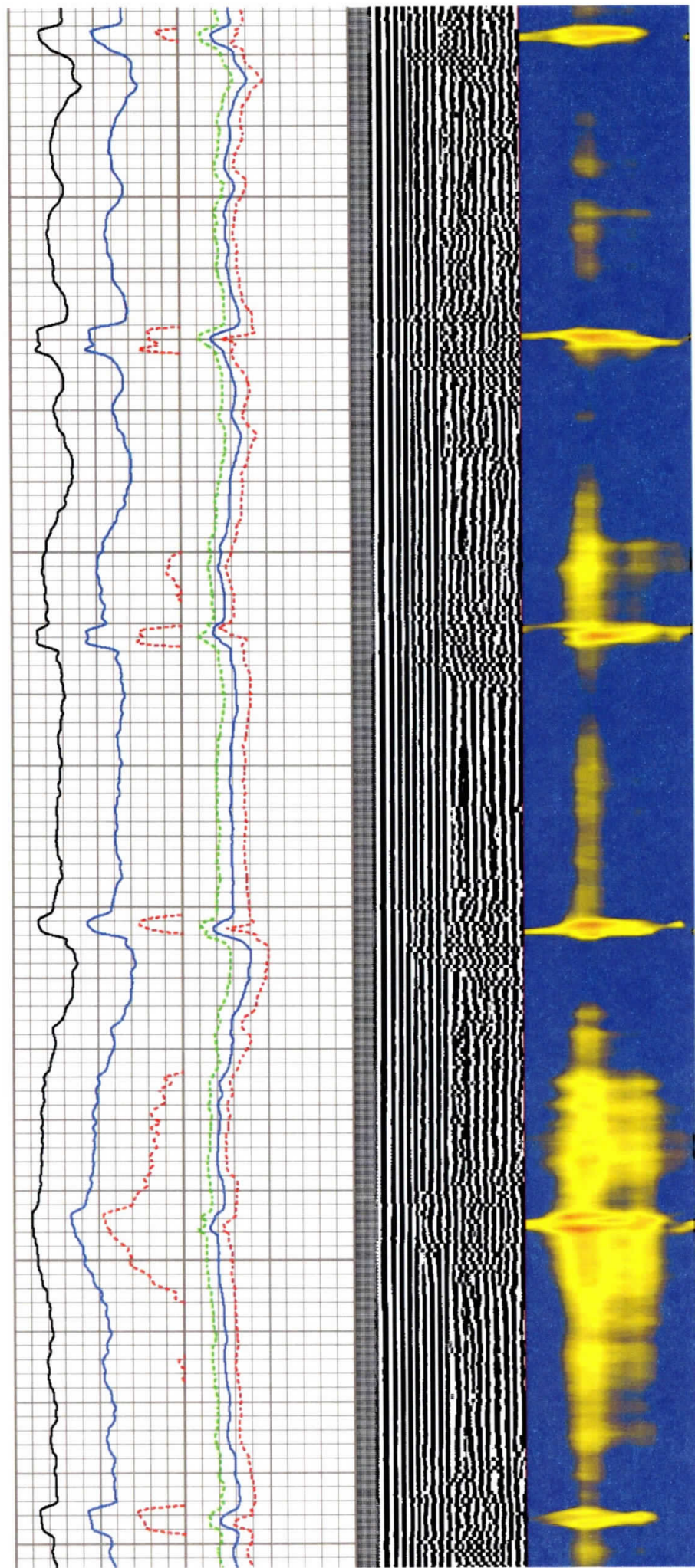


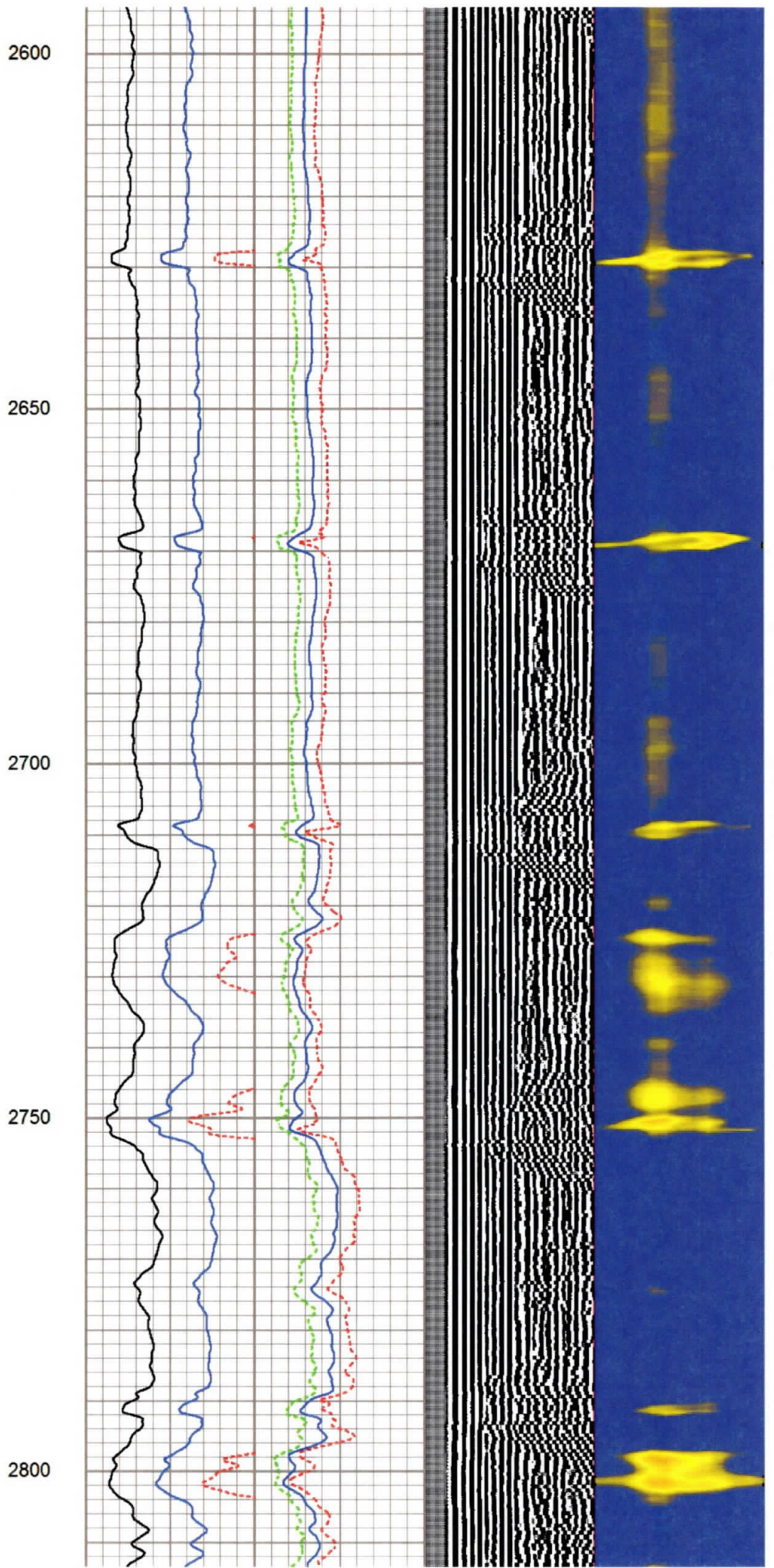
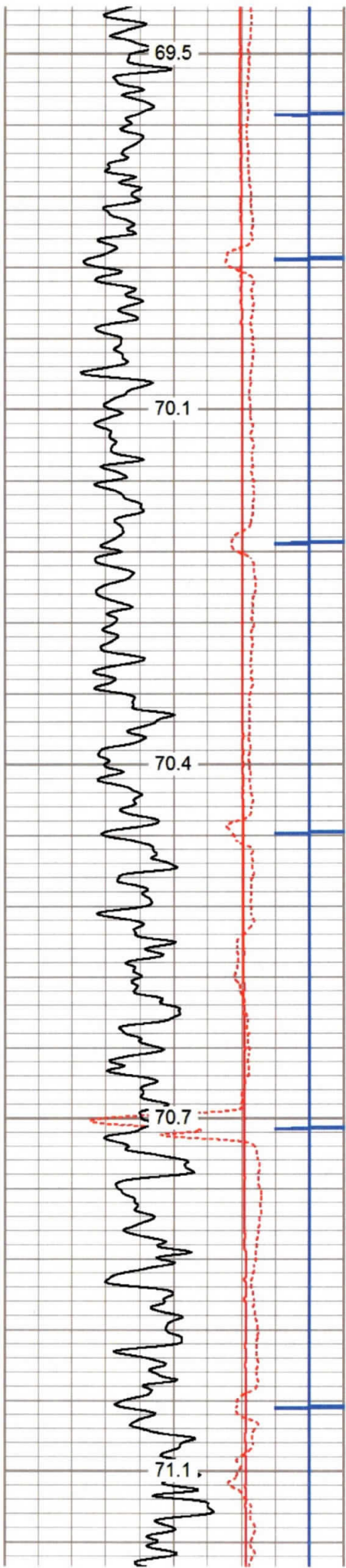
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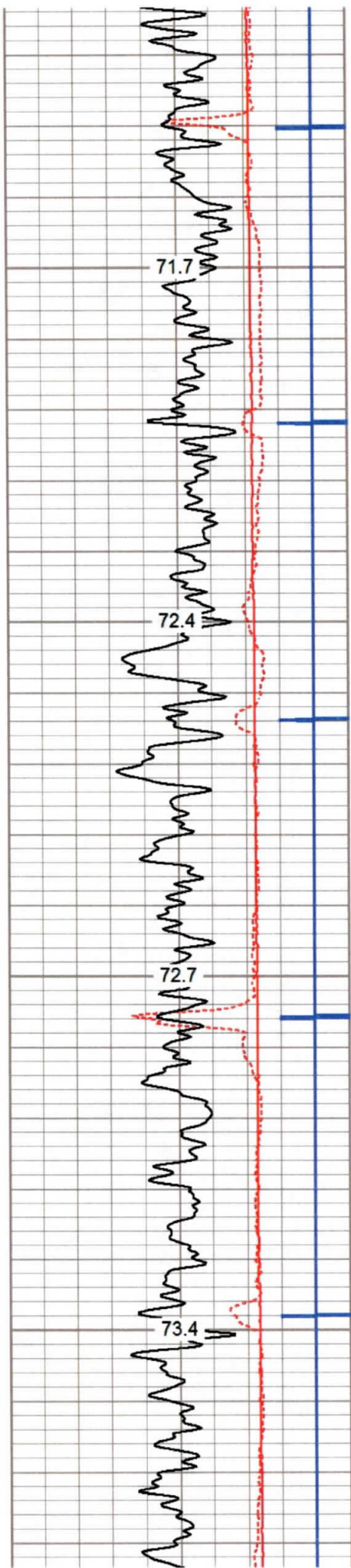
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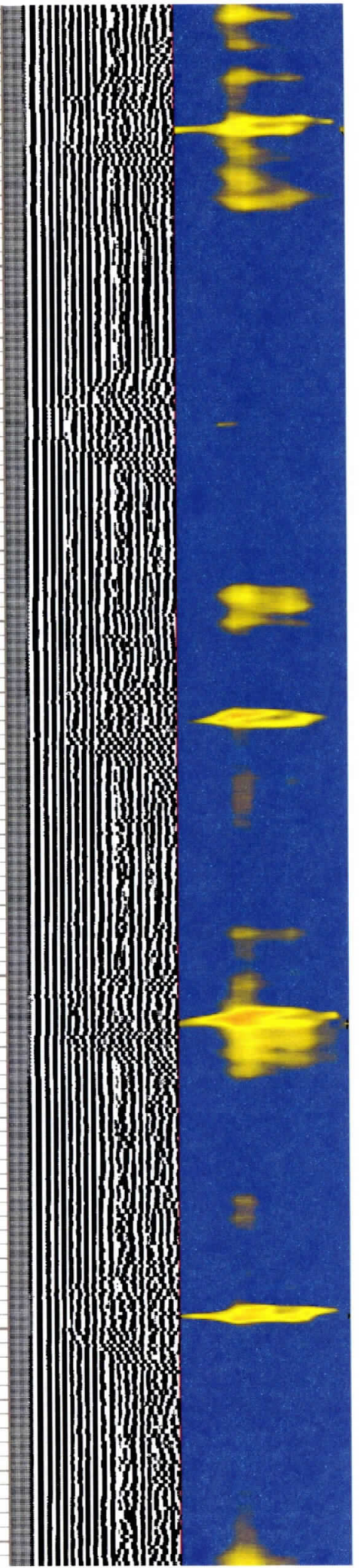
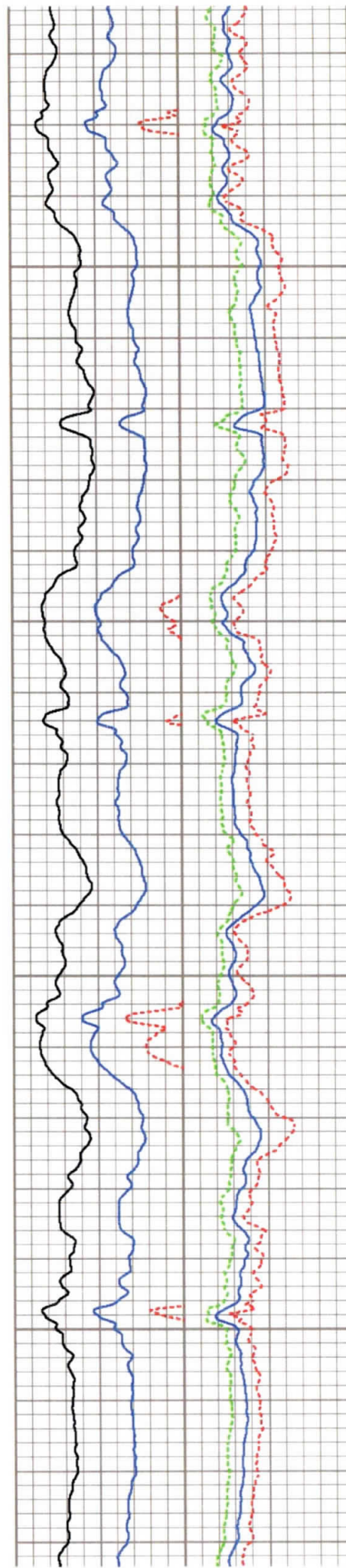


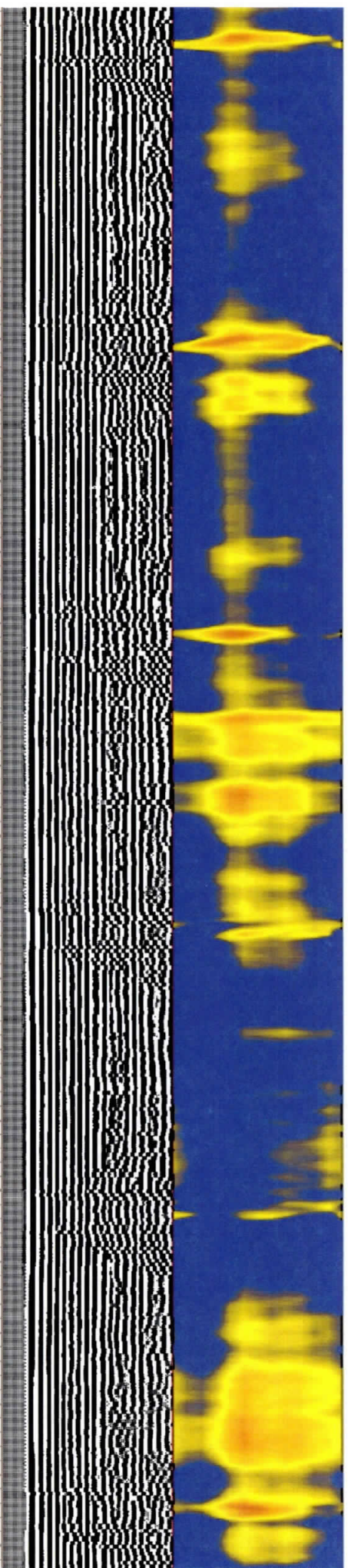
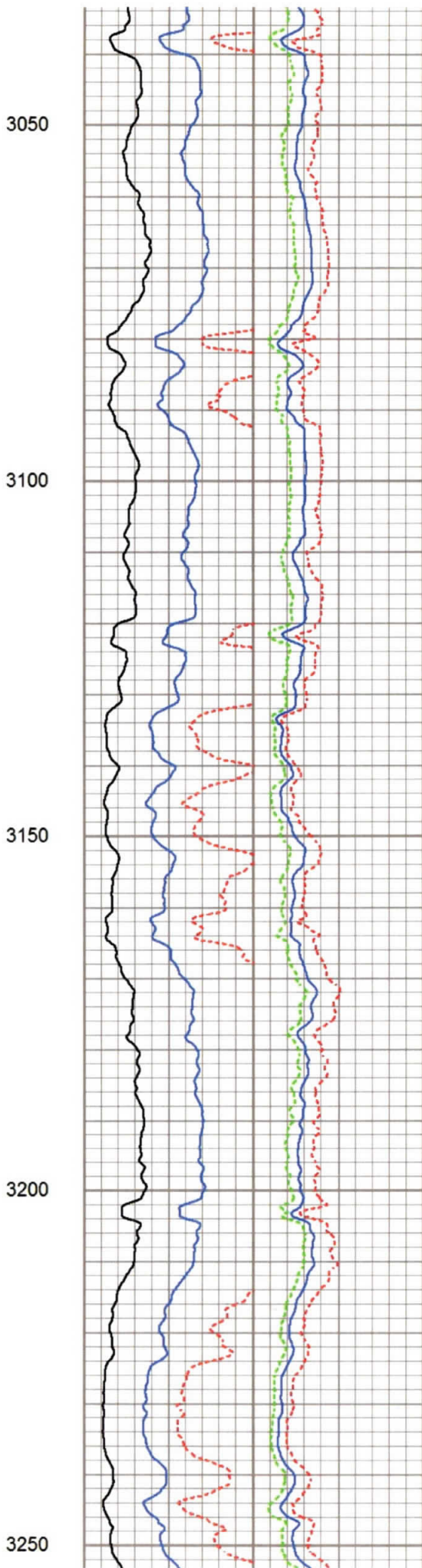
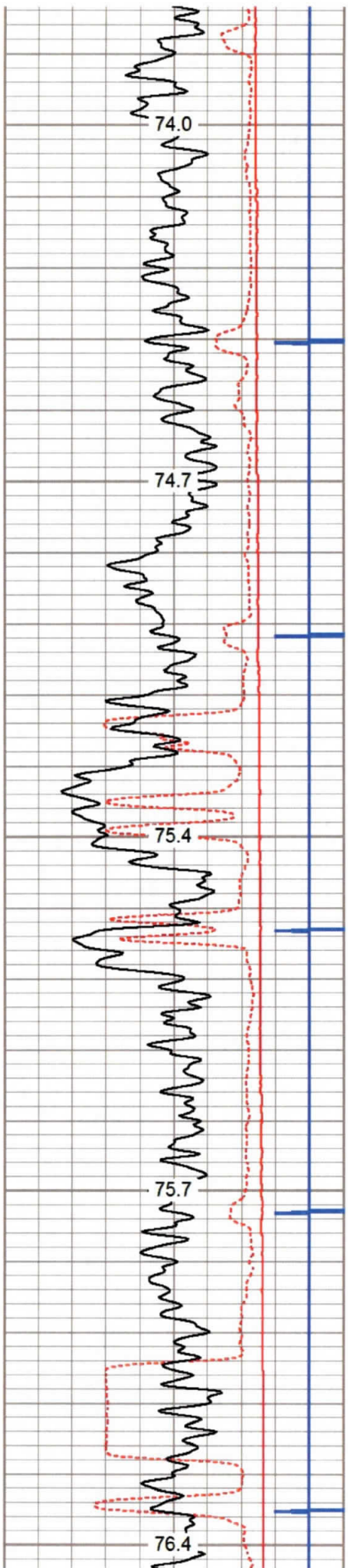
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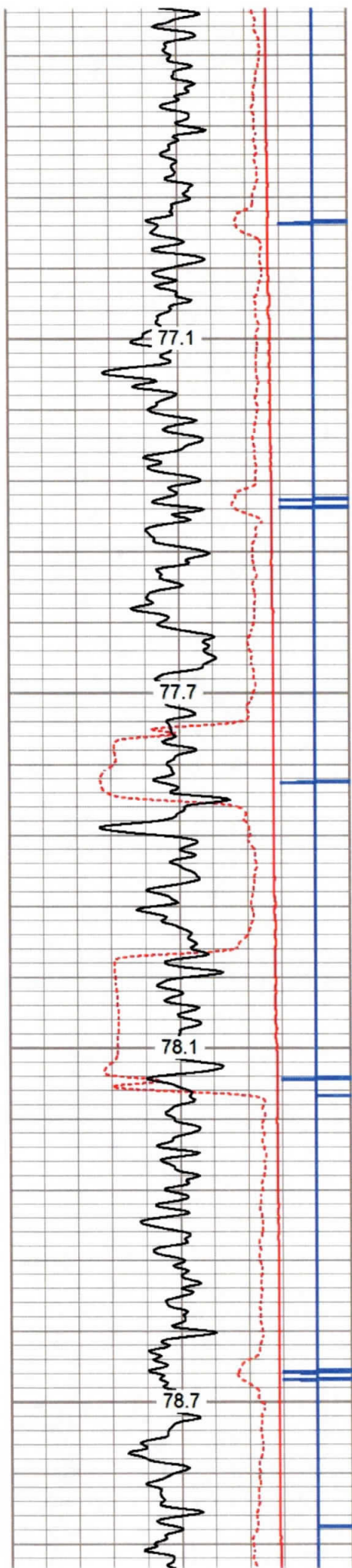
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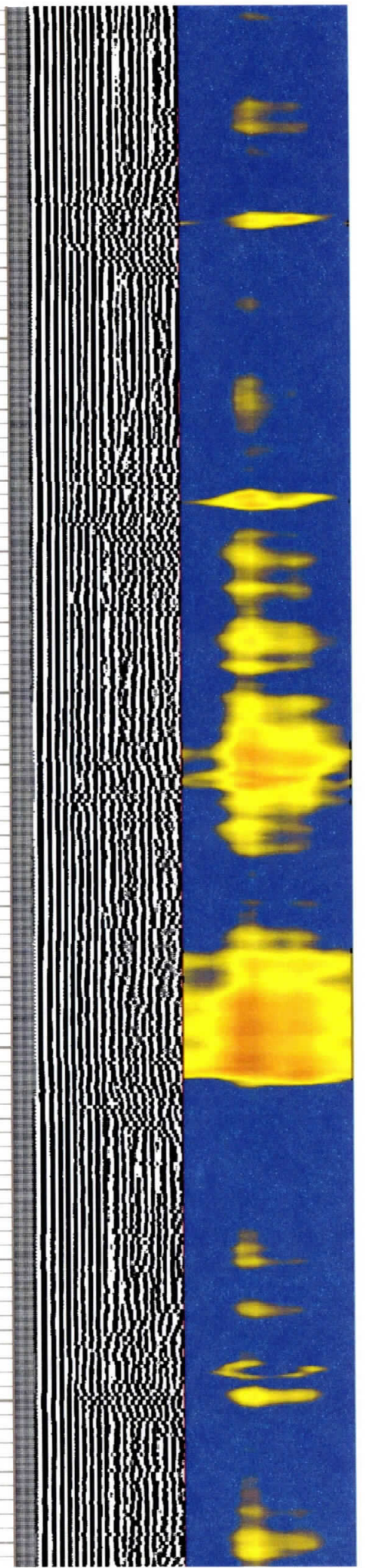
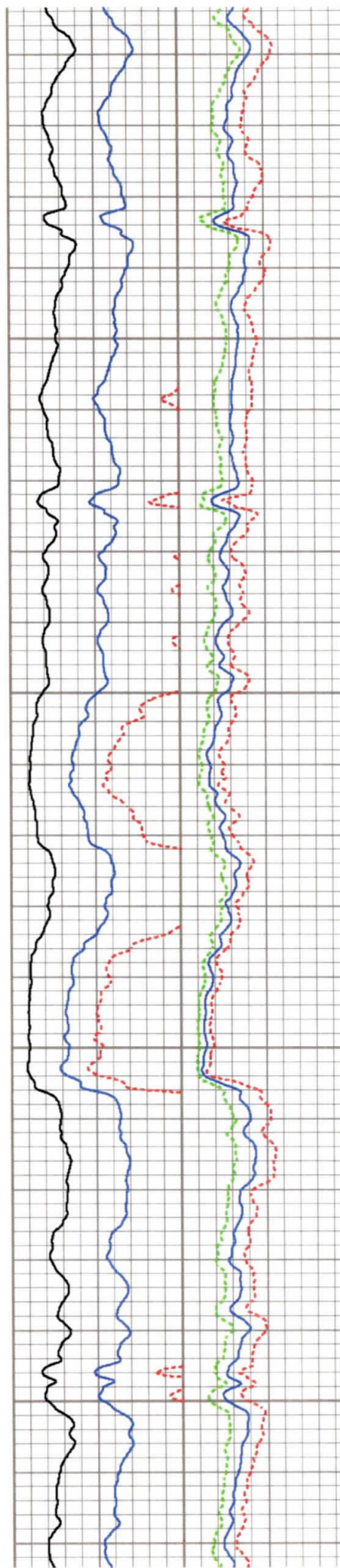


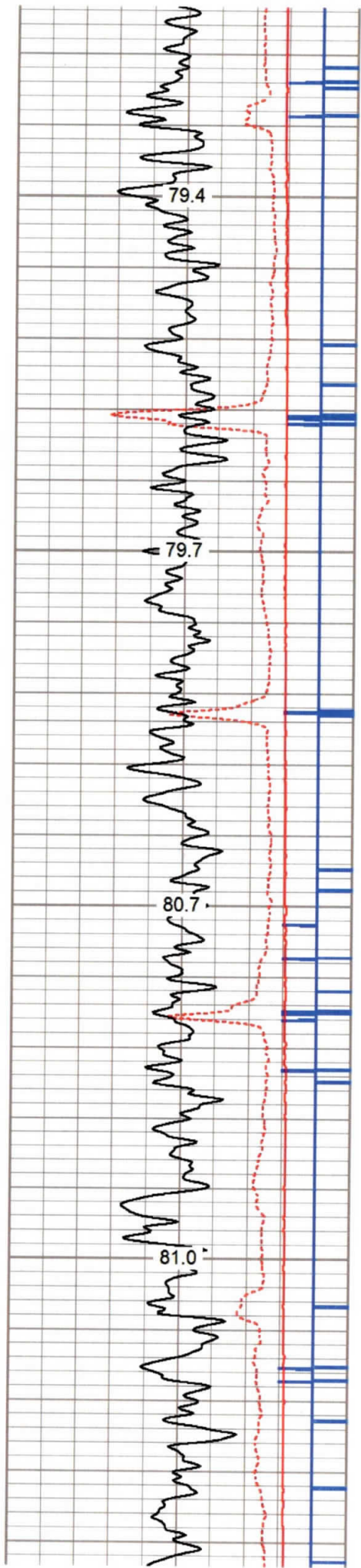
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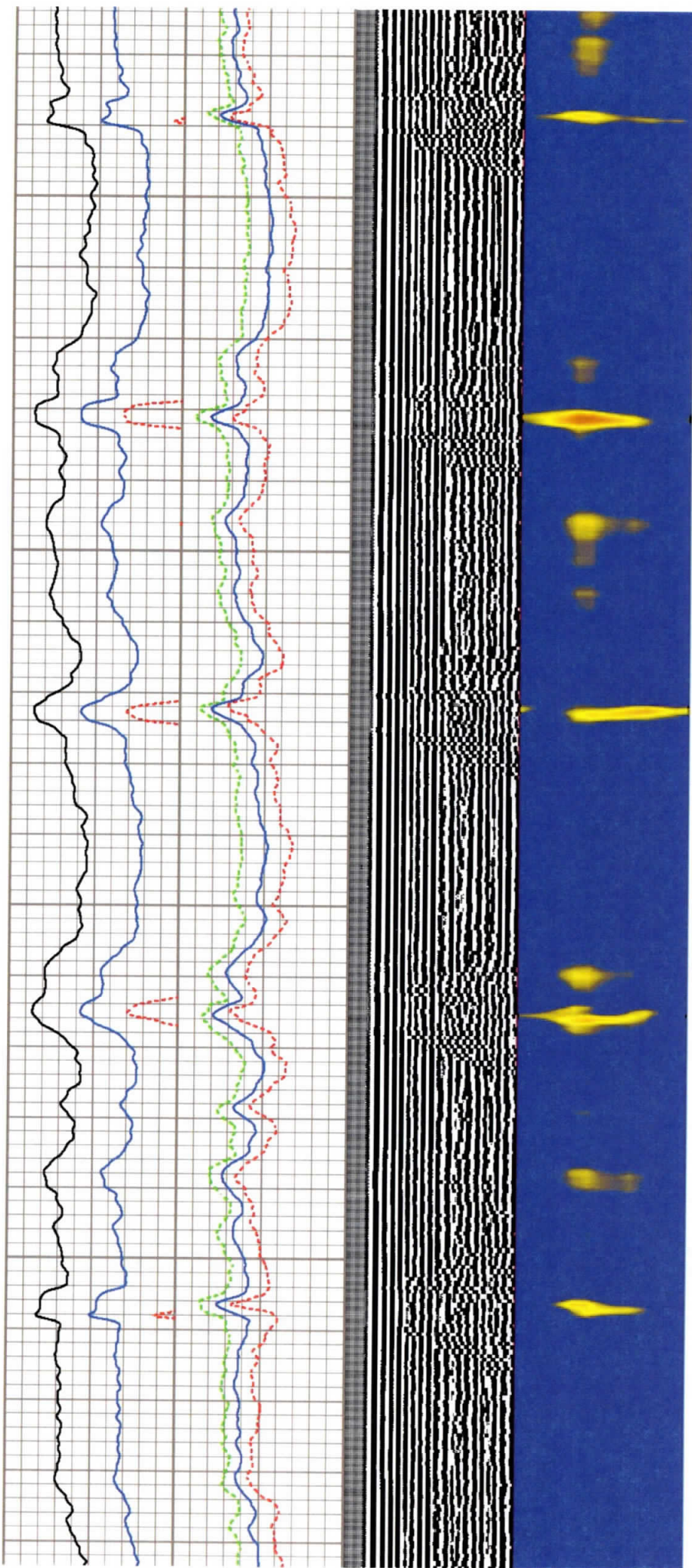


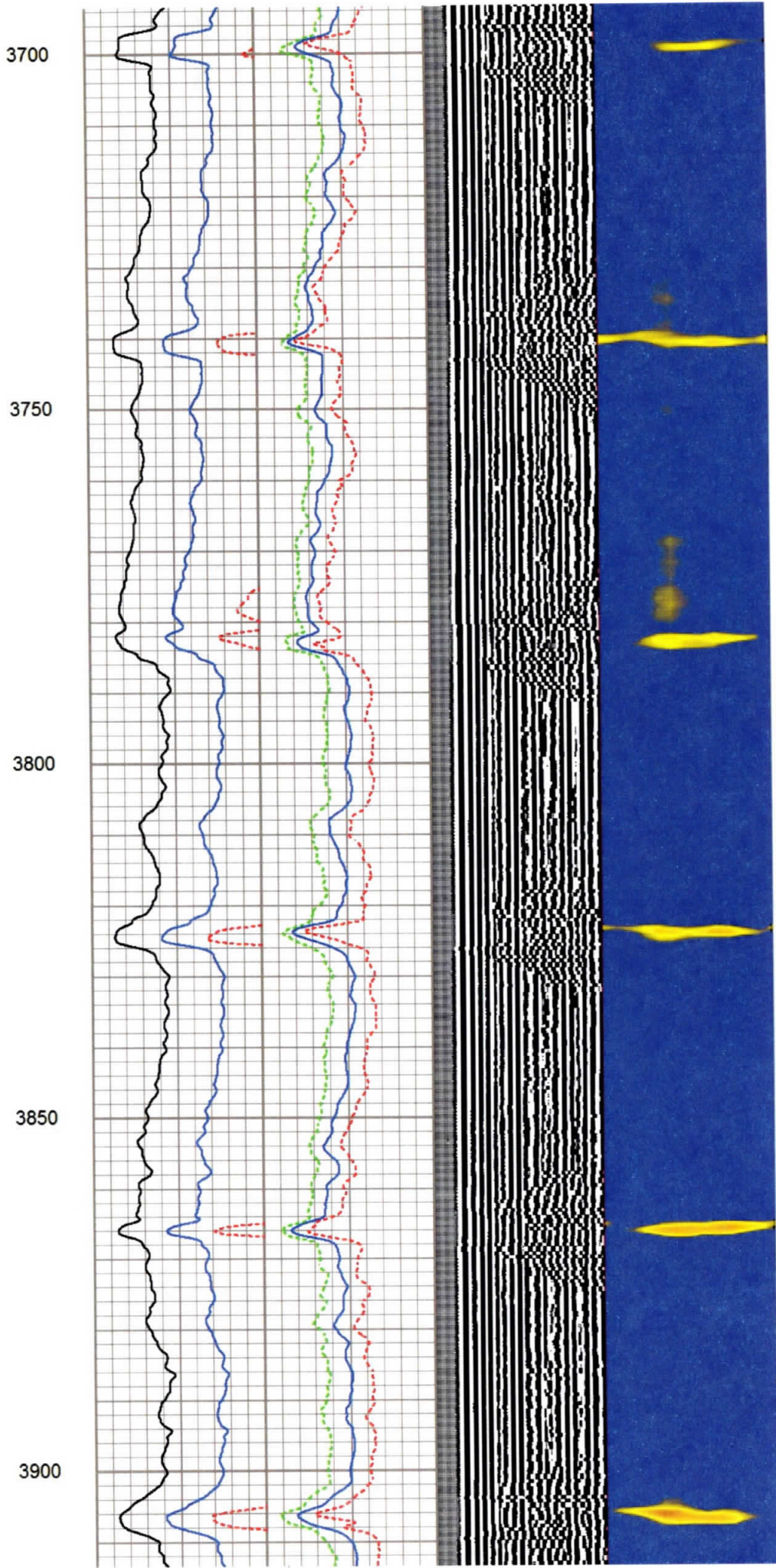
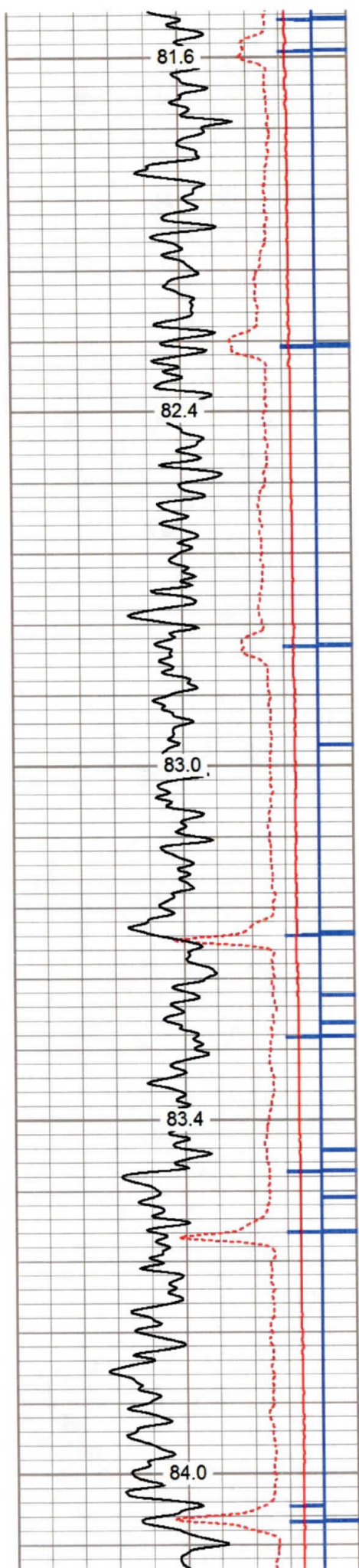
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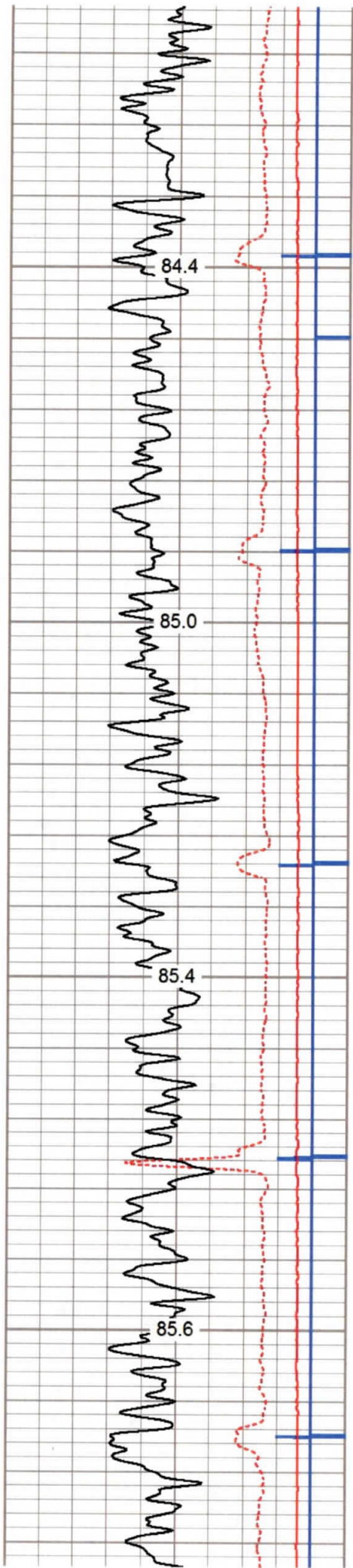
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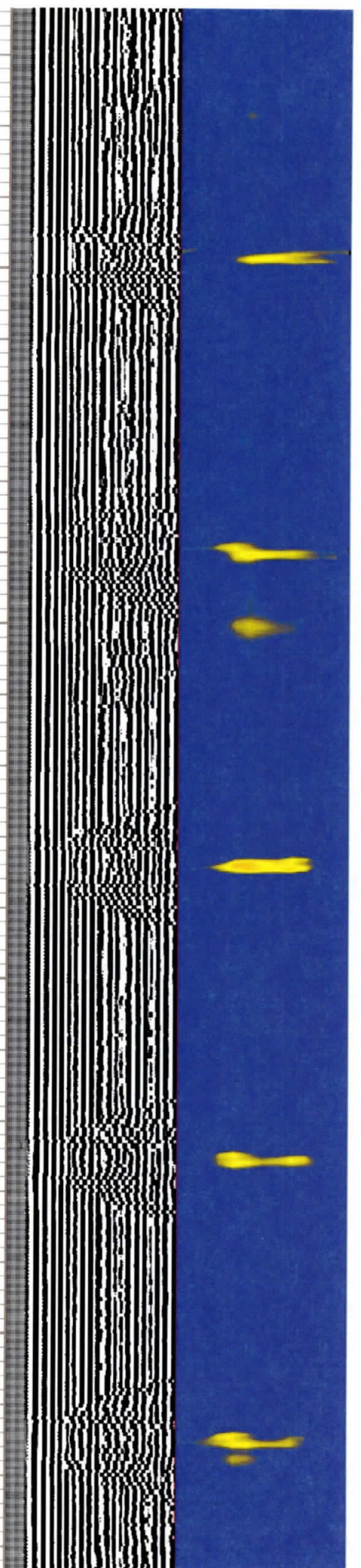
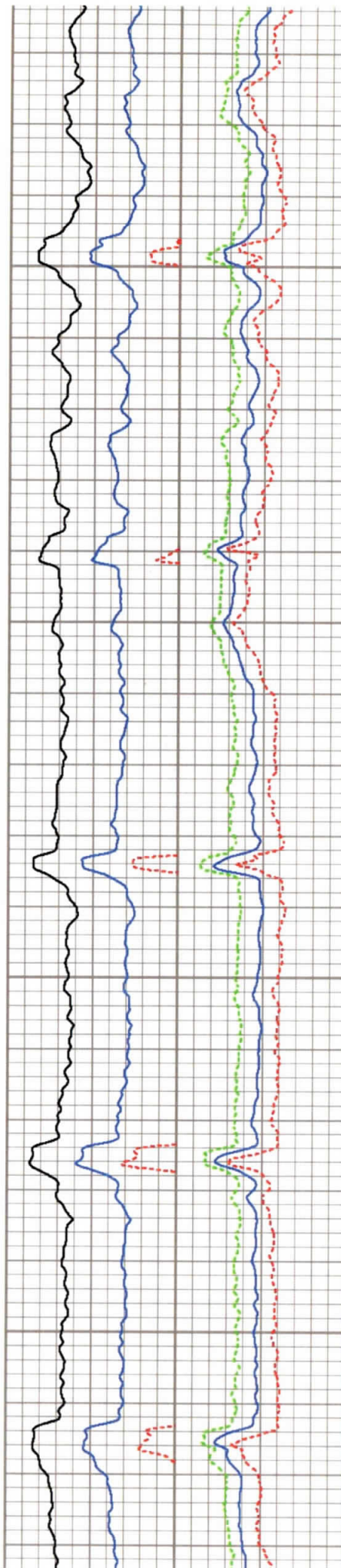


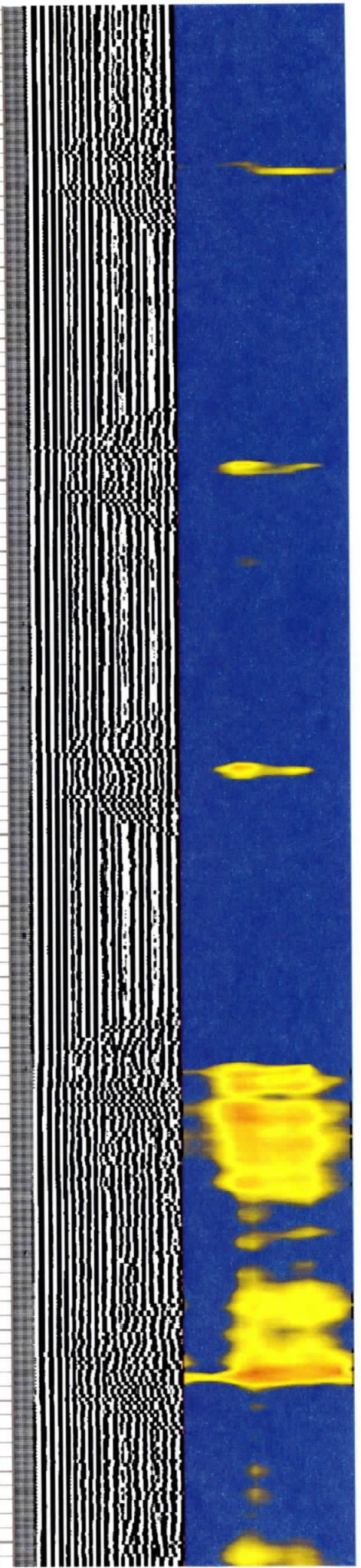
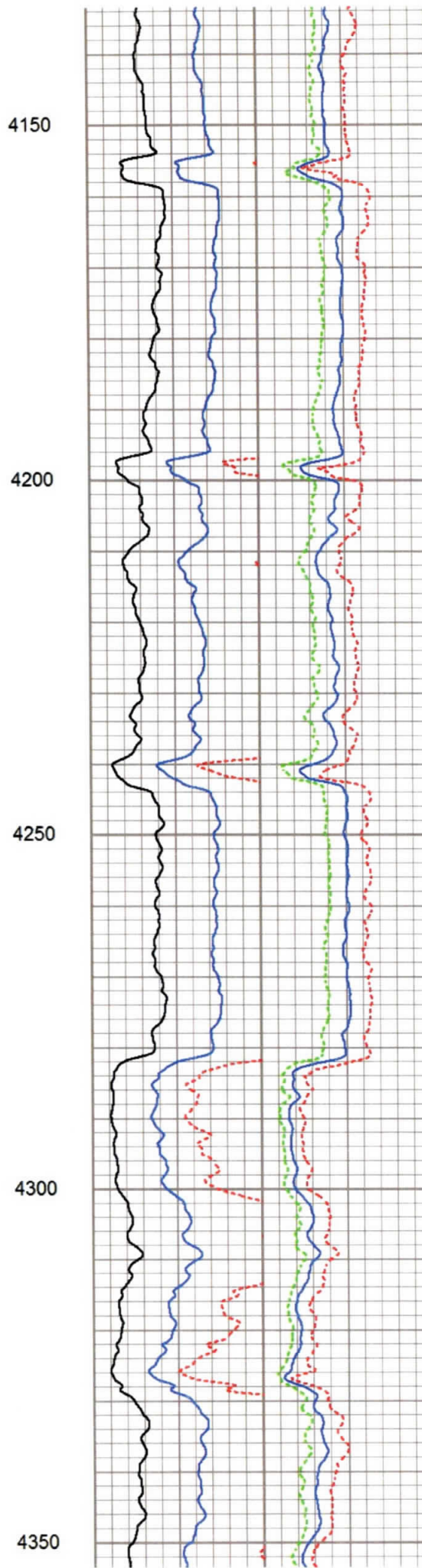
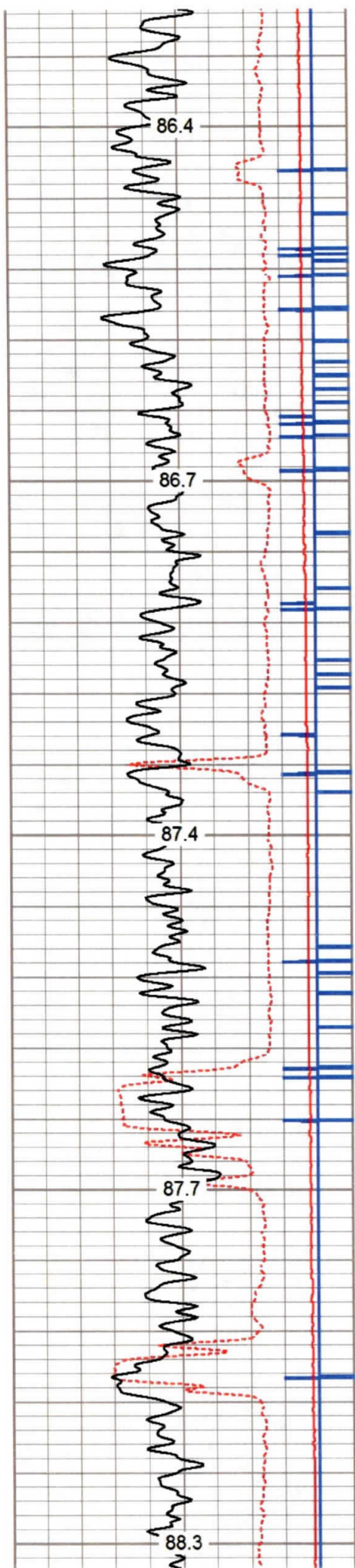
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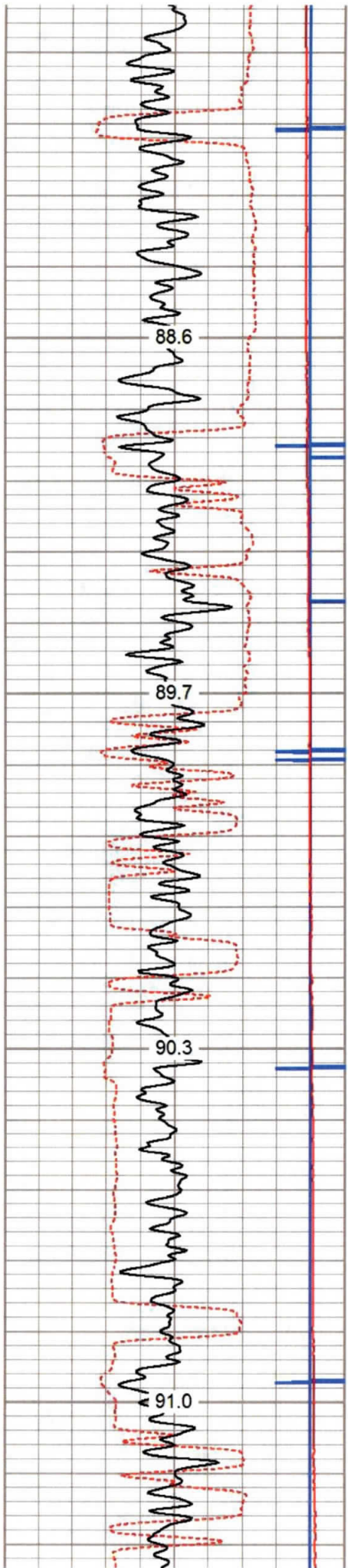
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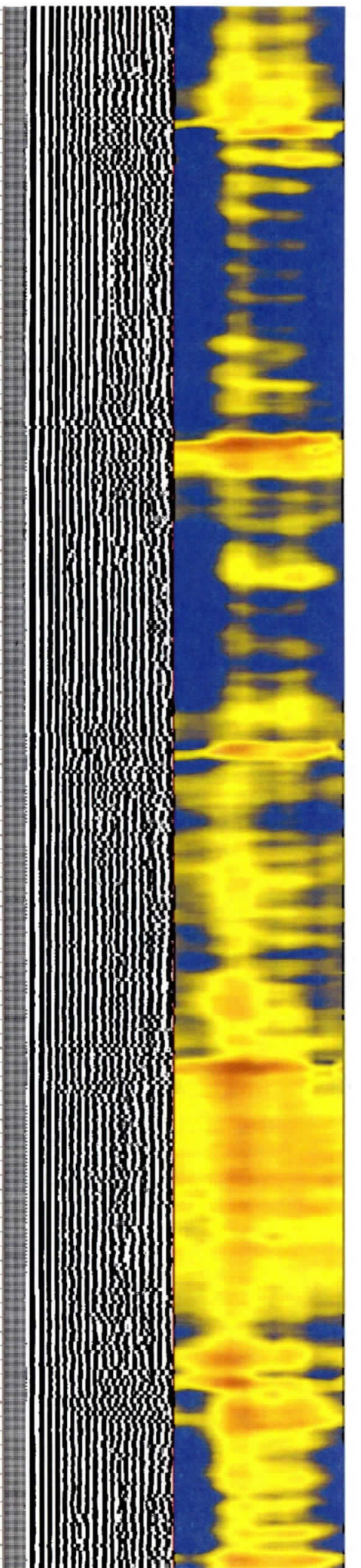
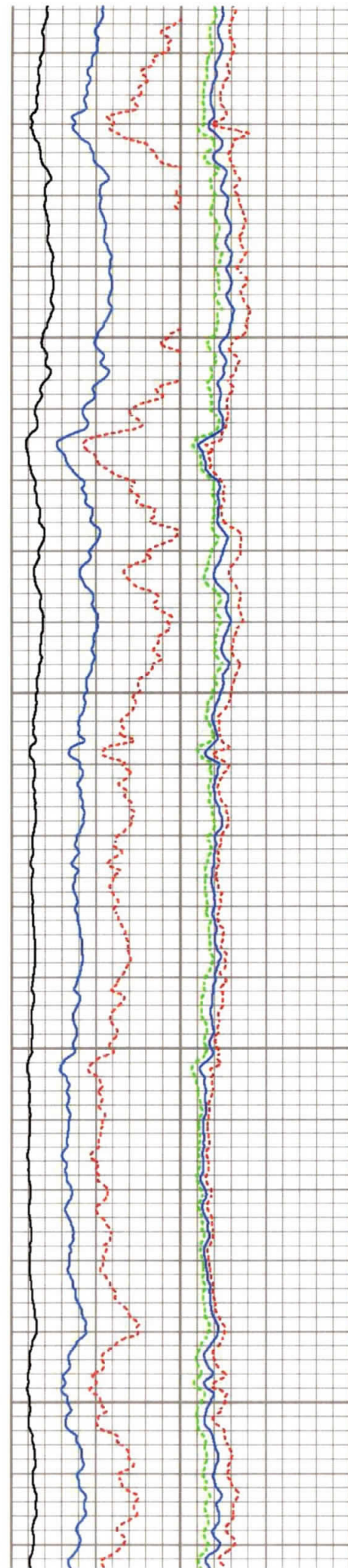
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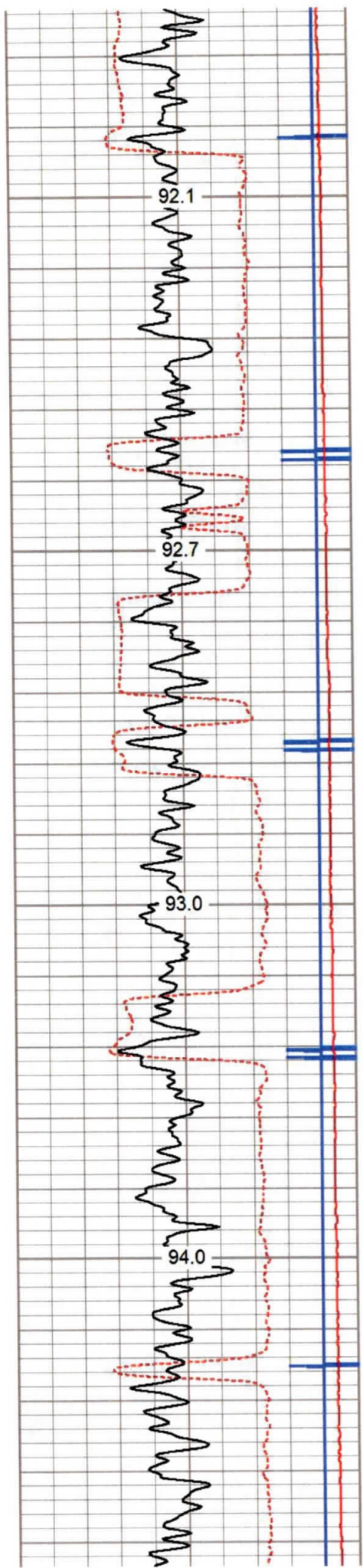






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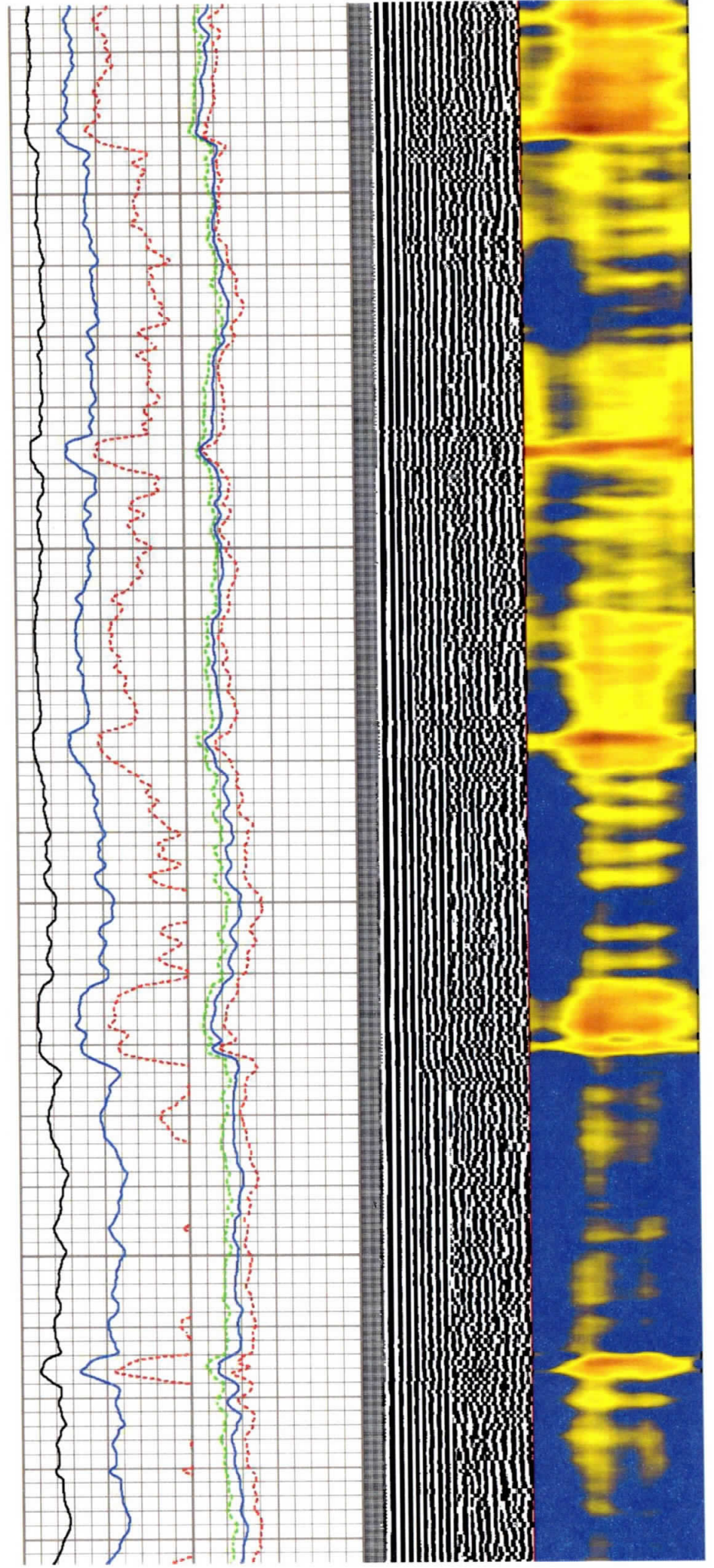


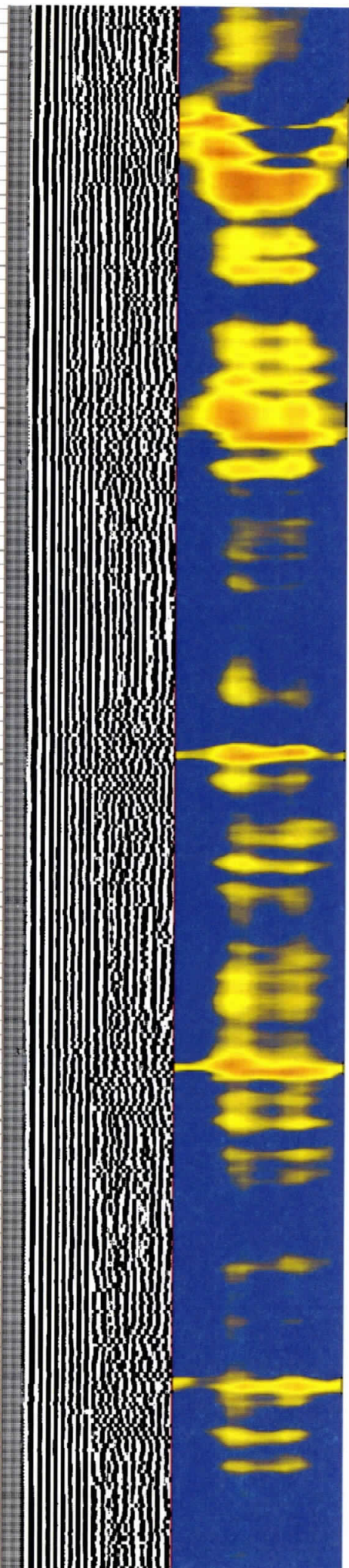
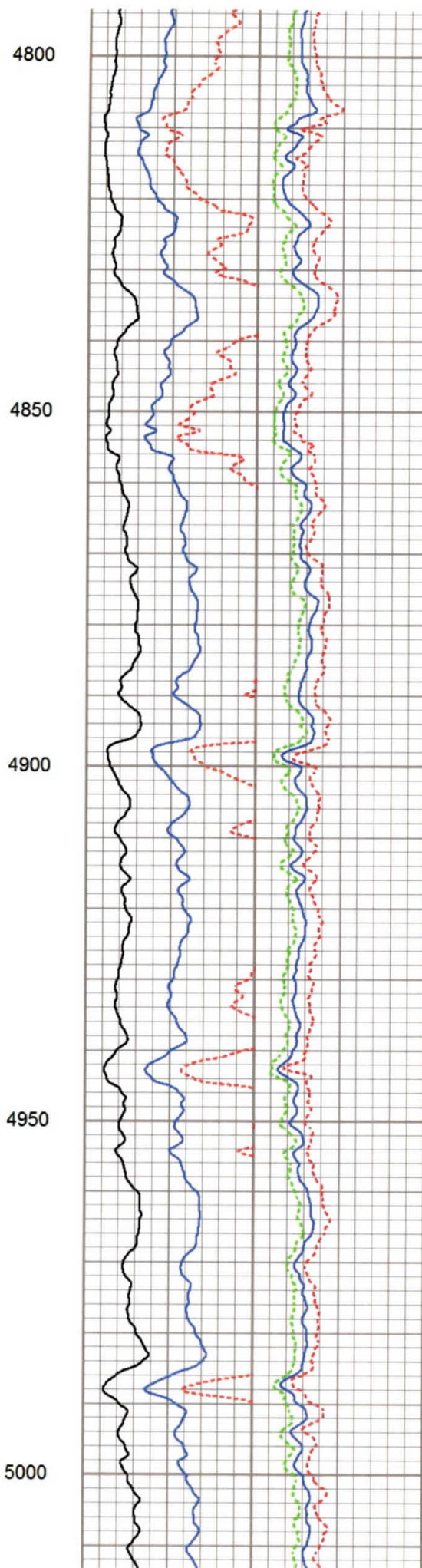
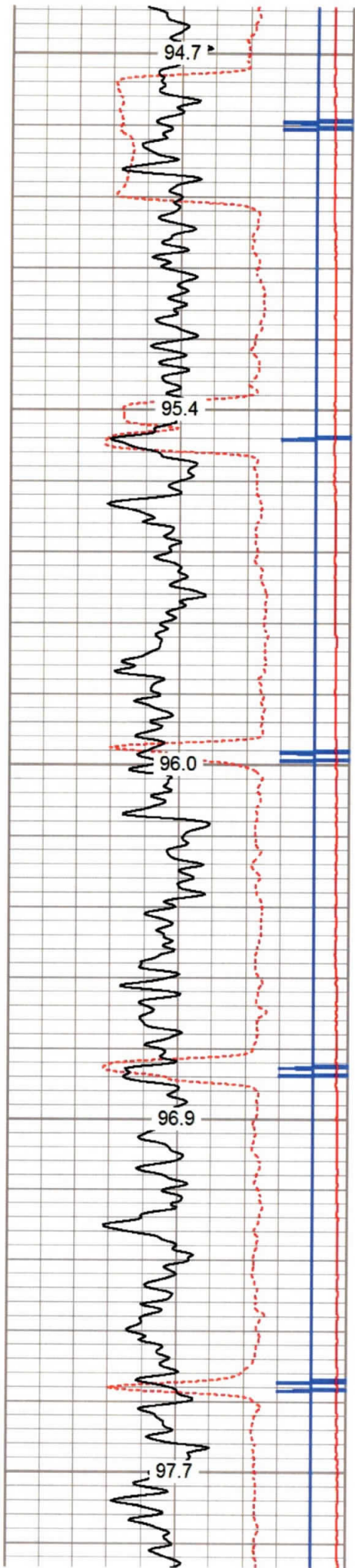
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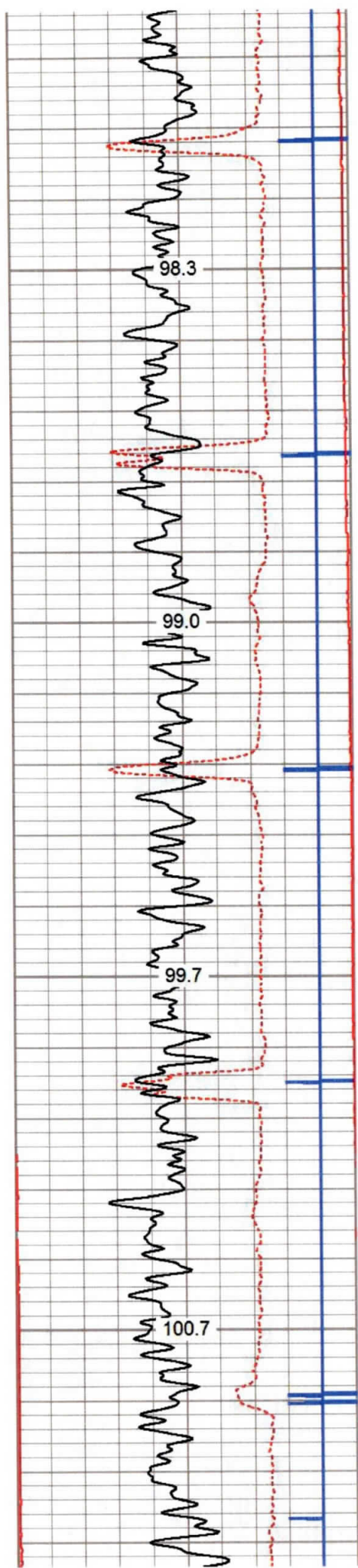
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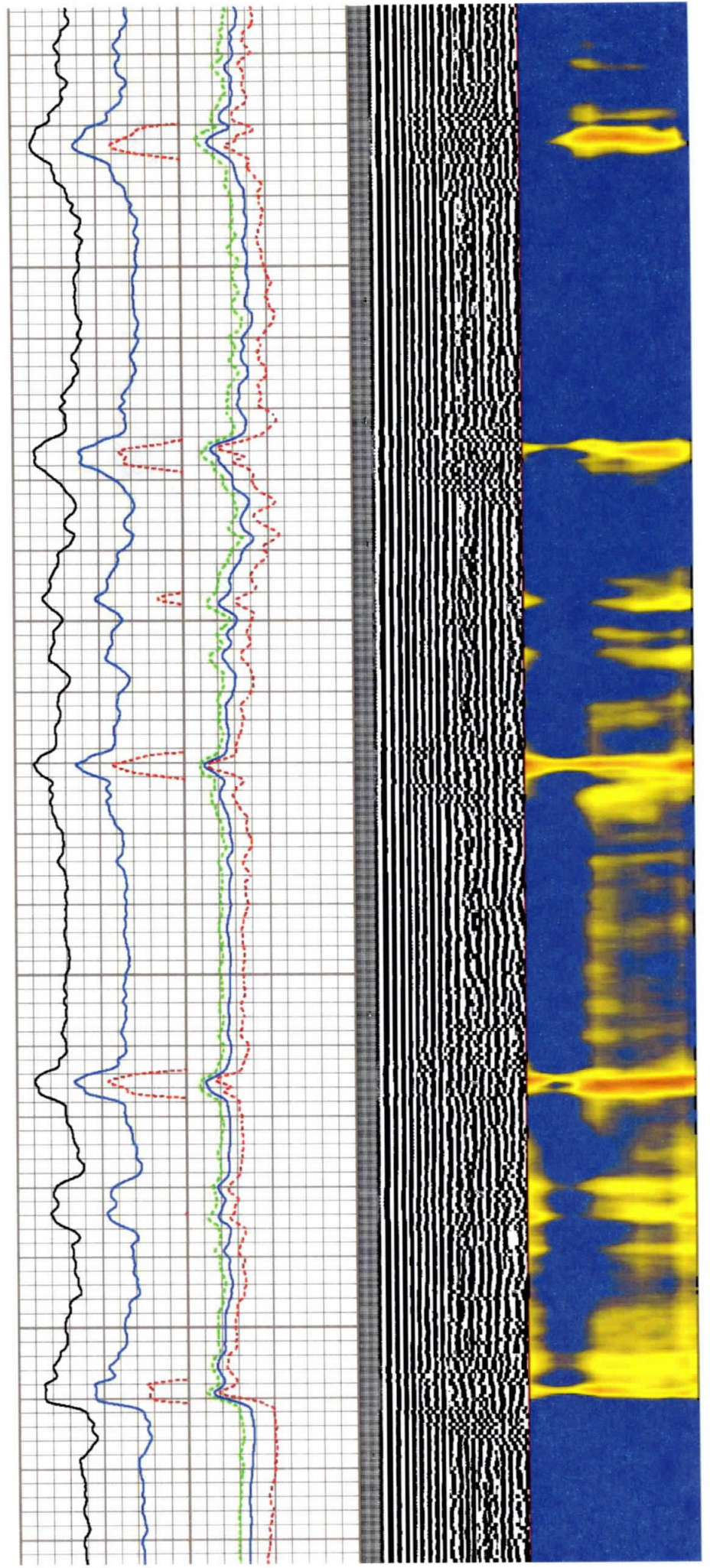


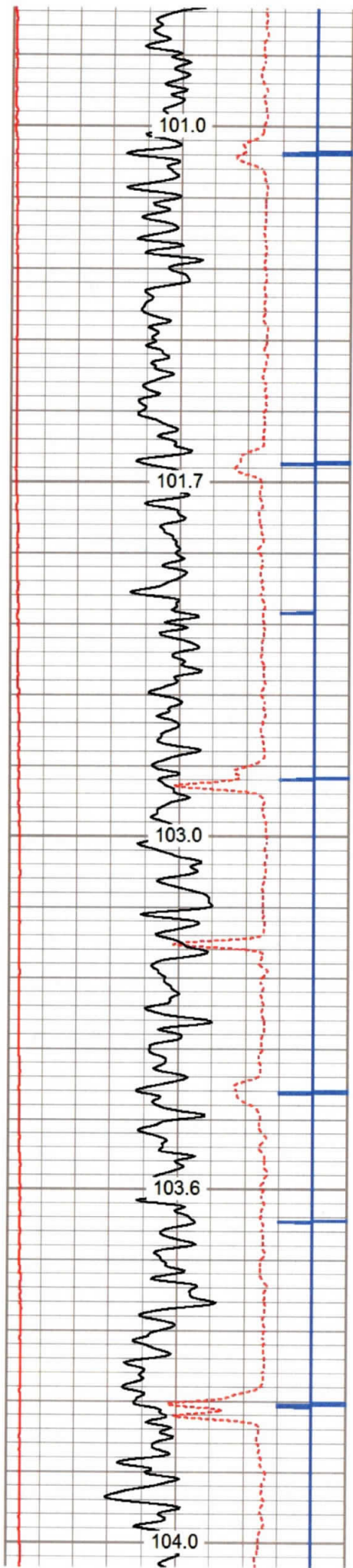
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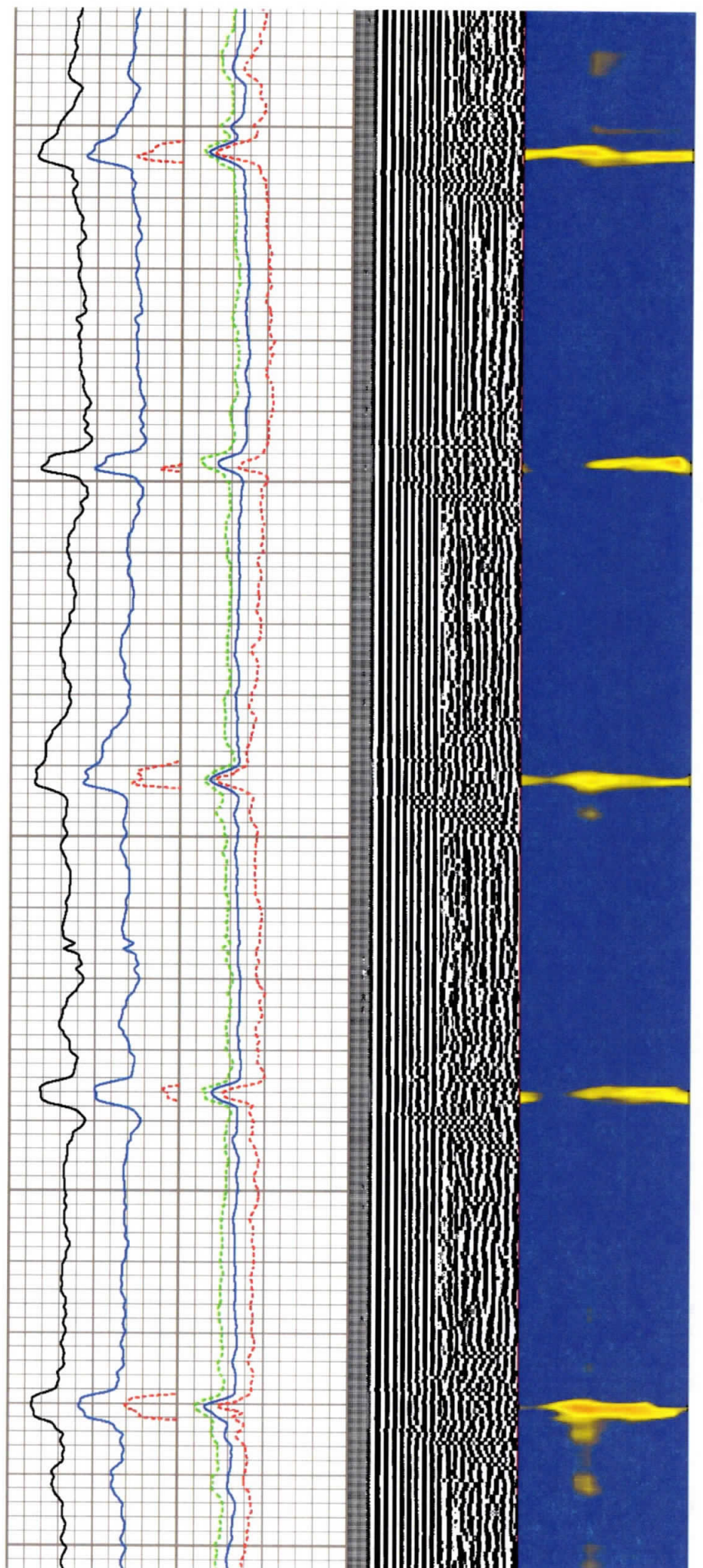
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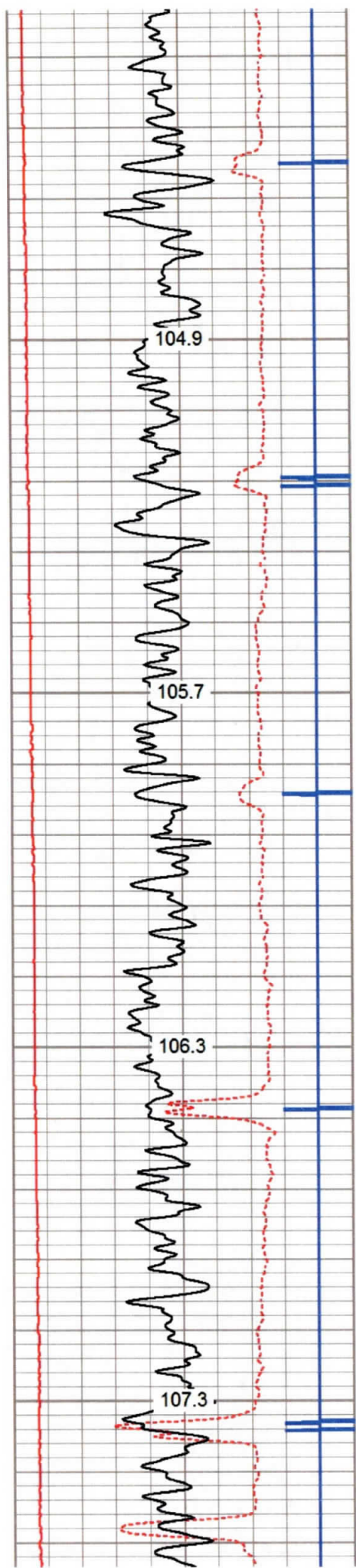
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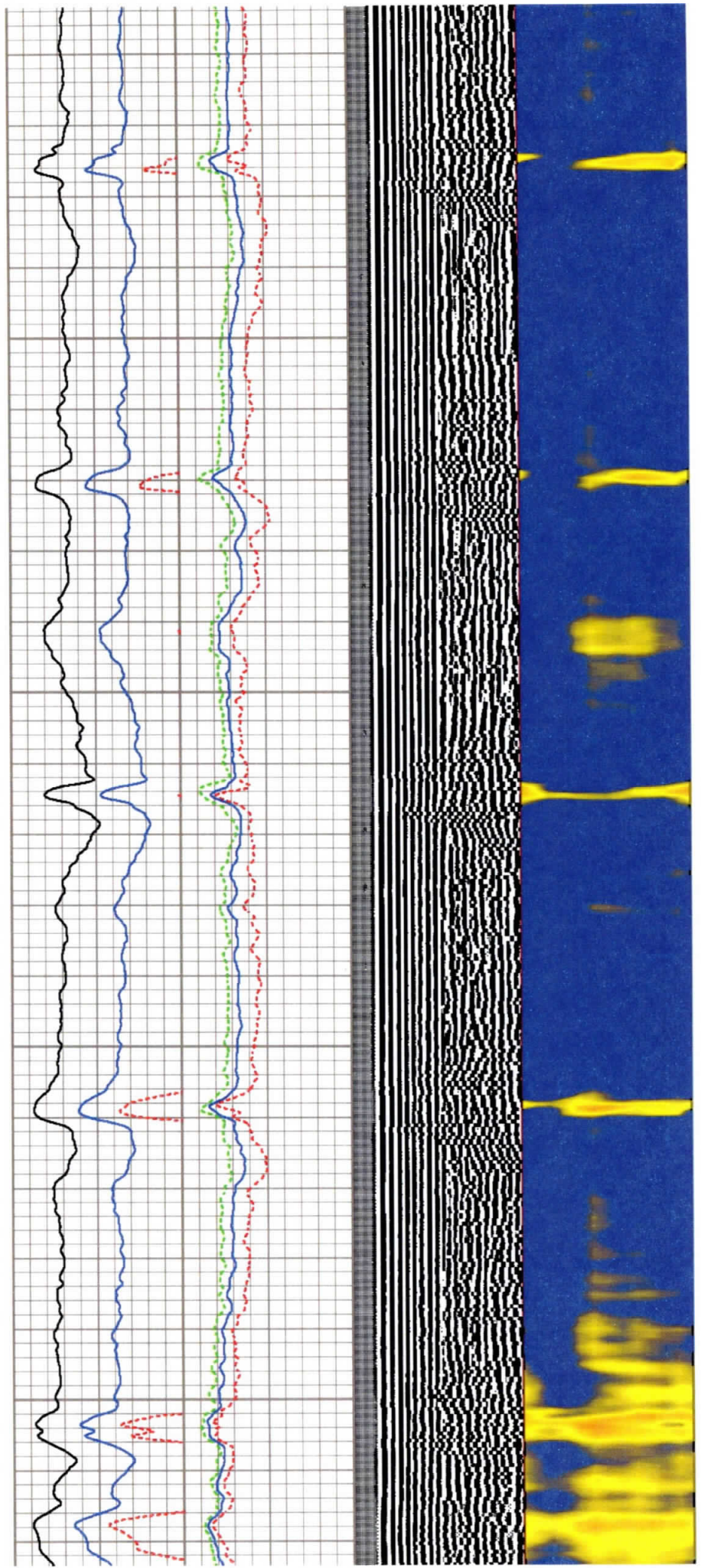


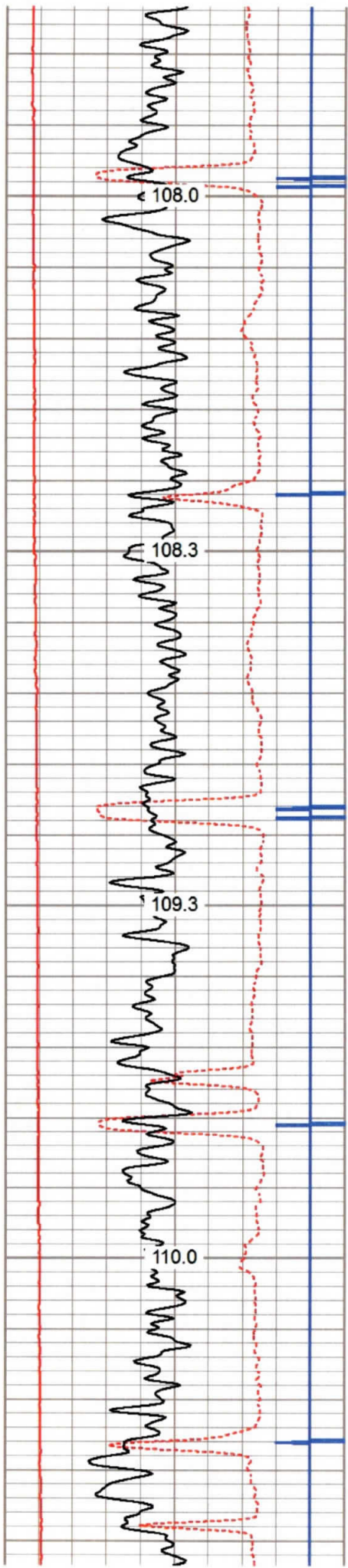
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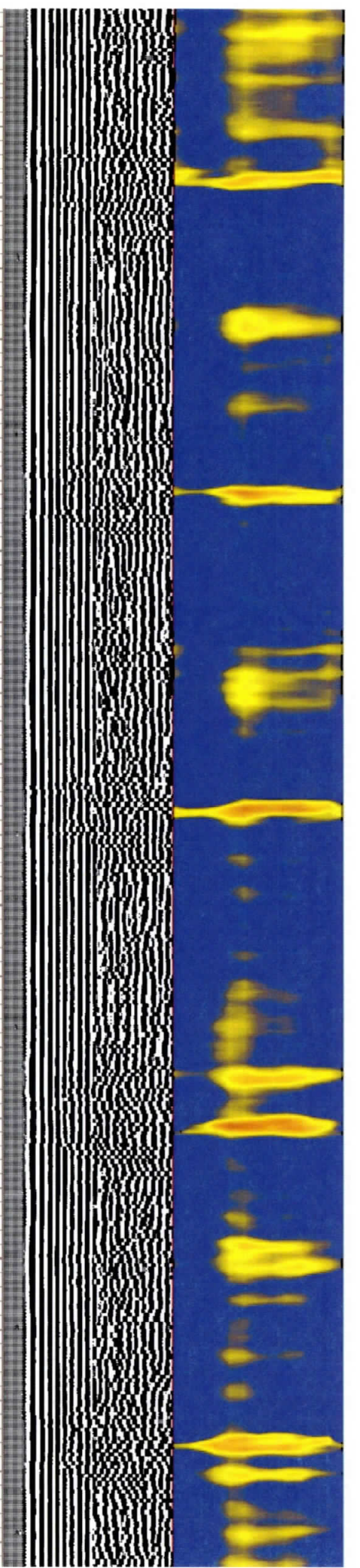
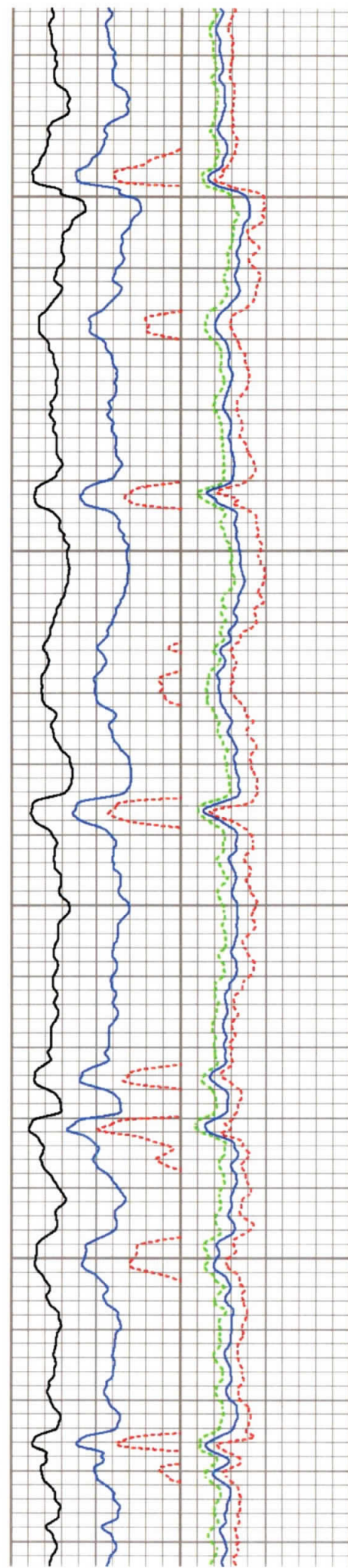
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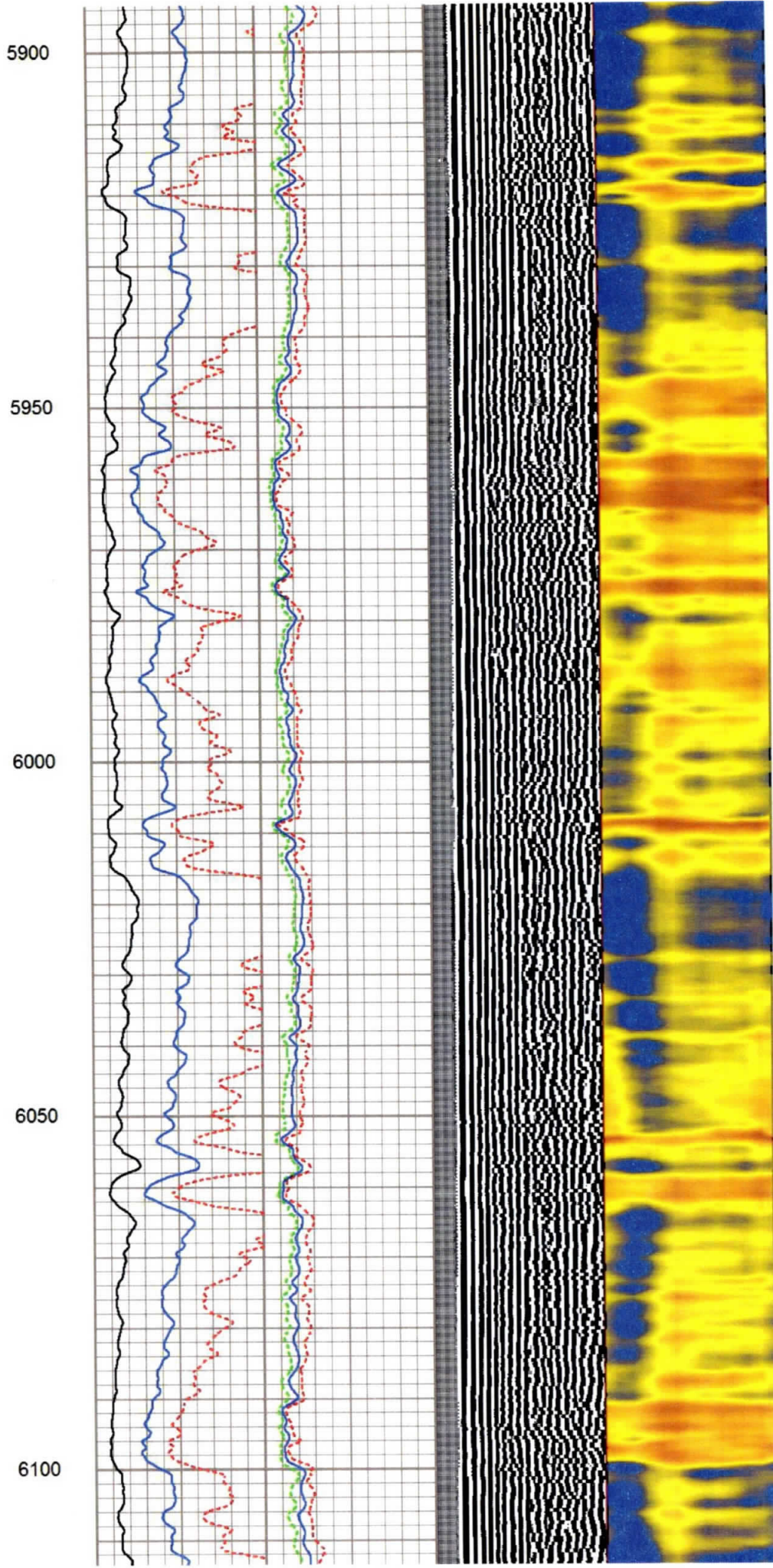
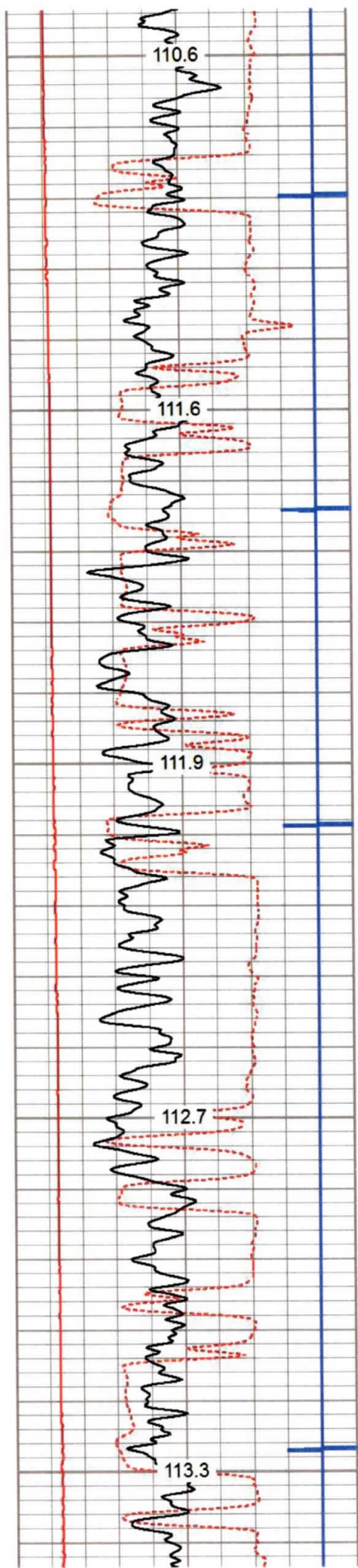
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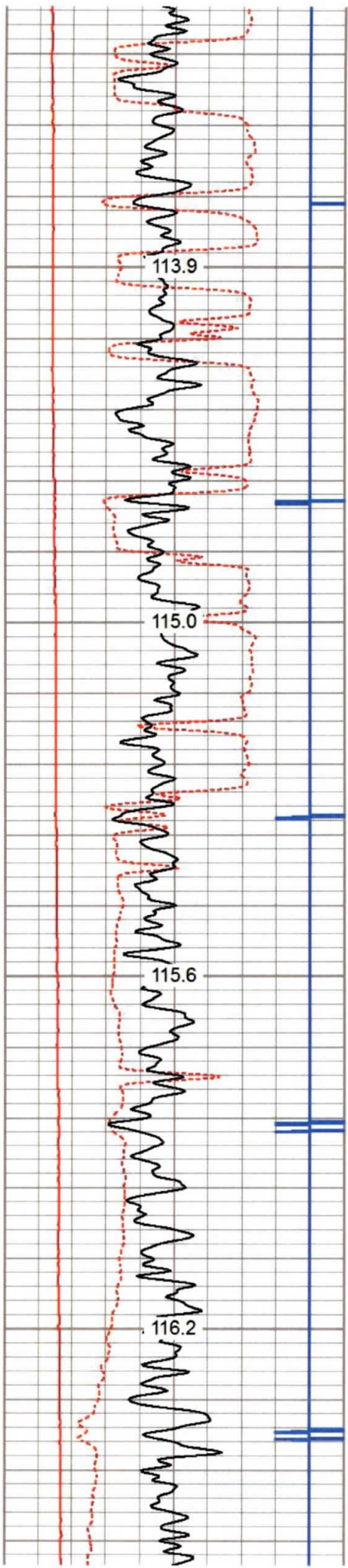




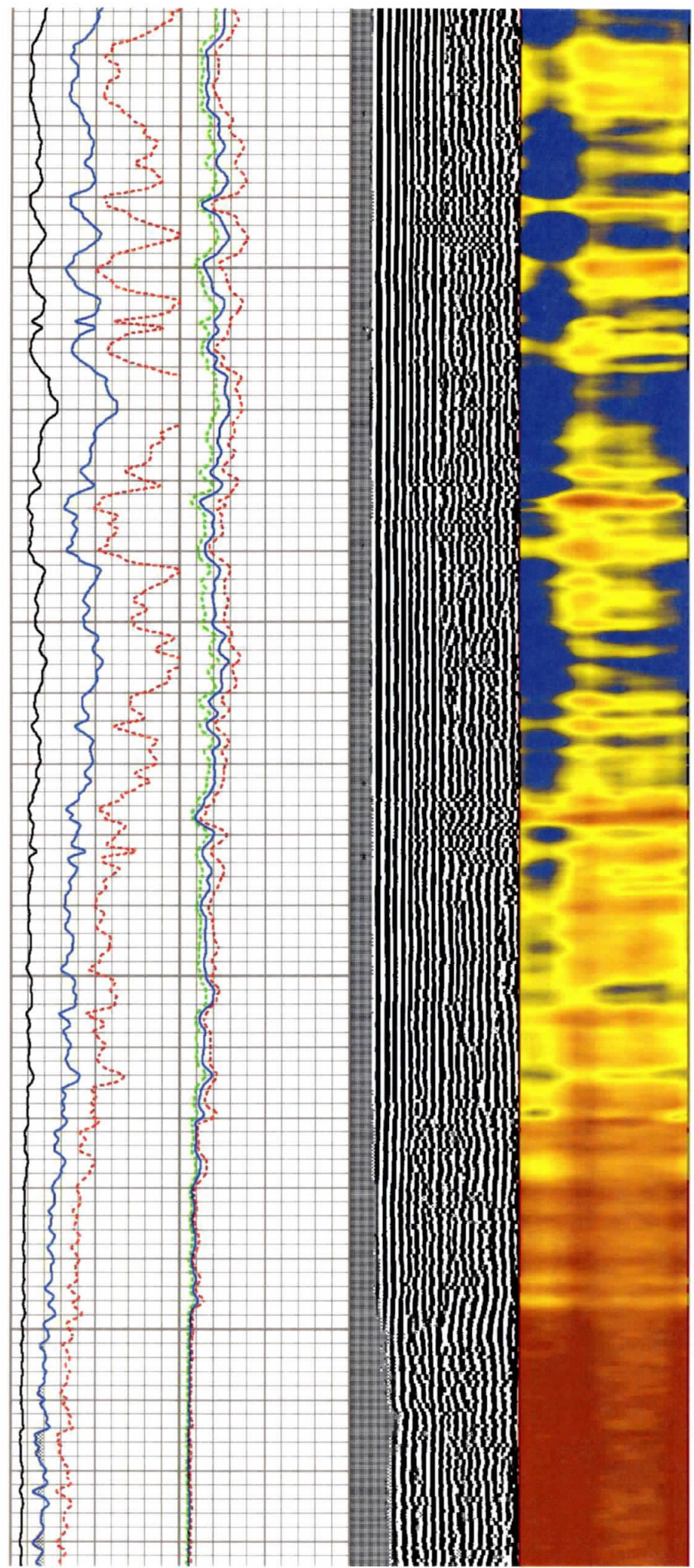
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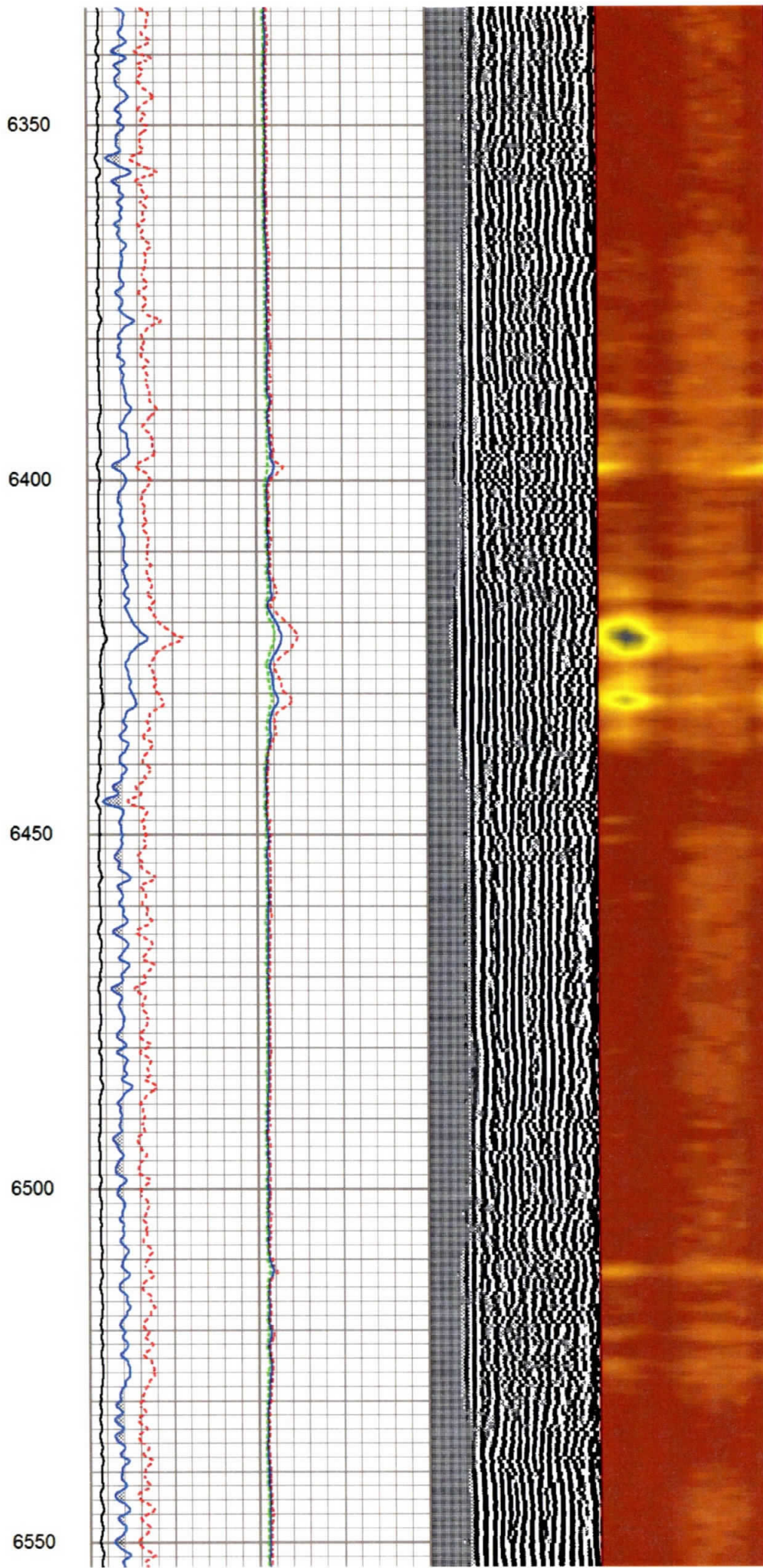
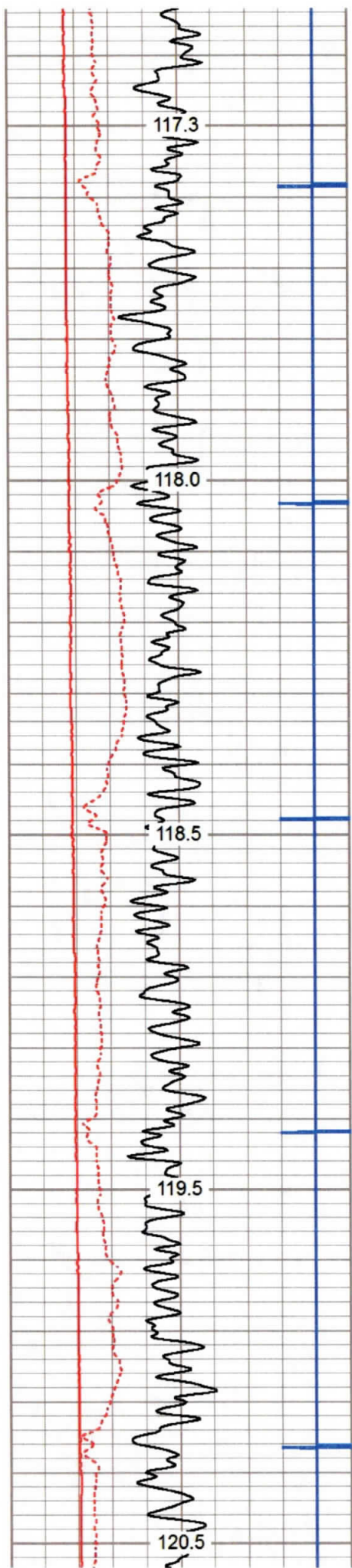


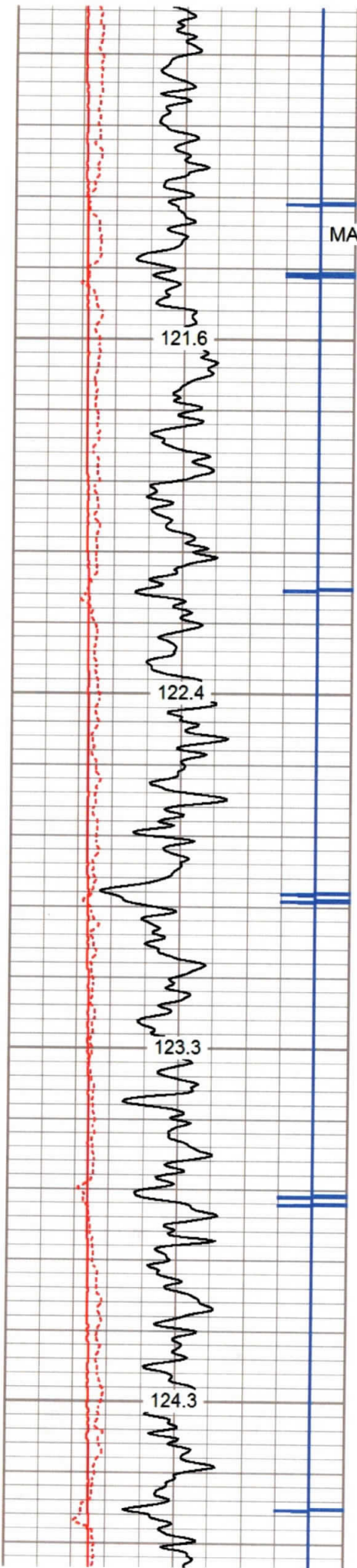




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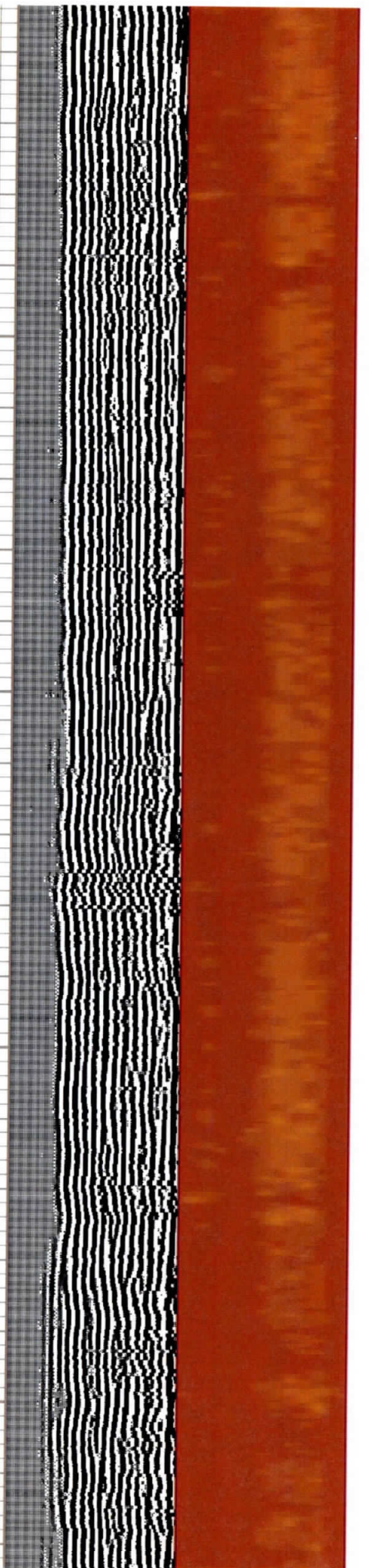
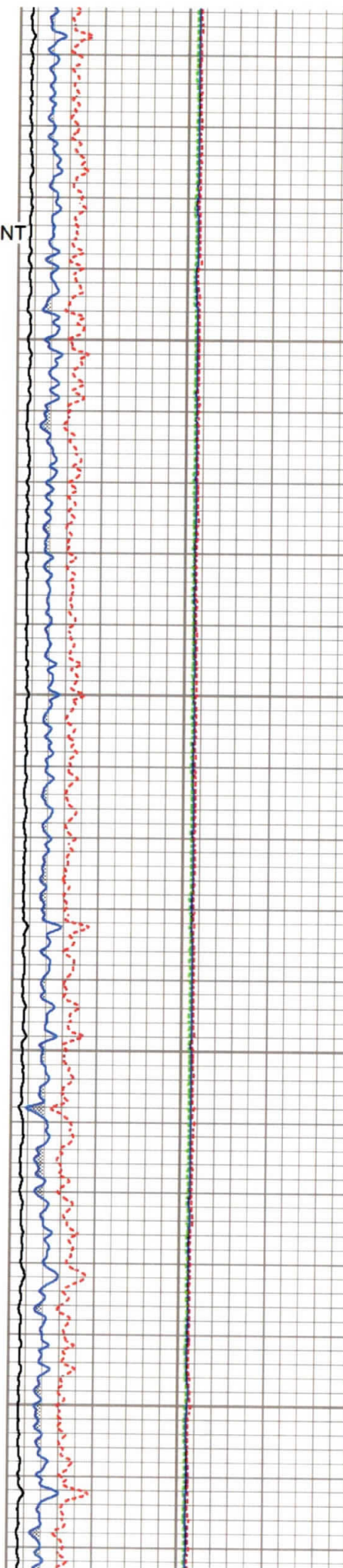
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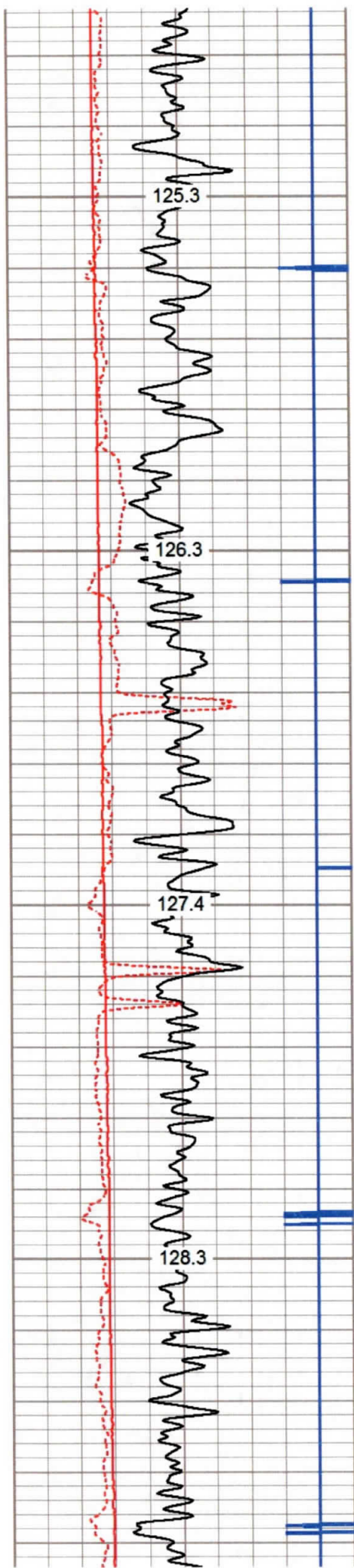
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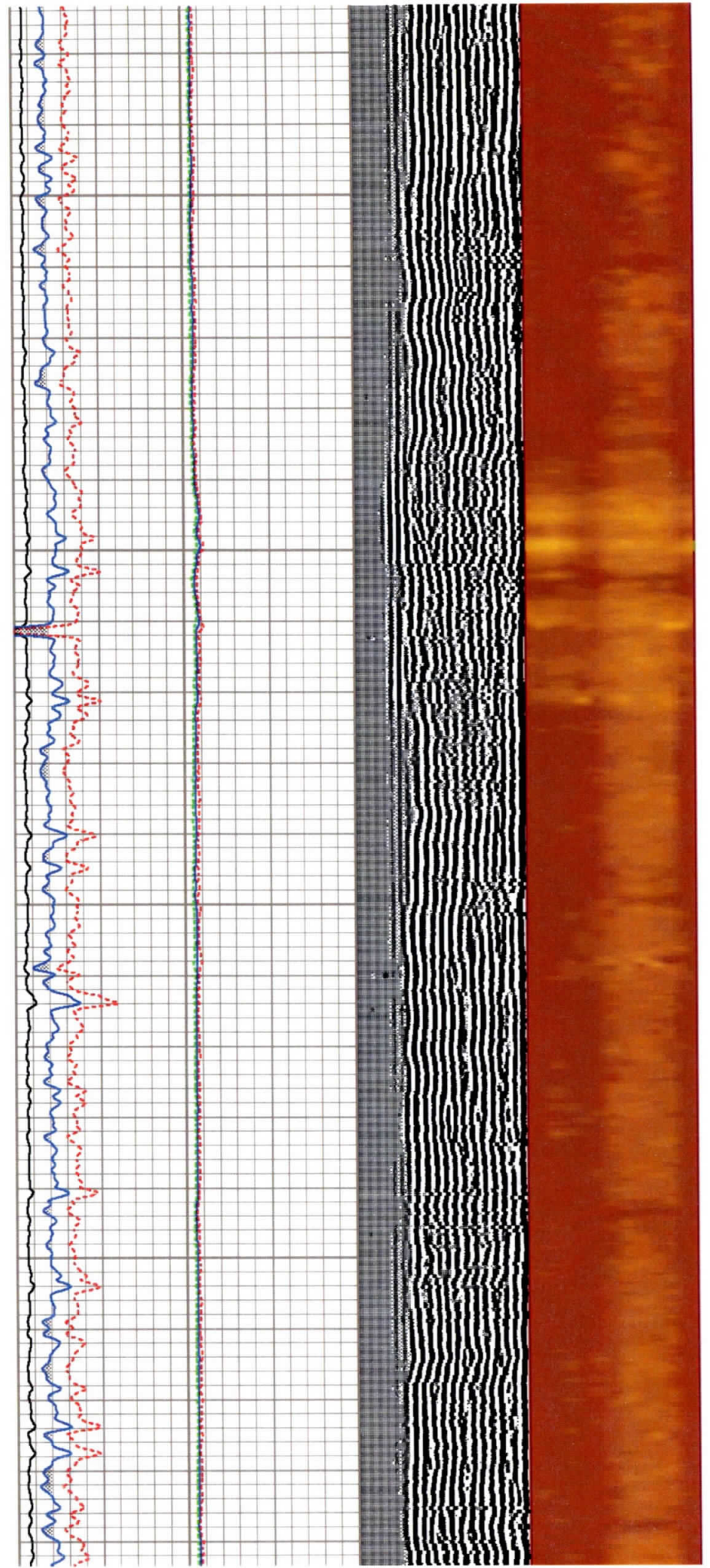


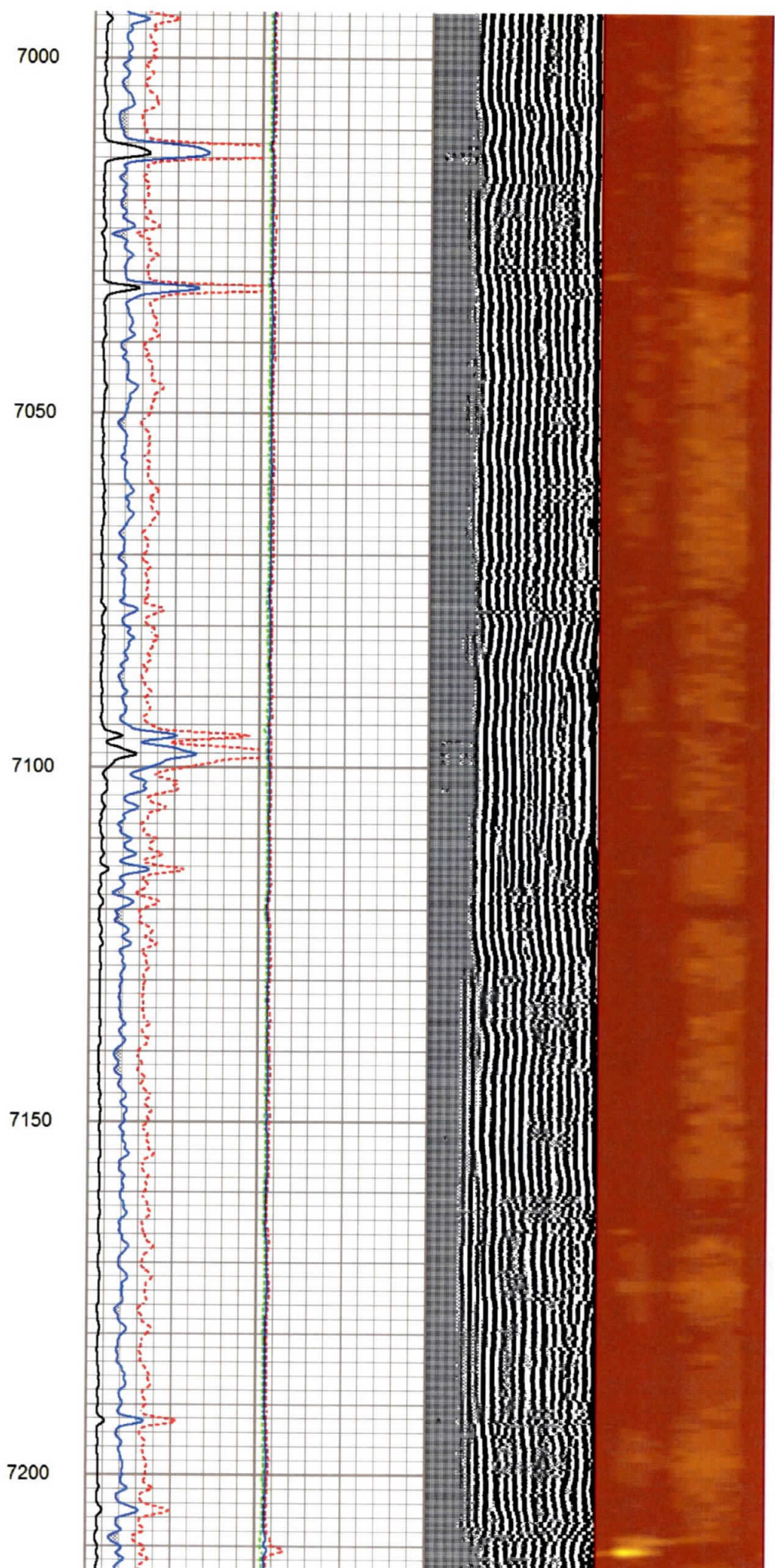
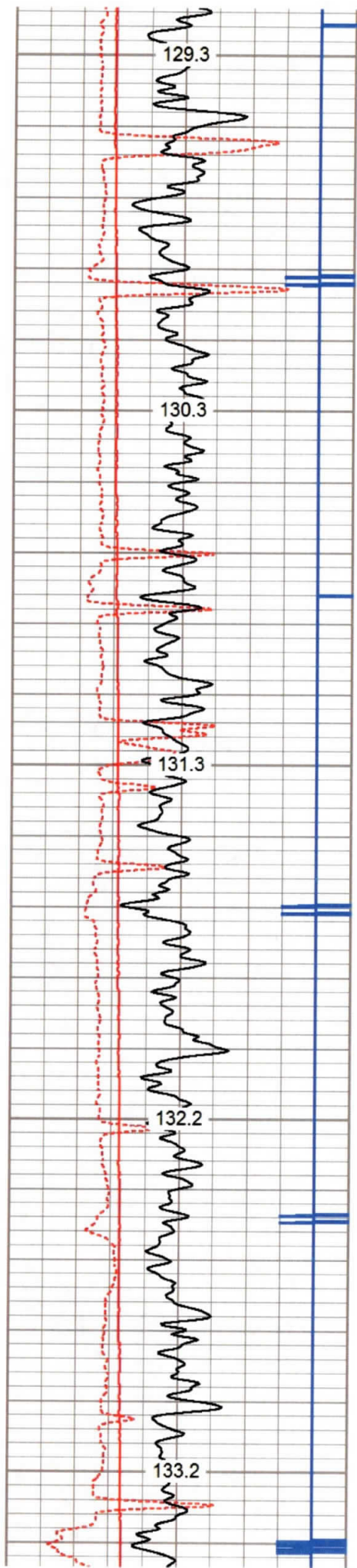
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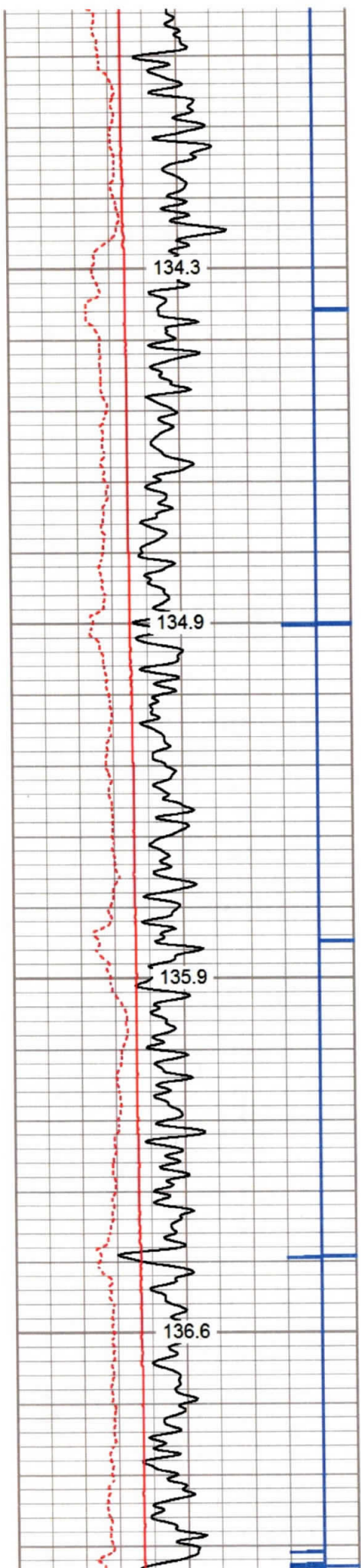
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6900

6950





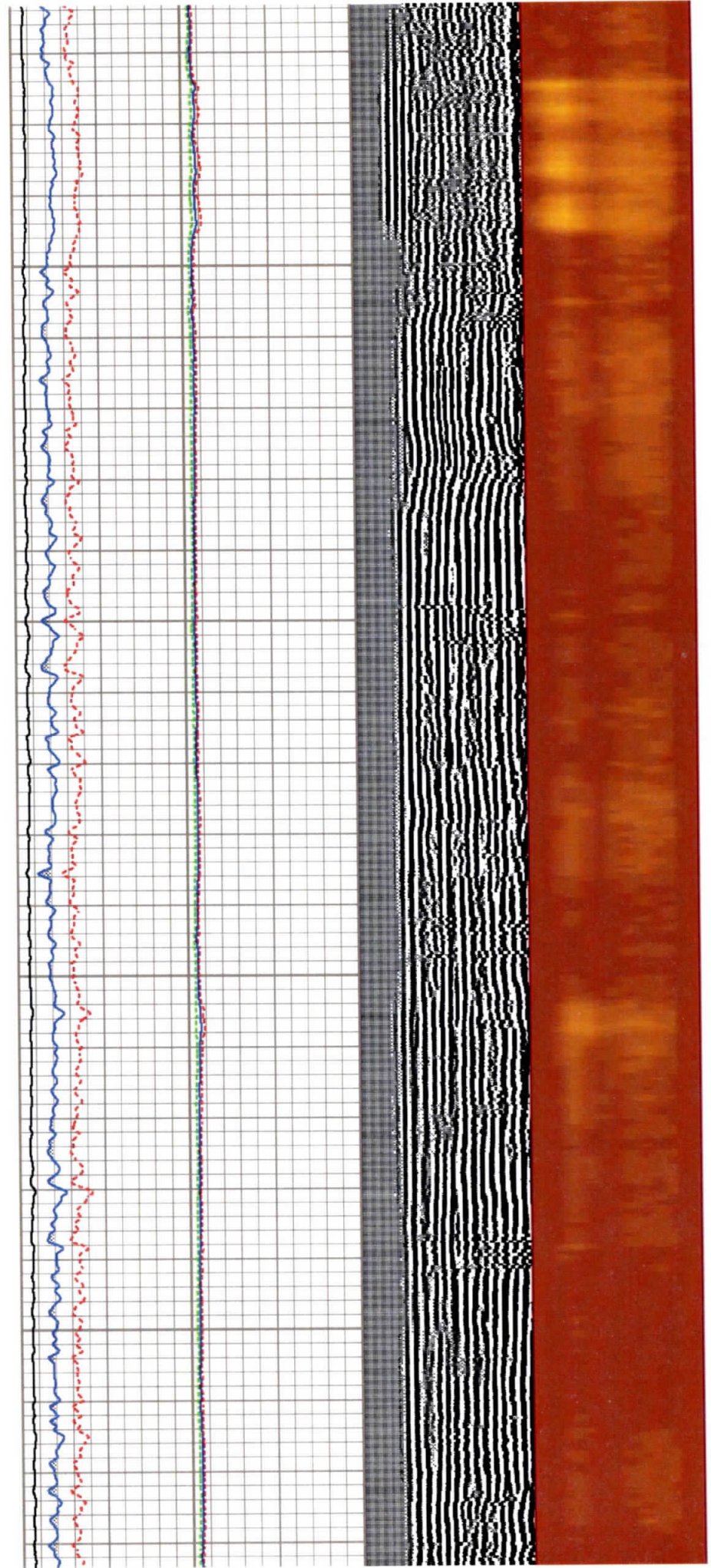


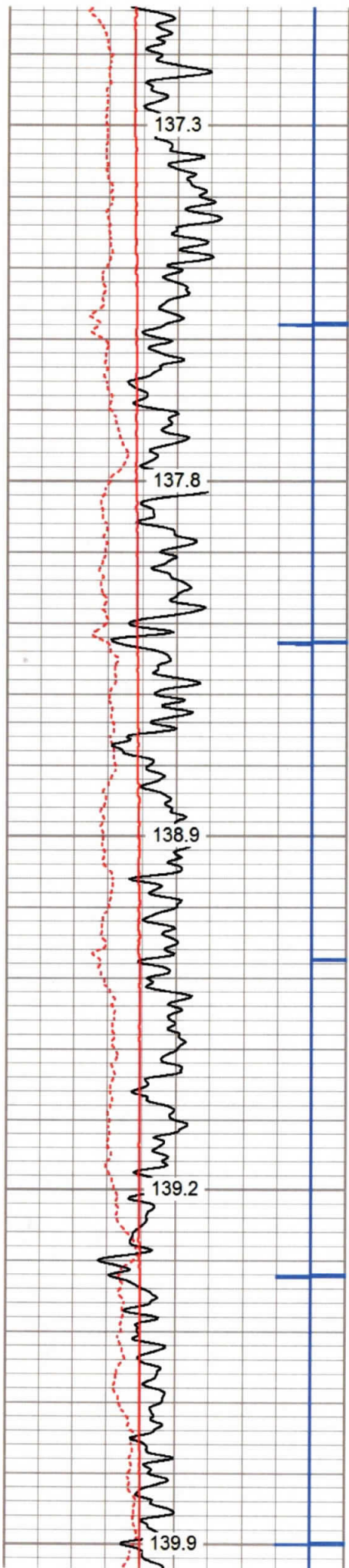
7250

7300

7350

7400





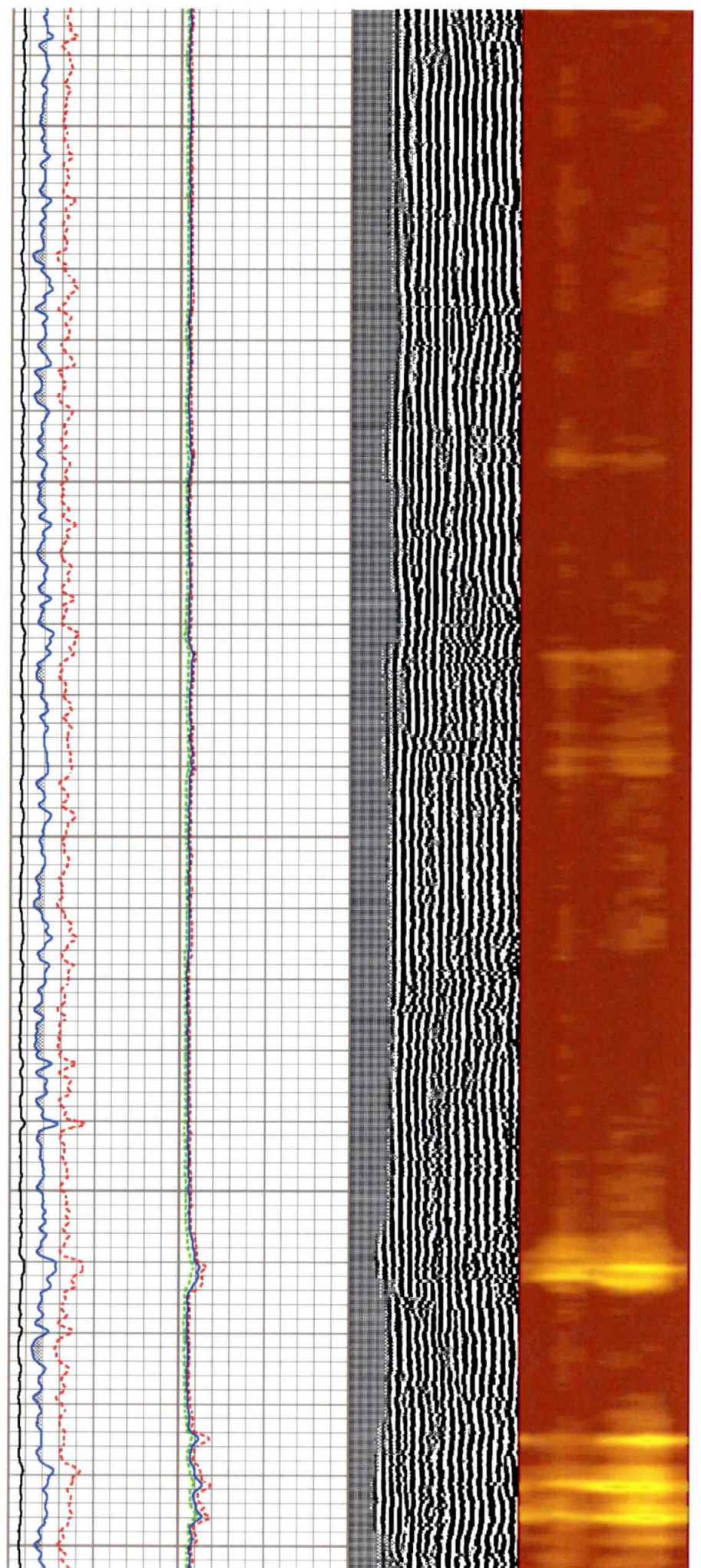
7450

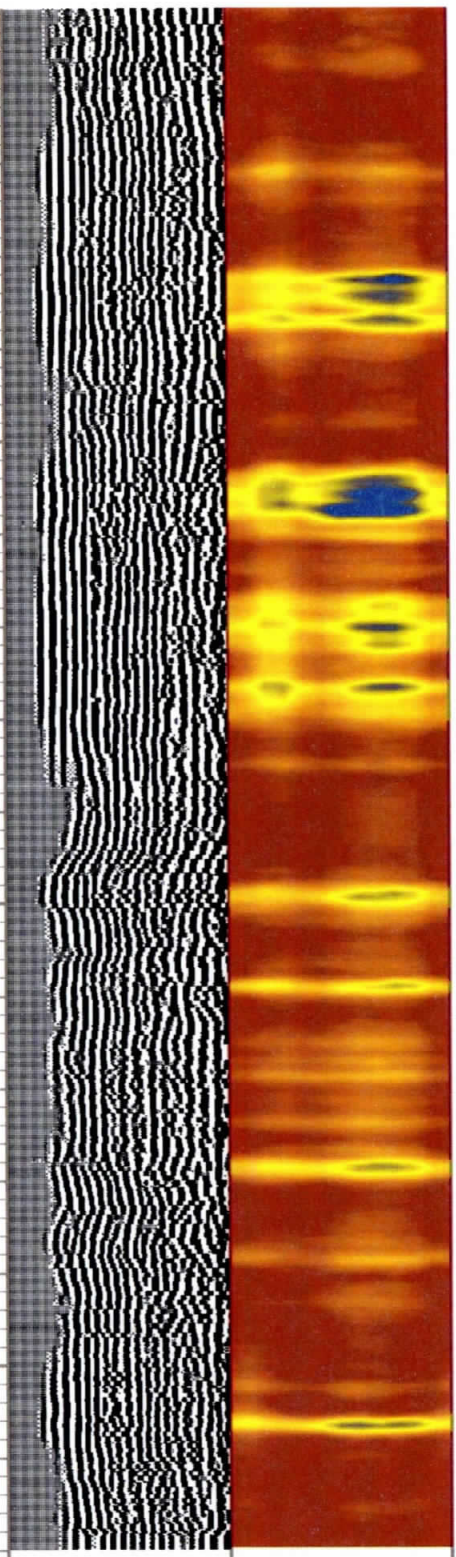
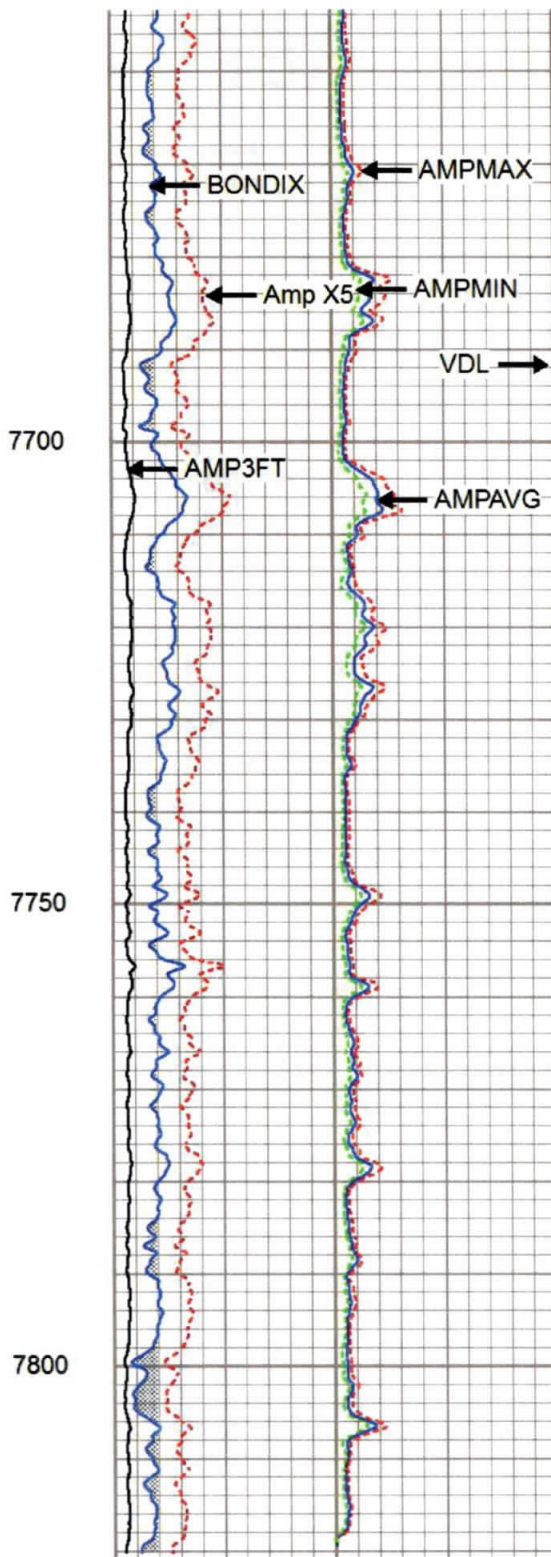
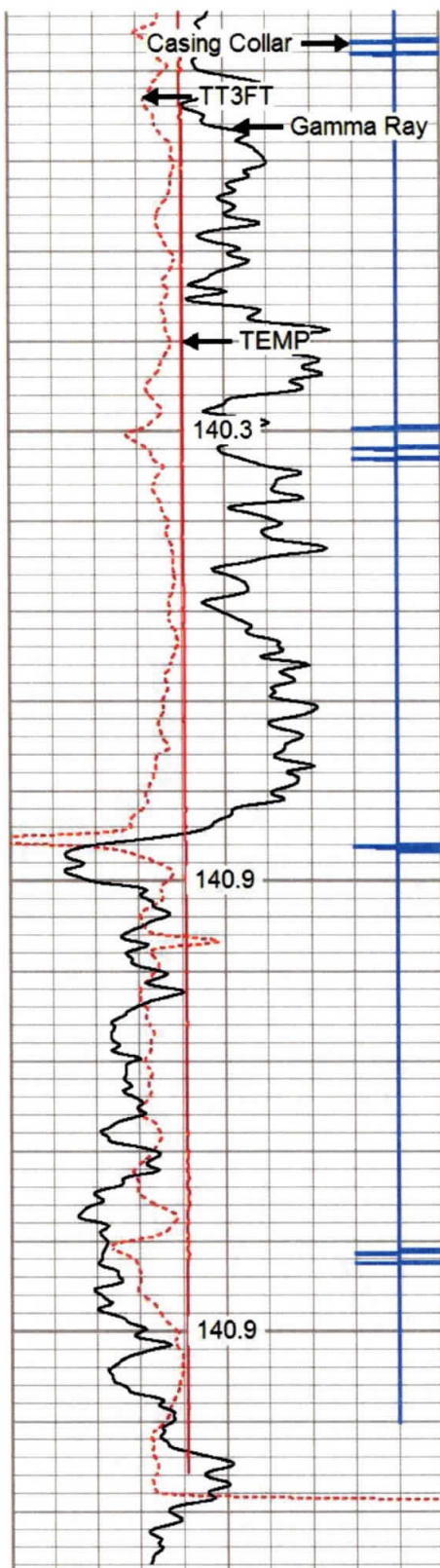
7500

7550

7600

7650





| | | |
|-----|--------------------|-----|
| 280 | Travel Time (usec) | 180 |
| 9 | Casing Collar | -1 |
| 0 | Gamma Ray (GAPI) | 180 |
| 0 | TEMP (degF) | 100 |
| 180 | GR (GAPI) | 360 |

TEMP
(degF)

| | | |
|---|-----------|-----|
| 0 | Amplitude | 100 |
| 0 | (mV) | 20 |
| 1 | BONDIX | 0 |

| |
|----------------|
| Sector Amp AVG |
| Sector Amp MAX |
| Sector Amp MIN |

| | | |
|-----|------------|------|
| VDL | 200 (usec) | 1200 |
|-----|------------|------|

1 Sector Map 12



REPEAT PASS

Database File e:\antero 10-23-19\schrader 2h.db
 Dataset Pathname pass1.10
 Presentation Format antero
 Dataset Creation Fri Oct 25 19:14:08 2019
 Charted by Depth in Feet scaled 1:240


| | | |
|-----|--------------------|-----|
| 280 | Travel Time (usec) | 180 |
| 9 | Casing Collar | -1 |
| 0 | Gamma Ray (GAPI) | 180 |
| 0 | TEMP (degF) | 100 |
| 180 | GR (GAPI) | 360 |

| | |
|-----------|-----|
| Amplitude | |
| 0 | 100 |
| (mV) | |
| Amp X5 | |
| 0 | 20 |
| (mV) | |
| 1 | 0 |
| BONDIX | |

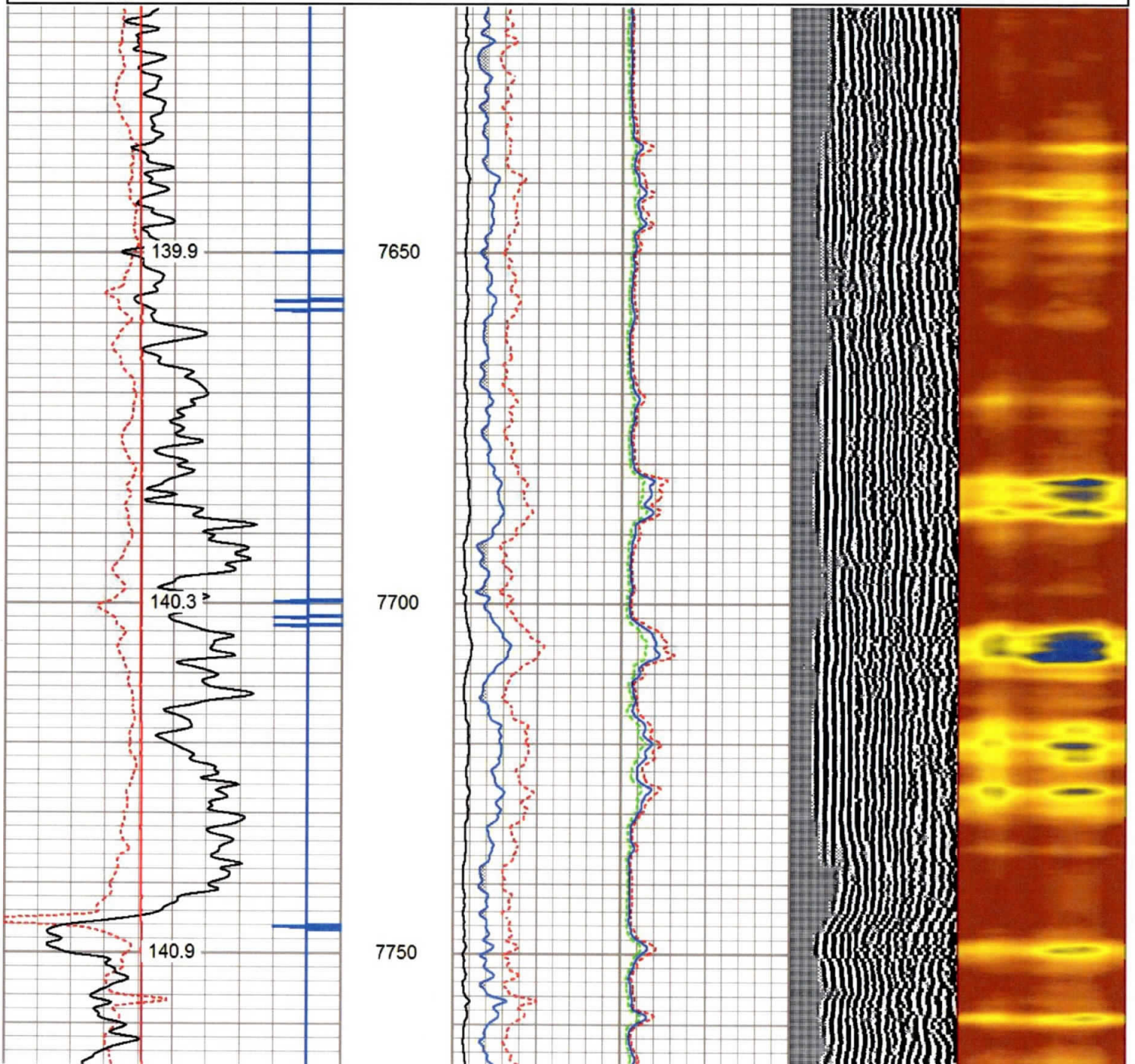
| |
|----------------|
| Sector Amp AVG |
| Sector Amp MAX |
| Sector Amp MIN |

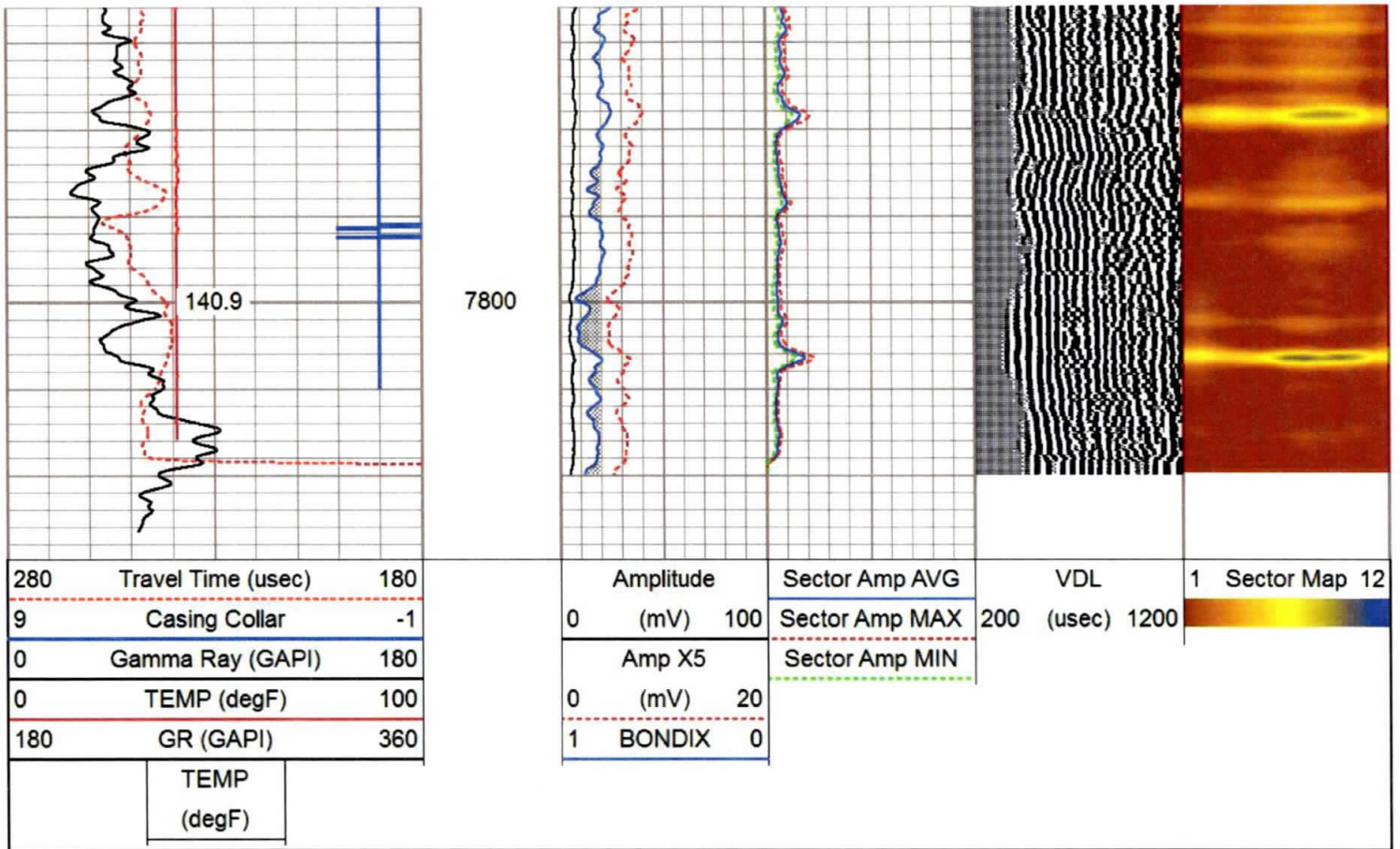
VDL 200 (usec) 1200

1 Sector Map 12



TEMP
 (degF)





| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|---------|-------------|-----------|--|-------------|-----------|-------------|
| CCL | 19.28 | | Titan-1.4375 1 7/16 Titan Type II Cable Head | 1.03 | 1.44 | 5.00 |
| | | | CCL-450tekco (450) Tekco 4 1/2" 450 Deg. "F" SmCo Logging CCL | 1.87 | 4.50 | 80.00 |
| | | | Tek-2.75 2 3/4" Tekco Adjustable Centralizer | 2.73 | 2.75 | 25.00 |
| TEMP | 13.04 | | SCBL-Tek12 (T12_01) Tekco 400 Deg F 12 Sector RiB with Temp | 9.13 | 3.25 | 135.00 |
| WVFSYNC | 13.04 | | | | | |
| WVFCAL | 13.04 | | | | | |
| WVFS12 | 11.75 | | | | | |
| WVFS11 | 11.75 | | | | | |
| WVFS10 | 11.75 | | | | | |
| WVFS9 | 11.75 | | | | | |
| WVFS8 | 11.75 | | | | | |
| WVFS7 | 11.75 | | | | | |
| WVFS6 | 11.75 | | | | | |

| | | | | | | |
|---------|-------|--|---|---|------|-------|
| WVFS6 | 11.75 | | | | | |
| WVFS5 | 11.75 | | | | | |
| WVFS4 | 11.75 | | | | | |
| WVFS3 | 11.75 | | | | | |
| WVFS2 | 11.75 | | | | | |
| WVFS1 | 11.75 | | | | | |
| WVF3FT | 11.00 | | | | | |
| WVF5FT | 10.00 | | | | | |
| WVFTEMP | 6.67 | | | | | |
| | | | | Tek-2.75 2 3/4" Tekco Adjustable Centralizer | 2.73 | 2.75 |
| | | | GR-Tek-Co 2 3/4 (0111) Tekco 2 3/4" 400 Deg. F Logging Gamma Ray | 3.67 | 2.75 | 40.00 |
| GR | 1.31 | | Titan-1.4375_Cap Titan 1 7/16" Cap | 0.27 | 1.44 | 1.00 |

Dataset: schrader 2h.db: field/well/run1/pass1.10
 Total length: 21.42 ft
 Total weight: 311.00 lb
 O.D.: 4.50 in

Calibration Report

Database File e:\antero 10-23-19\schrader 2h.db
 Dataset Pathname pass1.9
 Dataset Creation Fri Oct 25 18:30:49 2019

Gamma Ray Calibration Report

Serial Number: 0111
 Tool Model: Tek-Co 2 3/4
 Performed: (Not Performed)
 Calibrator Value: 1.0 GAPI
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps
 Sensitivity: 0.5000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: T12_01
 Tool Model: Tek12
 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 368.800 ft

Master Calibration, performed (Derived):

| | Raw (v) | | Calibrated (mv) | | Results | |
|-----|---------|-------|-----------------|--------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | -0.082 | 0.912 | 3.500 | 71.921 | 78.834 | 5.156 |
| CAL | 0.630 | 0.632 | | | | |

| | | | | | | |
|-----|--------|-------|-------|---------|---------|--------|
| 5' | -0.007 | 1.107 | 3.500 | 71.921 | 61.417 | 3.948 |
| SUM | | | | | | |
| S1 | 0.000 | 1.683 | 0.000 | 100.000 | 59.421 | -0.001 |
| S2 | 0.000 | 1.688 | 0.000 | 100.000 | 59.227 | -0.001 |
| S3 | 0.000 | 1.587 | 0.000 | 100.000 | 63.028 | -0.001 |
| S4 | 0.000 | 1.441 | 0.000 | 100.000 | 69.406 | -0.001 |
| S5 | 0.000 | 1.439 | 0.000 | 100.000 | 69.491 | -0.000 |
| S6 | 0.000 | 1.311 | 0.000 | 100.000 | 76.295 | -0.001 |
| S7 | 0.000 | 1.132 | 0.000 | 100.000 | 88.357 | -0.001 |
| S8 | 0.000 | 1.016 | 0.000 | 100.000 | 98.408 | -0.001 |
| S9 | 0.000 | 0.981 | 0.000 | 100.000 | 101.951 | -0.001 |
| S10 | 0.000 | 1.038 | 0.000 | 100.000 | 96.385 | -0.001 |
| S11 | 0.000 | 1.090 | 0.000 | 100.000 | 91.718 | -0.001 |
| S12 | 0.000 | 1.463 | 0.000 | 100.000 | 68.362 | -0.001 |

Temperature Calibration Report

Serial Number: T12_01
Tool Model: Tek12
Performed: Fri Oct 22 17:21:06 2010

| | 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 | SCHRADER UNIT 2H | |
| Field | MARCELLUS | |
| County | DODDRIDGE | |
| State | W.VA. | Country USA |