



All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

LOG CORRELATED TO MARKER JOINT

DEPTH SHIFT -2'

MARKER JOINT 6753-6763

LOG RAN OFF WELLTECH TRACTOR

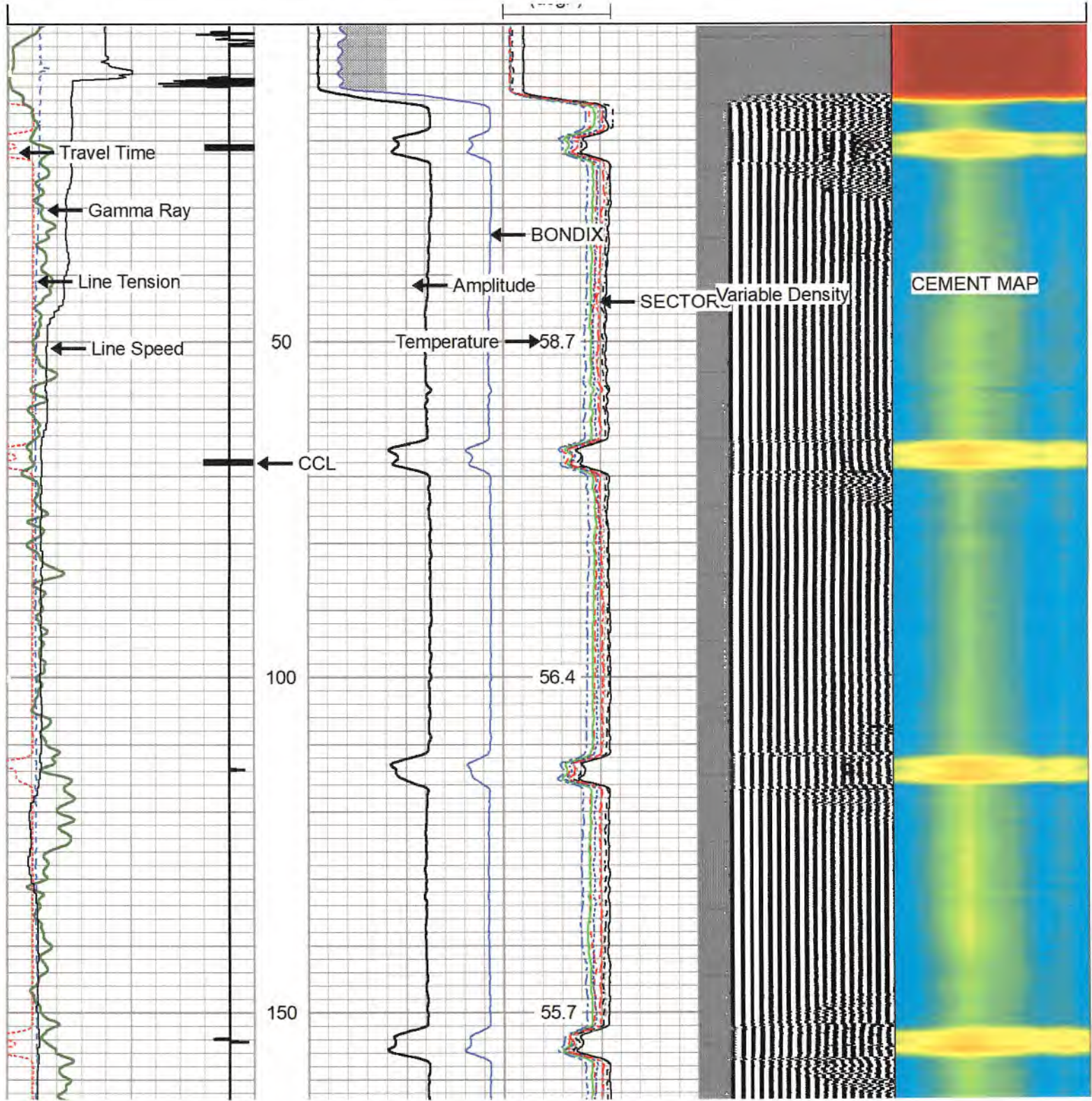
THANK YOU FOR USING NINE ENERGY

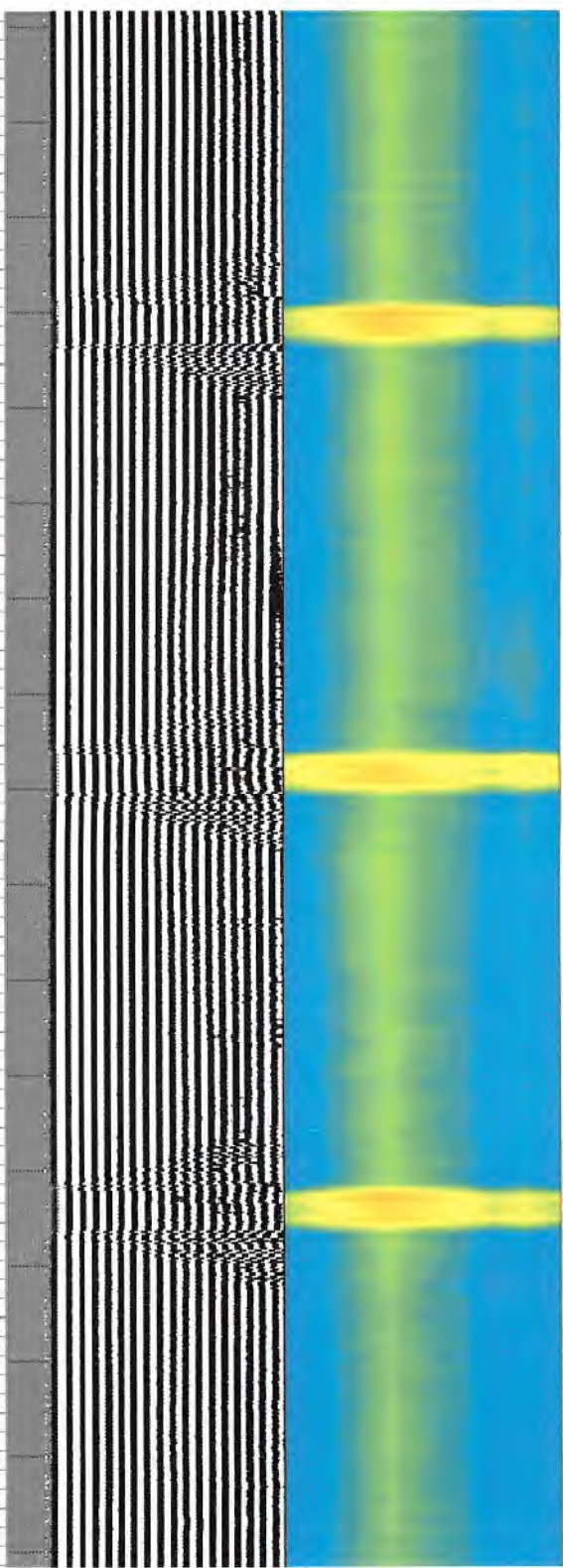
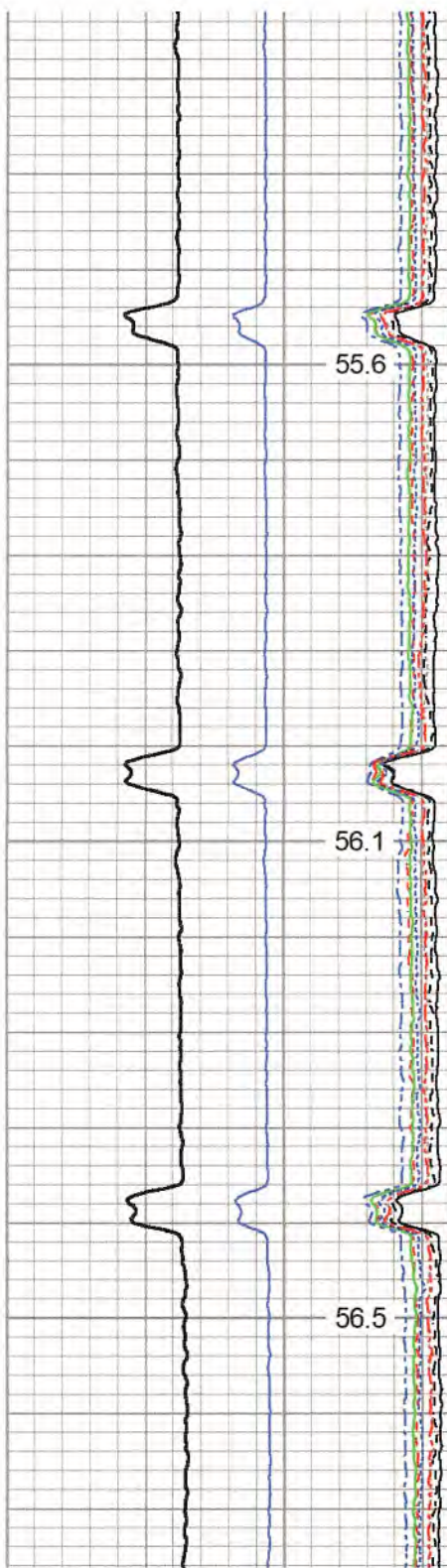
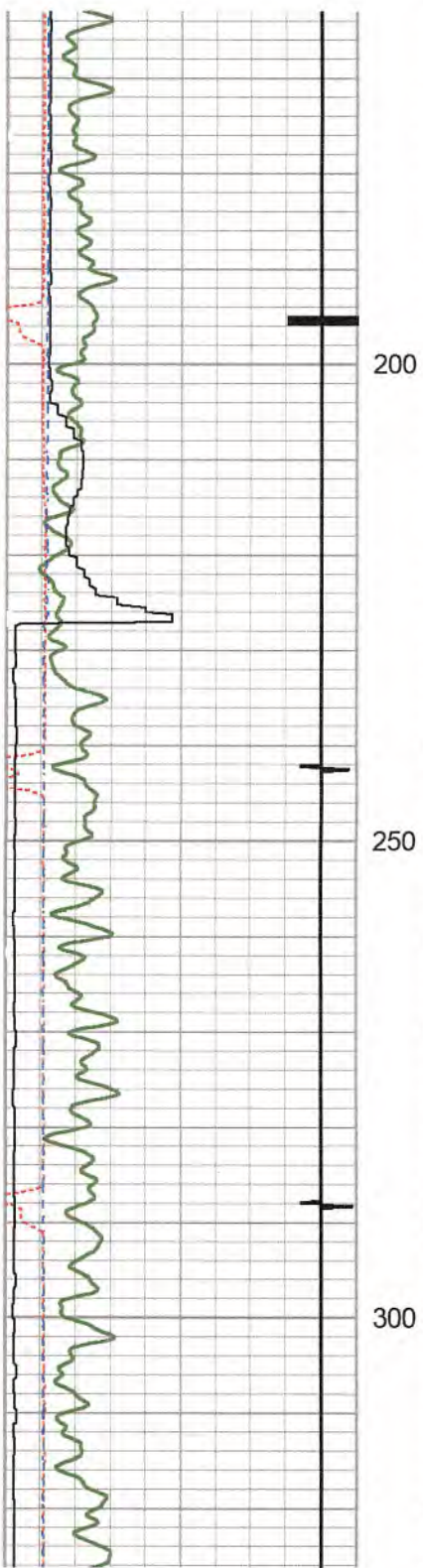


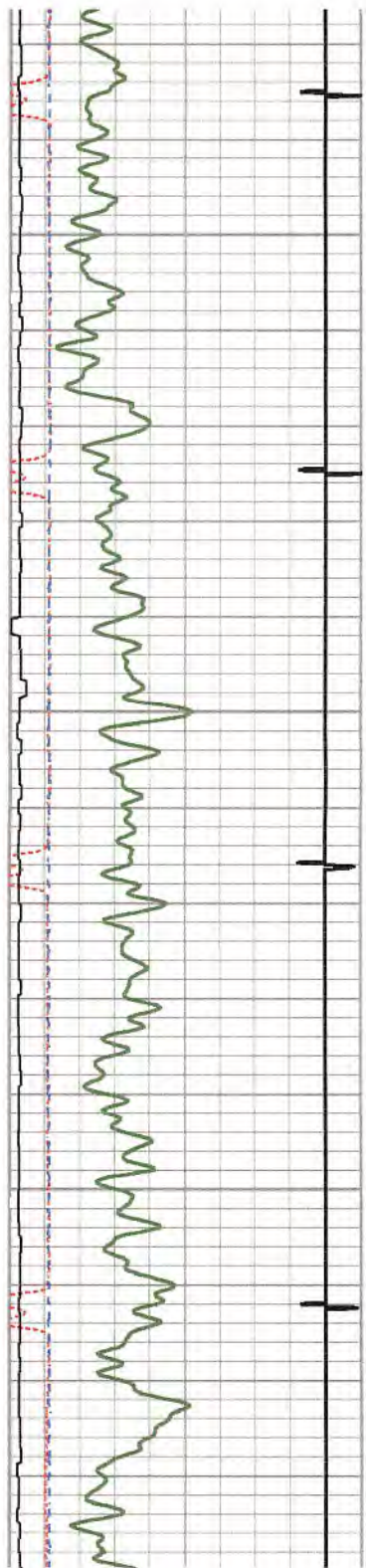
# MAIN PASS-1500 PSI

Database File antero-jul-23-22-mule 1.db  
 Dataset Pathname MAIN RECALC  
 Presentation Format rcbl-bond index for antero 1020  
 Dataset Creation Mon Jul 25 00:25:30 2022  
 Charted by Depth in Feet scaled 1:240

|      |                    |      |   |                |     |    |          |     |                  |      |            |   |
|------|--------------------|------|---|----------------|-----|----|----------|-----|------------------|------|------------|---|
| 265  | Travel Time (usec) | 165  | 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 | Variable Density | 1    | Cement Map | 8 |
| 9    | Casing Collar      | -1   | 1 | BONDIX         | 0   | -5 | Sector 2 | 150 | 200 (usec)       | 1200 |            |   |
| 0    | Gamma Ray (GAPI)   | 200  |   |                |     | -5 | Sector 3 | 150 |                  |      |            |   |
| 0    | Line Tension (lb)  | 5000 |   |                |     | -5 | Sector 4 | 150 |                  |      |            |   |
| -100 | LSPD (ft/min)      | 100  |   |                |     | -5 | Sector 5 | 150 |                  |      |            |   |
|      |                    |      |   |                |     | -5 | Sector 6 | 150 |                  |      |            |   |
|      |                    |      |   |                |     | -5 | Sector 7 | 150 |                  |      |            |   |
|      |                    |      |   |                |     | -5 | Sector 8 | 150 |                  |      |            |   |
|      |                    |      |   | TEMP           |     |    |          |     |                  |      |            |   |
|      |                    |      |   | (degF)         |     |    |          |     |                  |      |            |   |



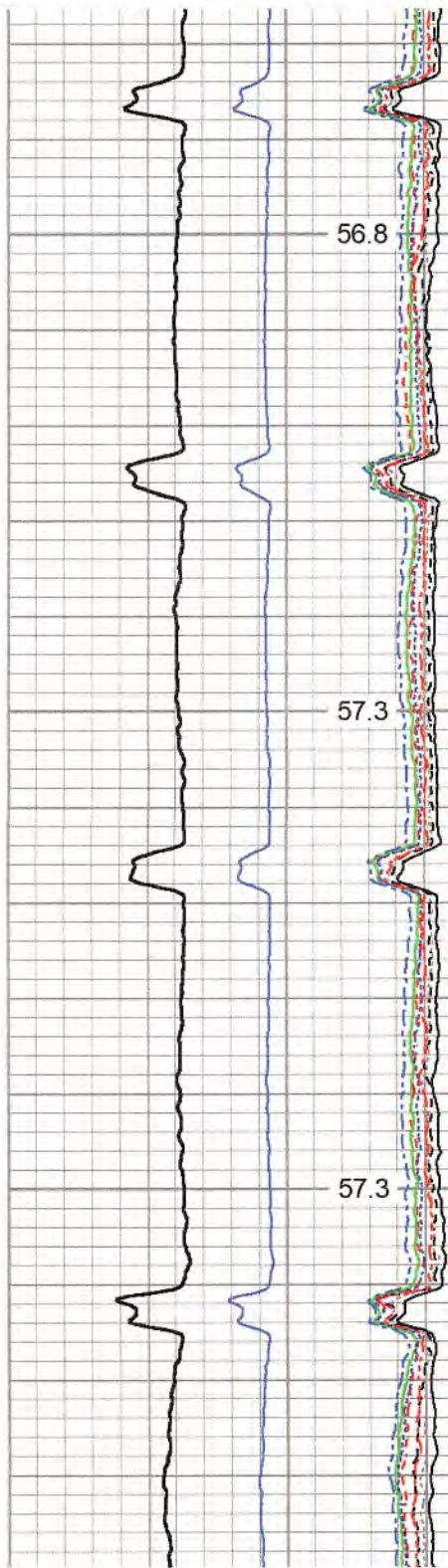




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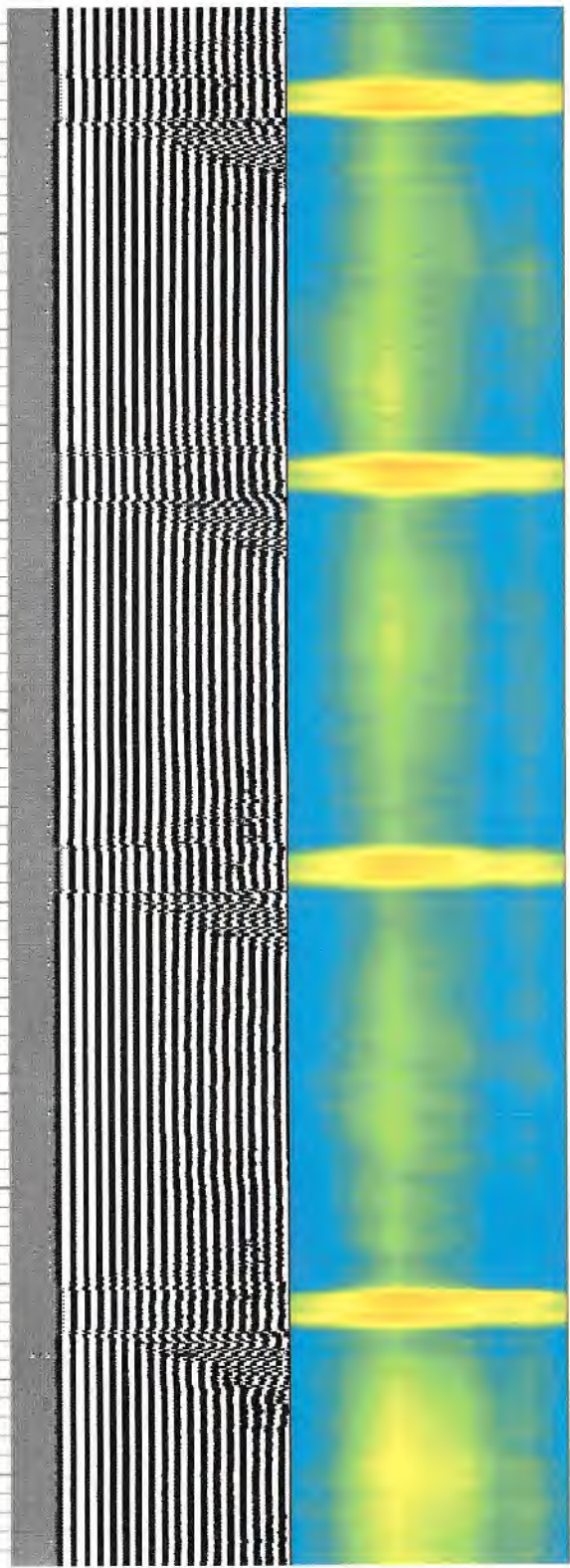
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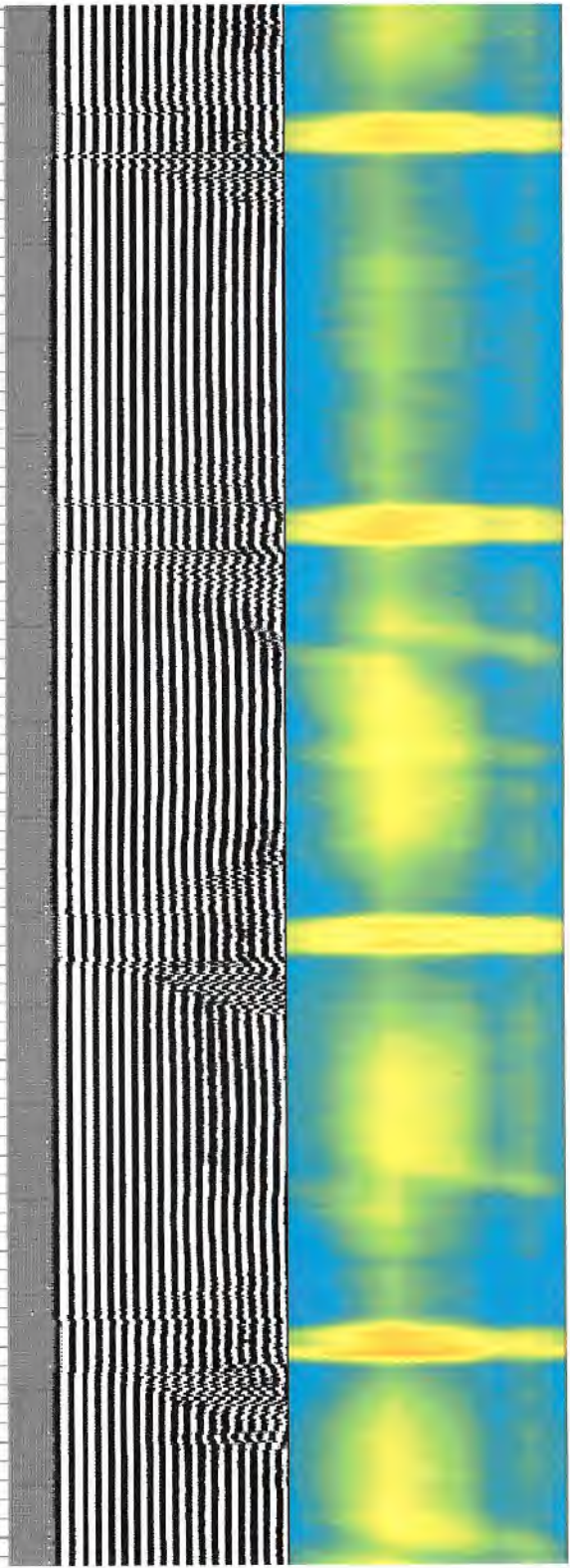
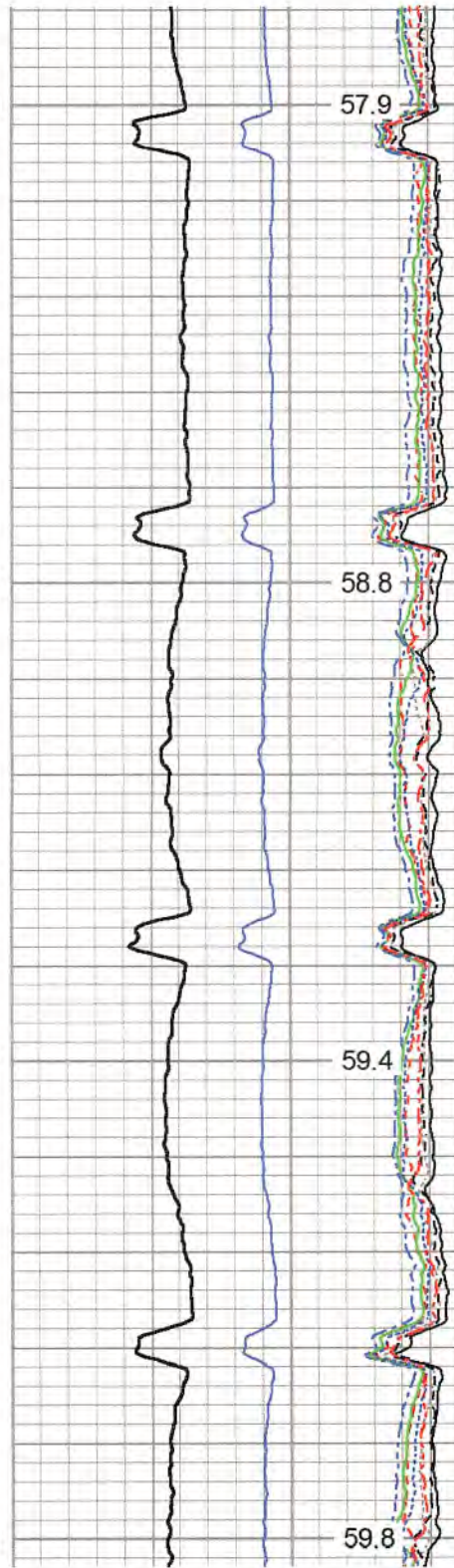
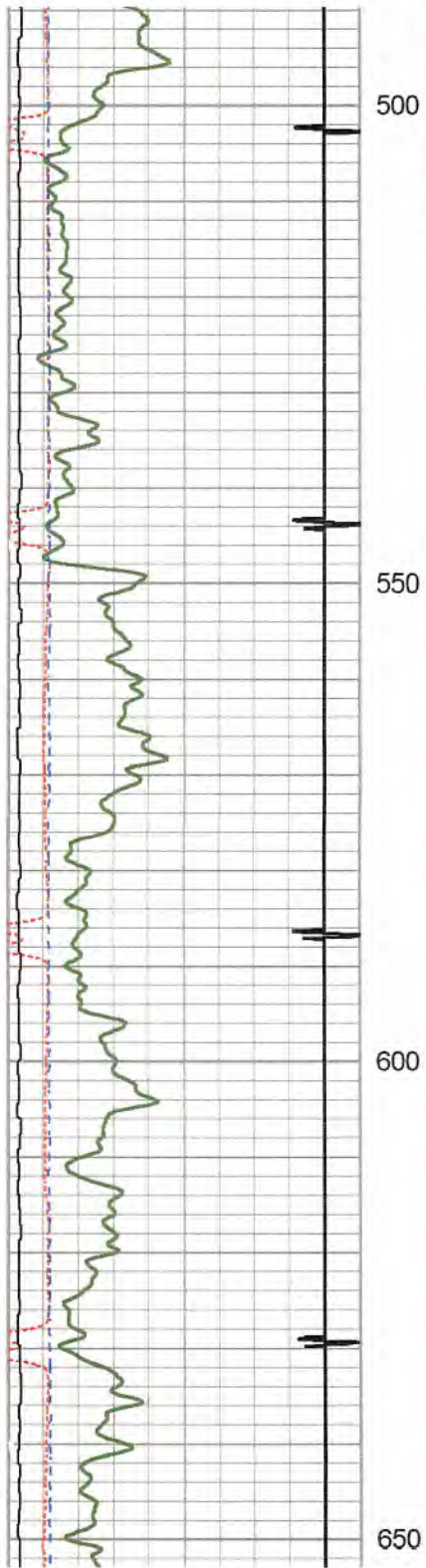


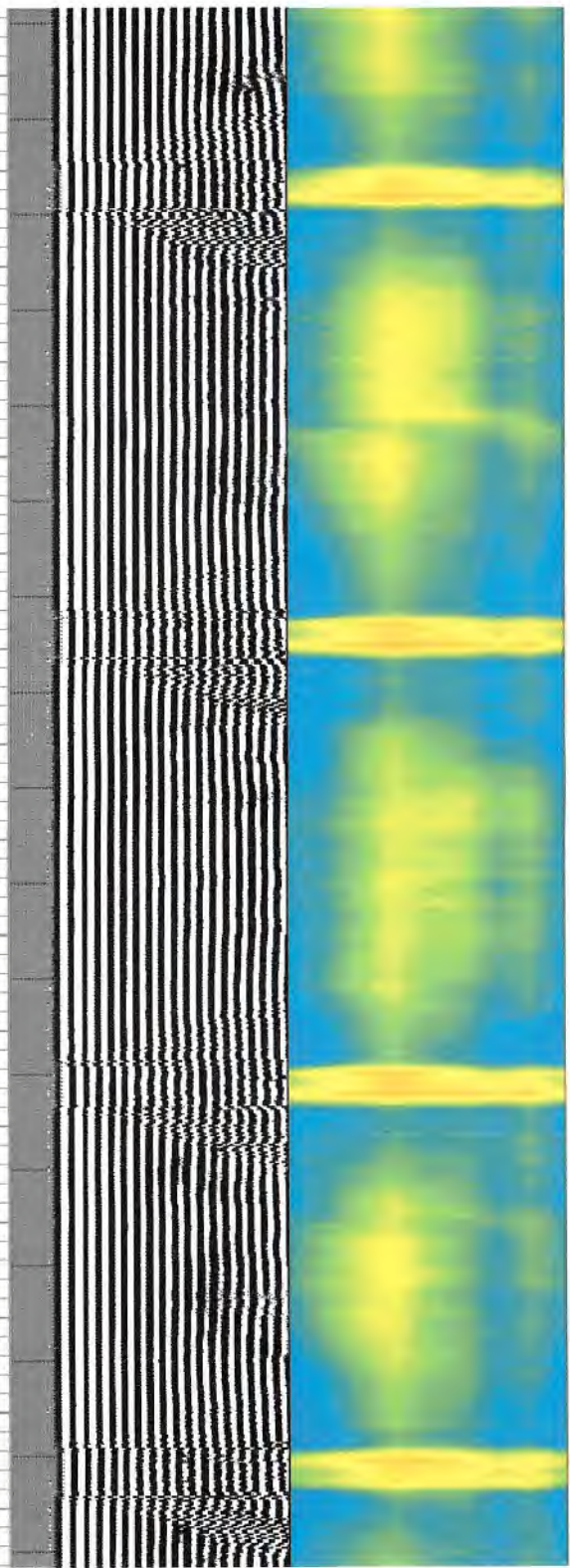
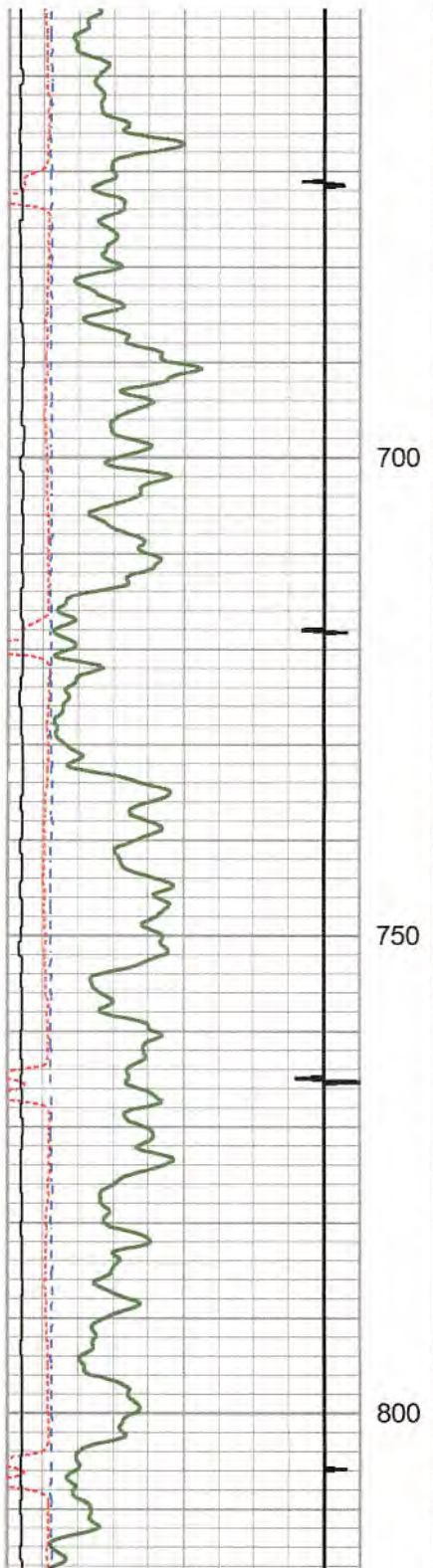
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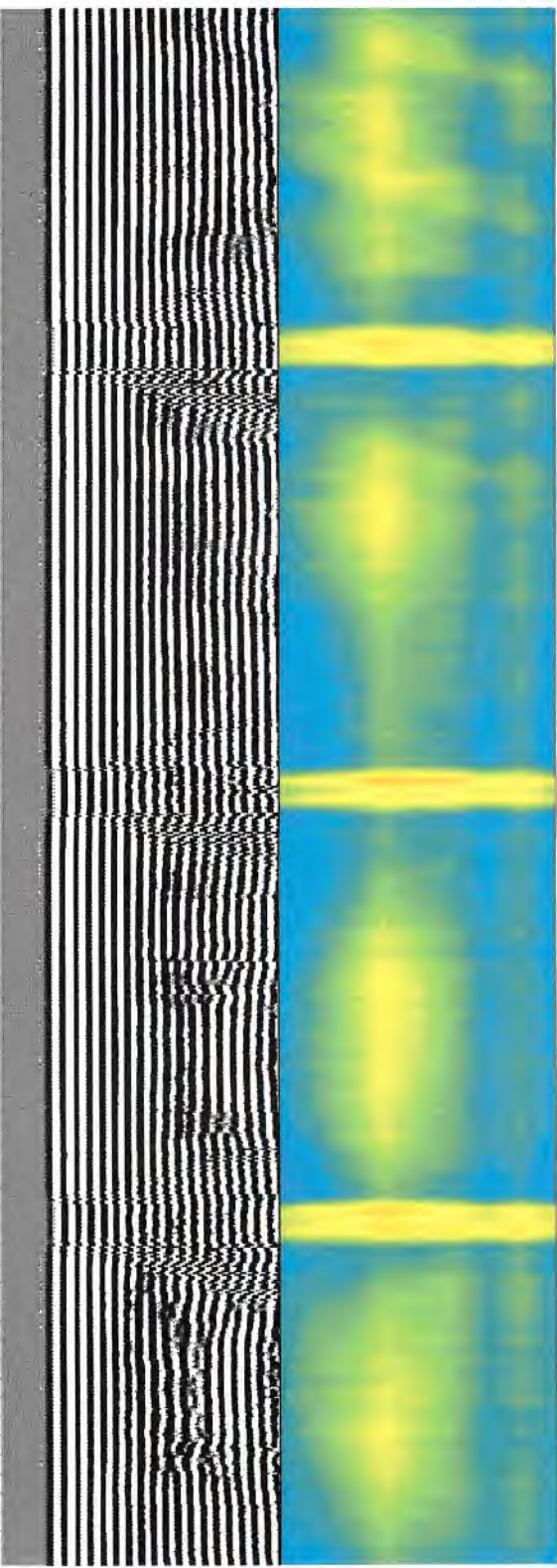
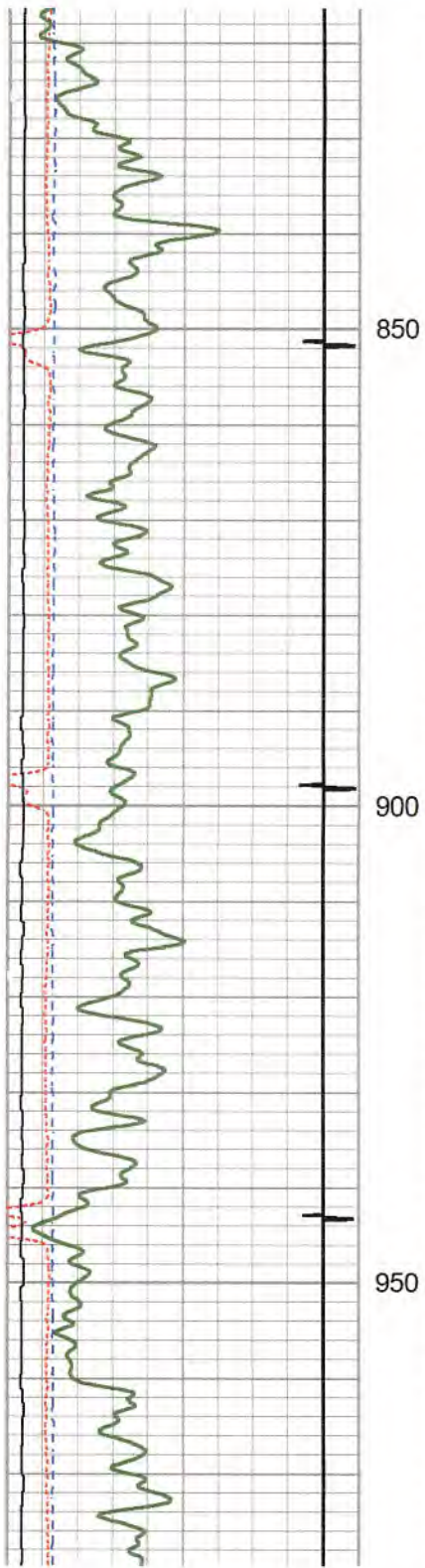
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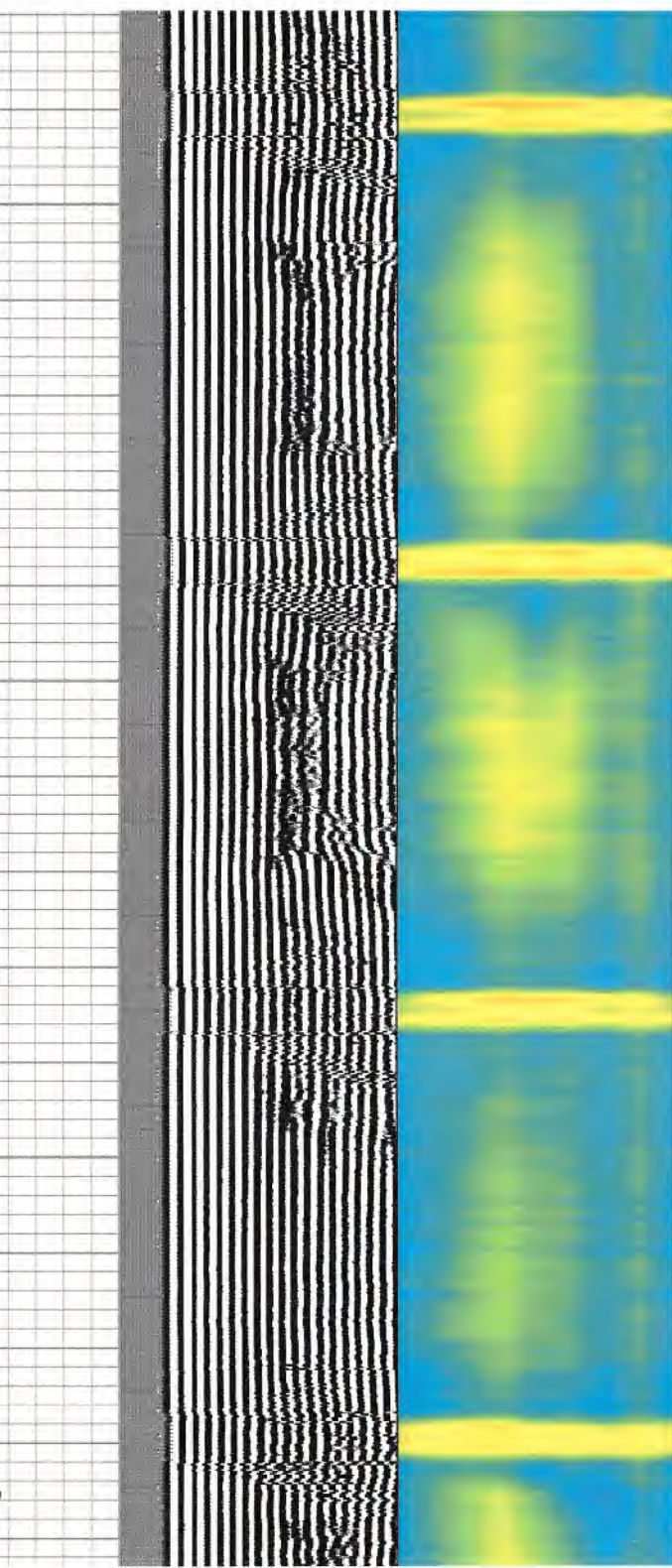
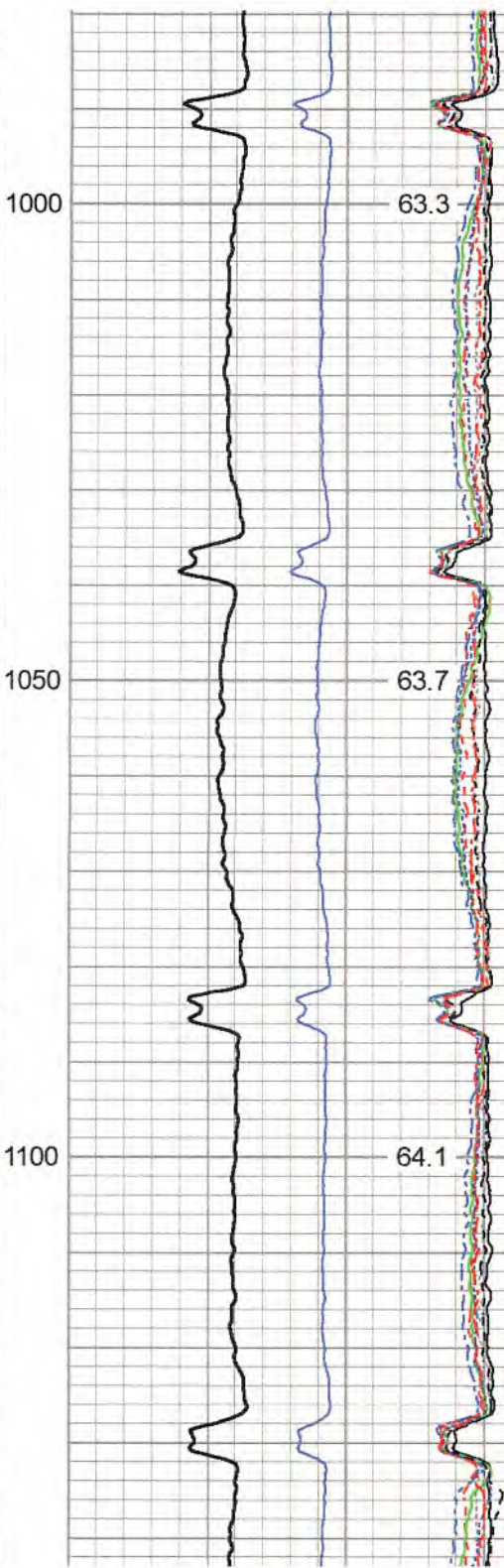
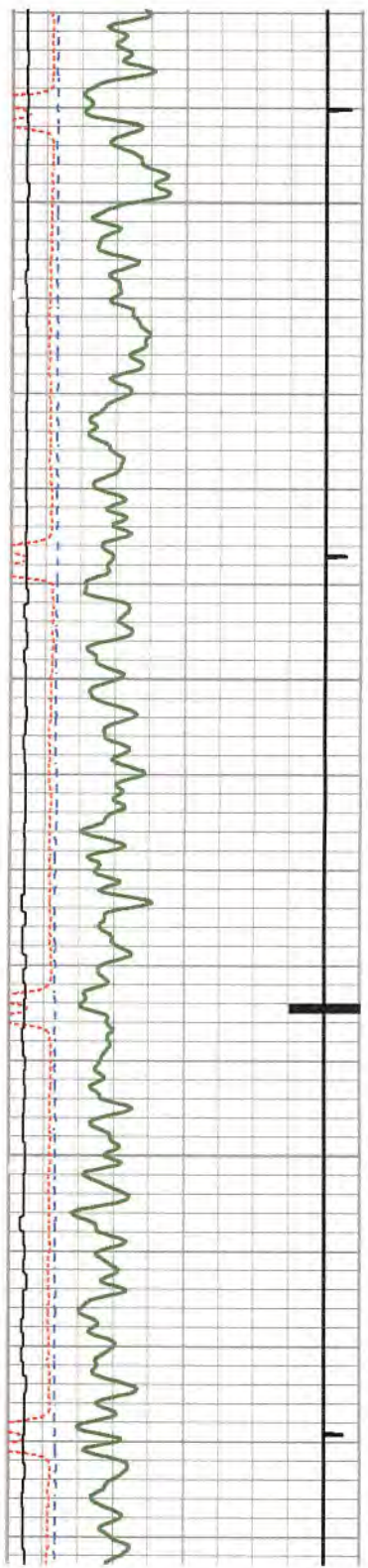


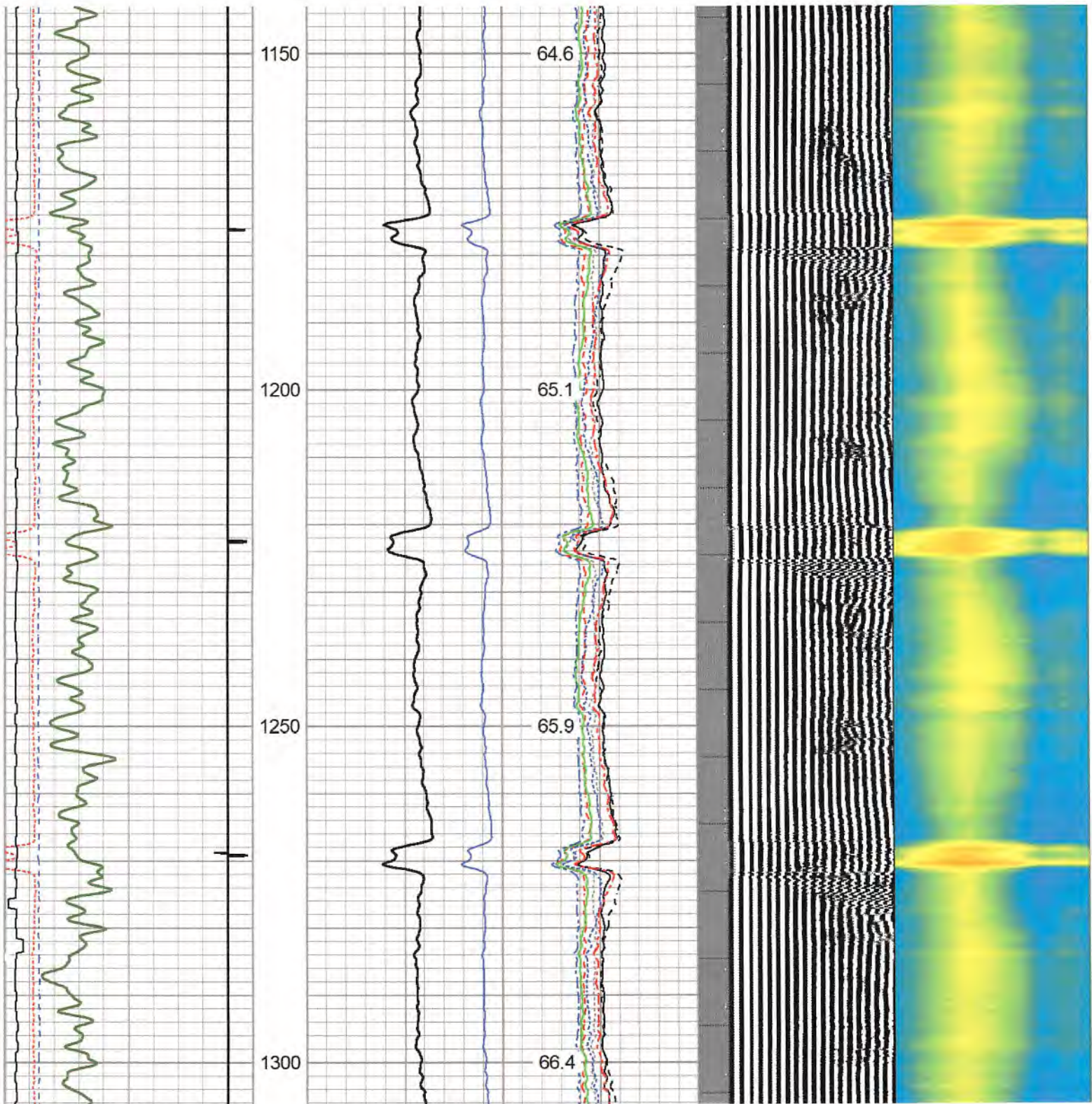


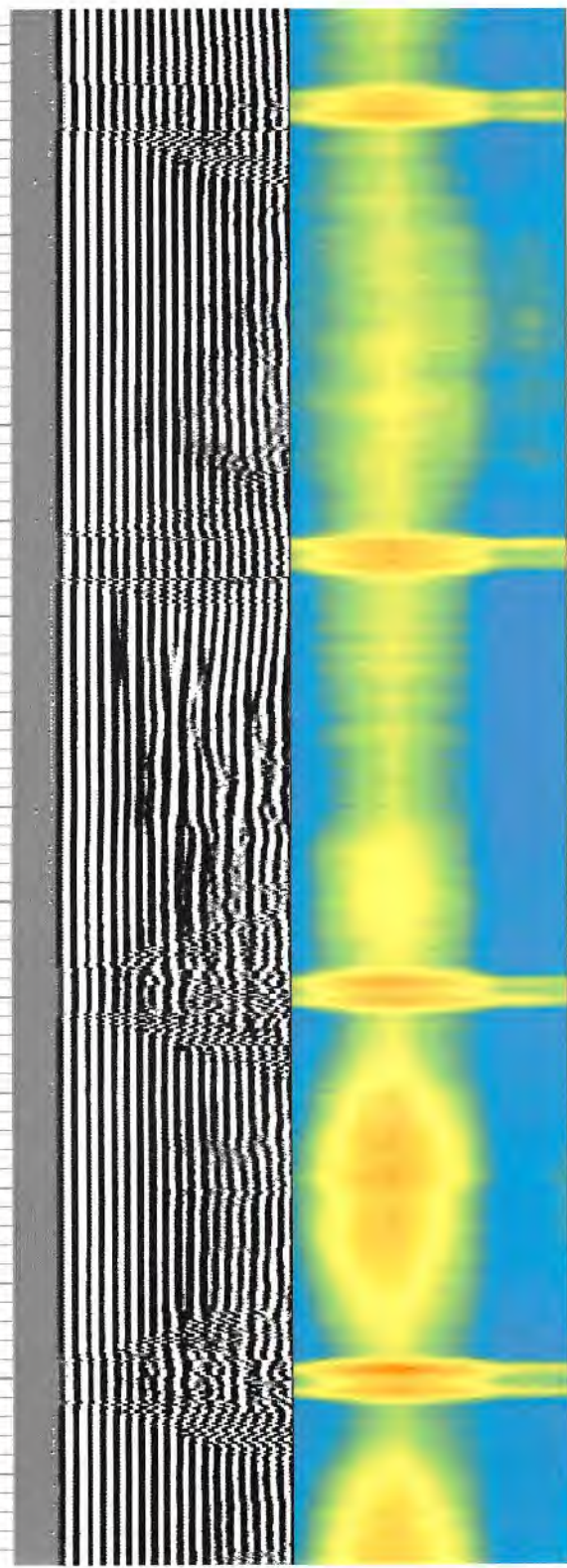
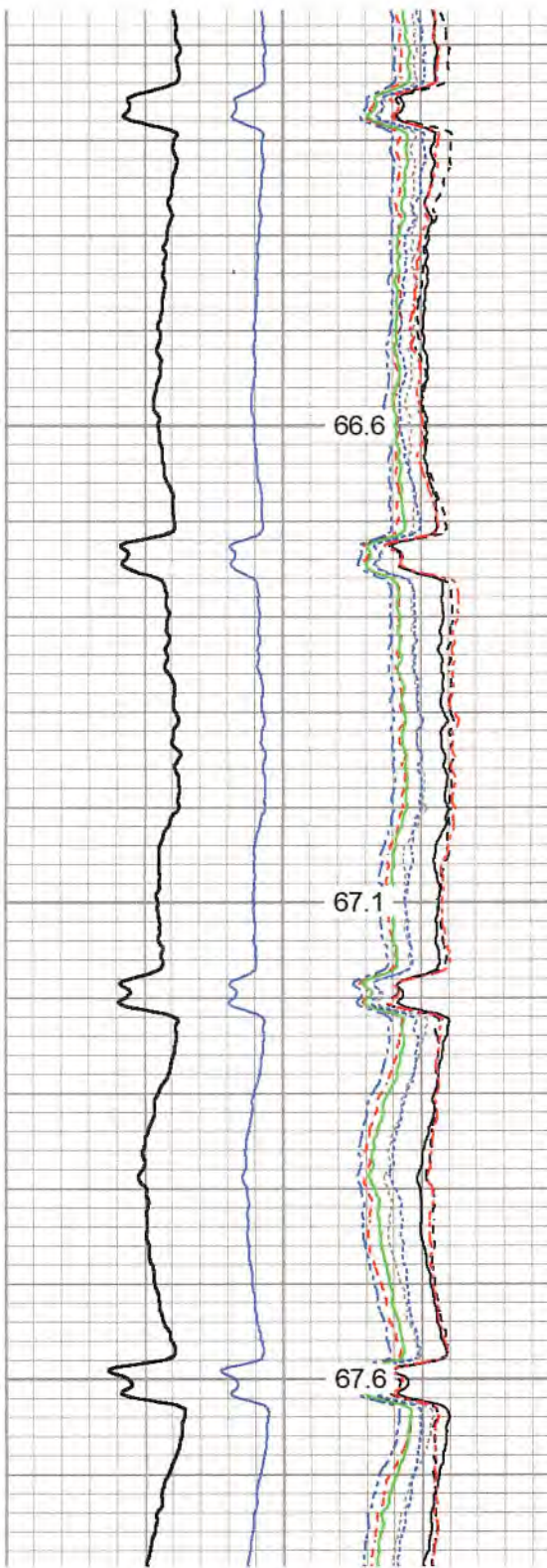
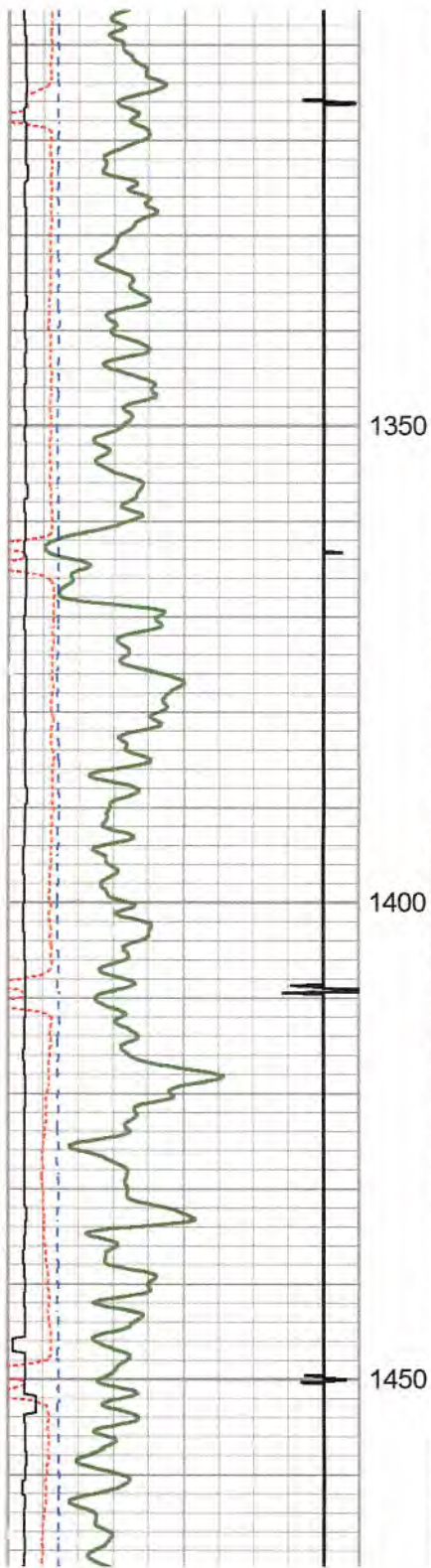


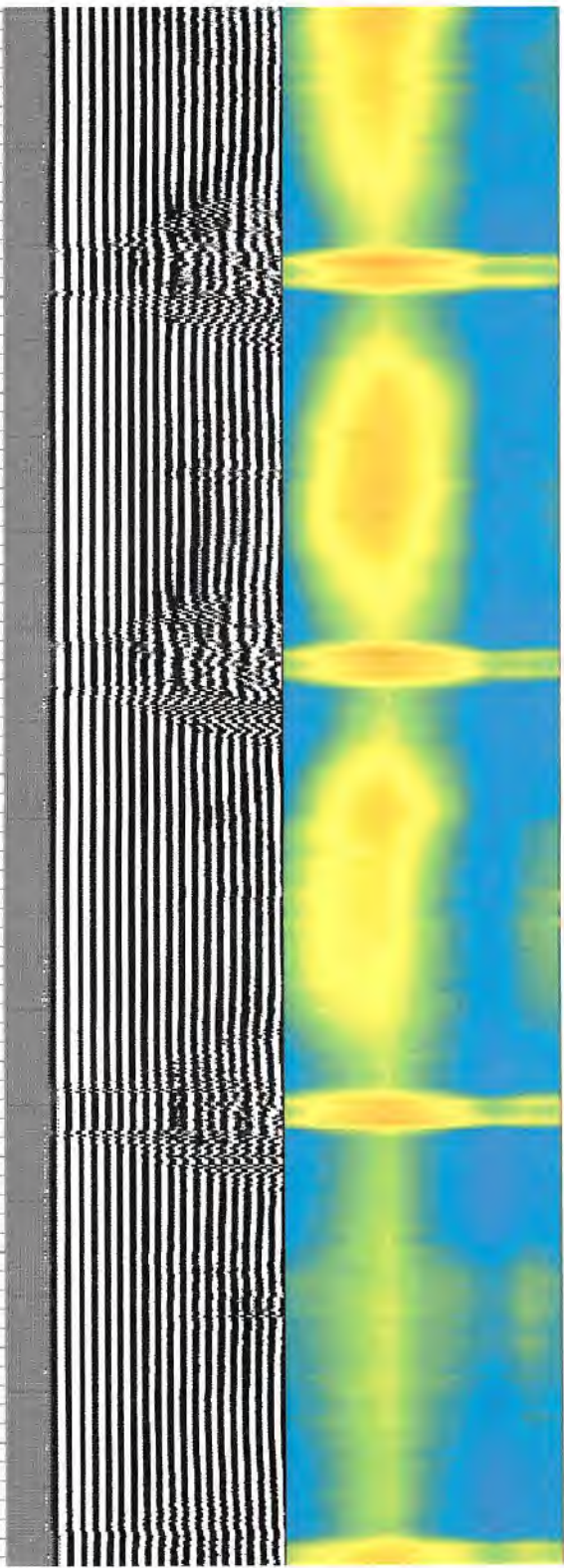
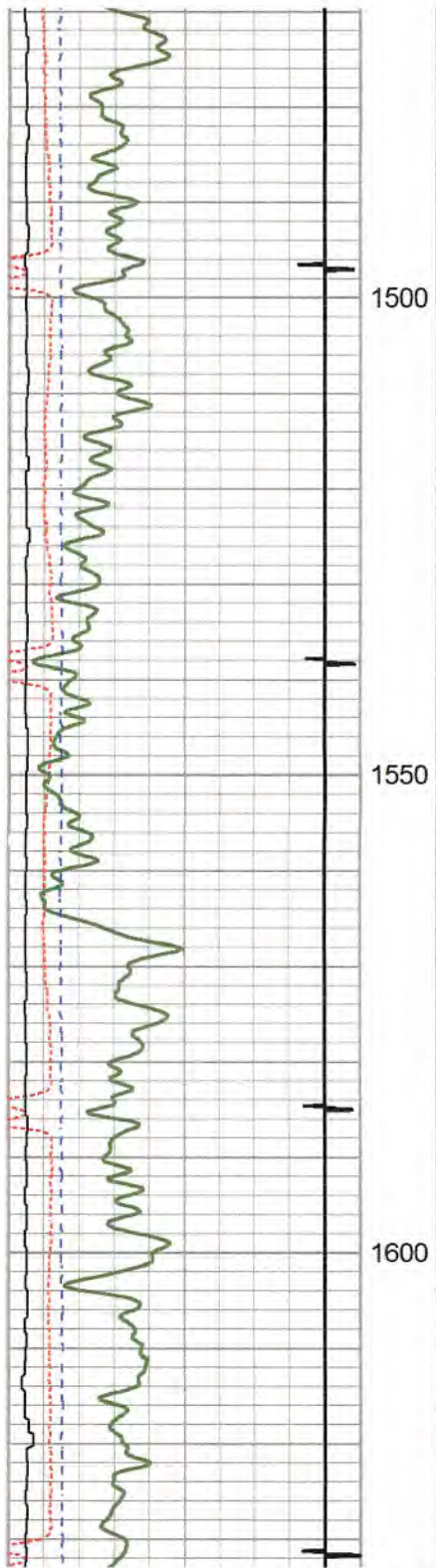


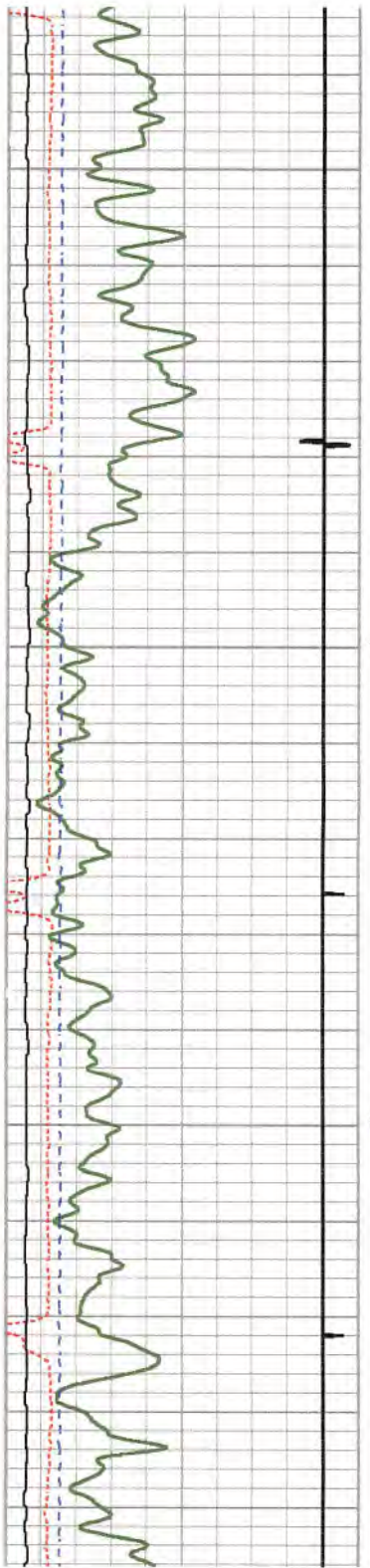








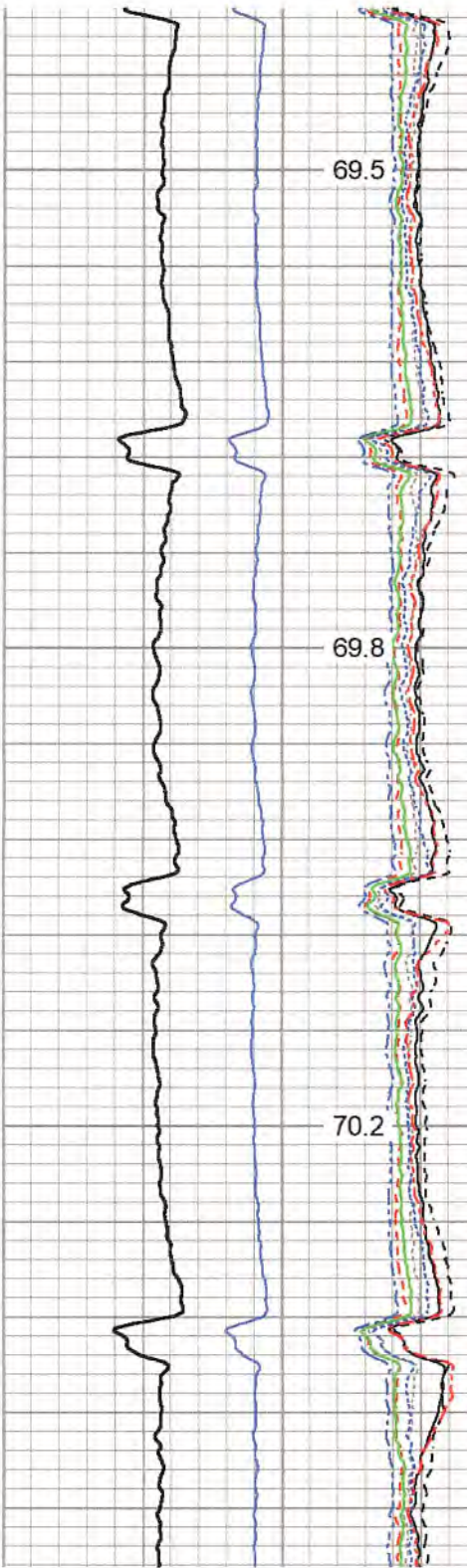




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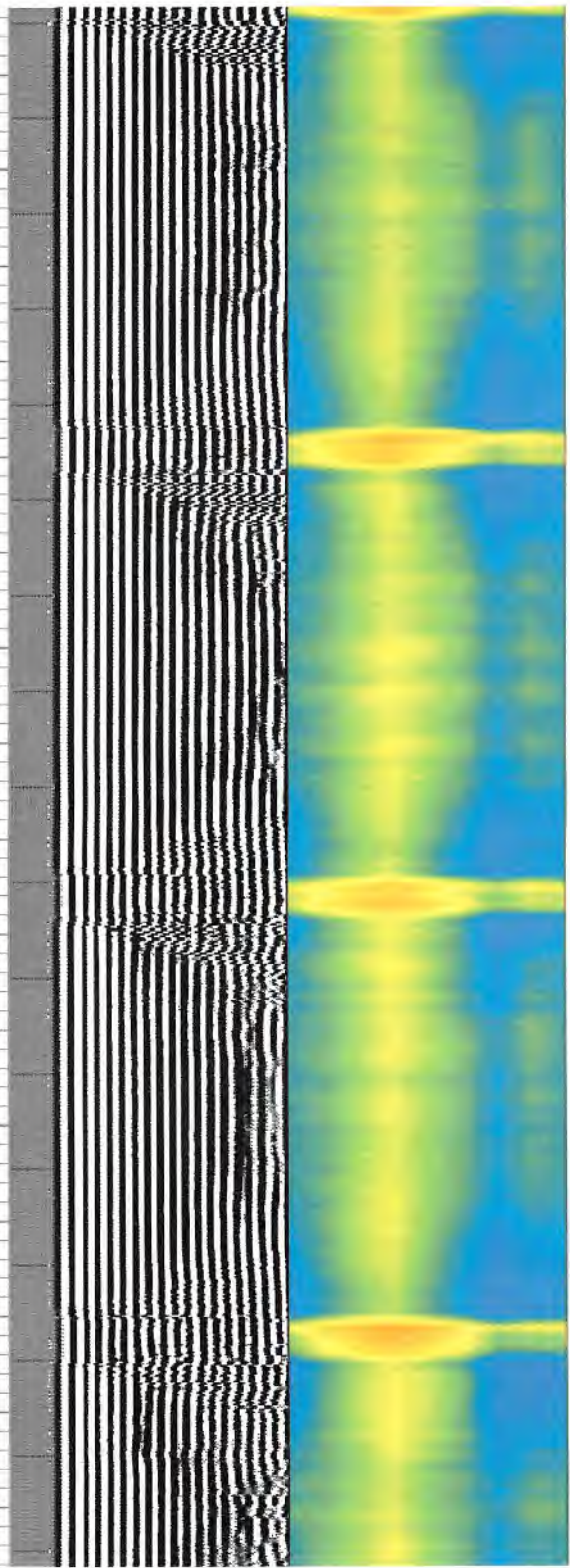
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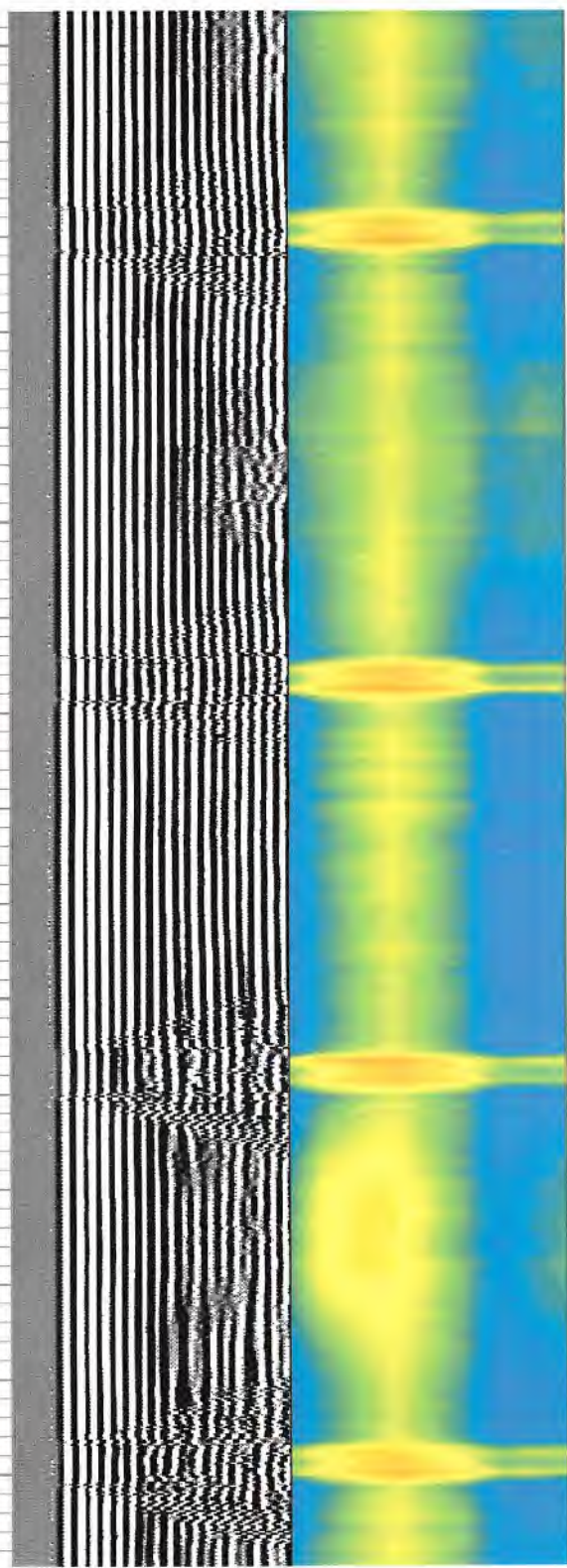
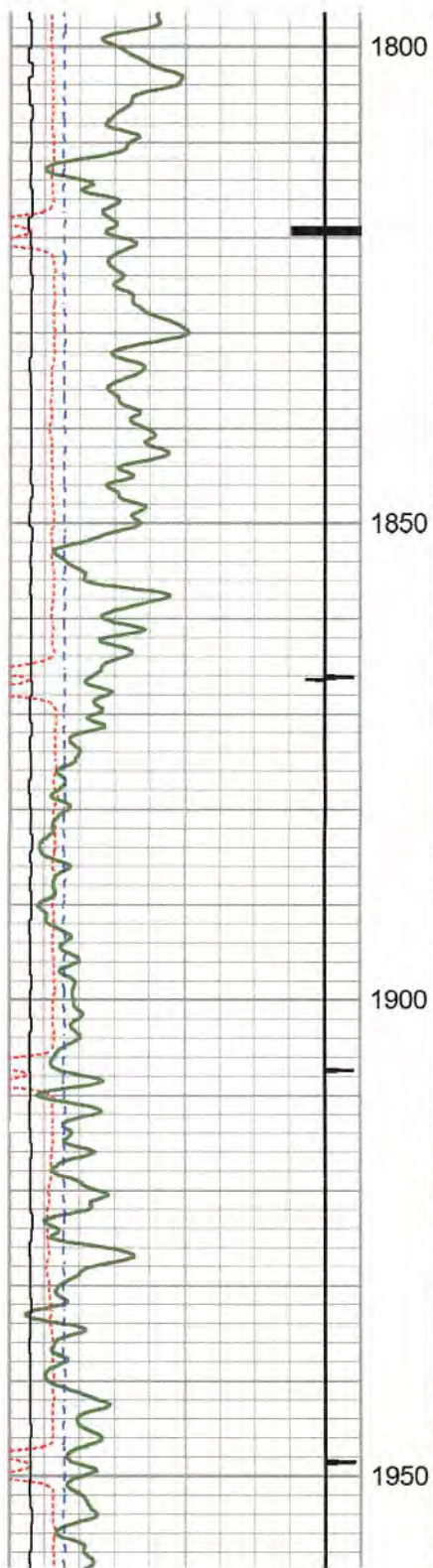


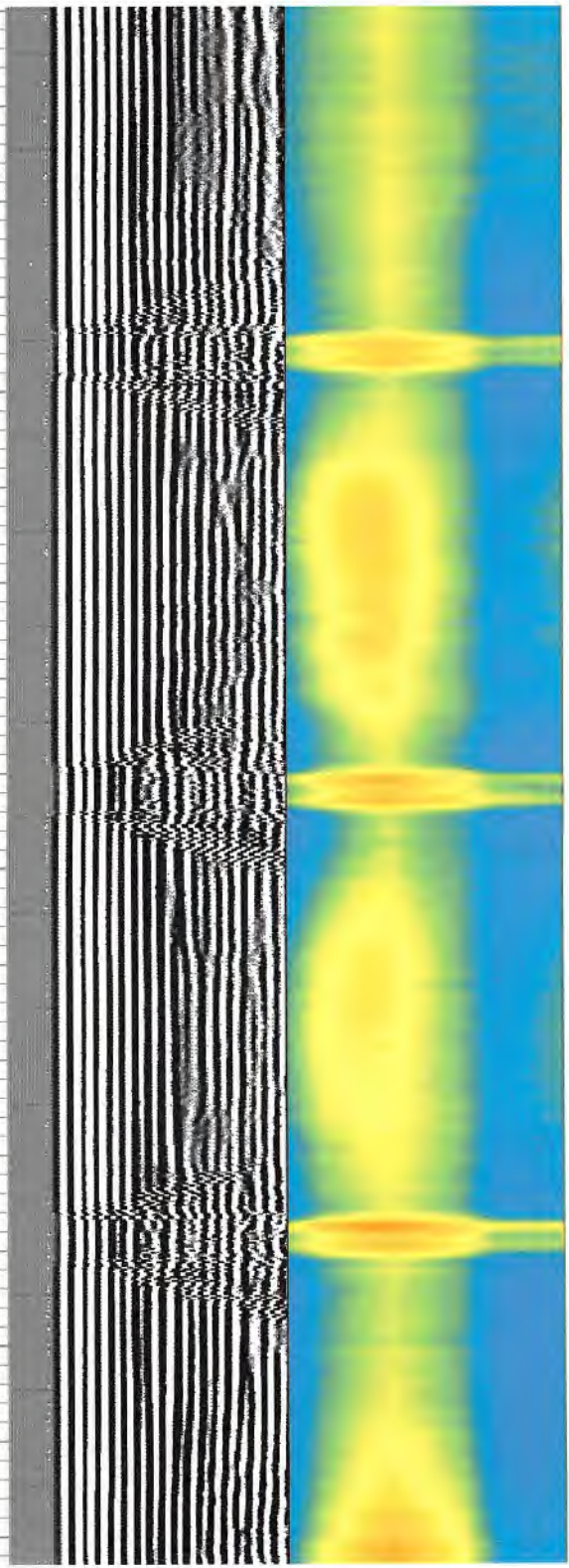
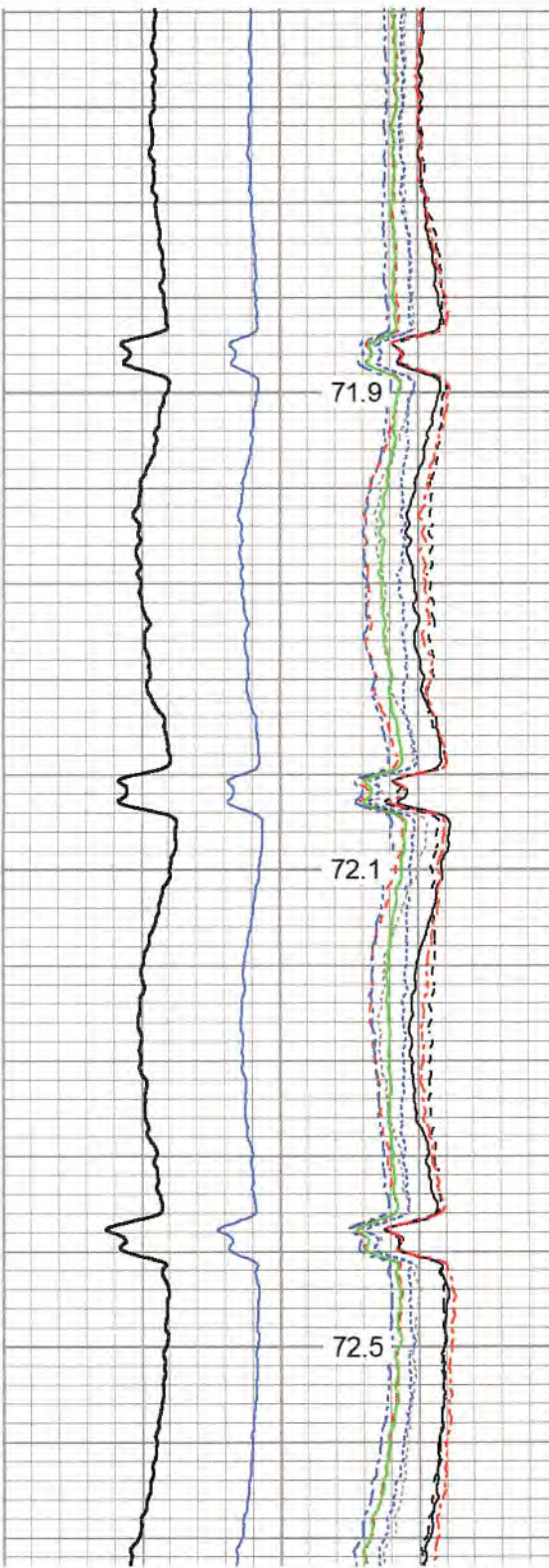
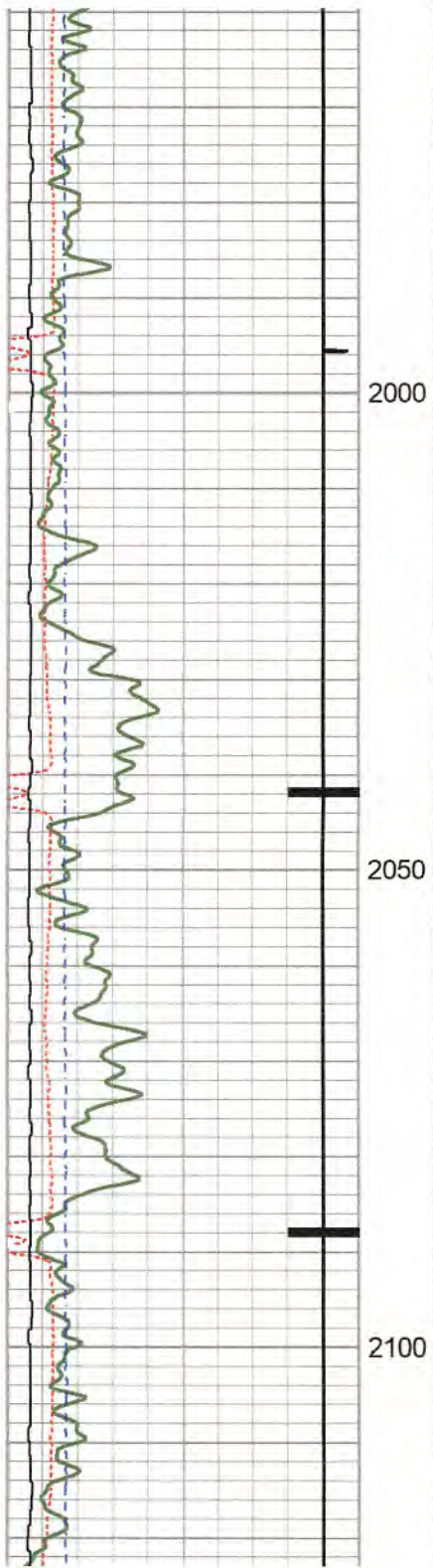
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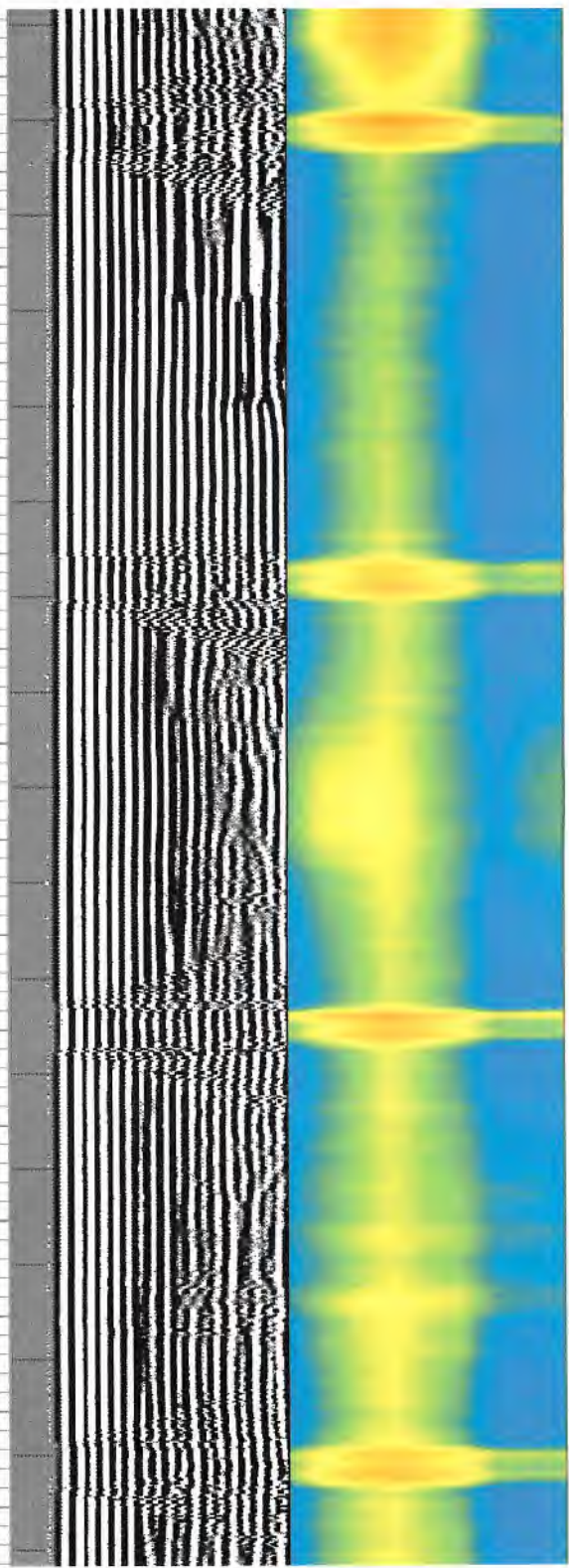
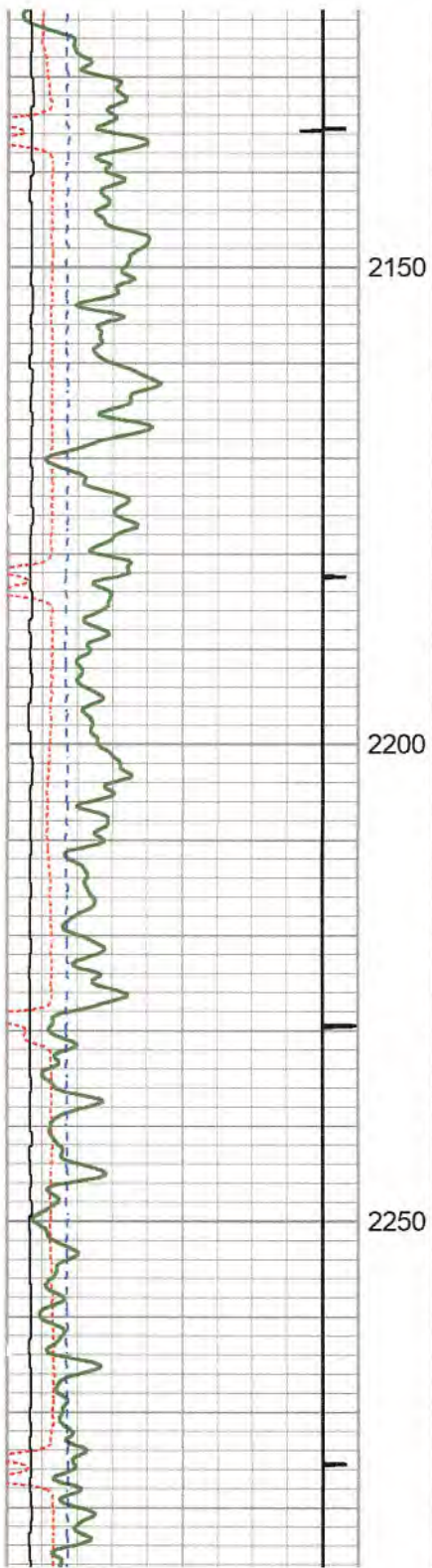
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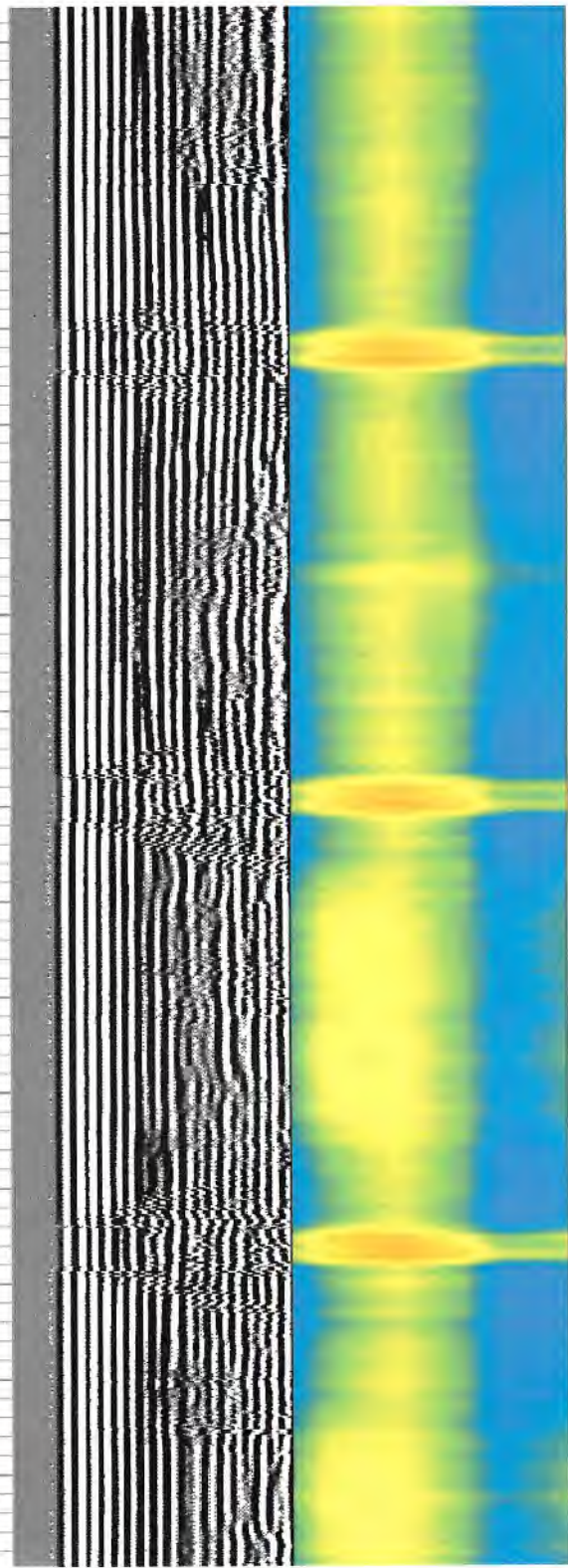
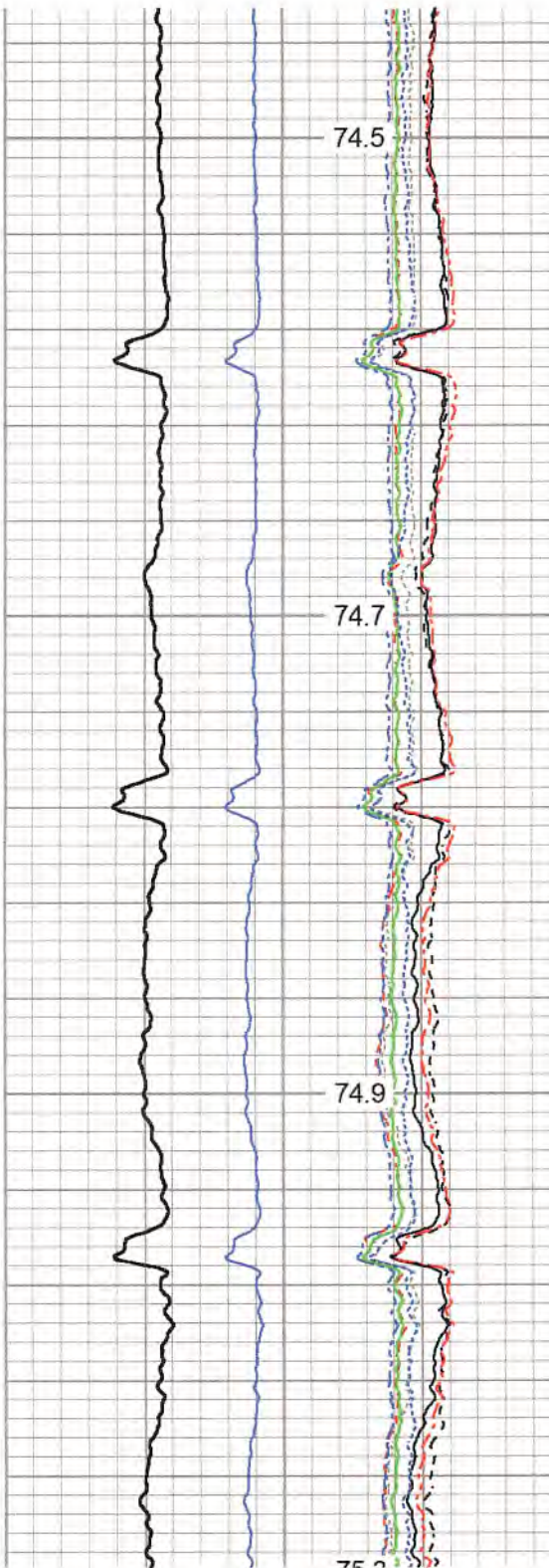
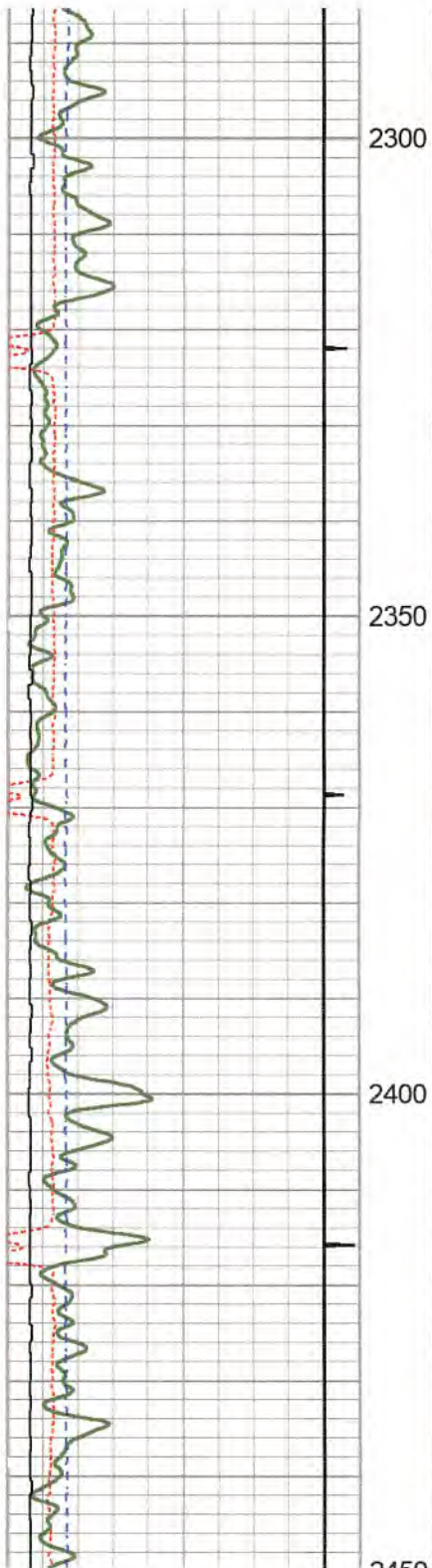


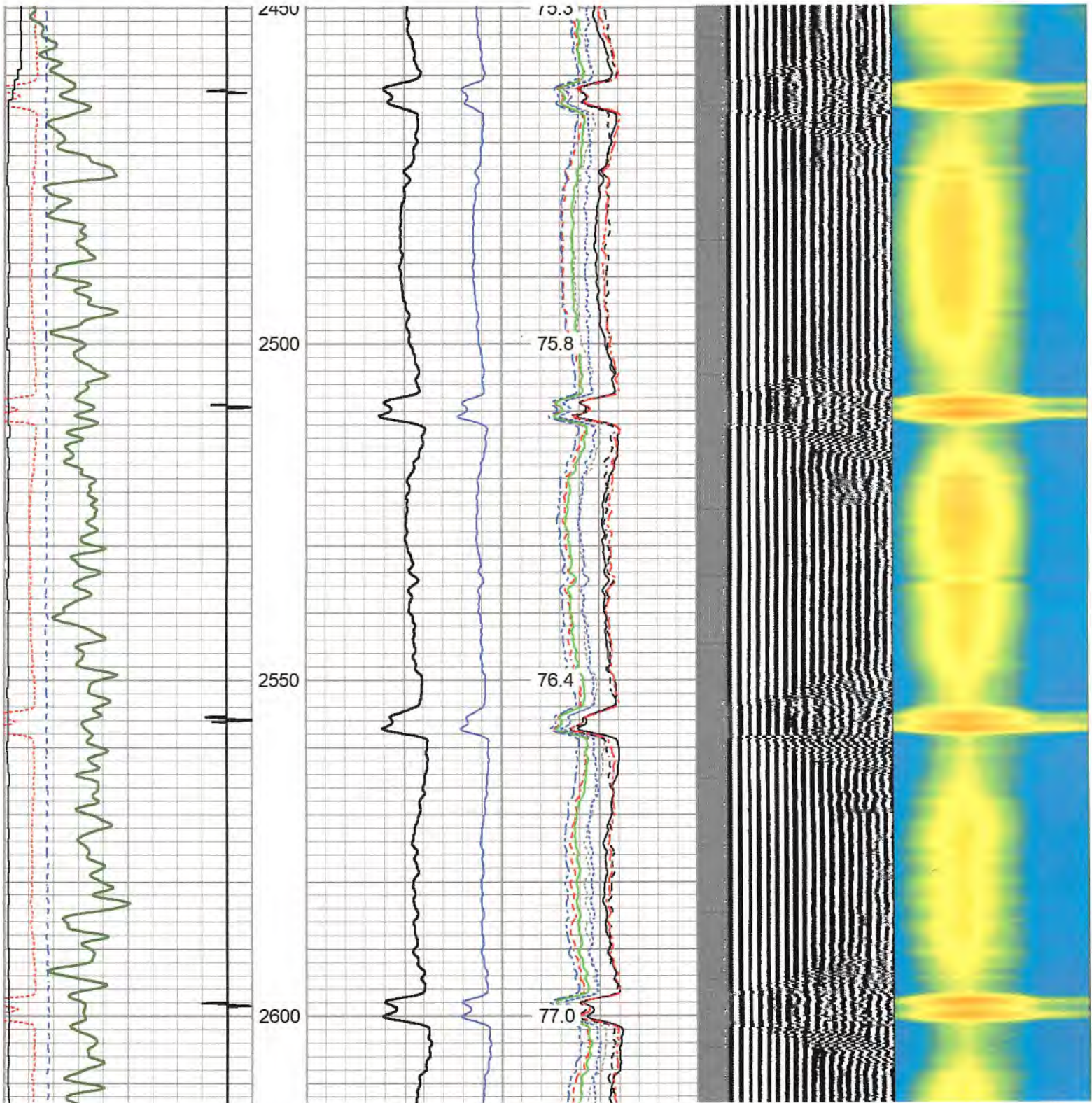


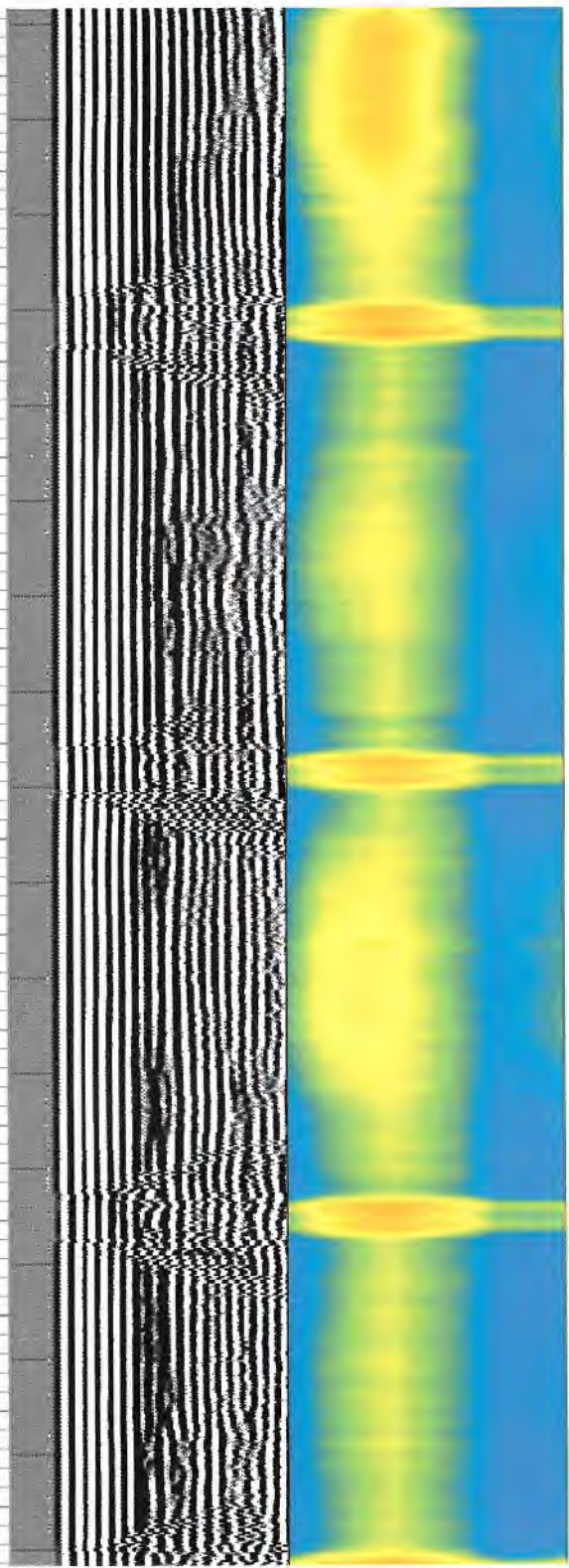
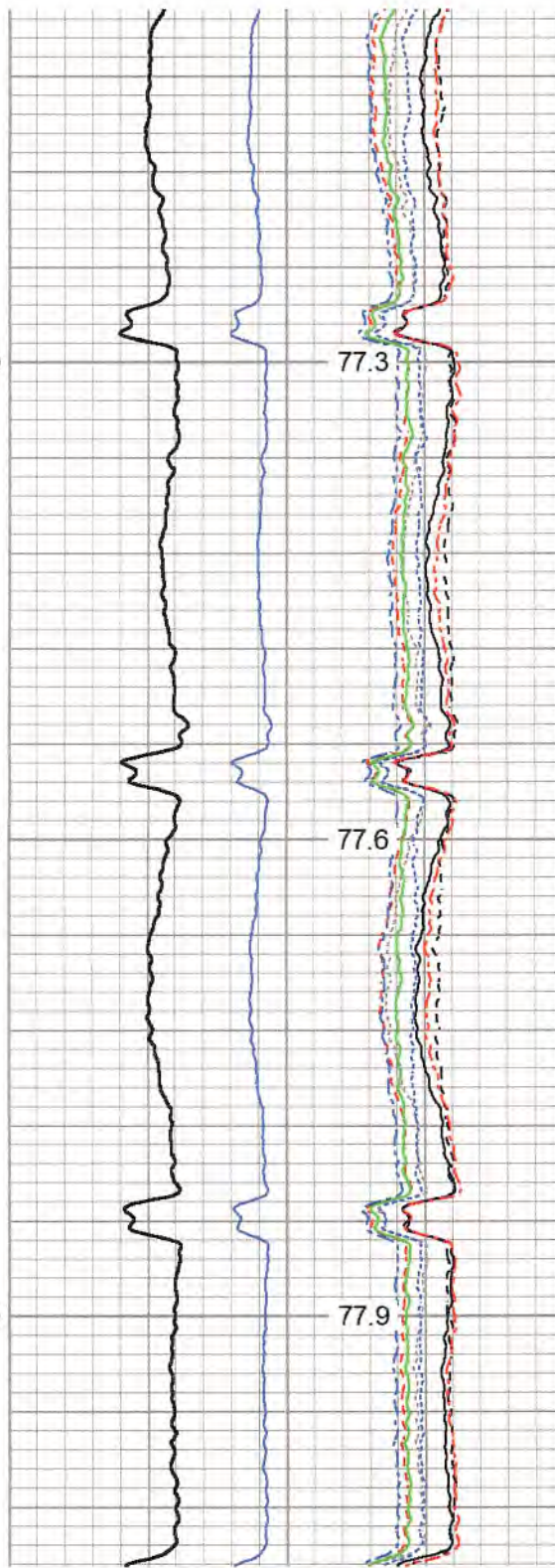
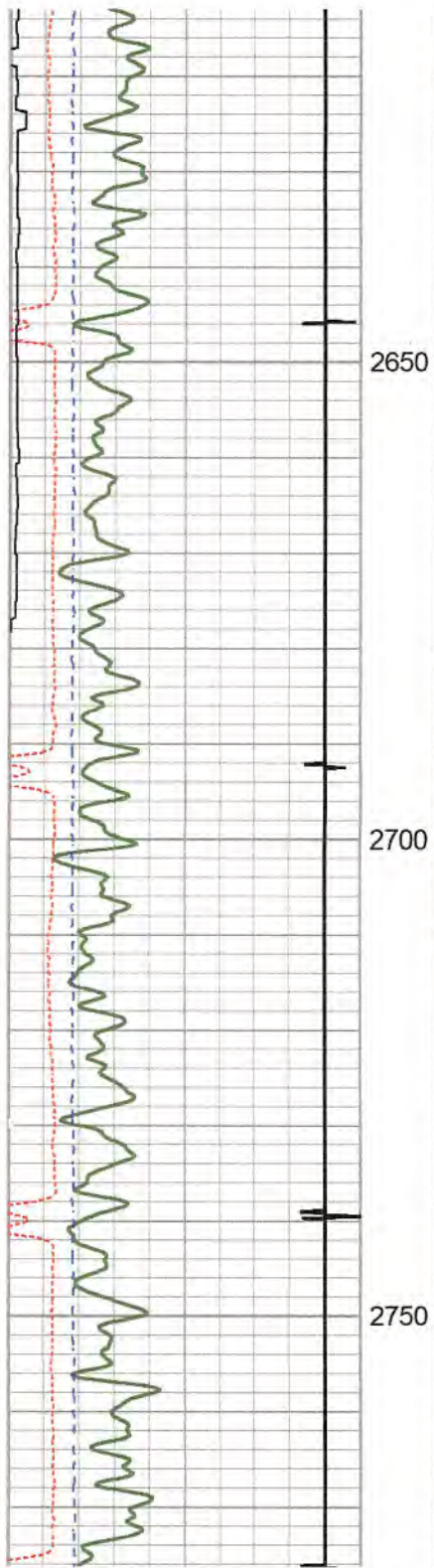


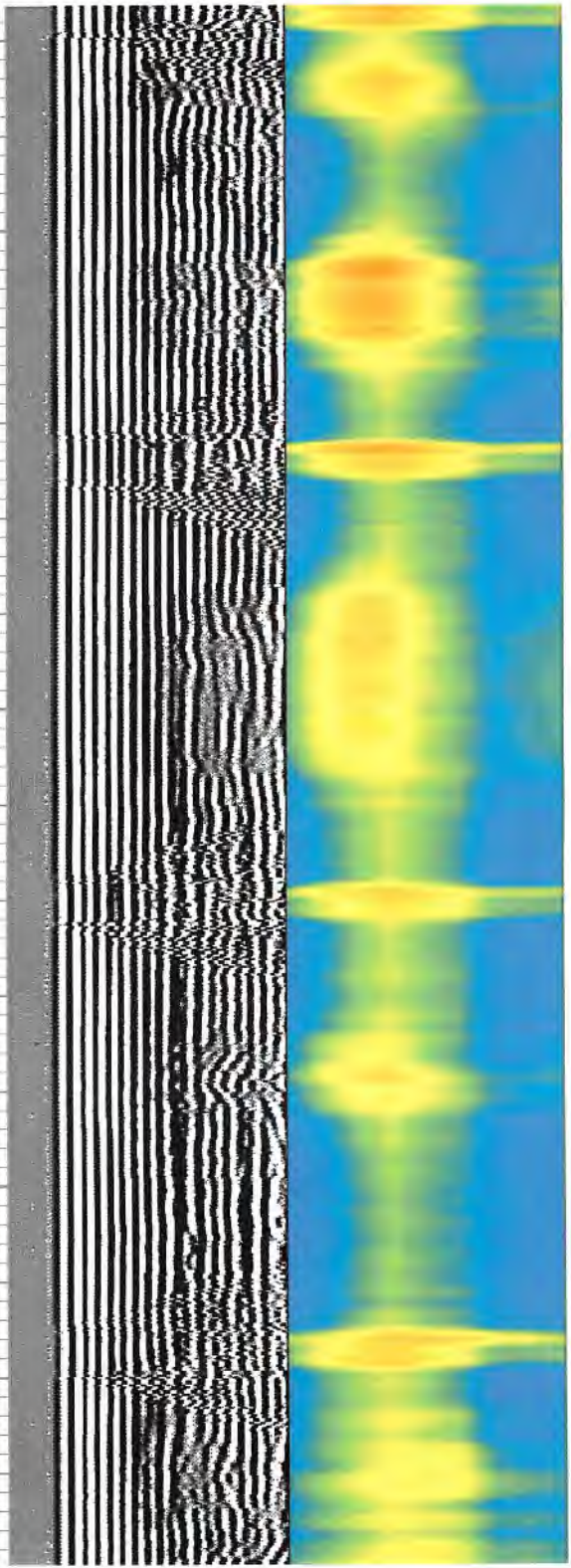
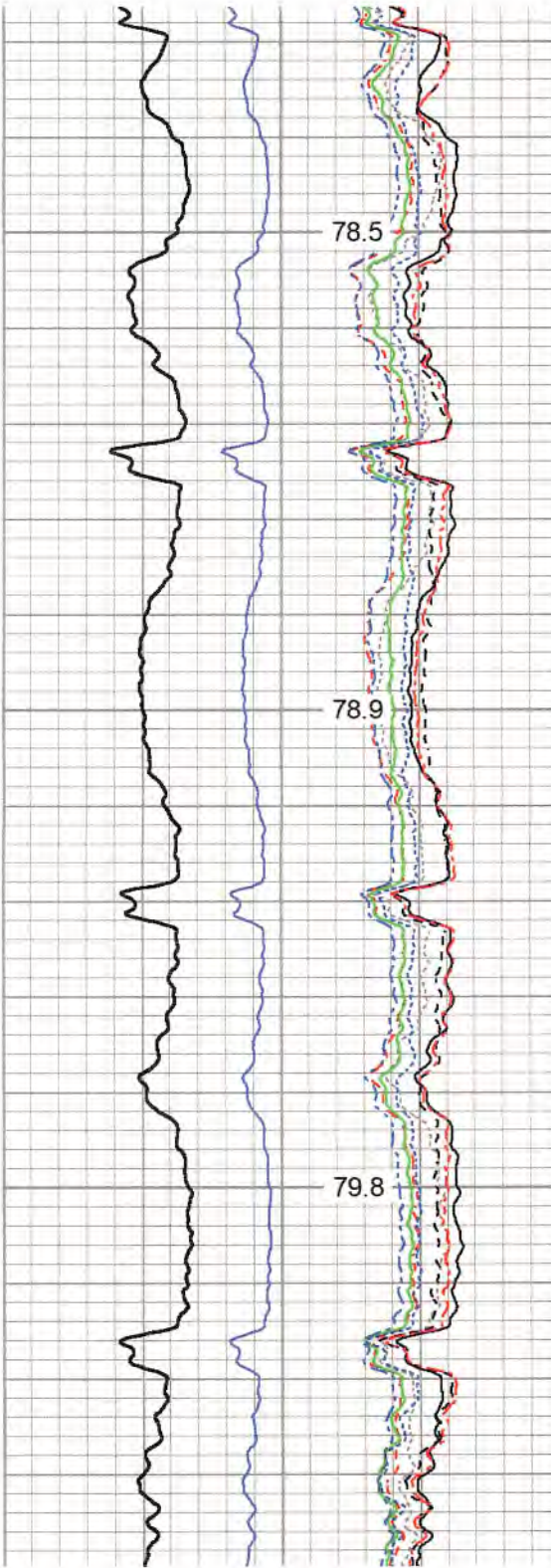
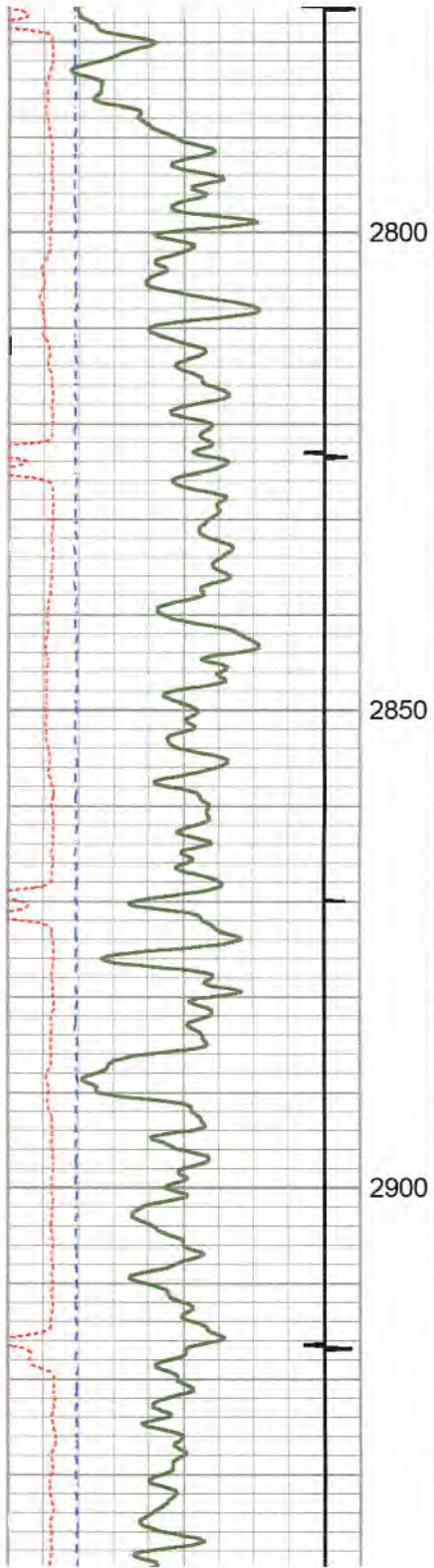


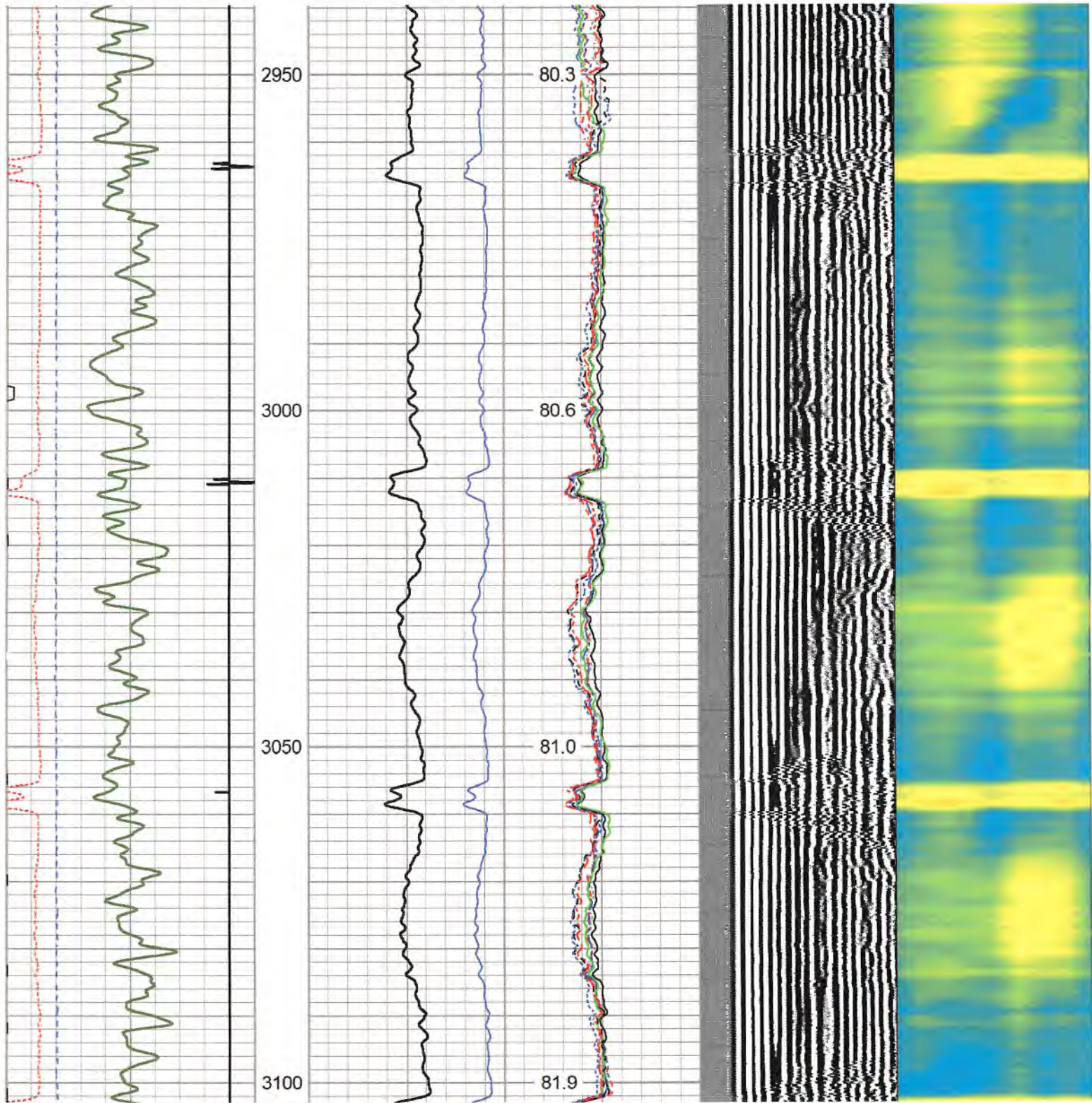


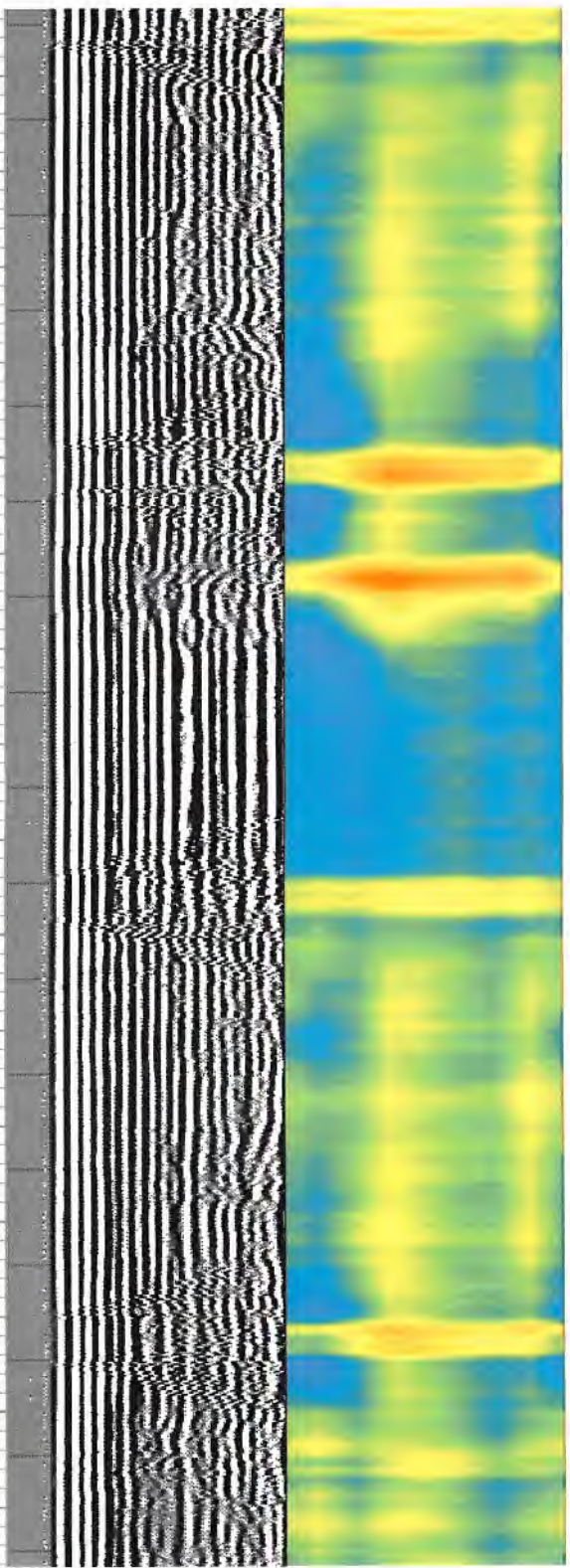
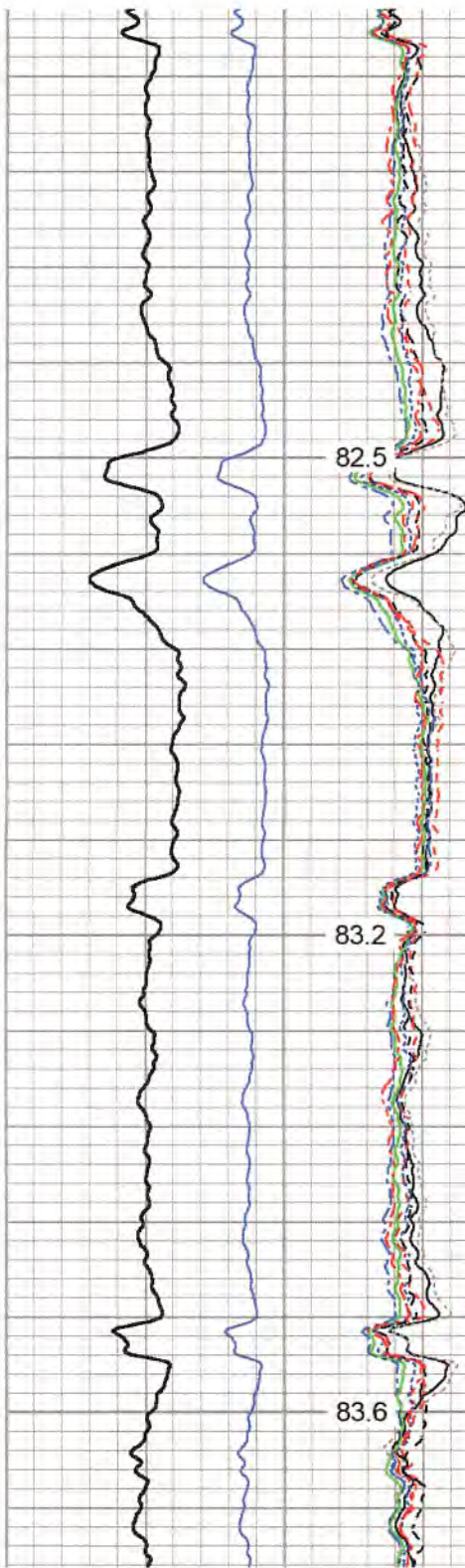
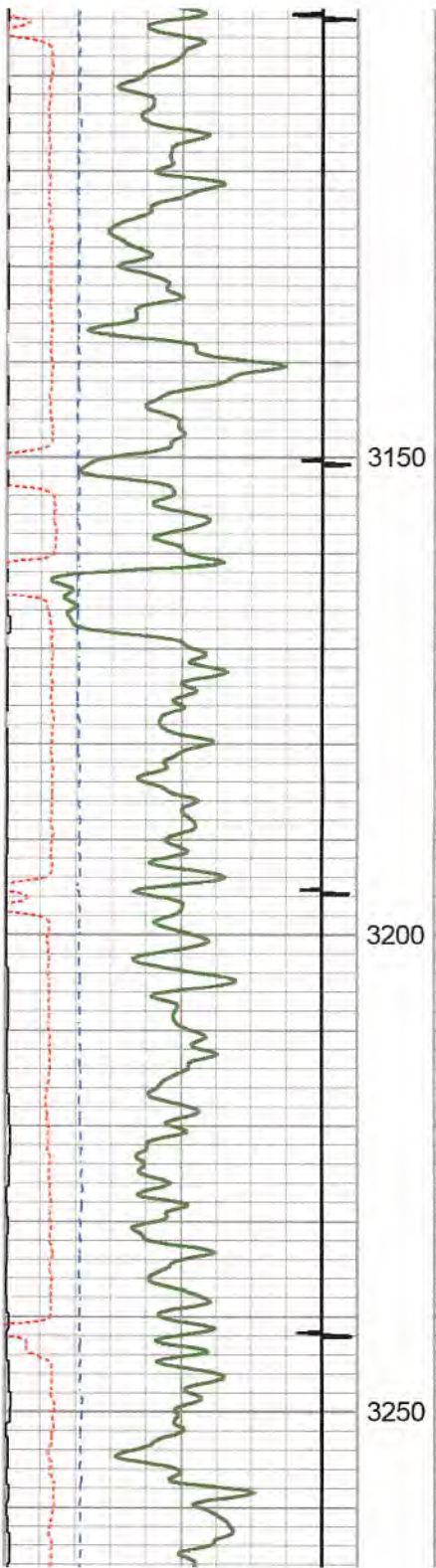


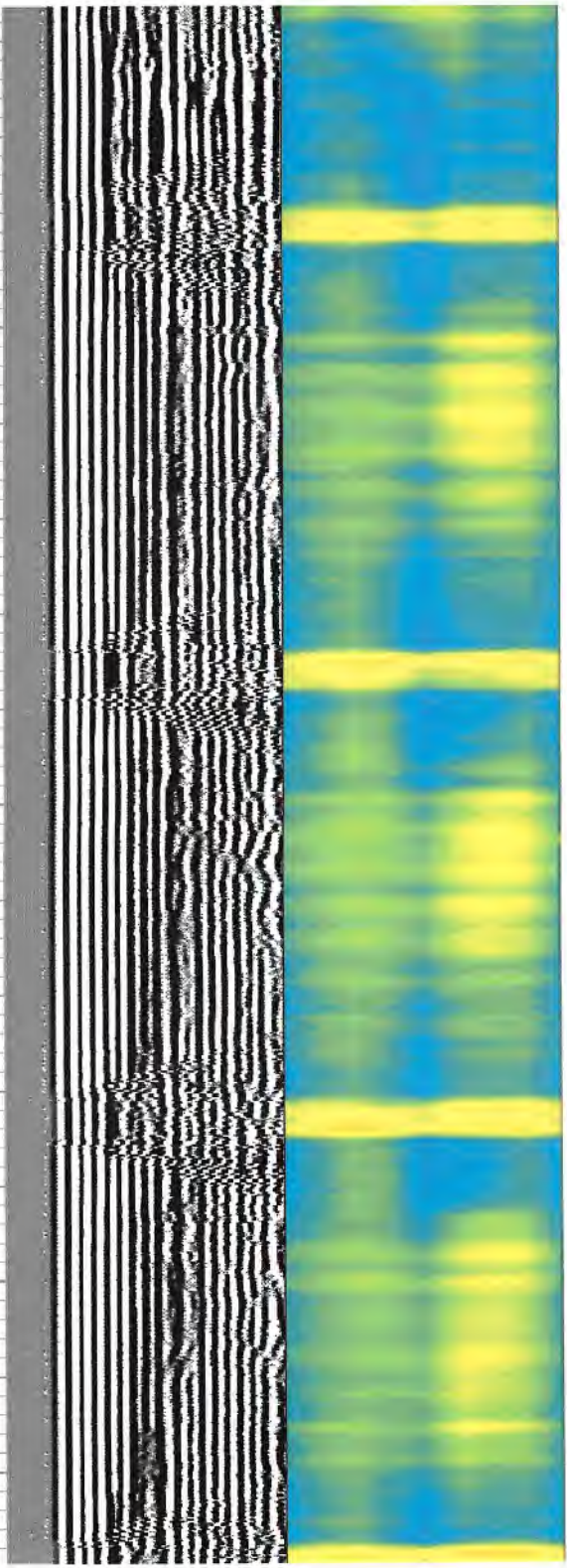
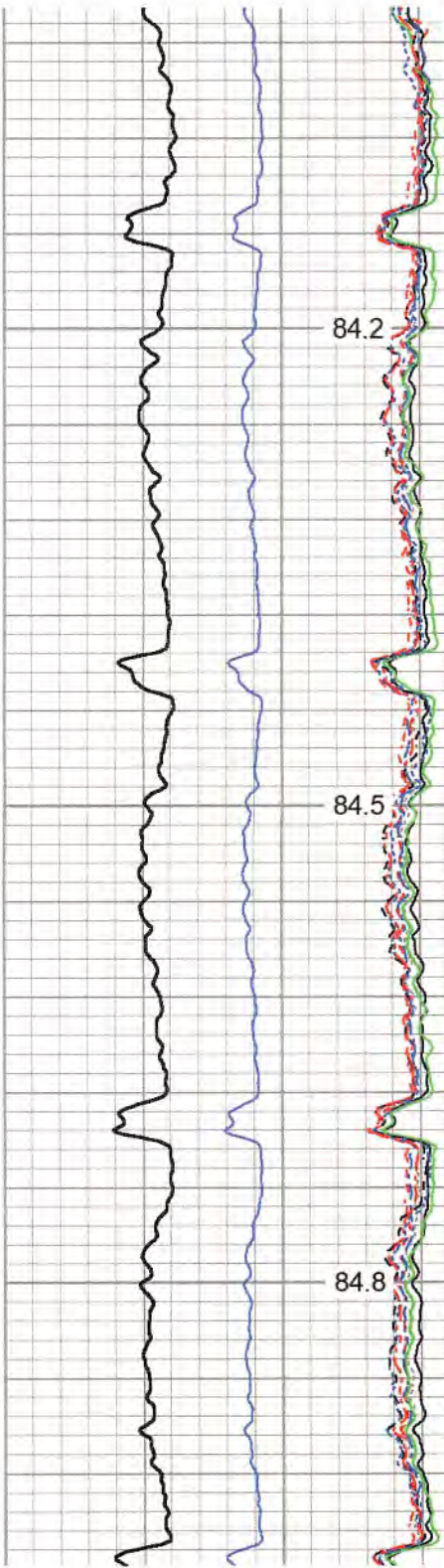
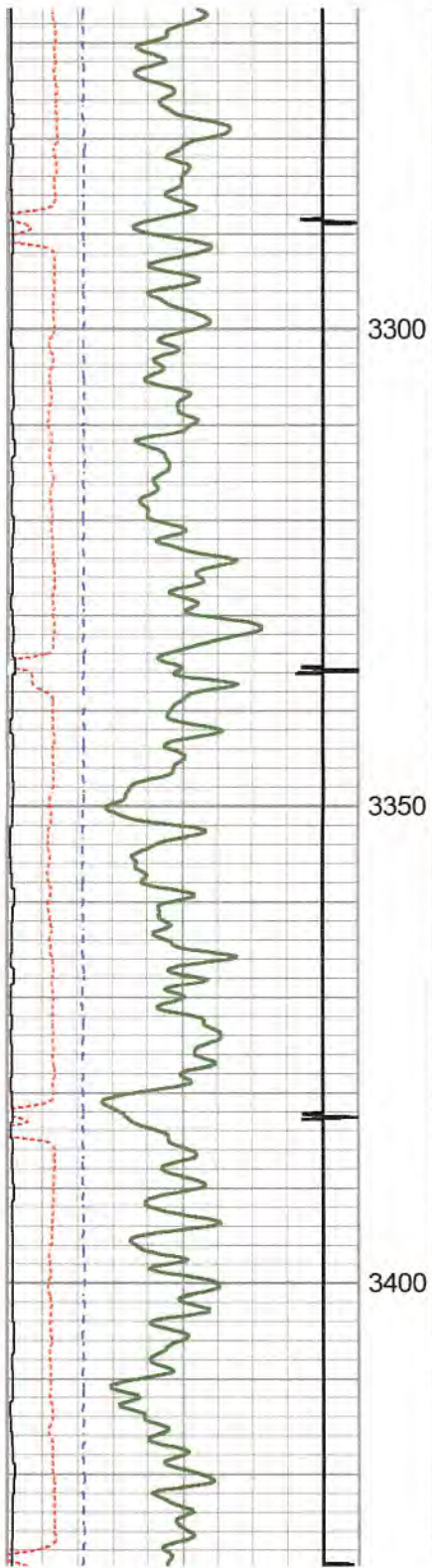


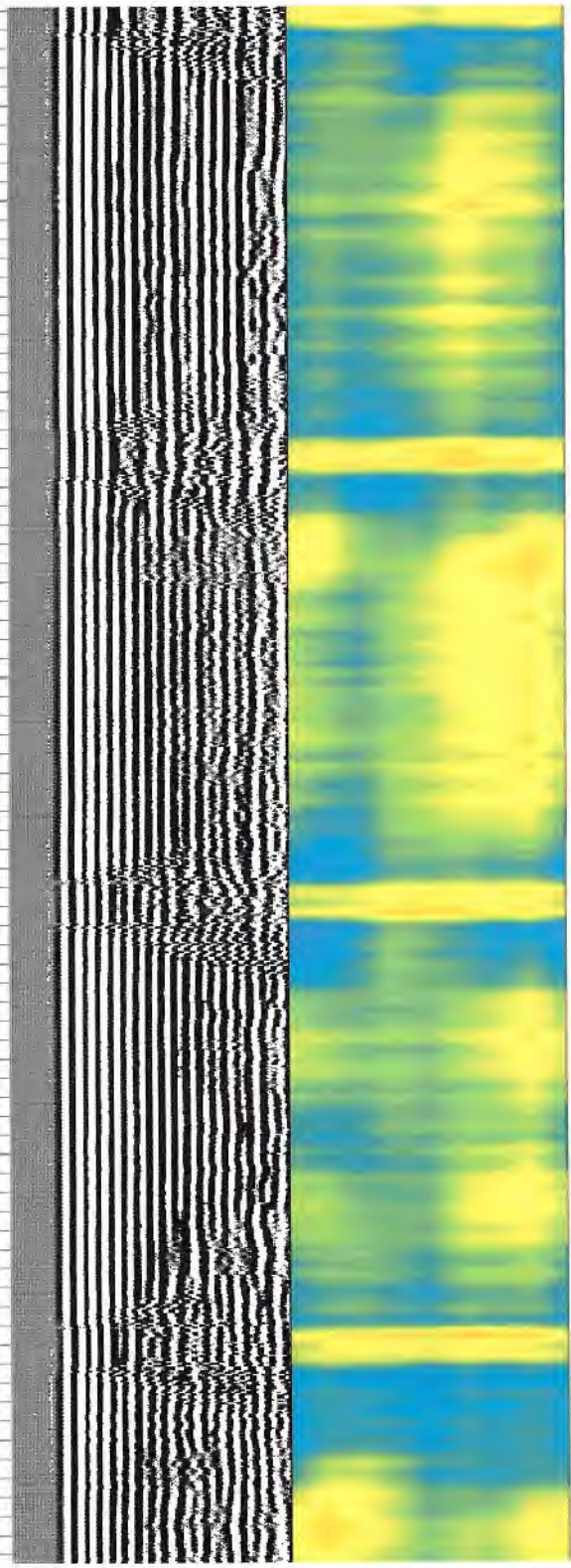
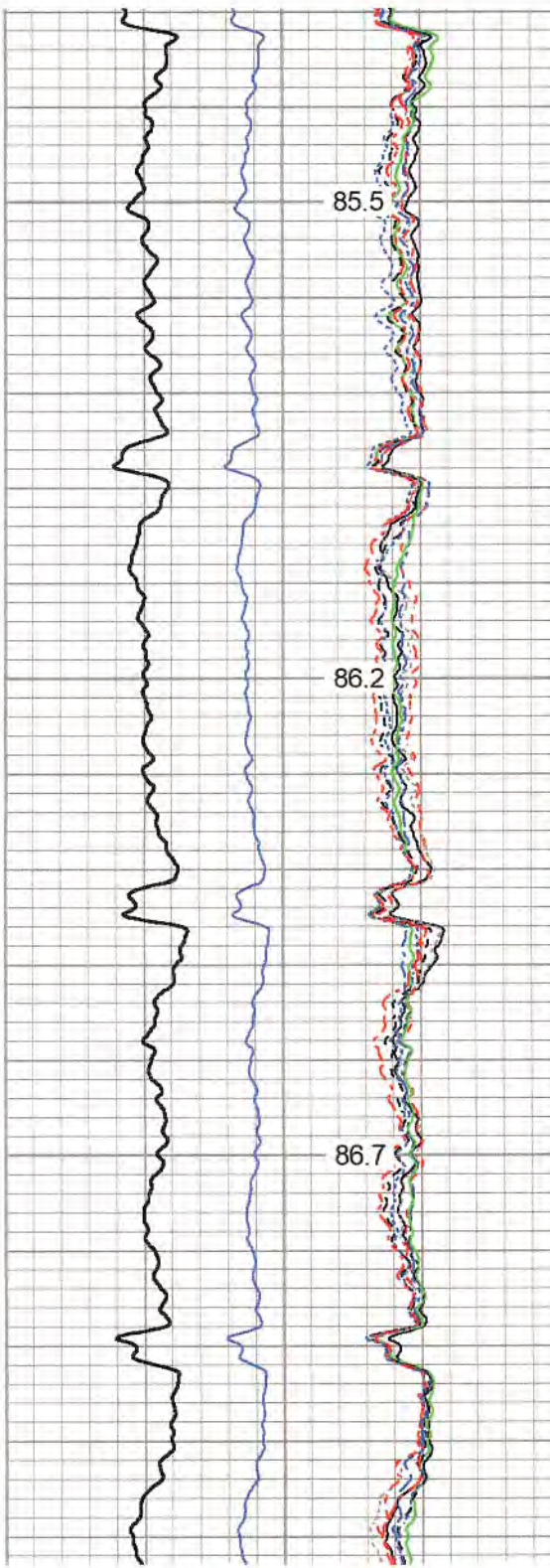
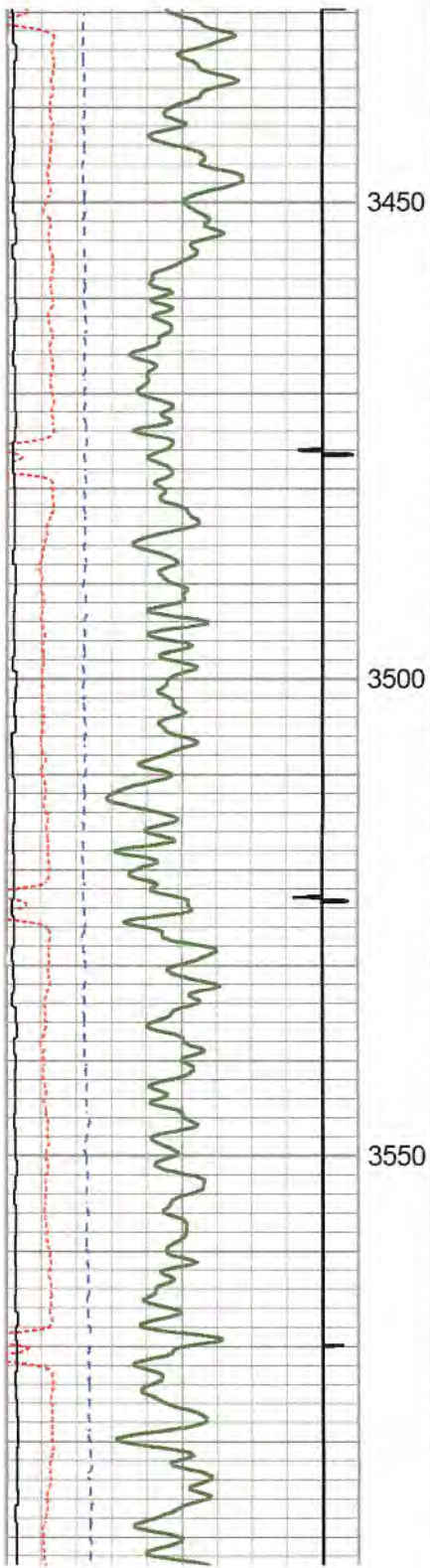




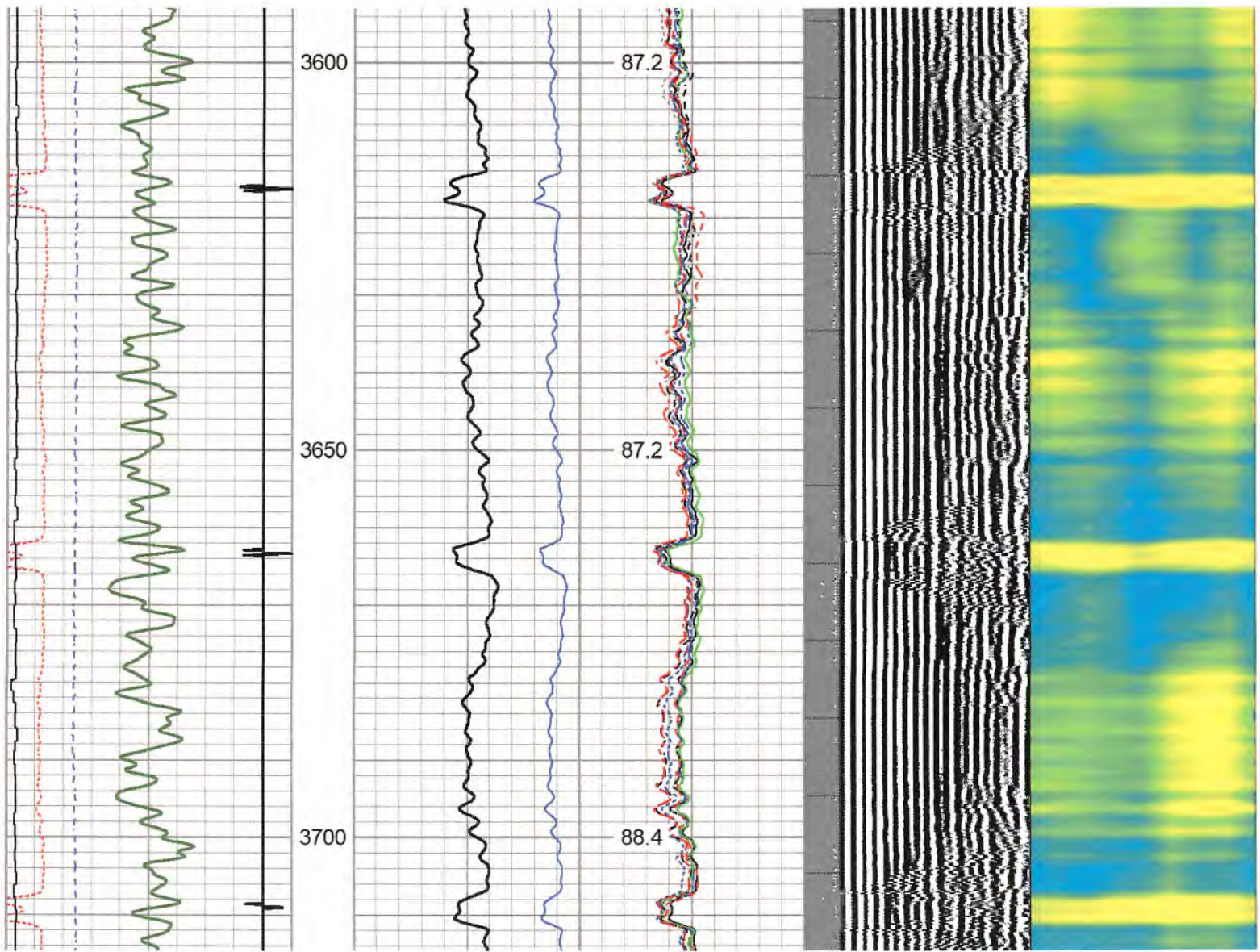


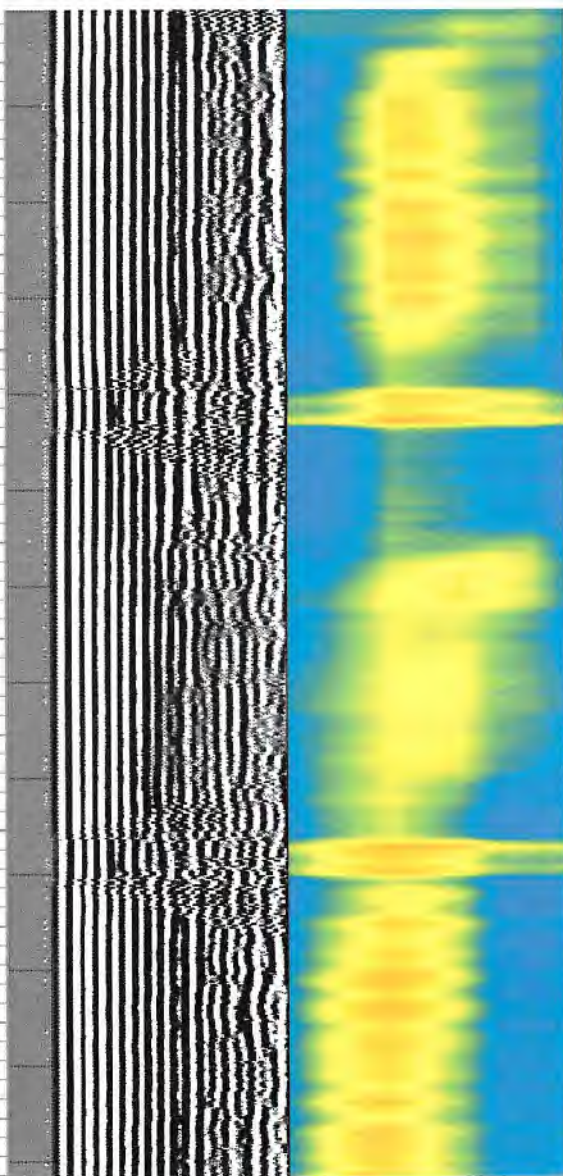
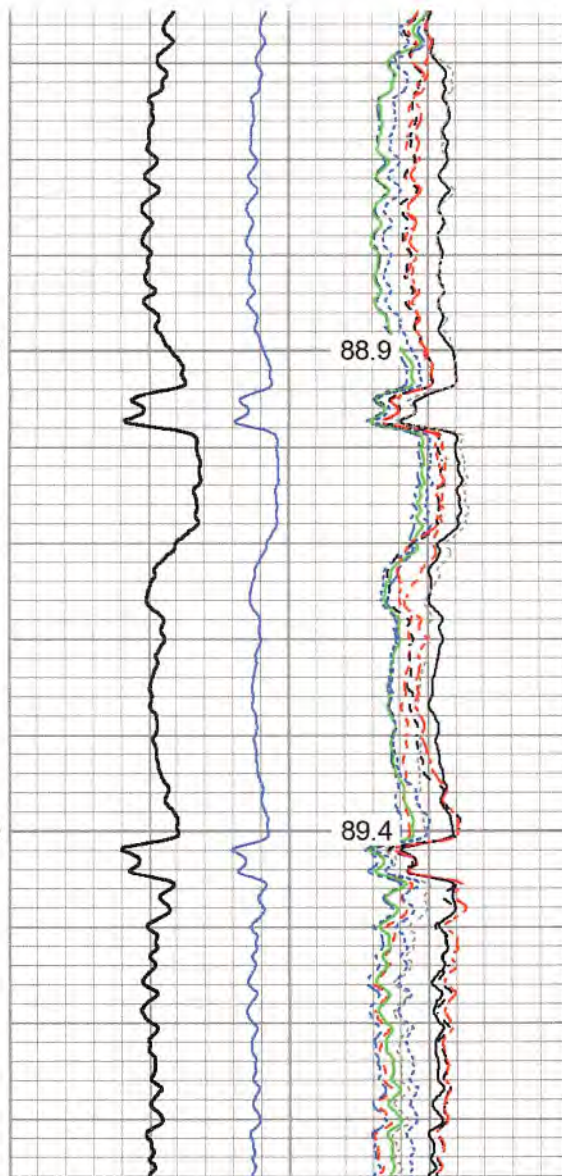
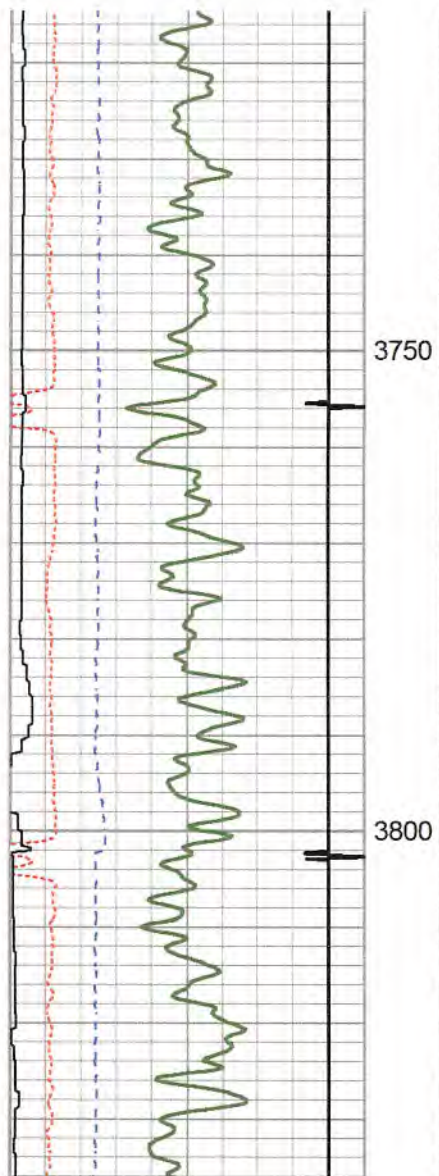


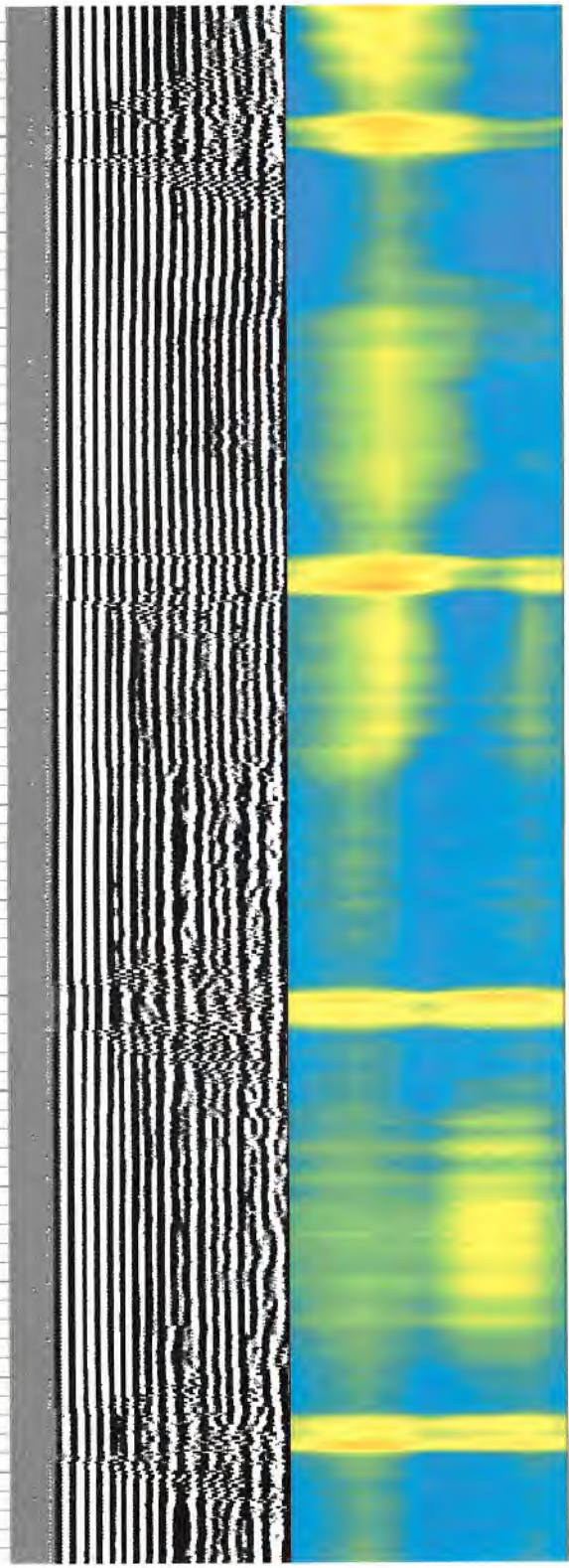
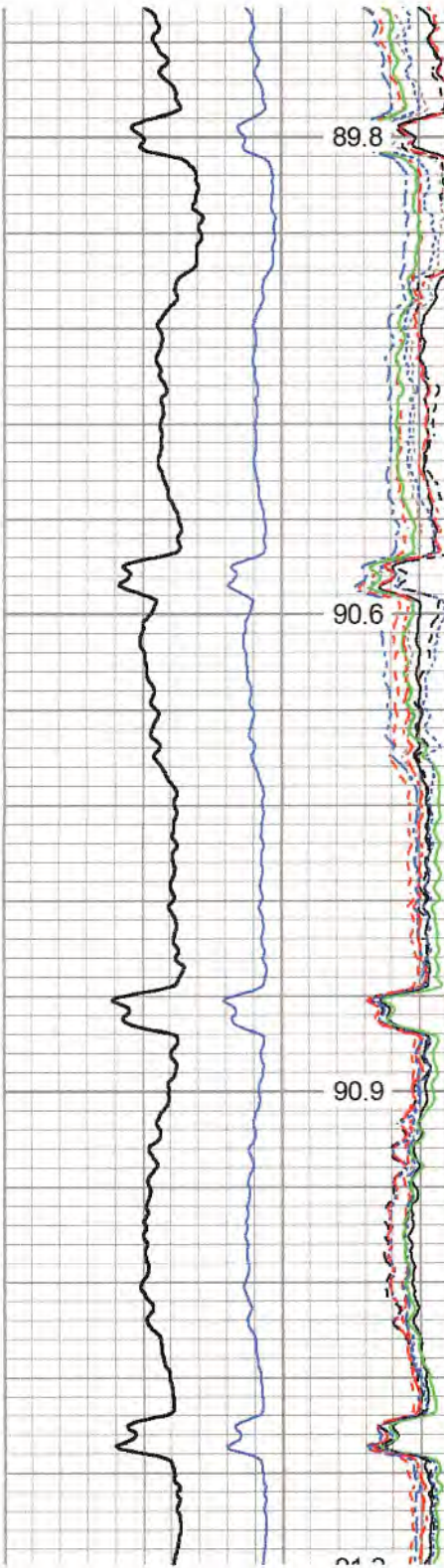
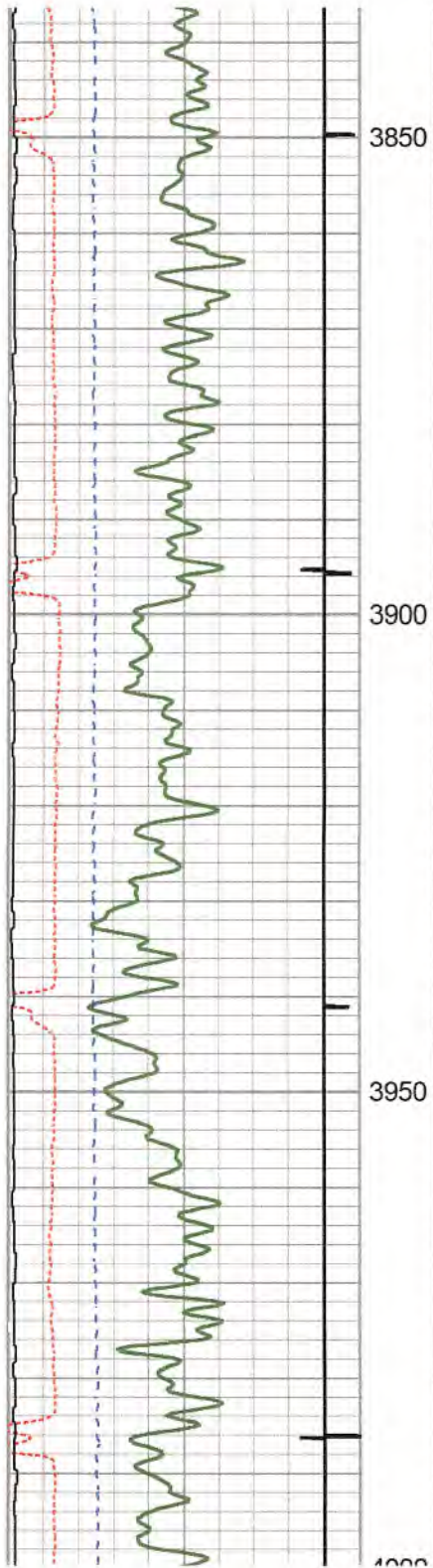


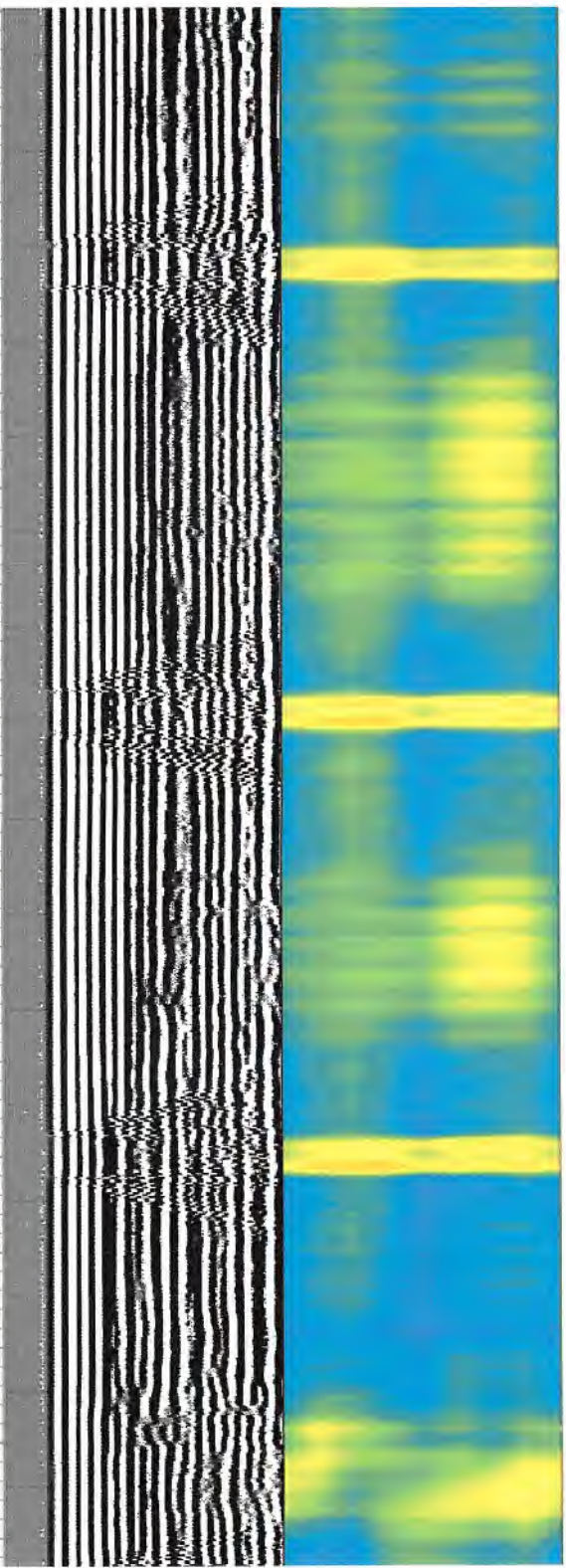
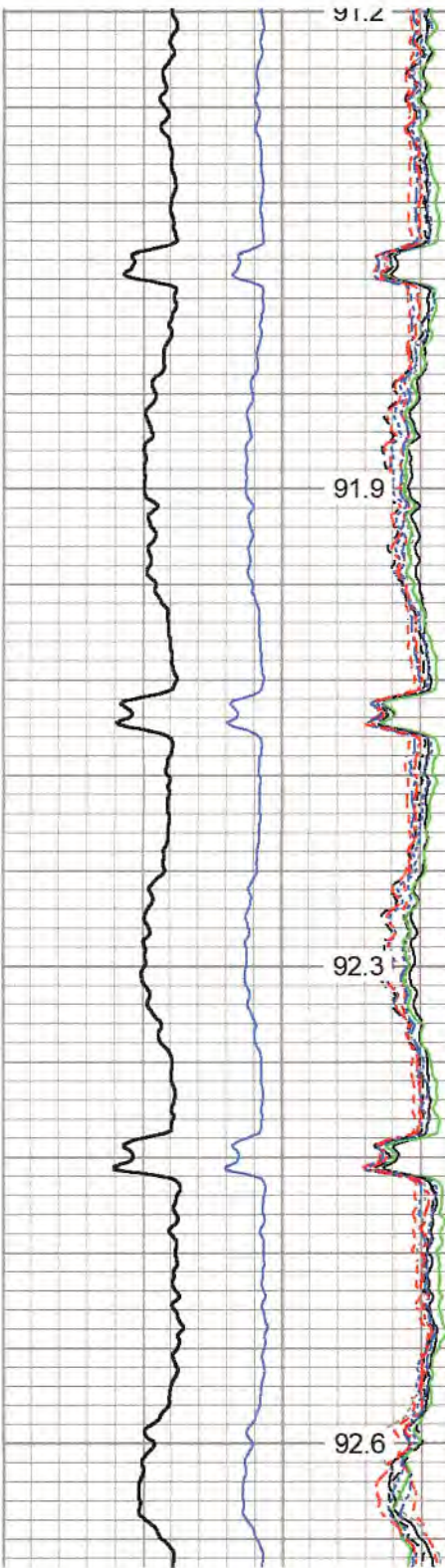
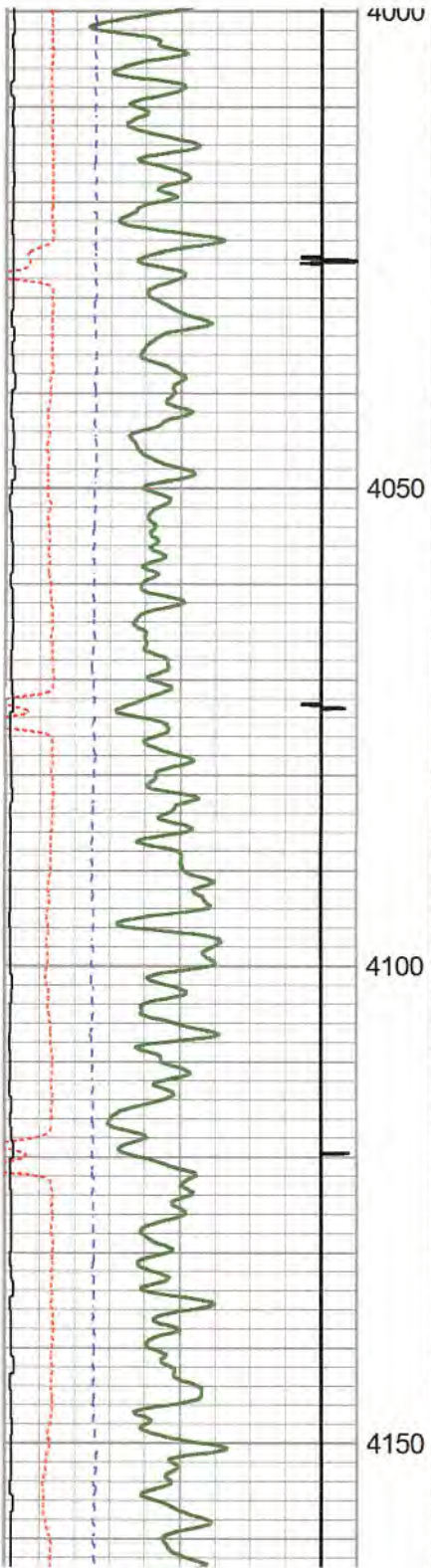


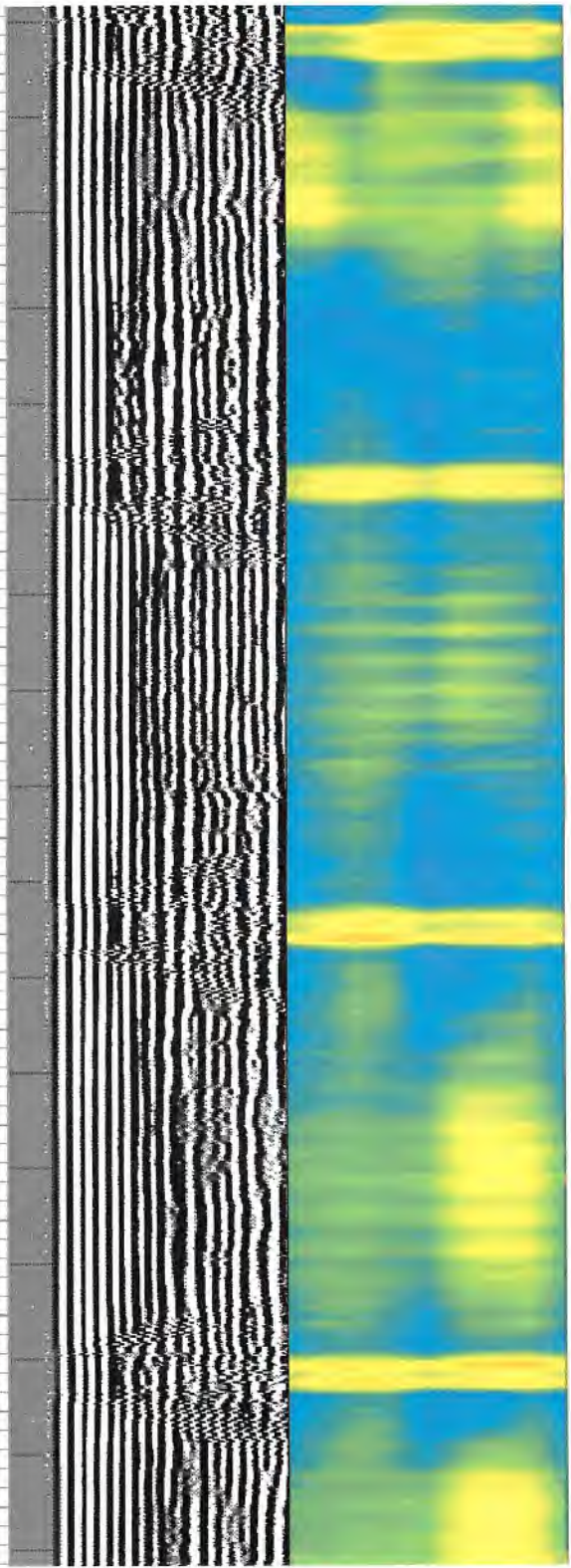
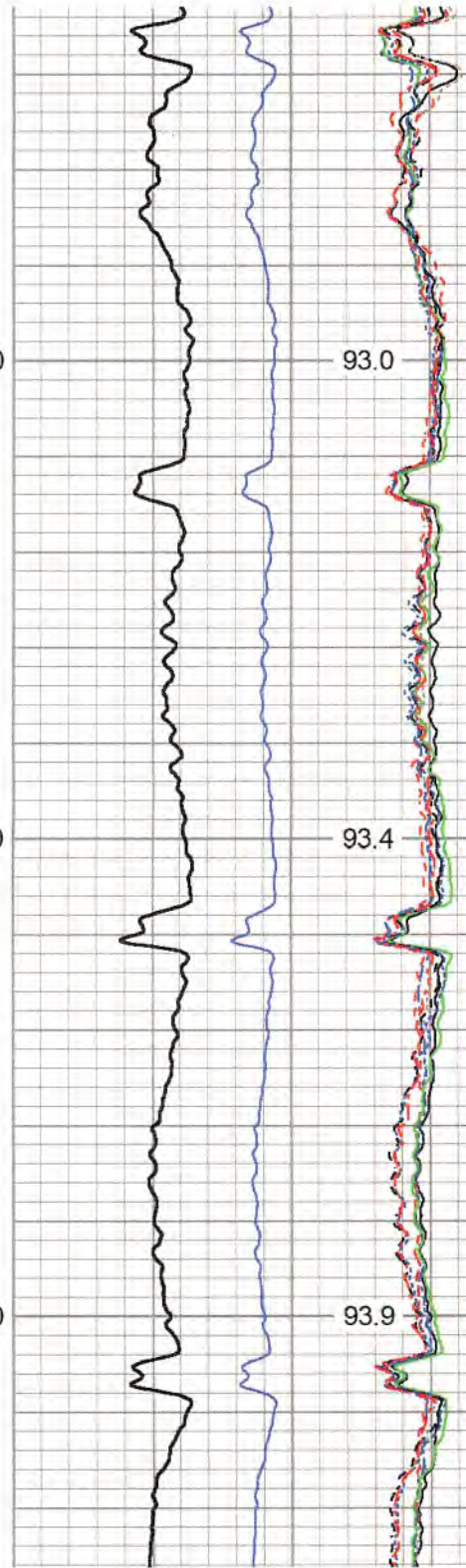
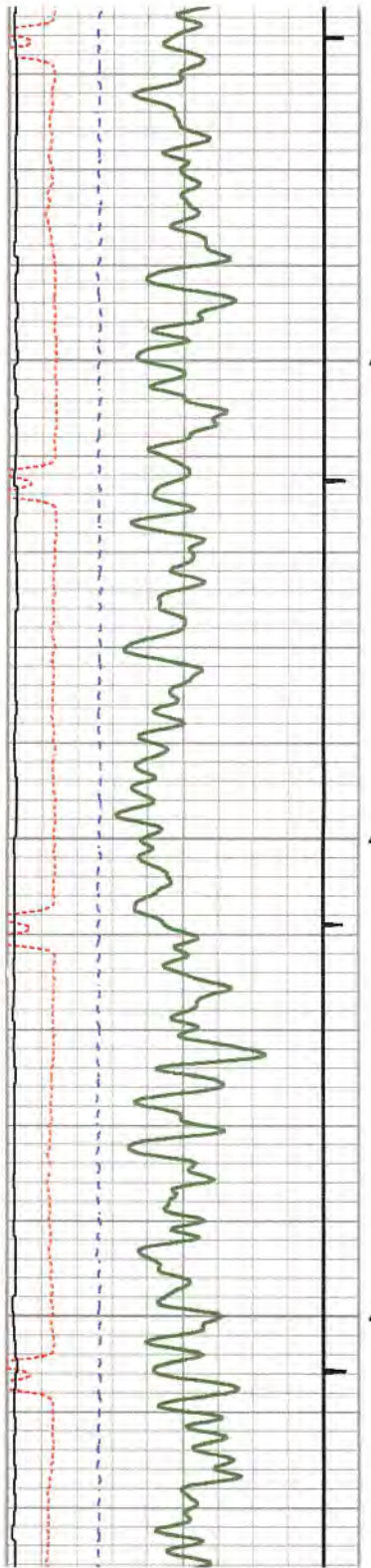


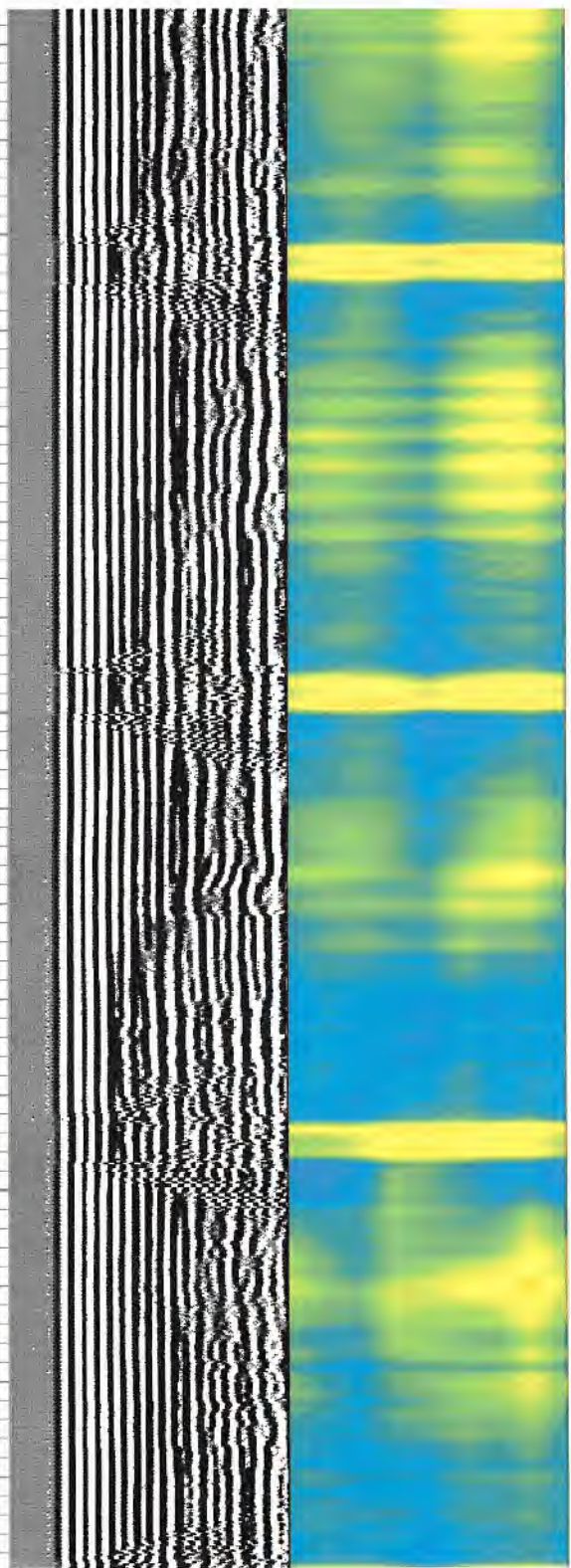
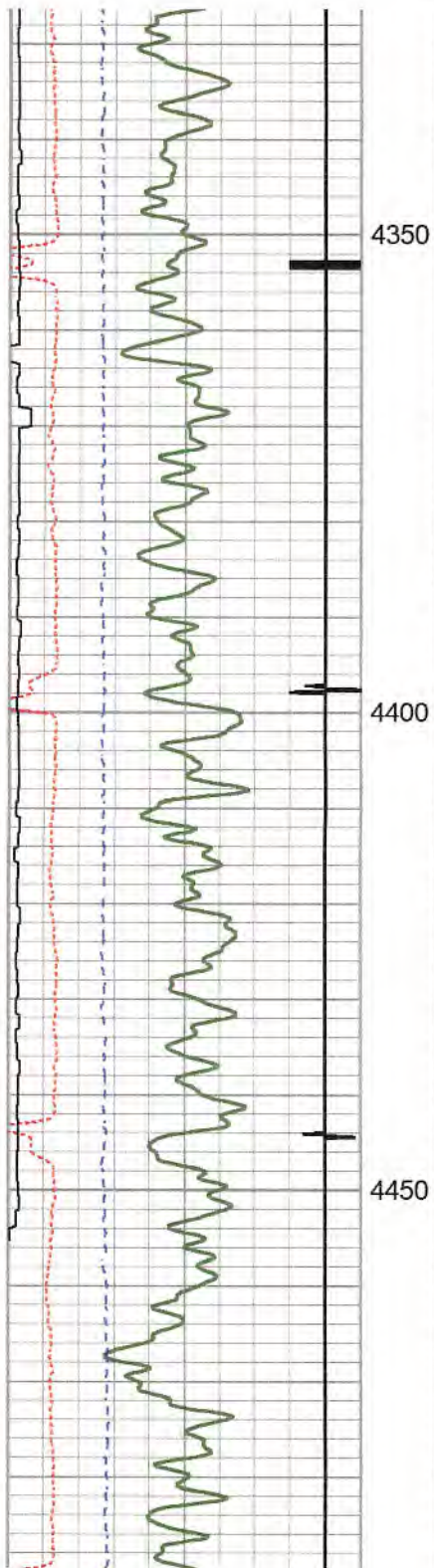


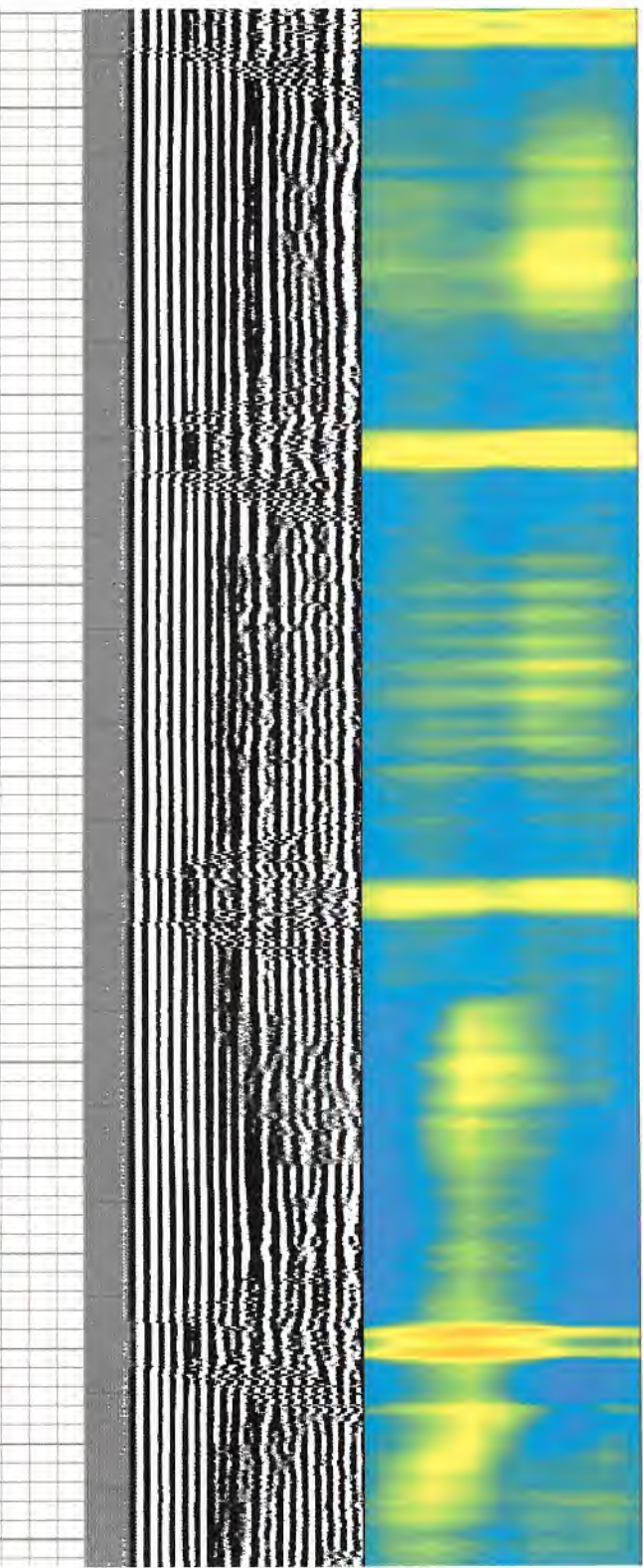
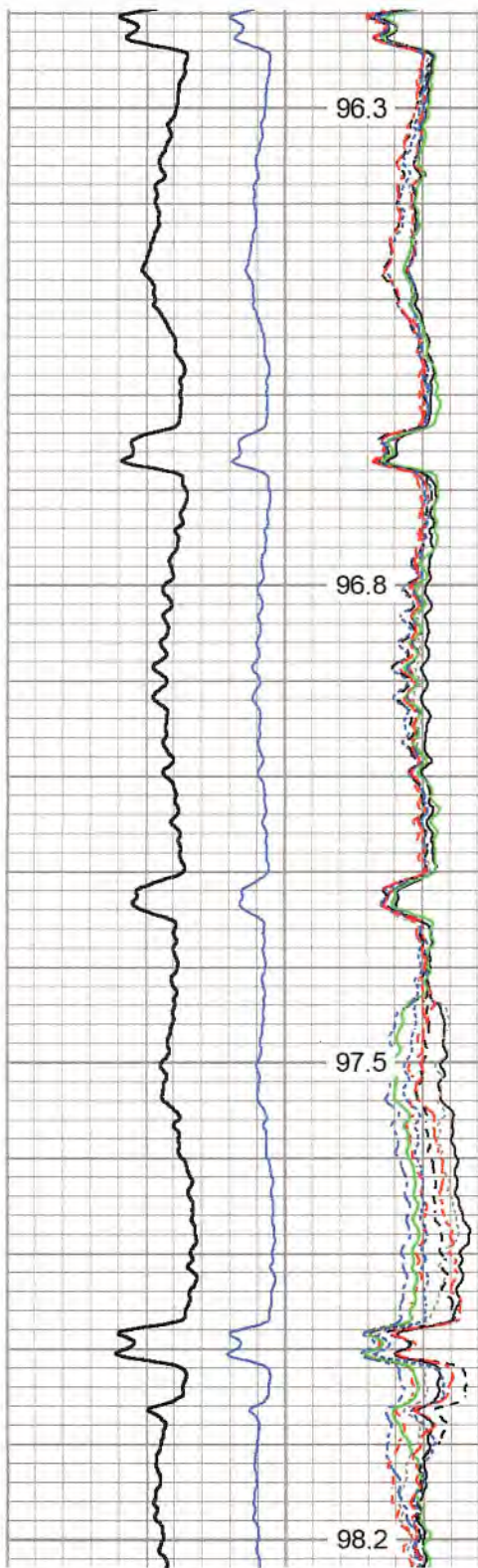
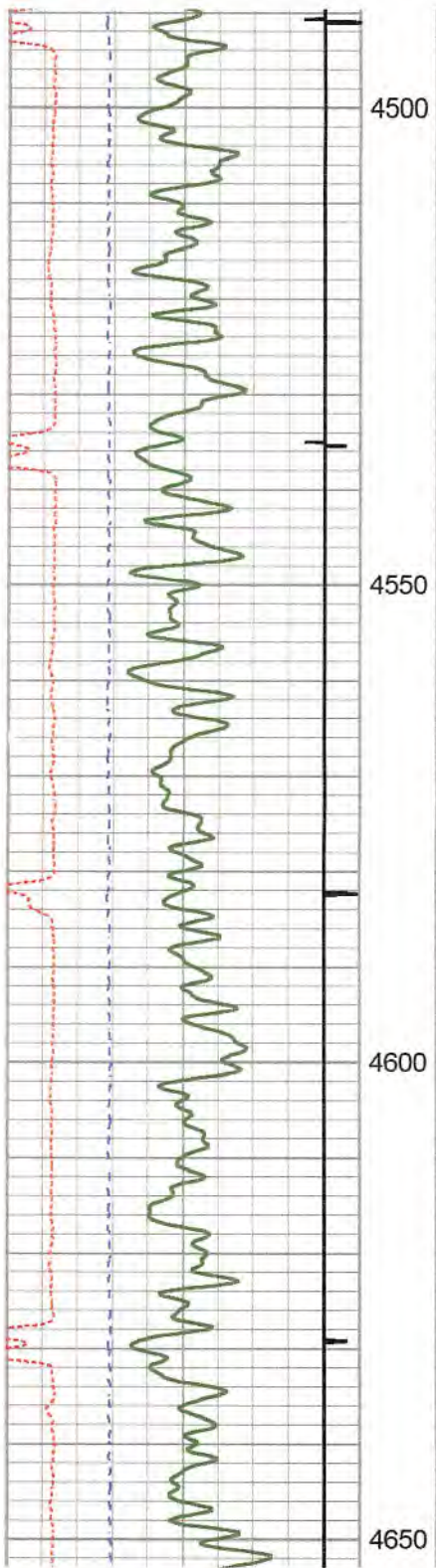


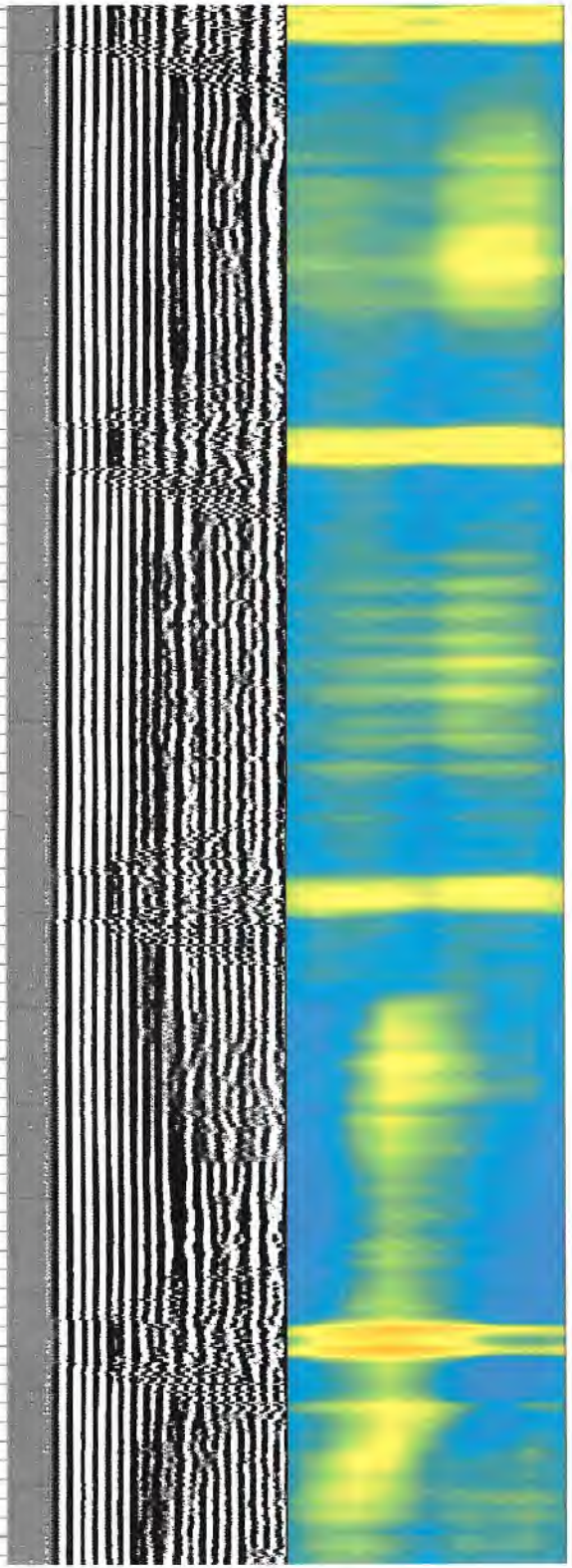
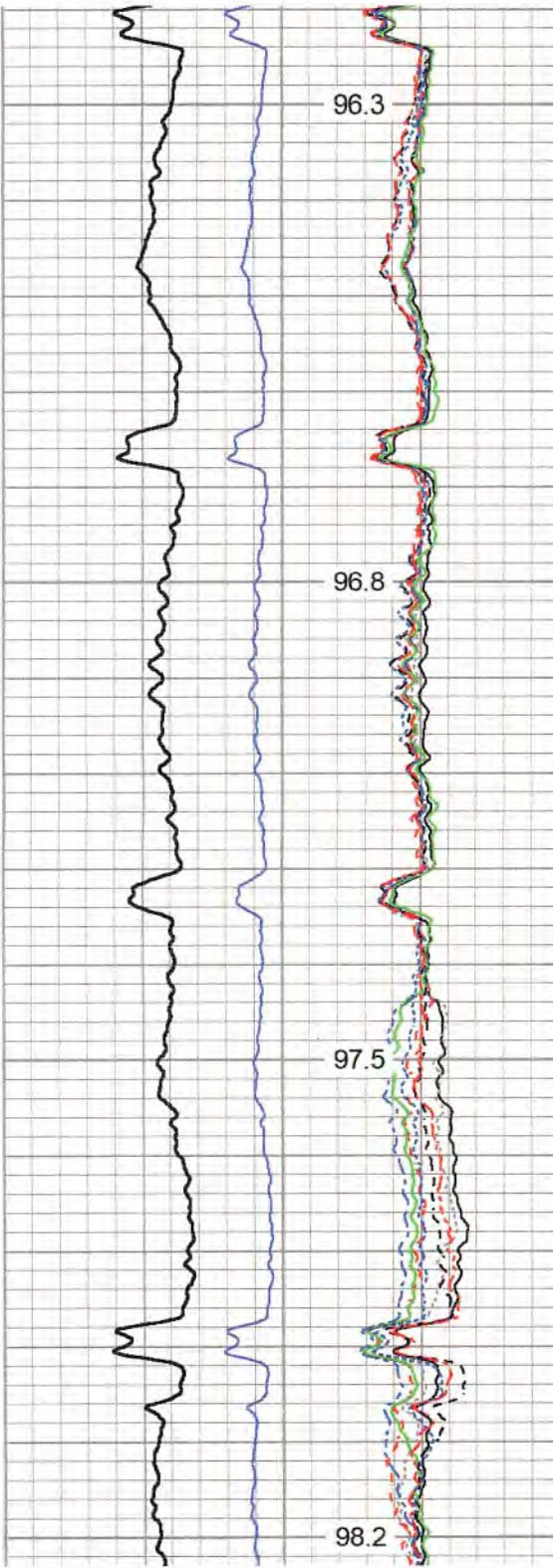
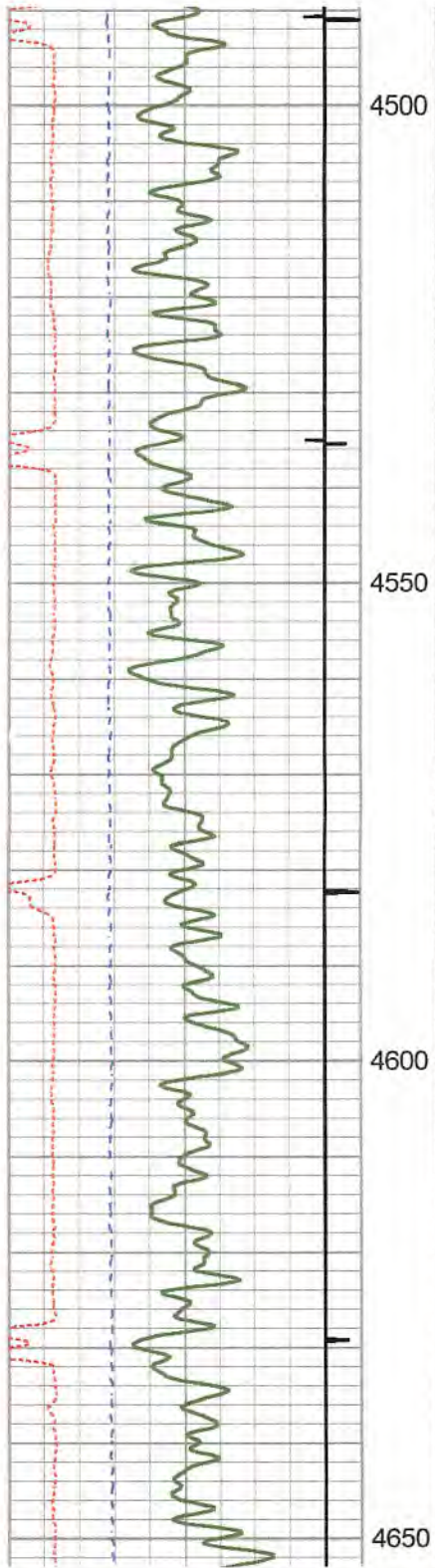




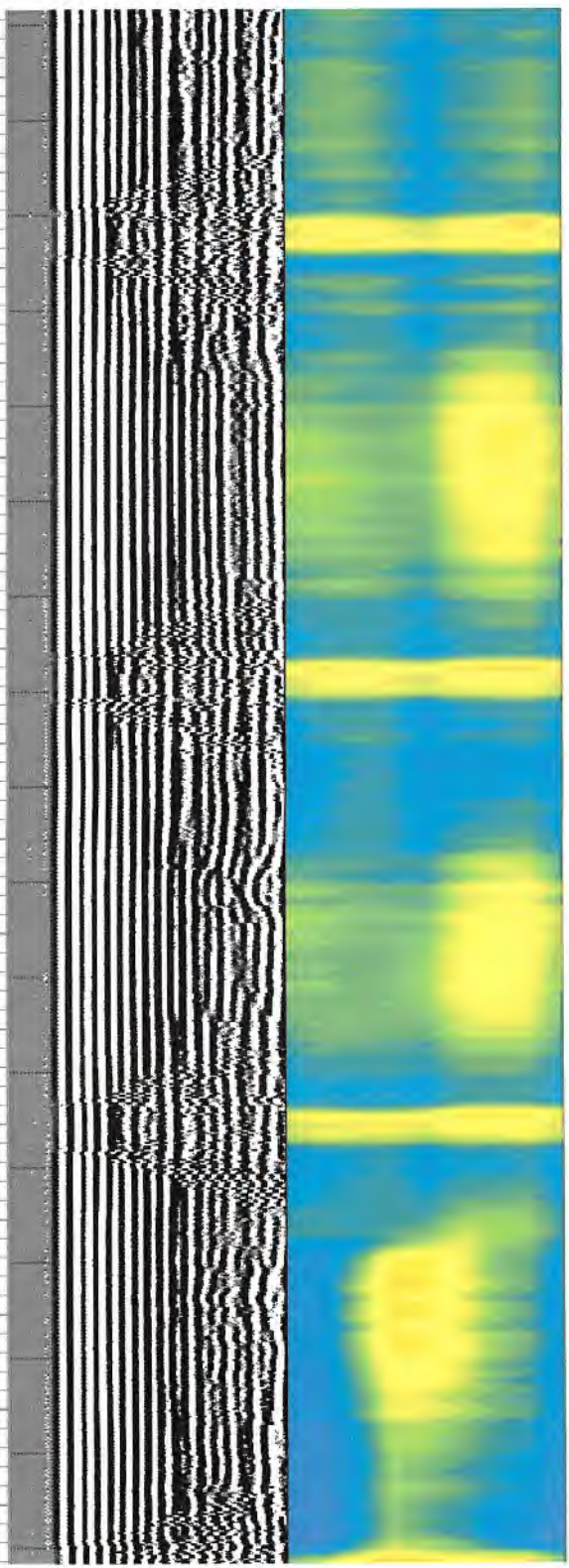
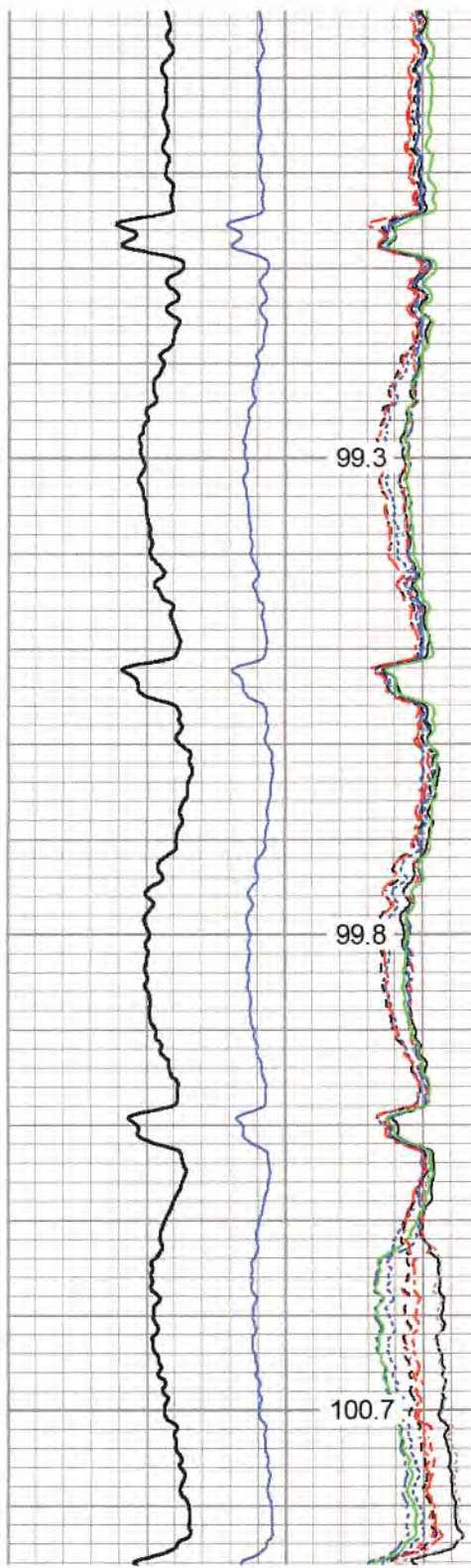
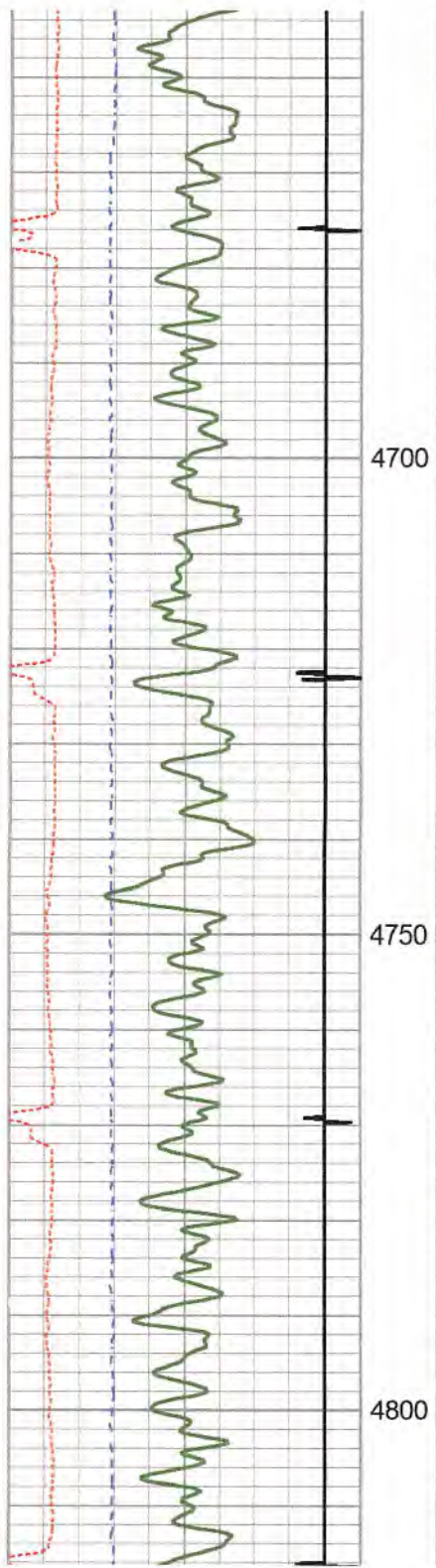


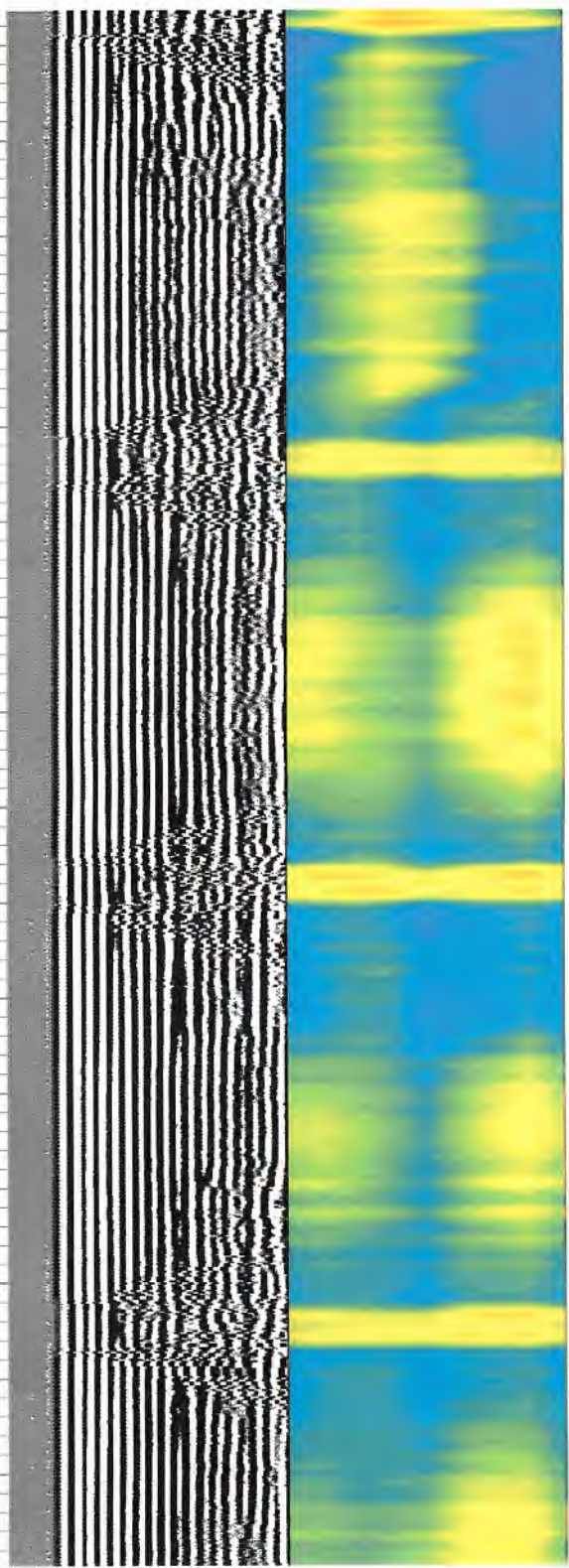
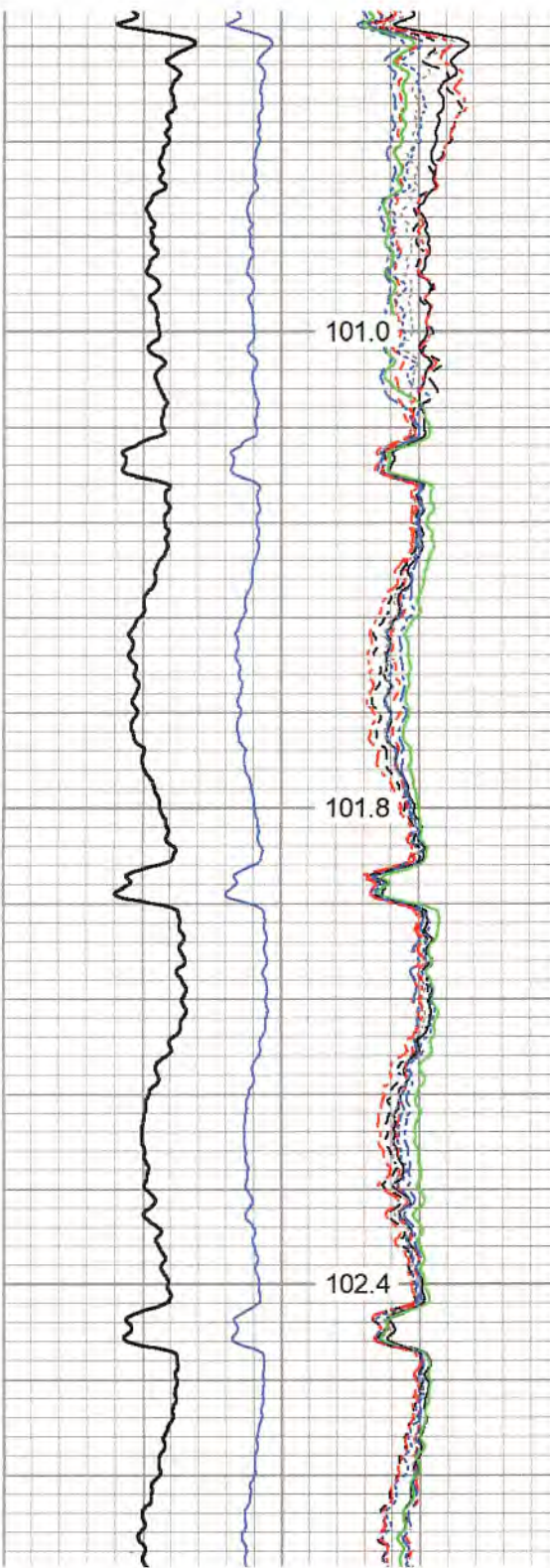
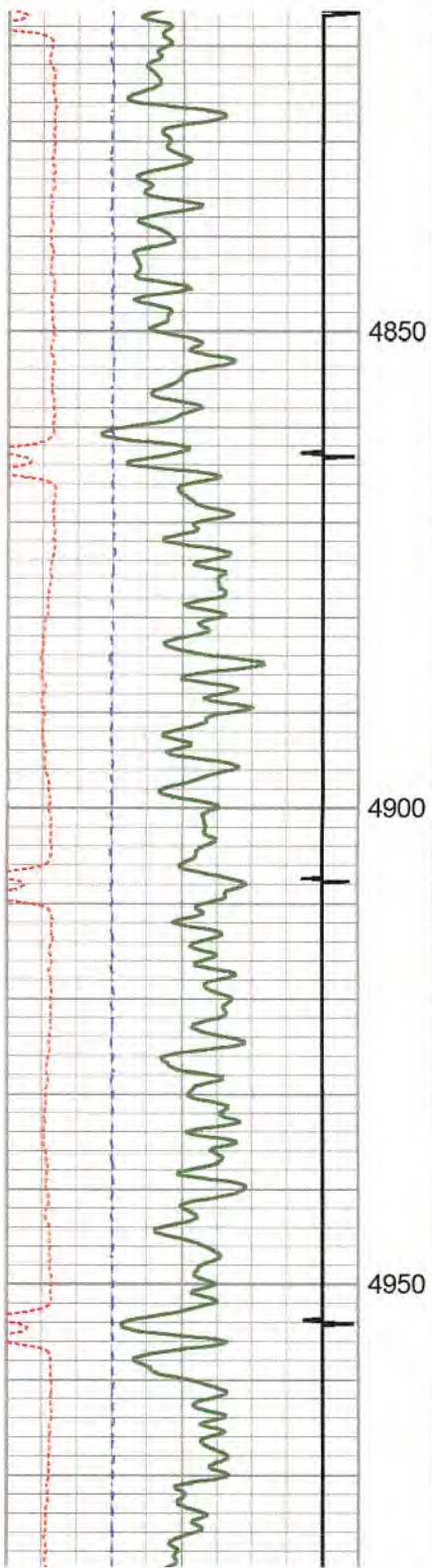


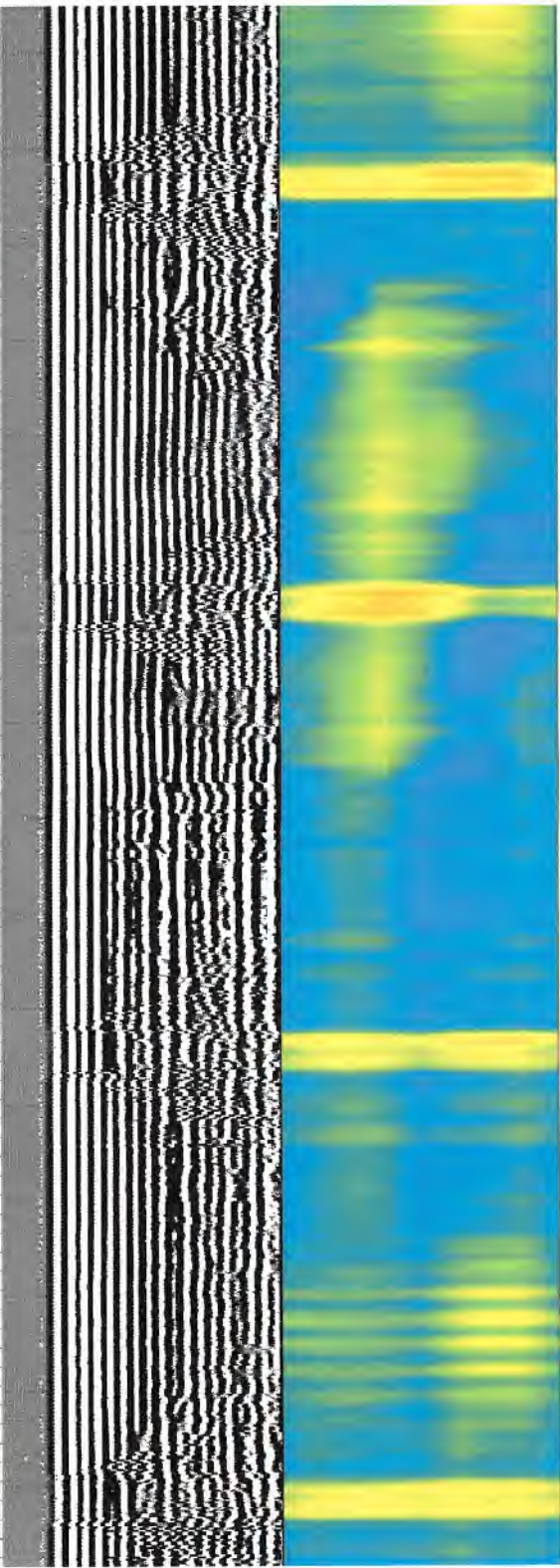
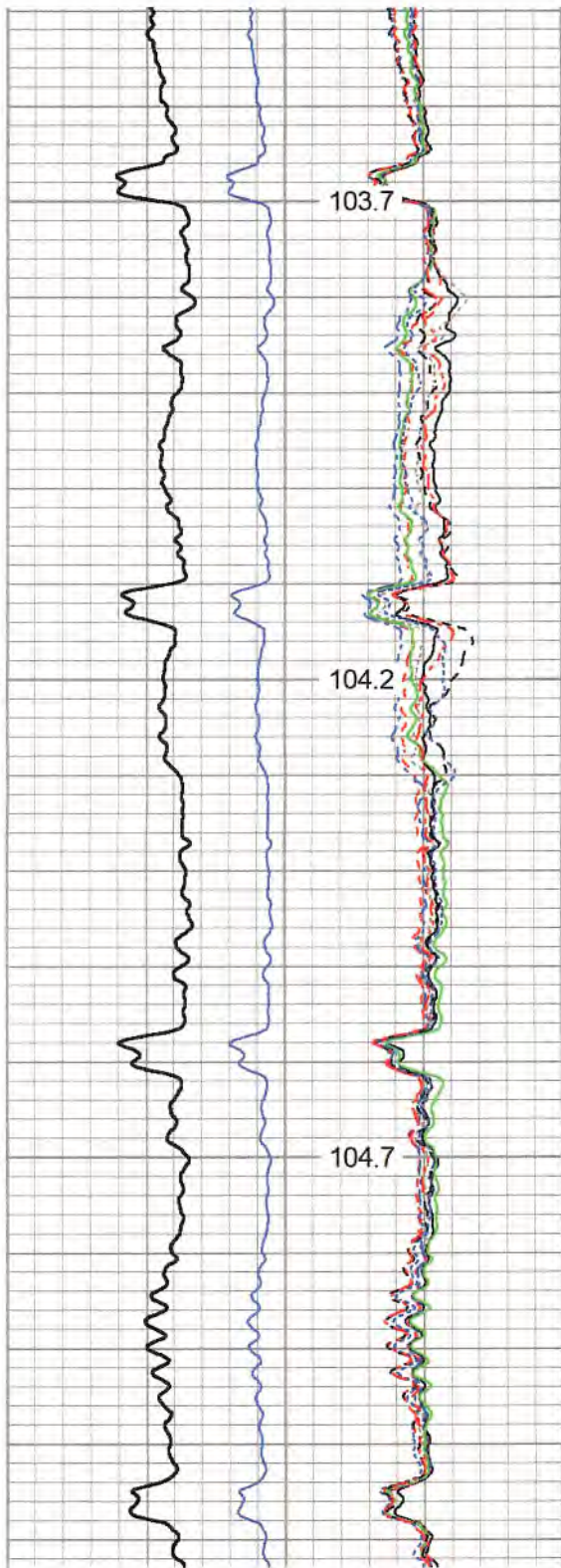
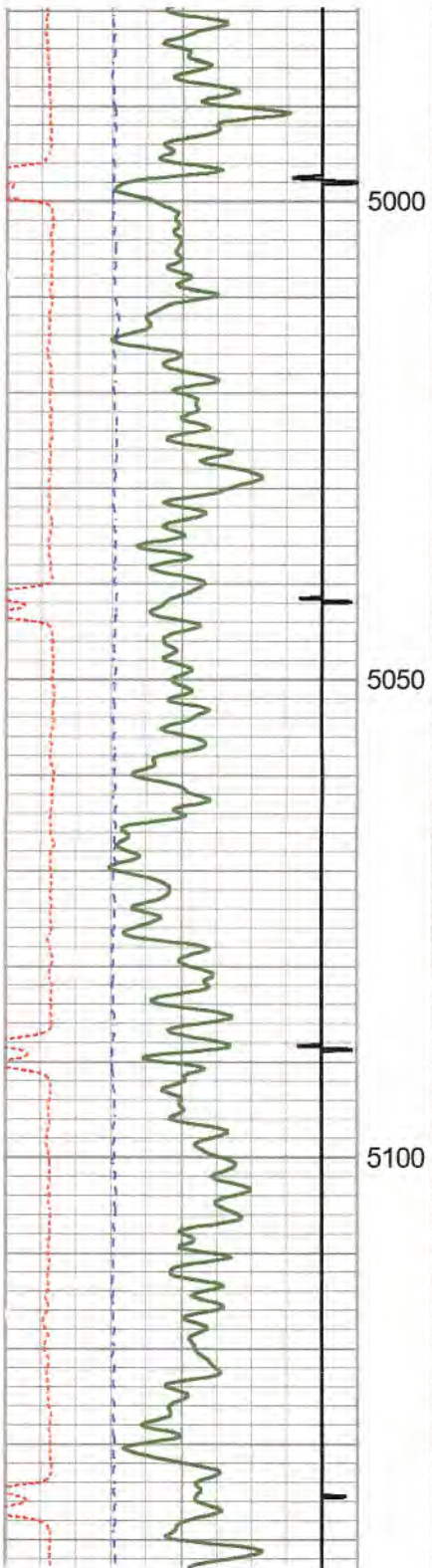


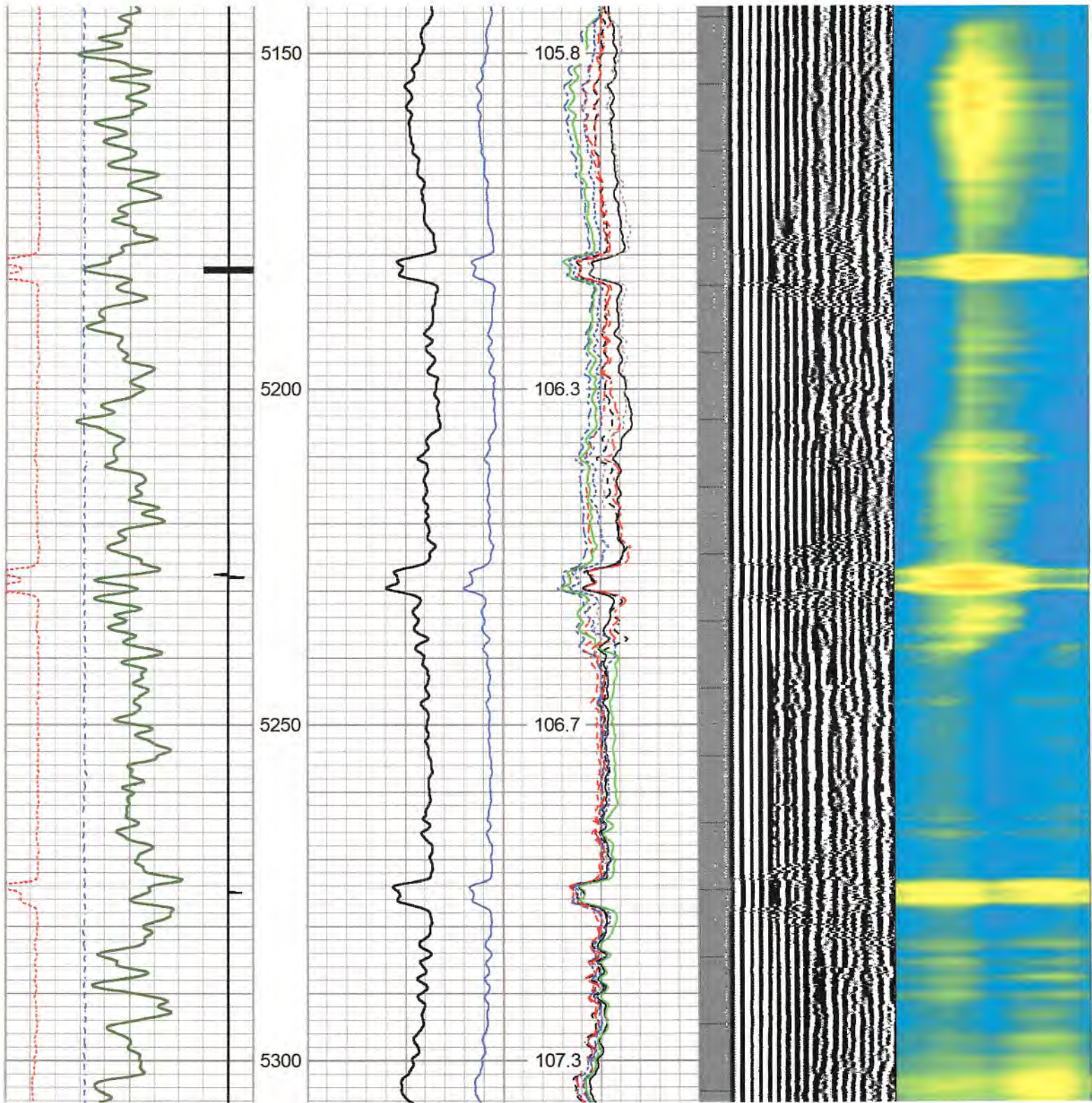


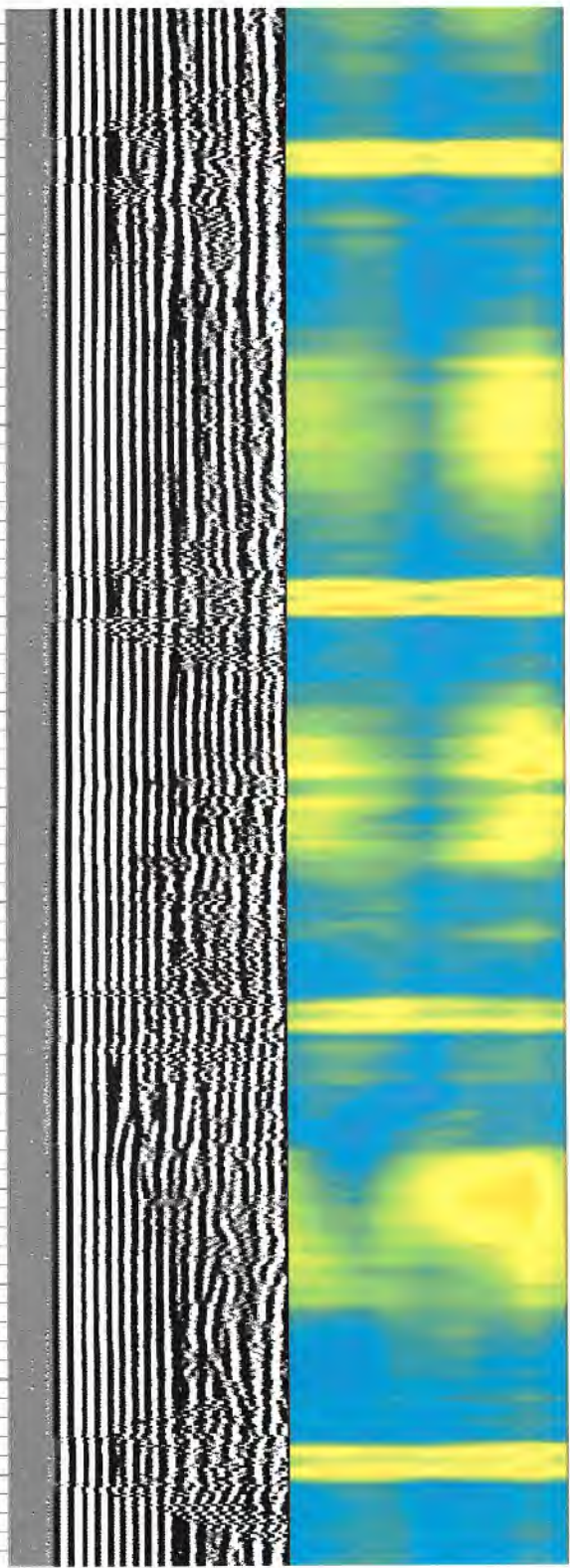
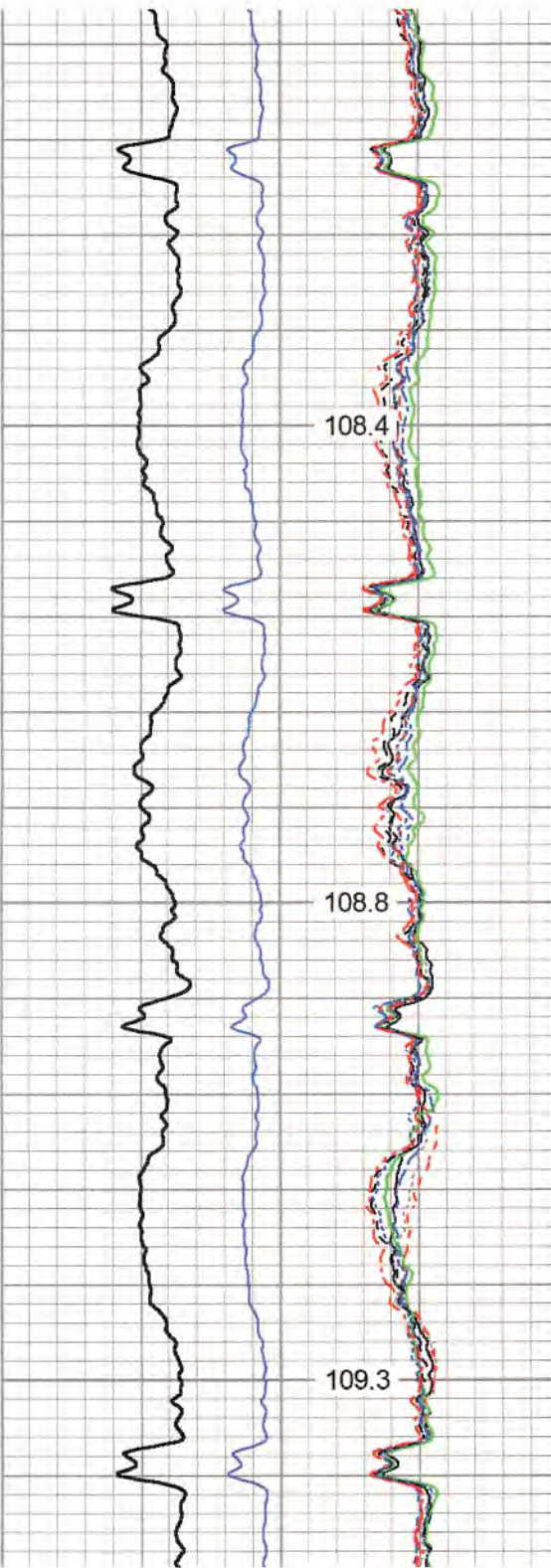
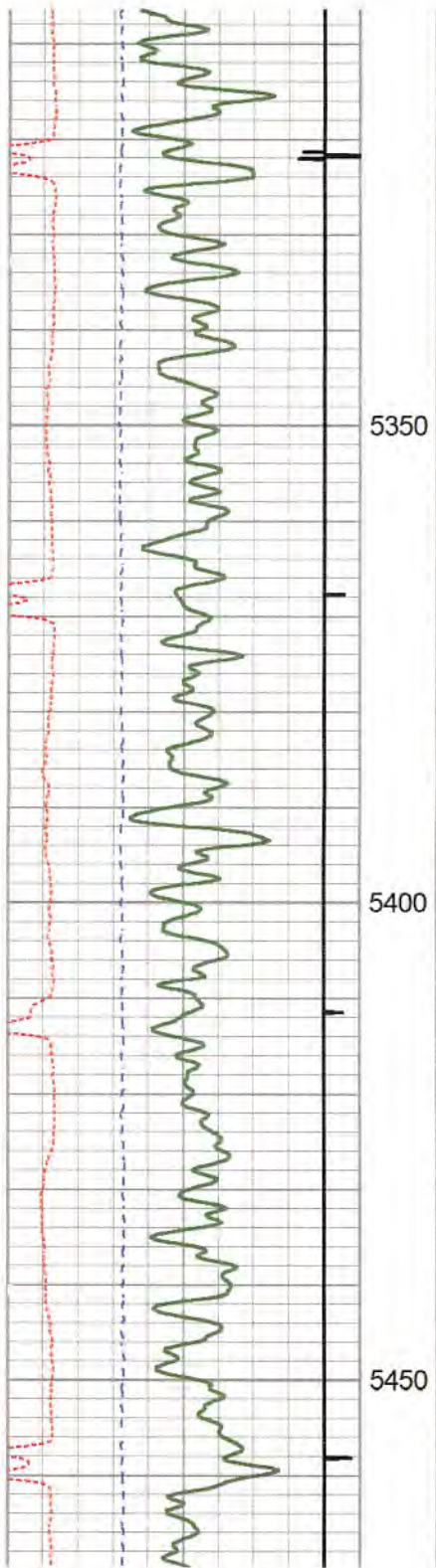


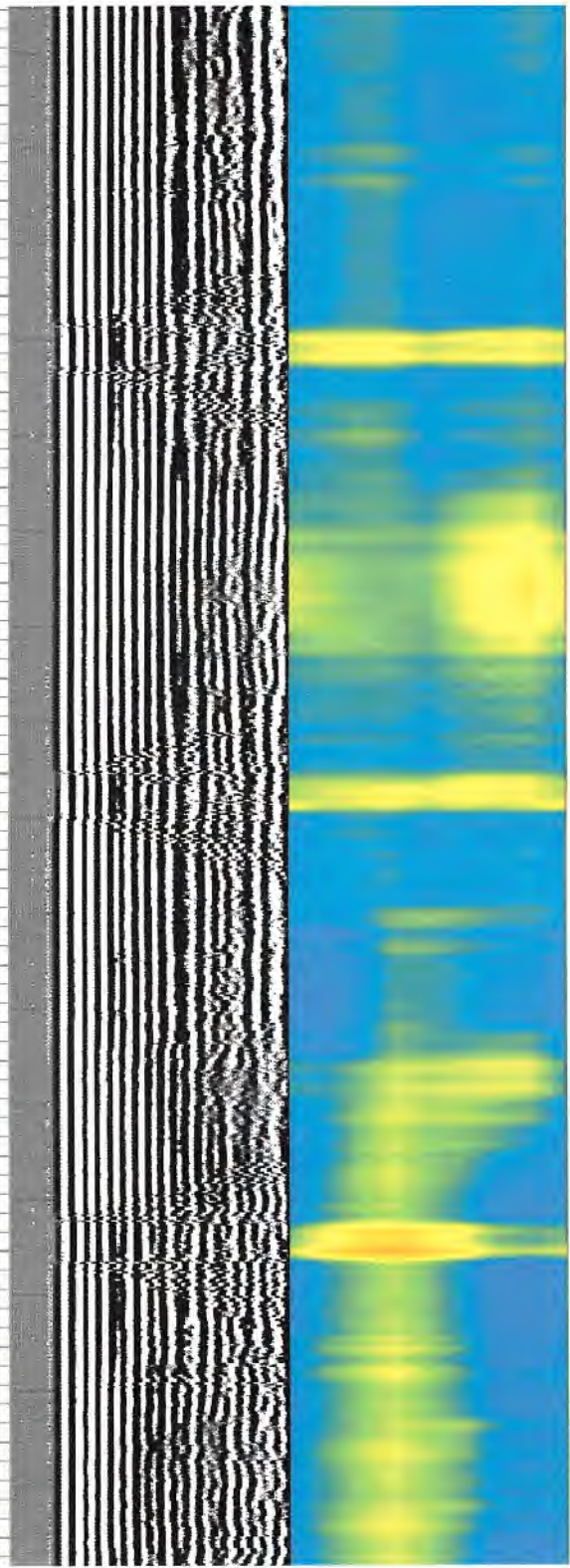
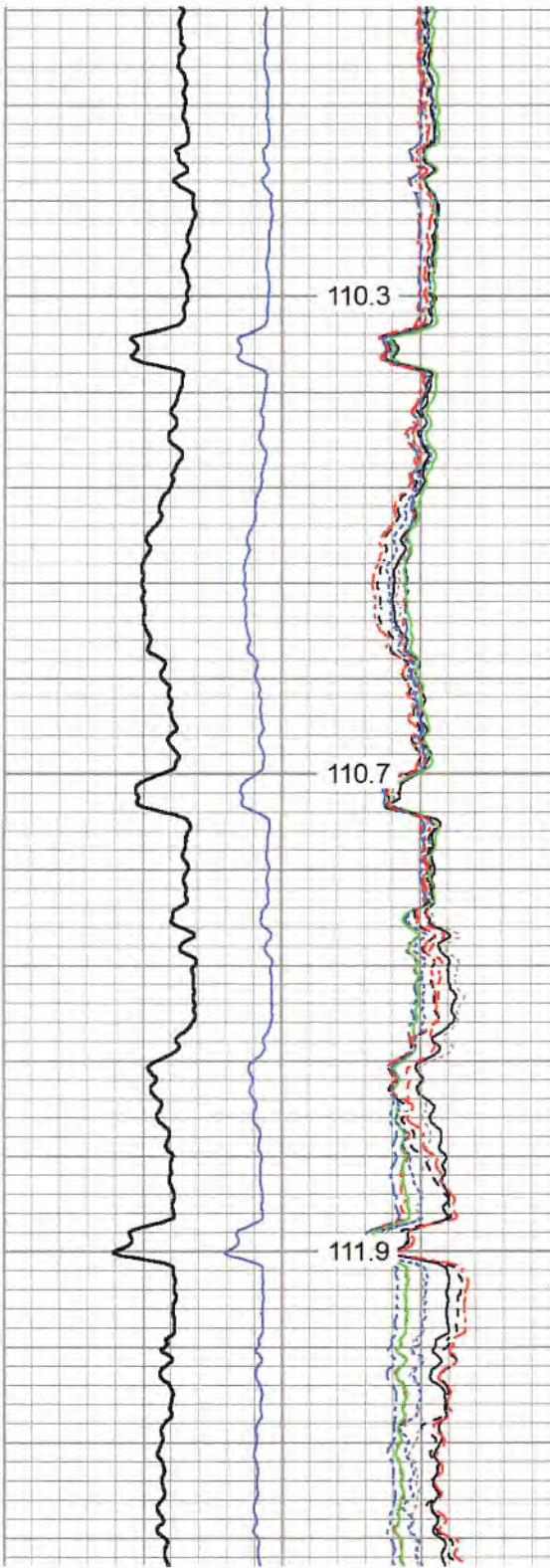
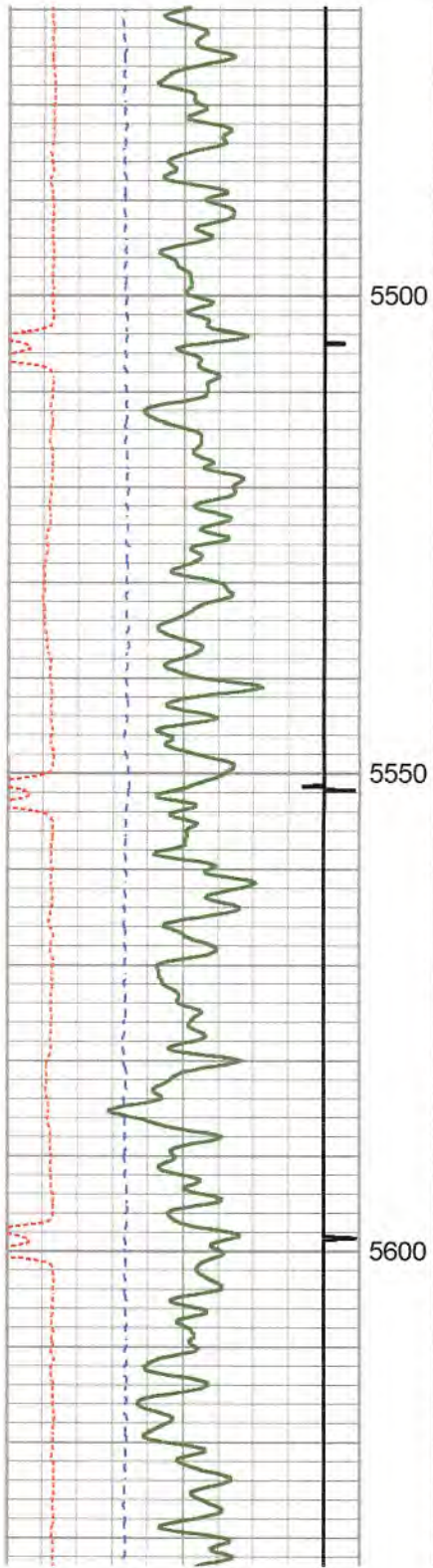


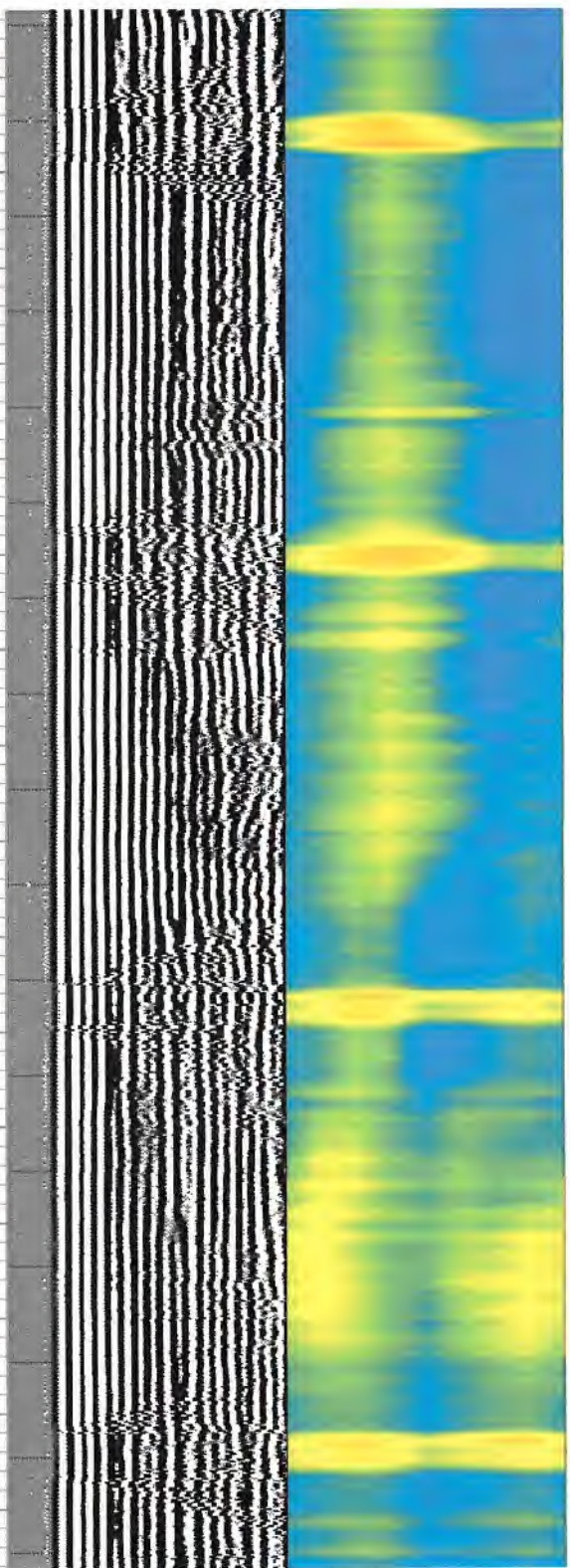
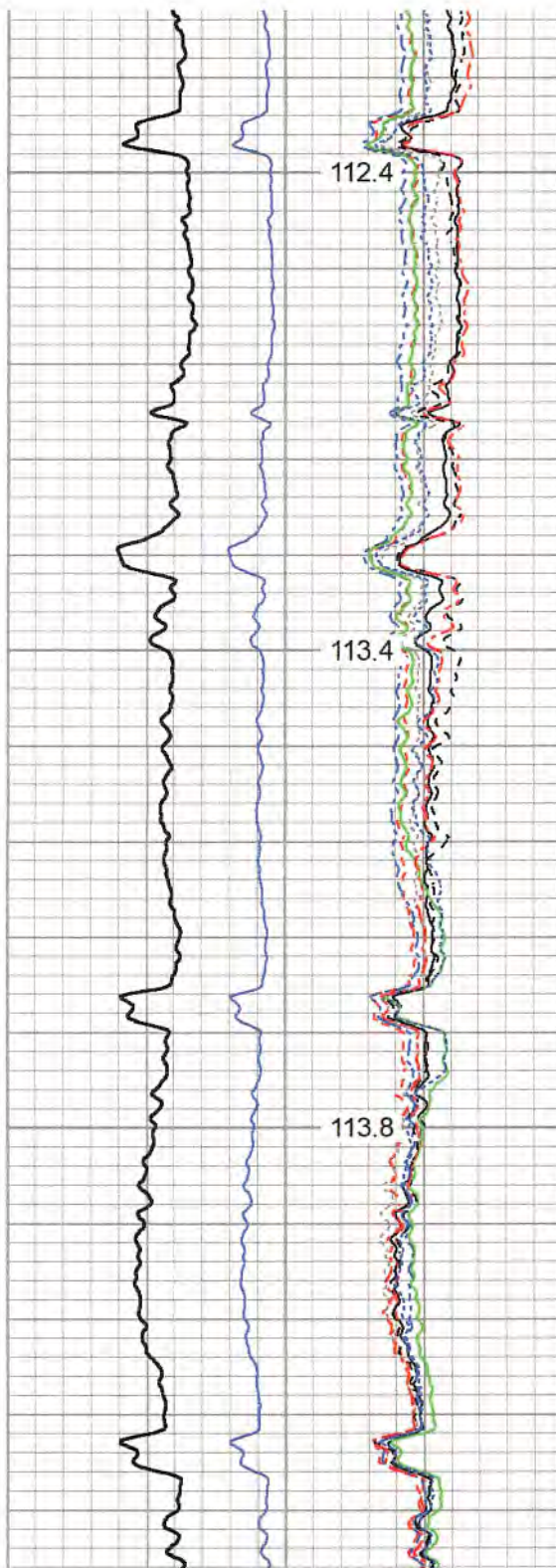
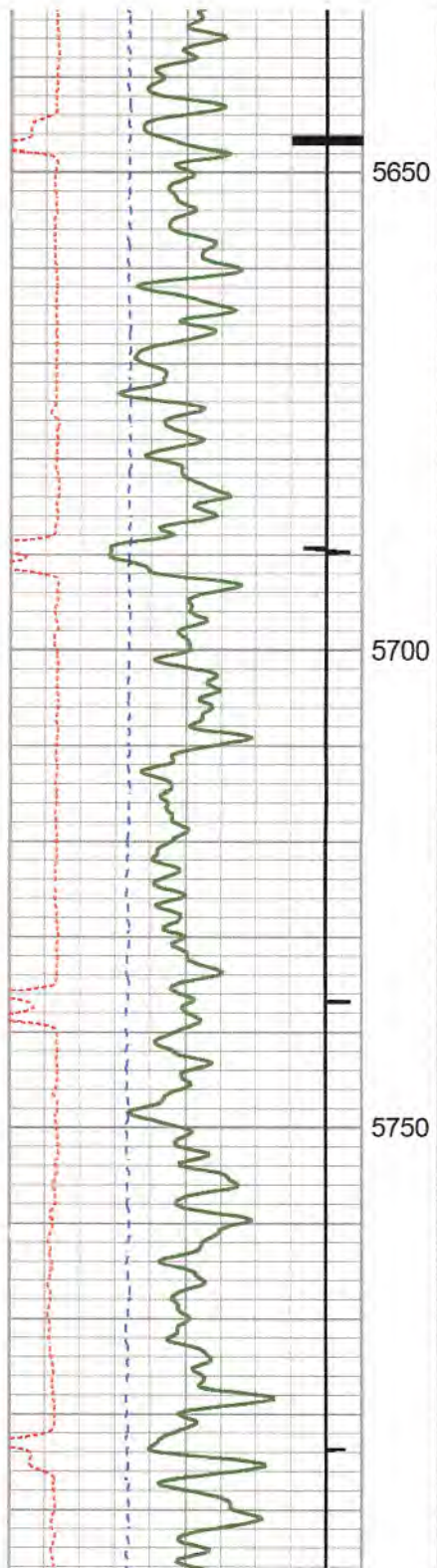


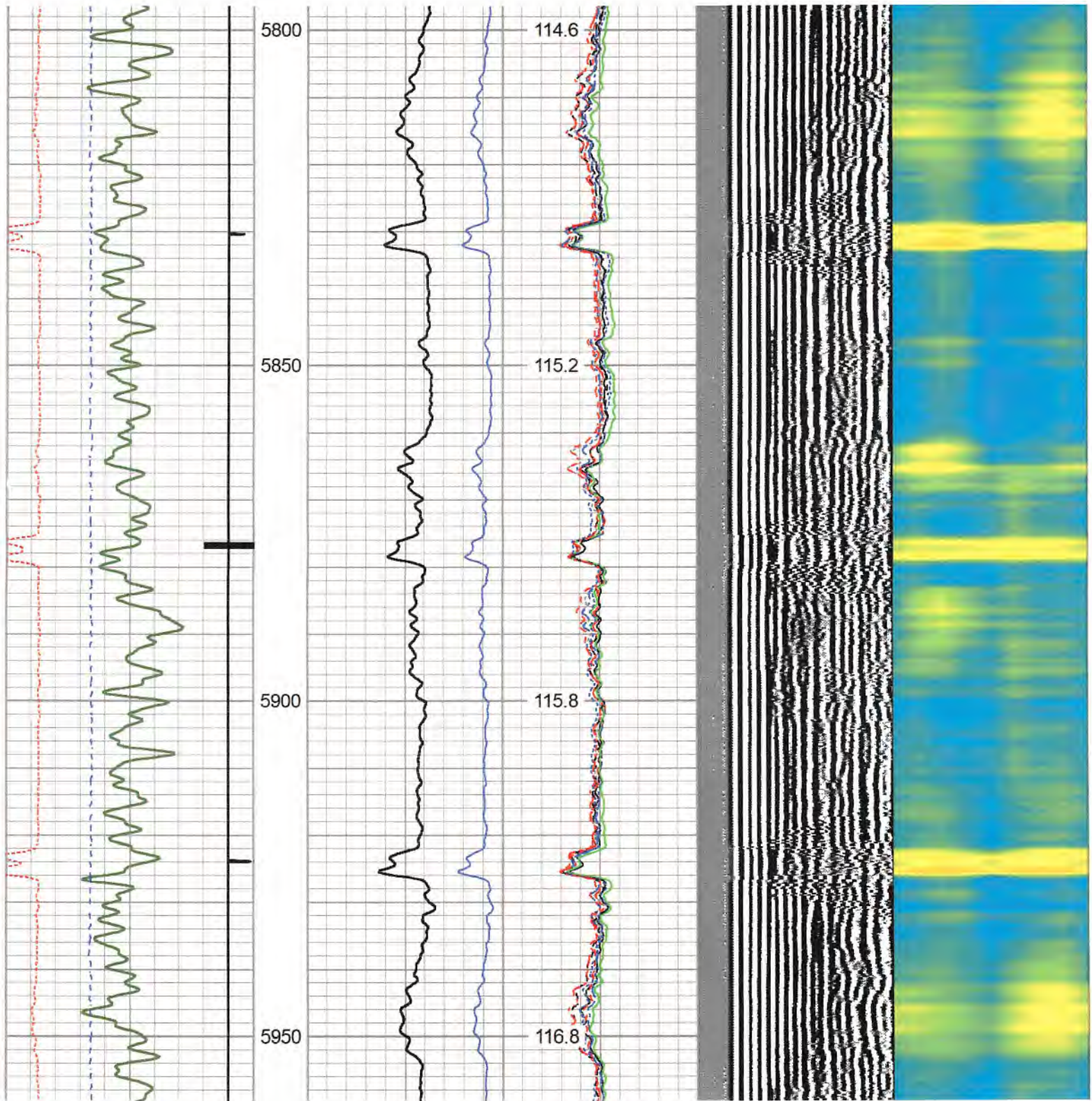




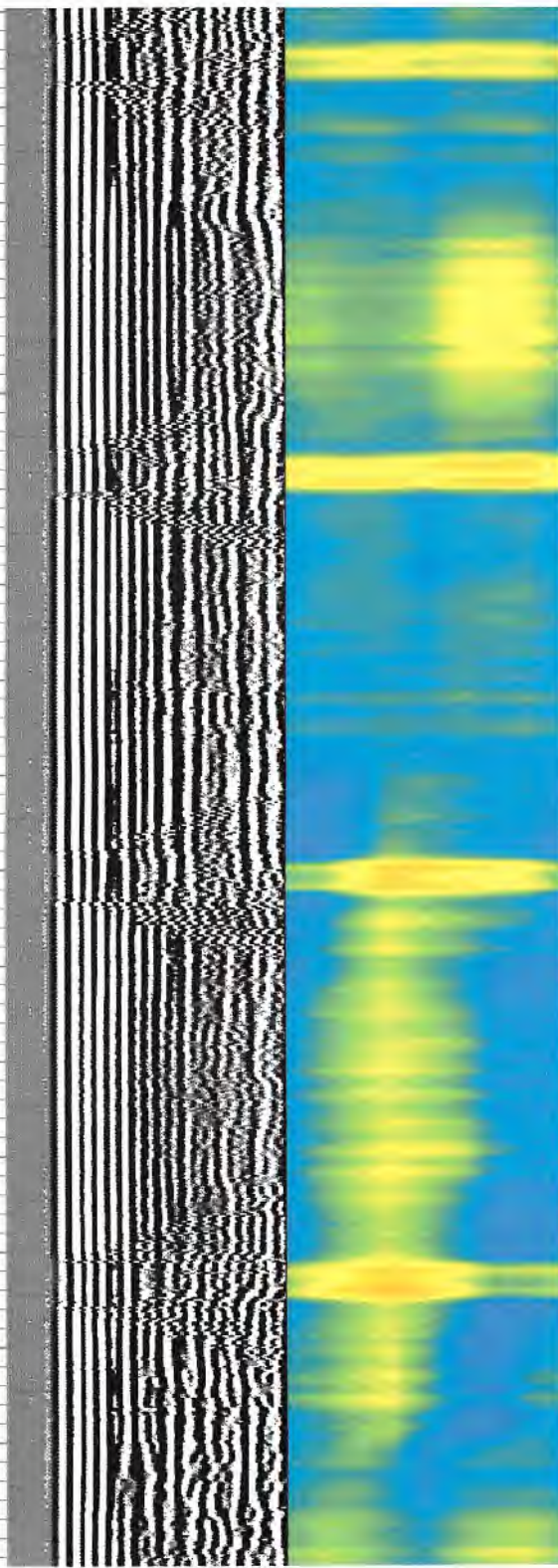
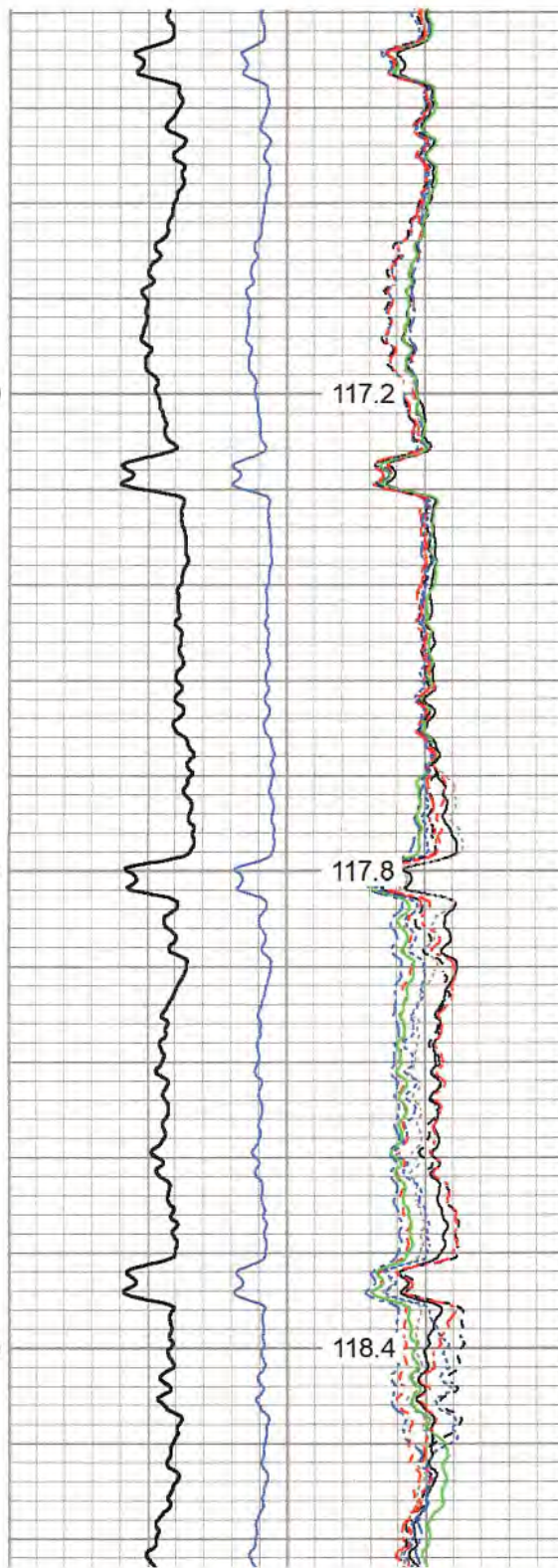
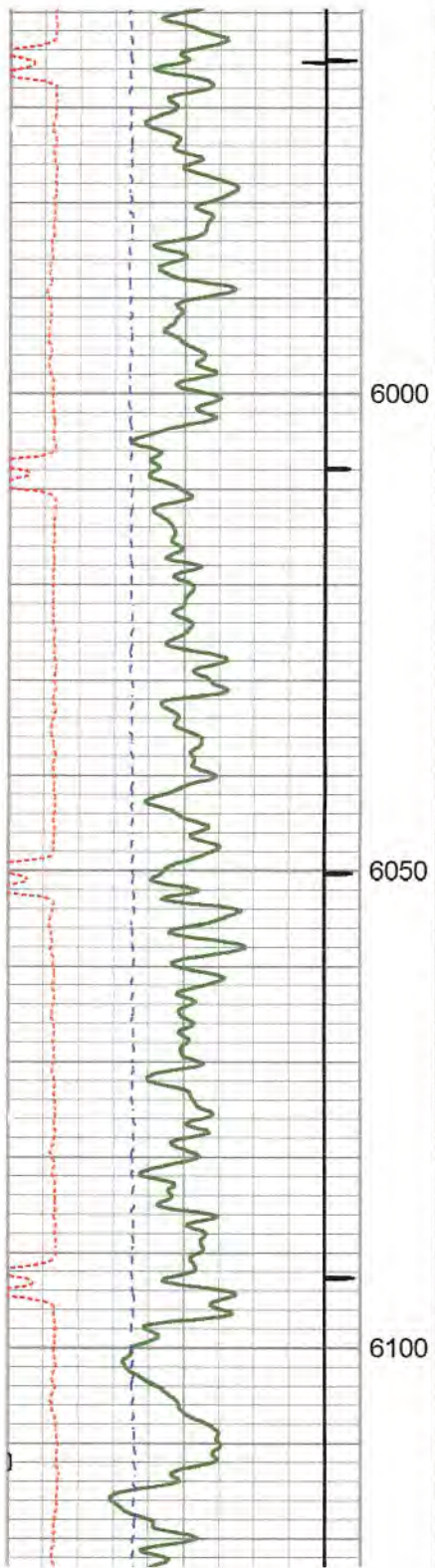


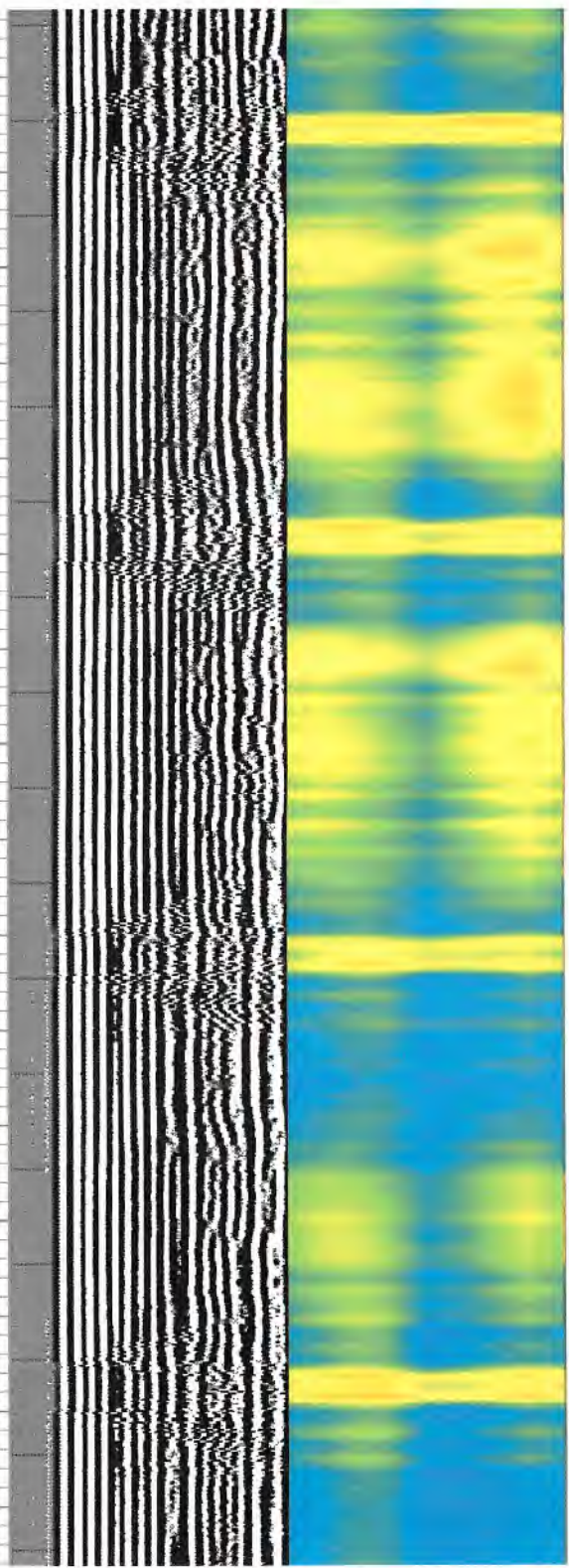
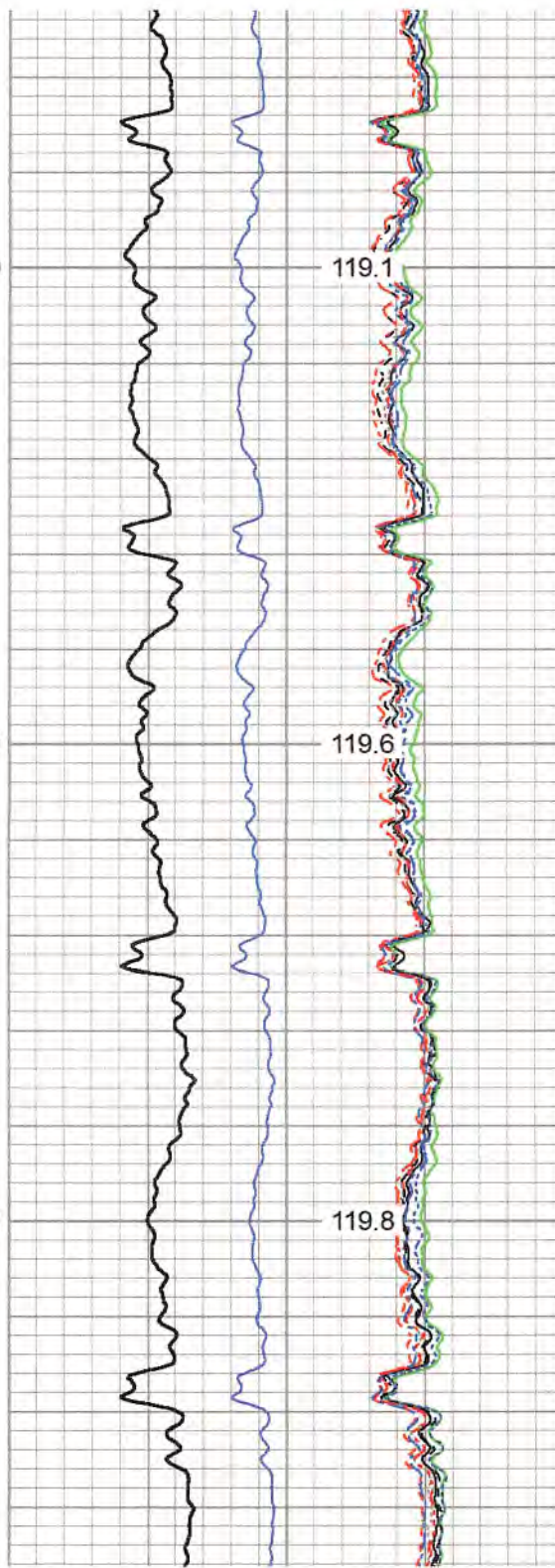
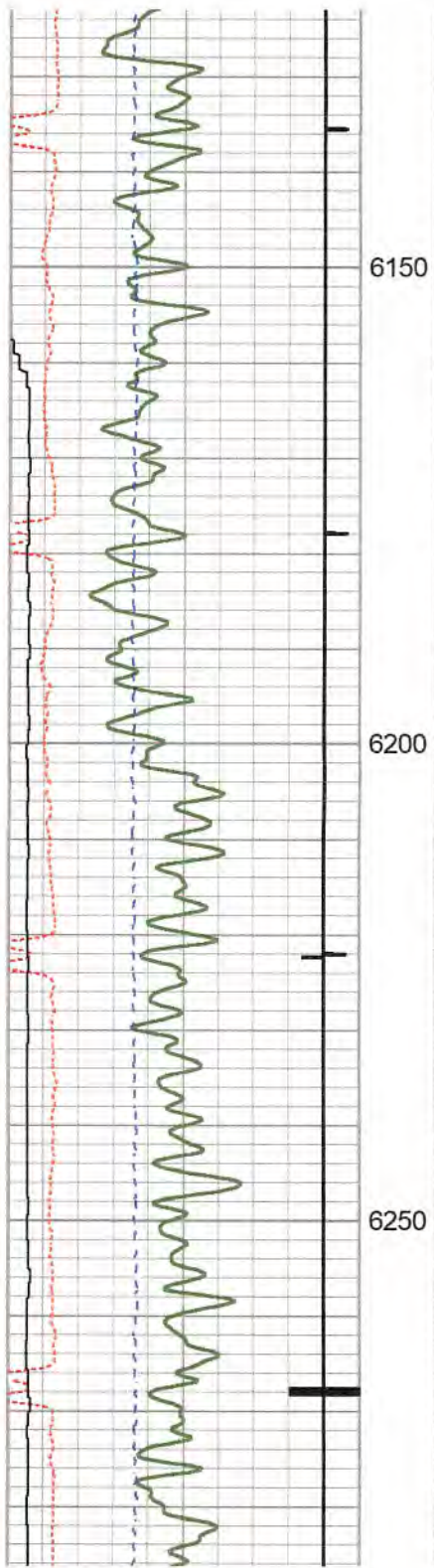


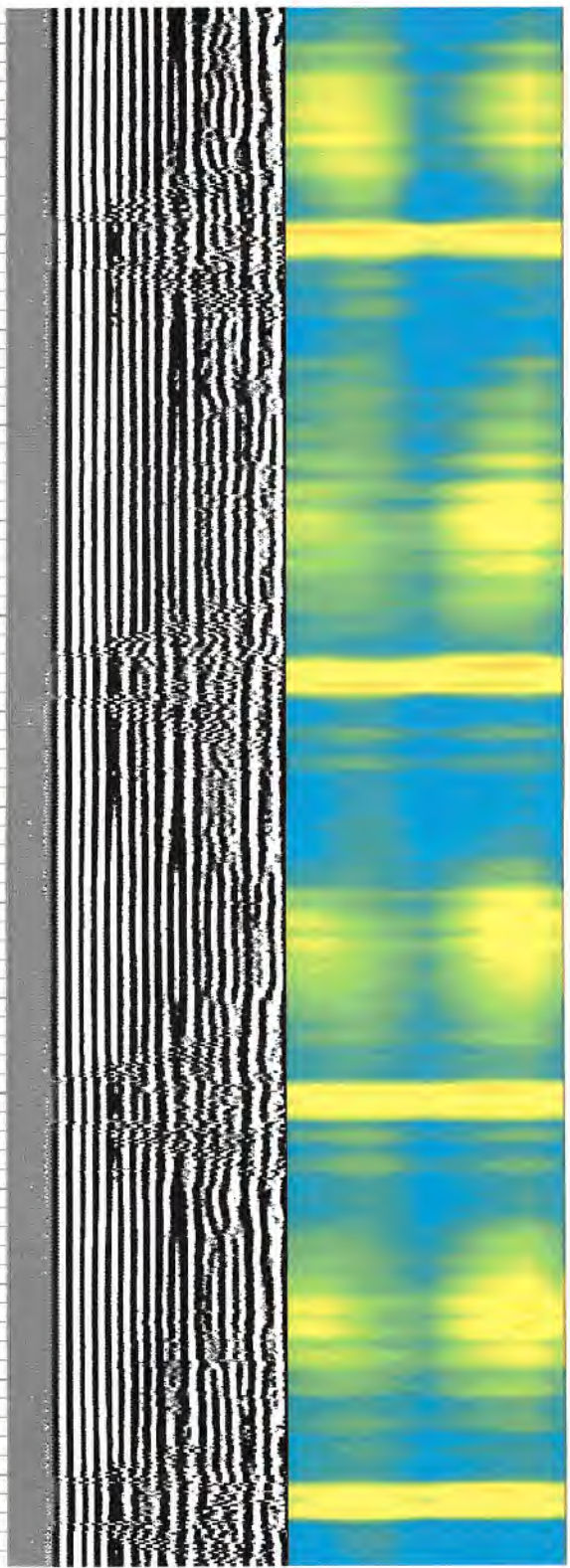
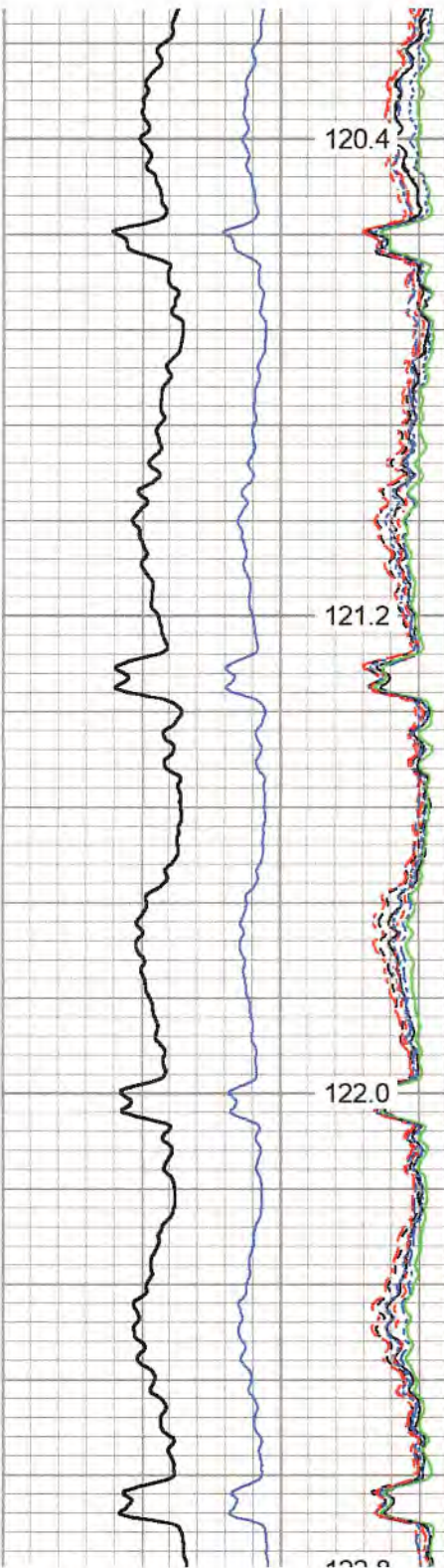
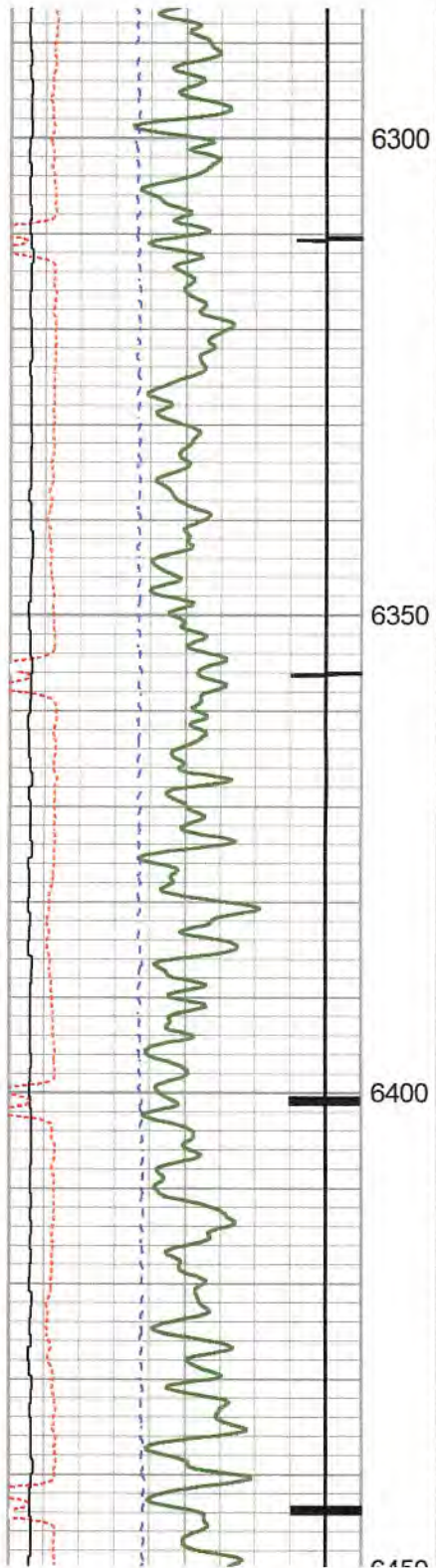


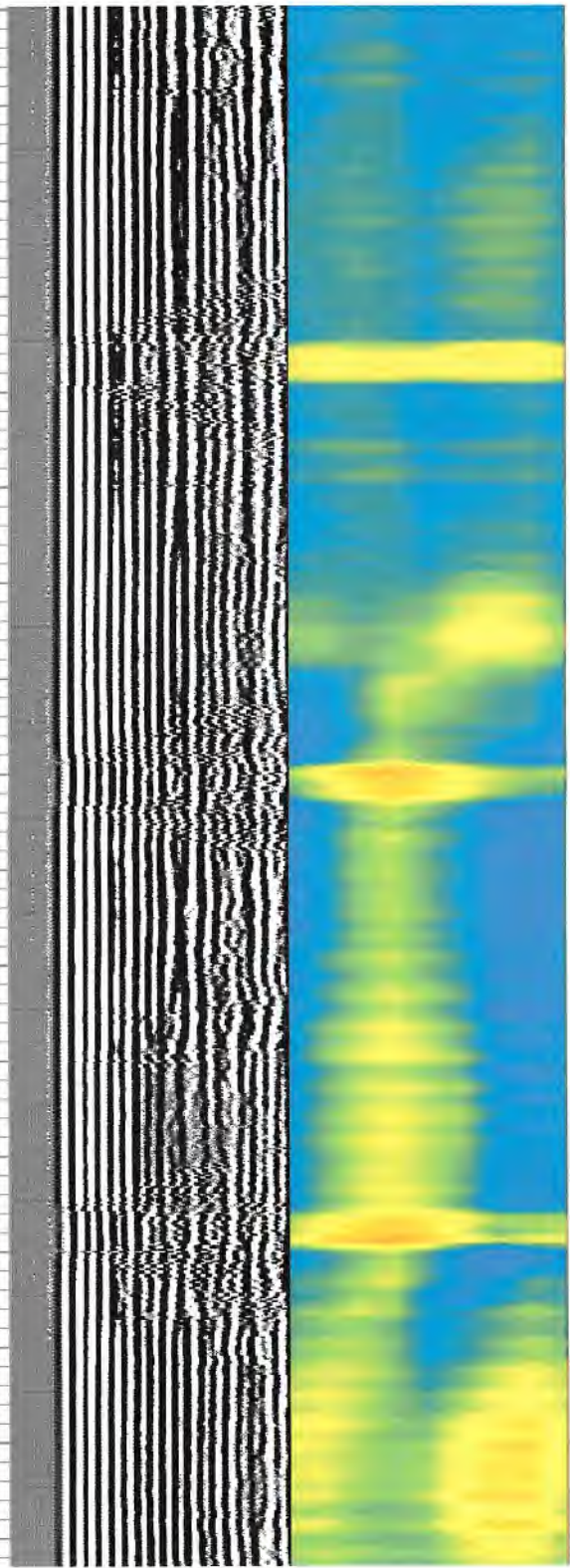
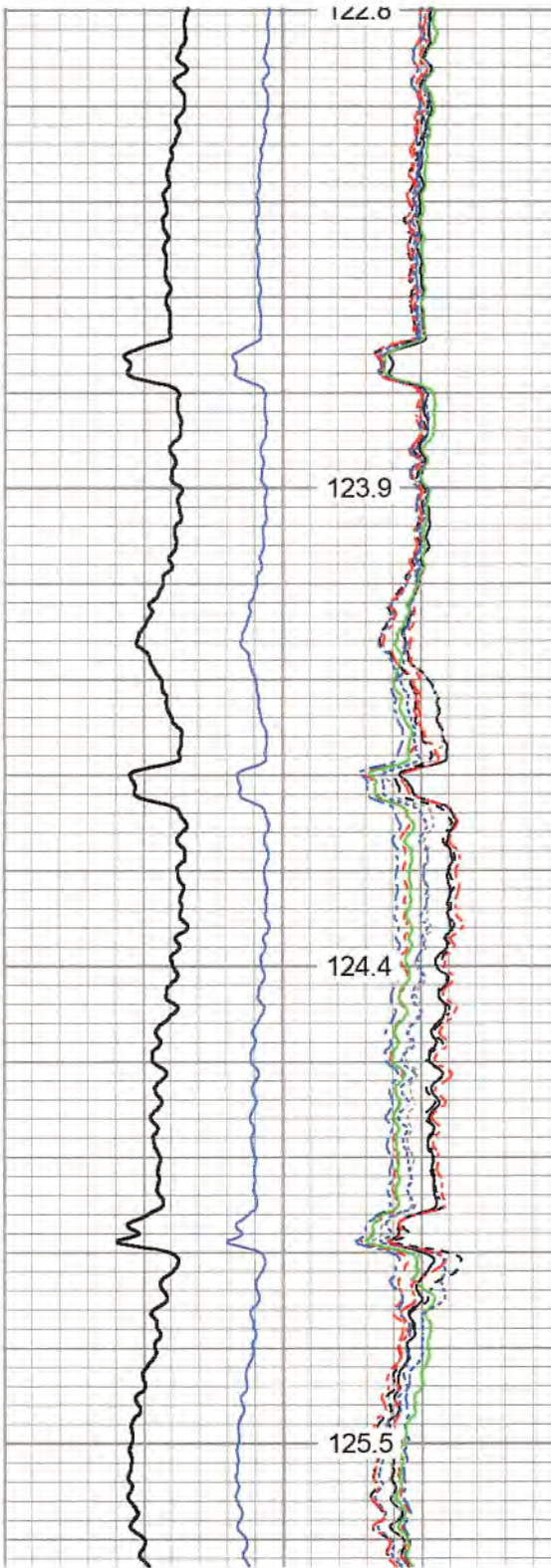
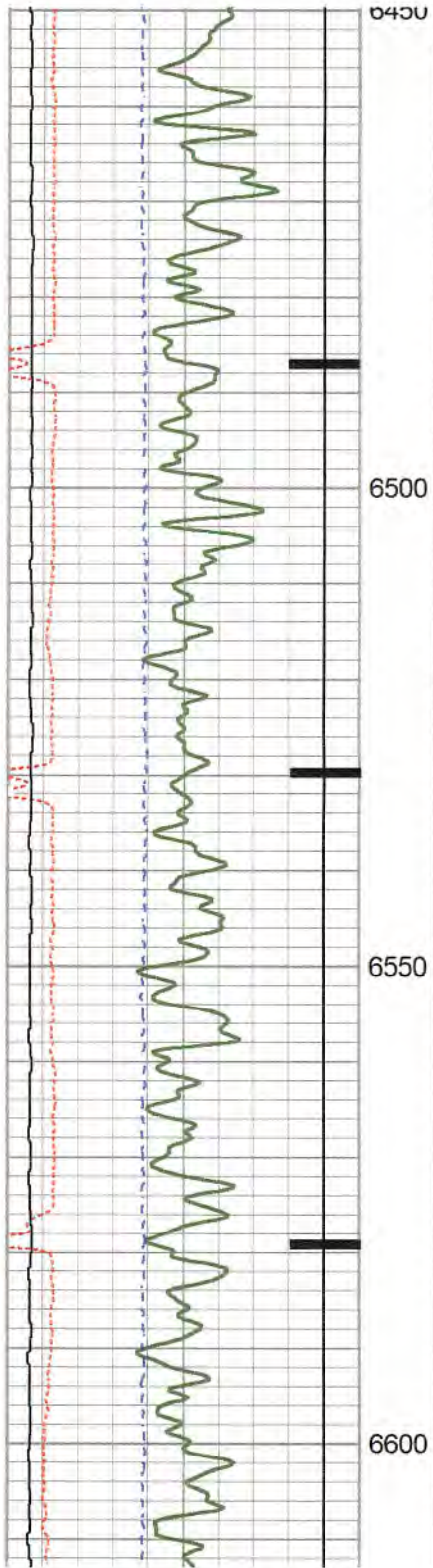


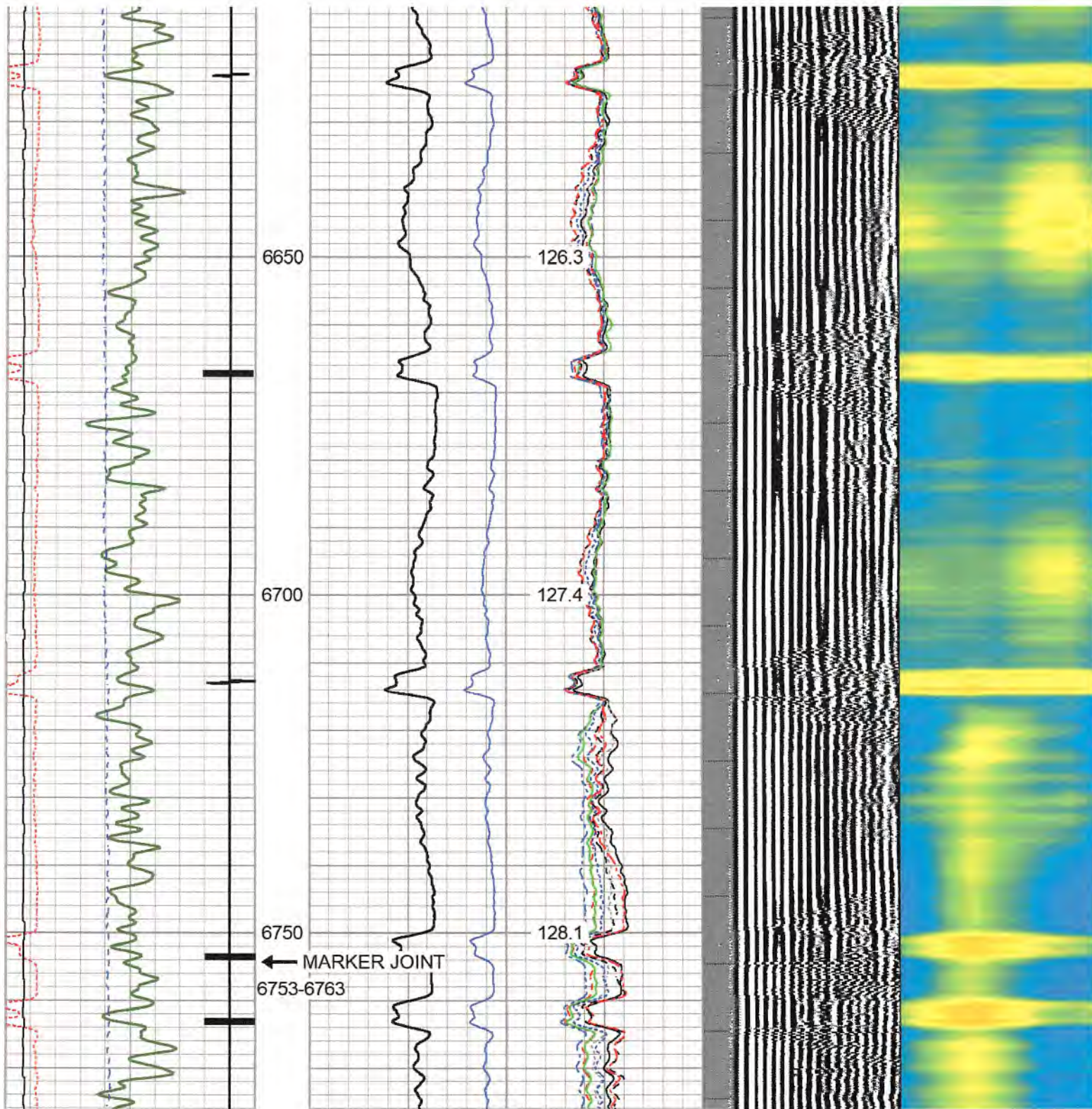


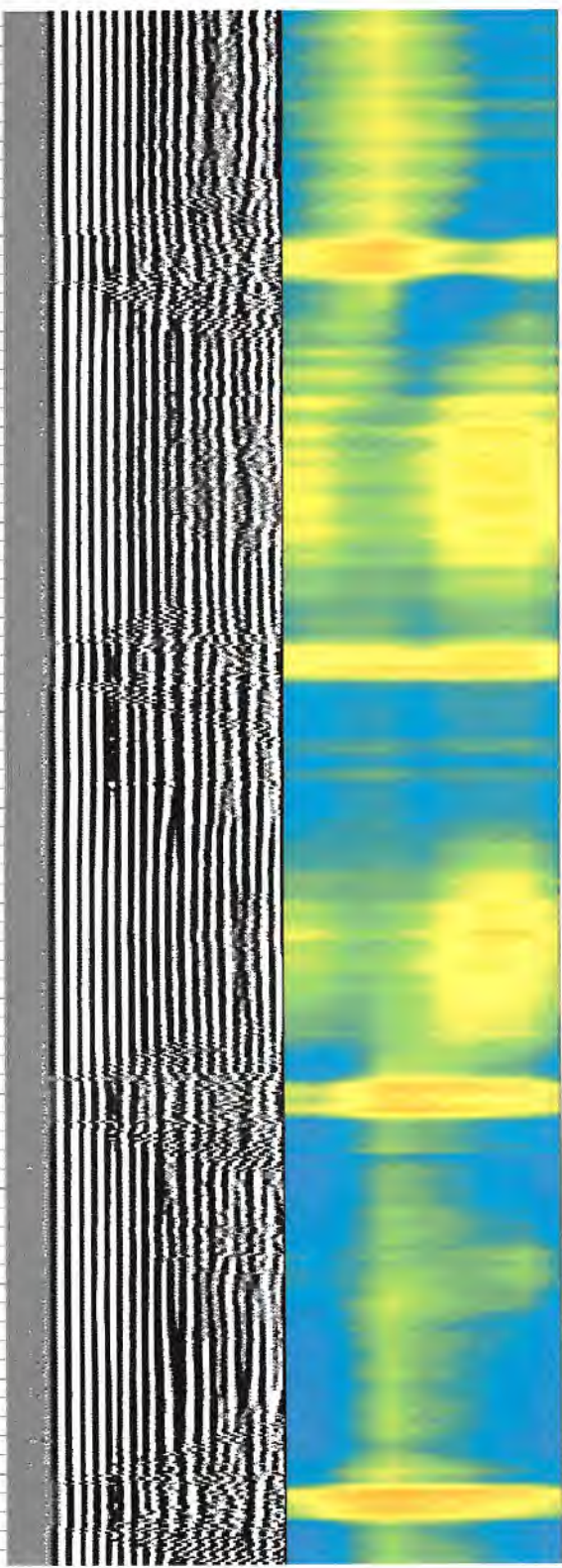
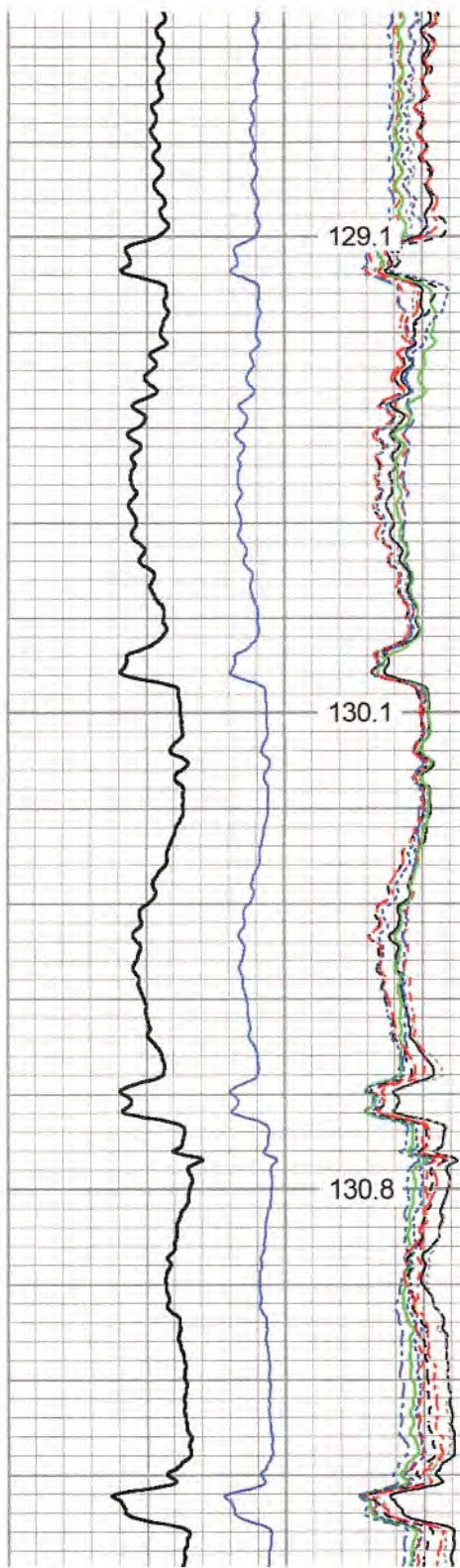
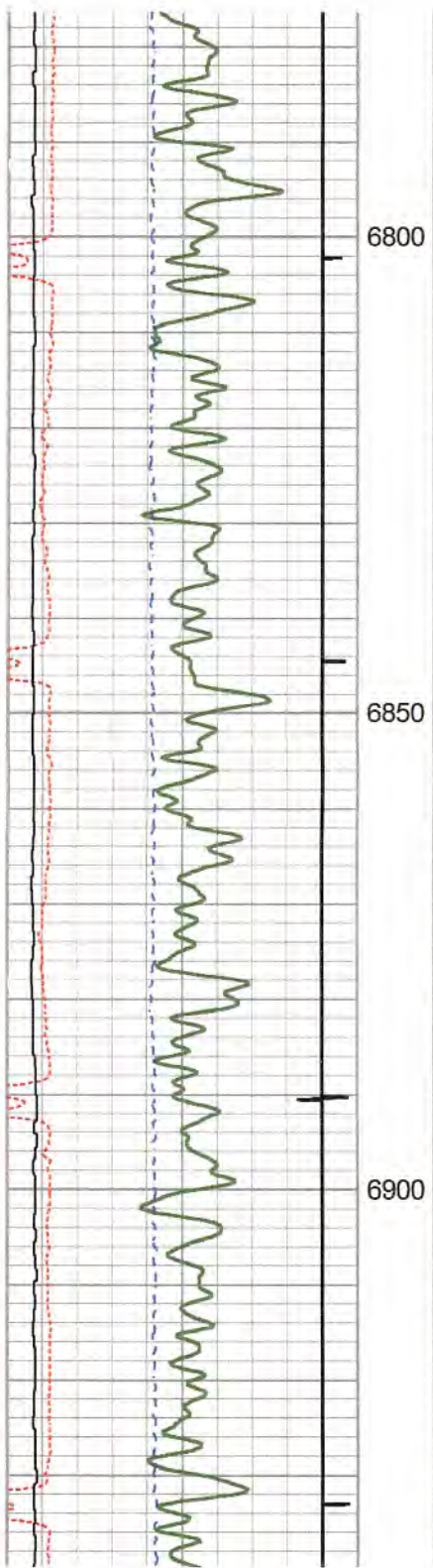


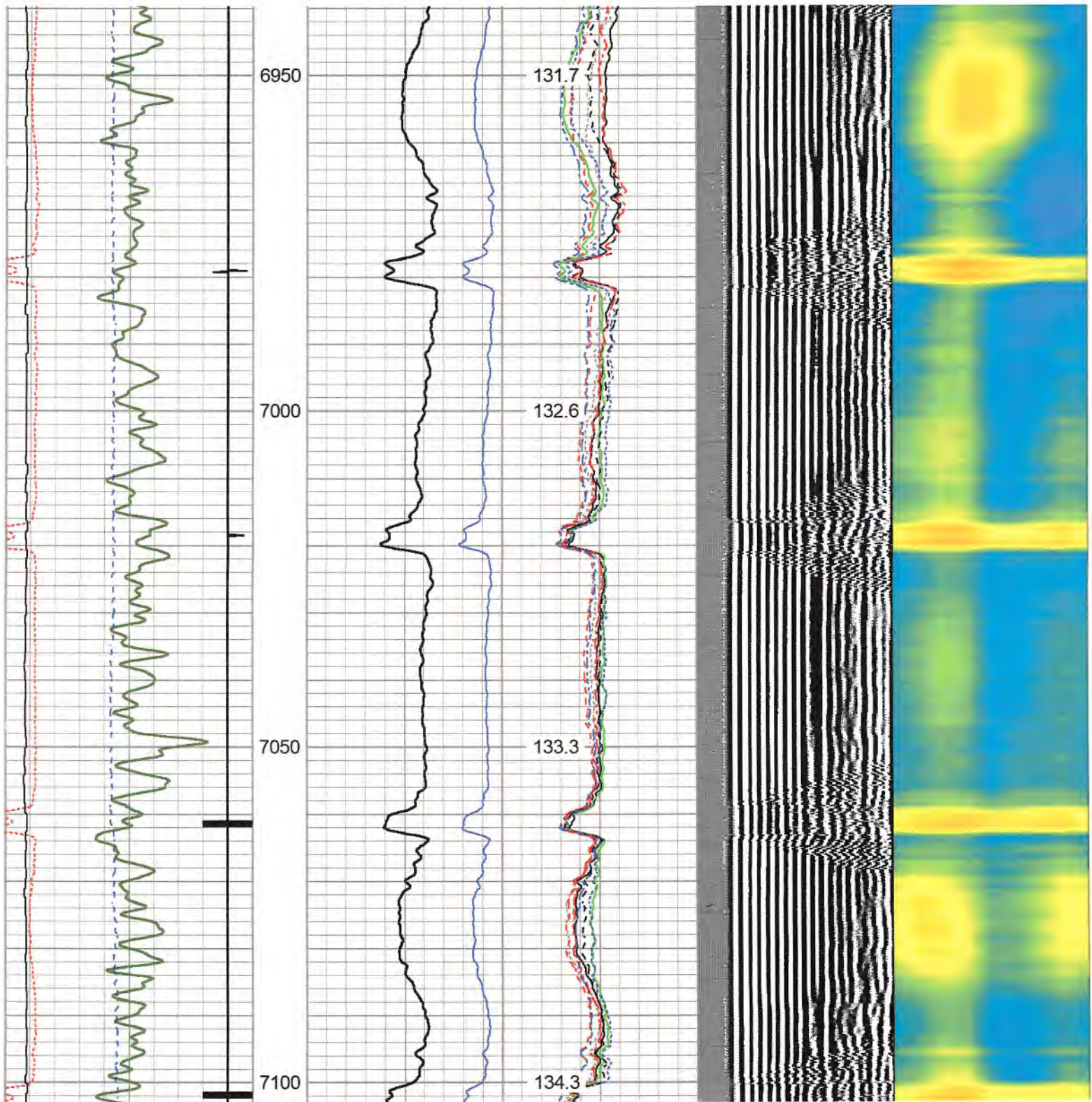


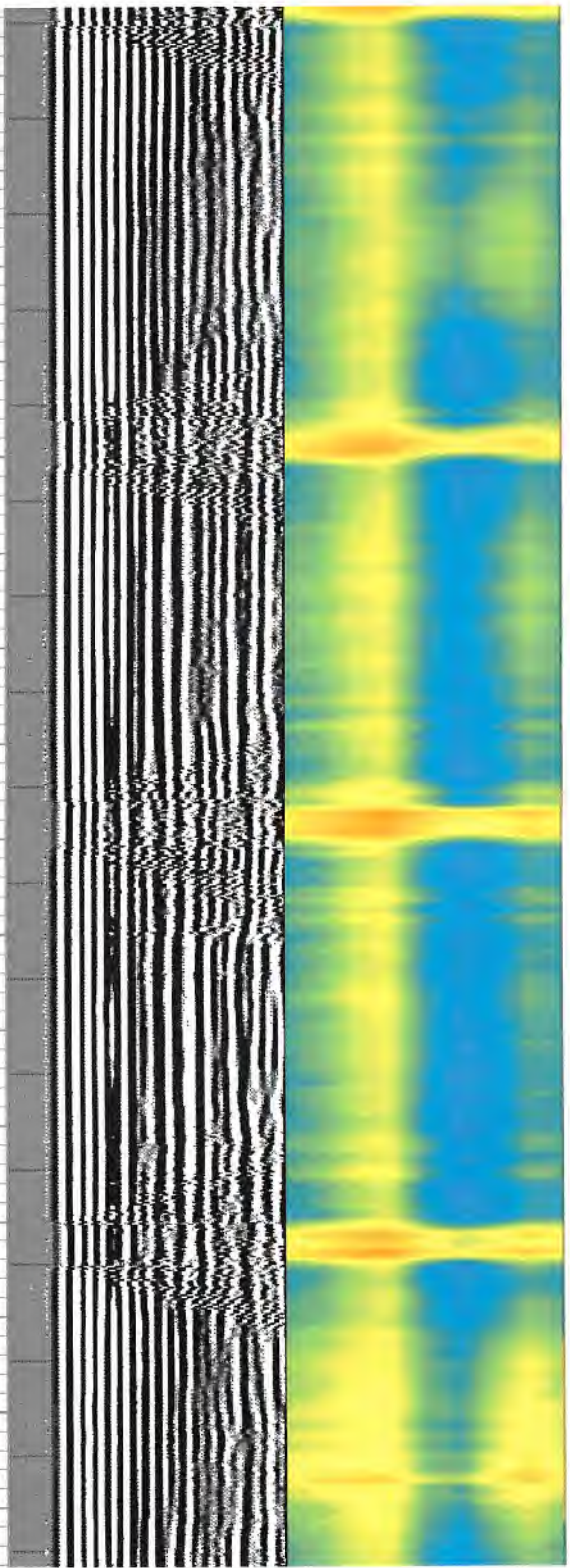
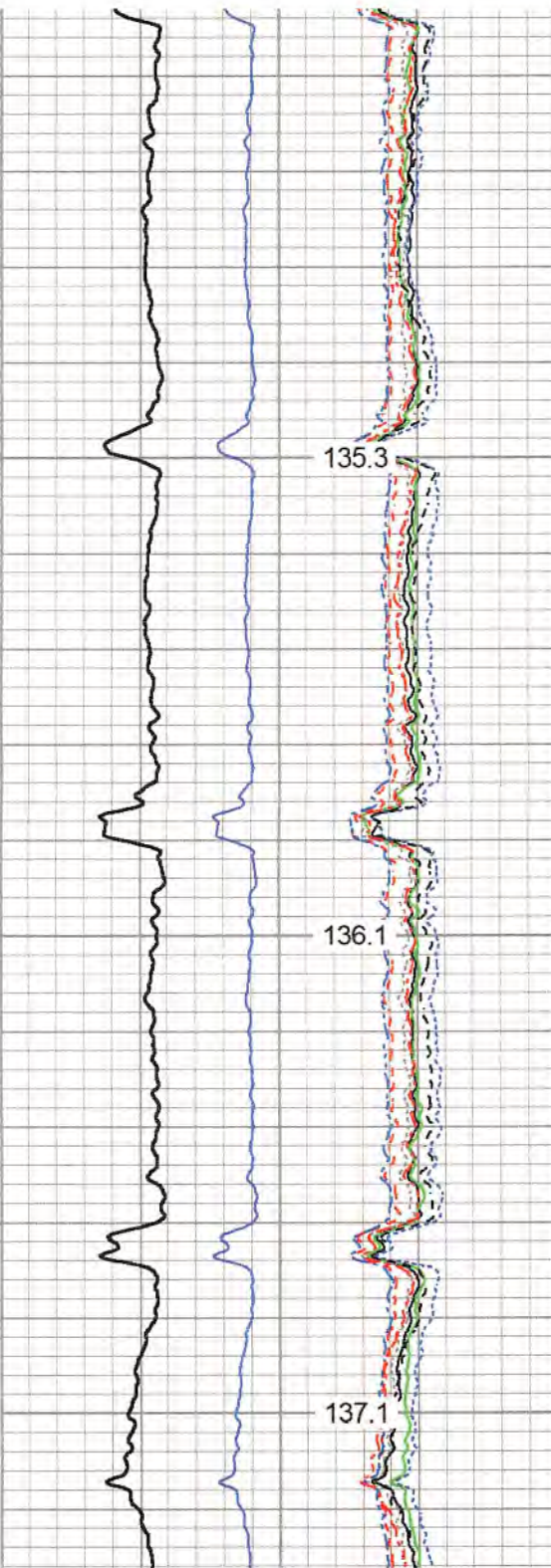
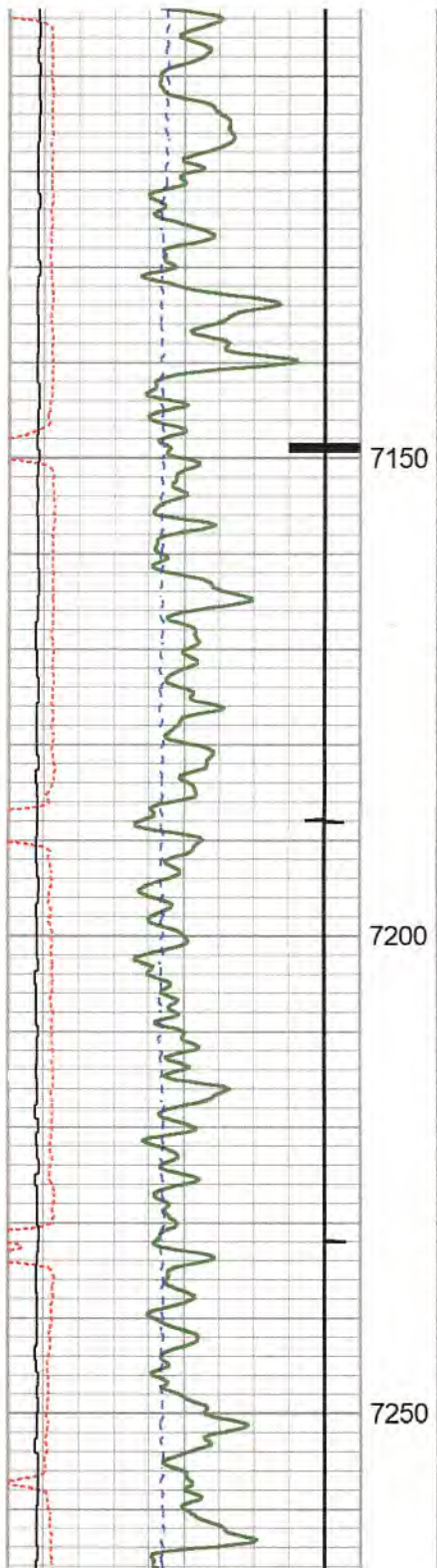




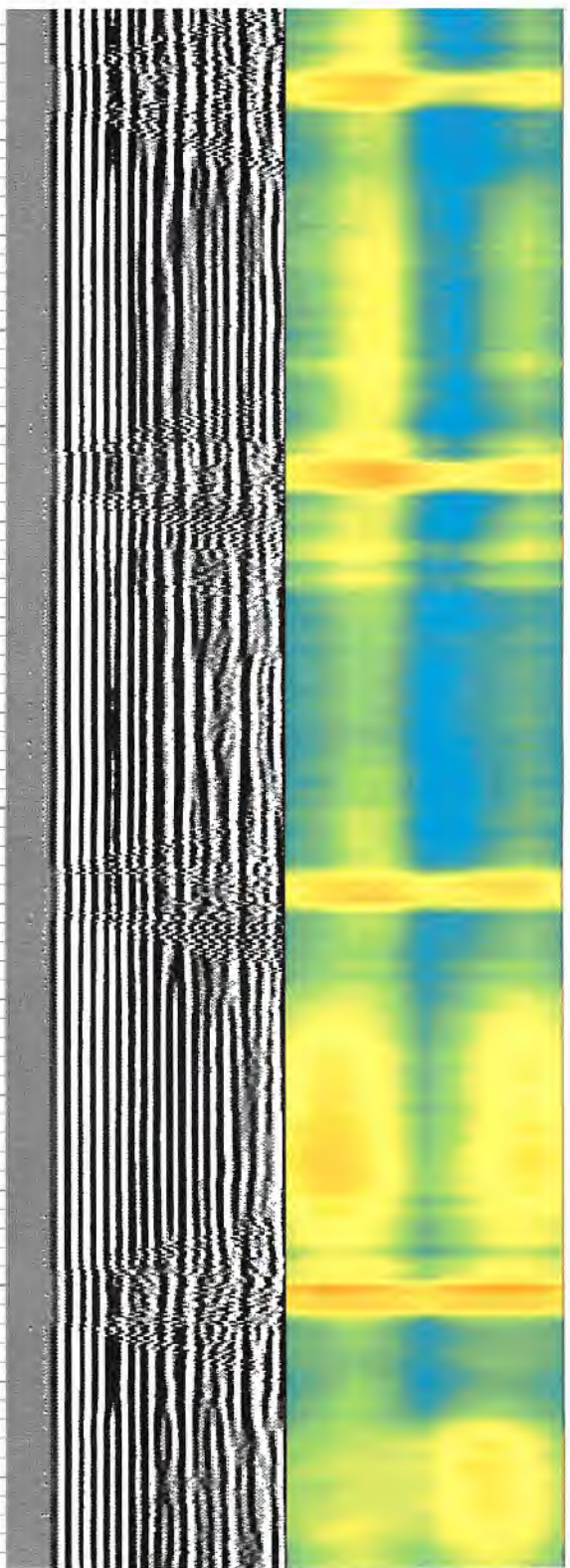
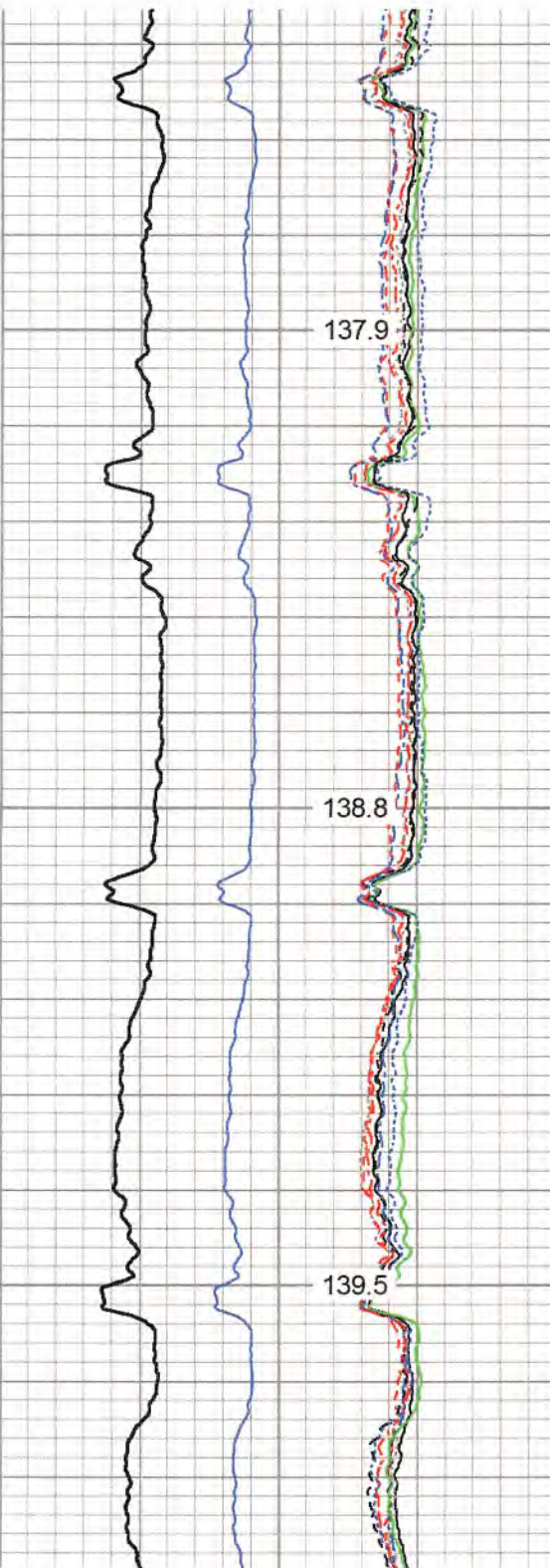
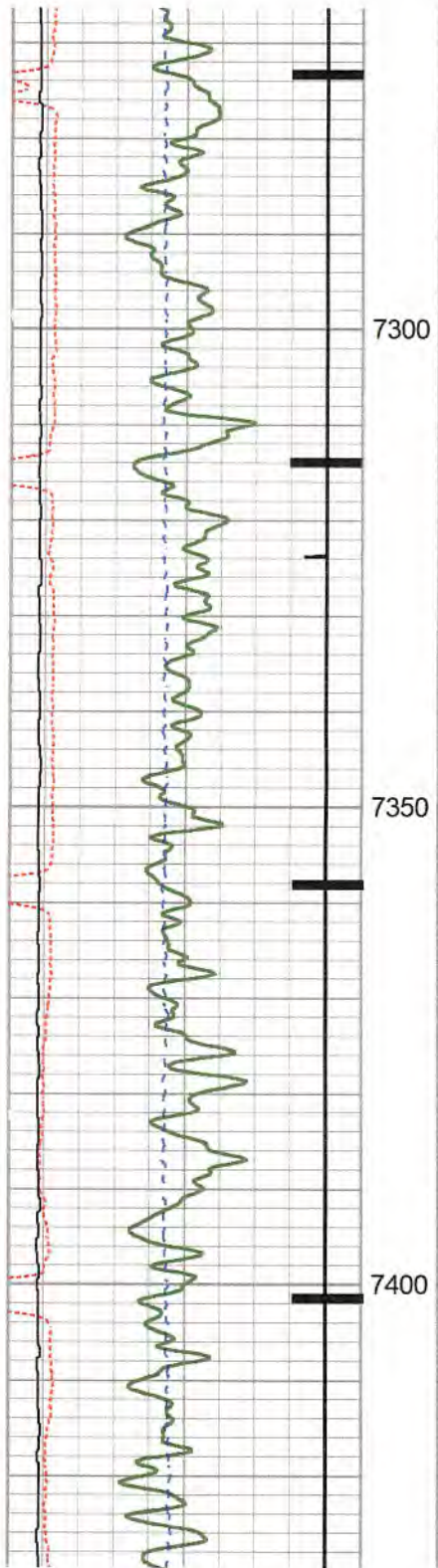


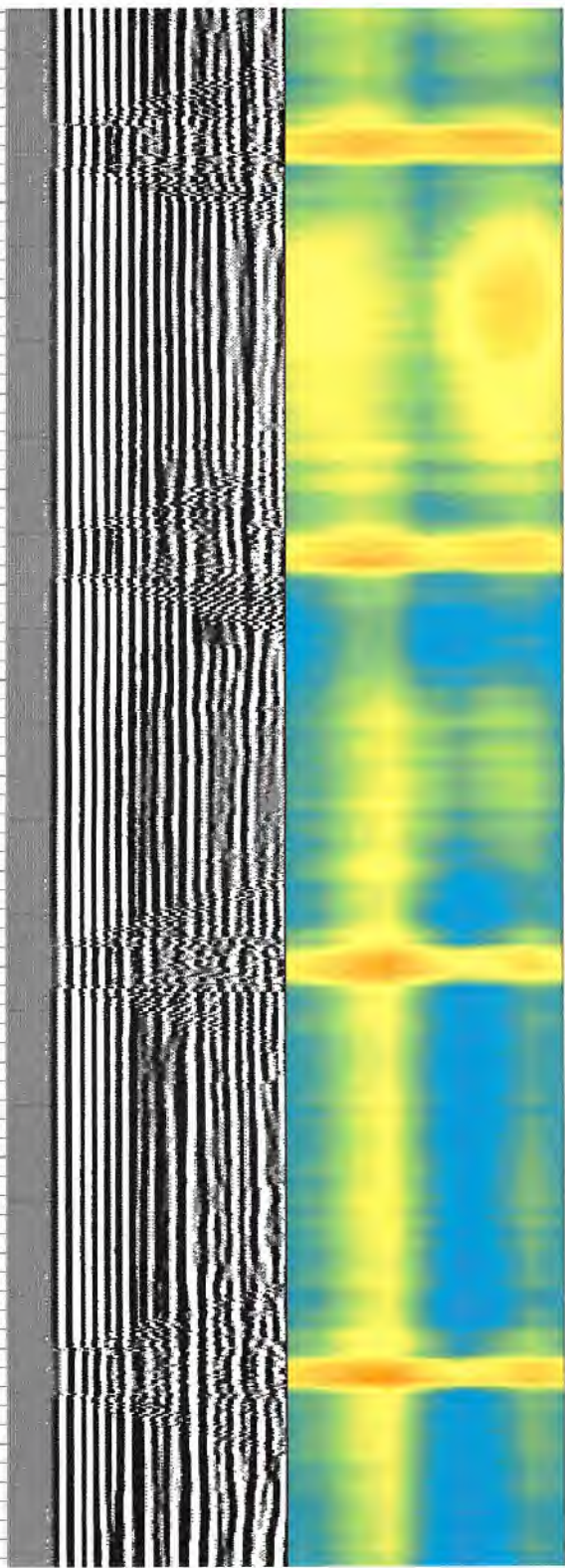
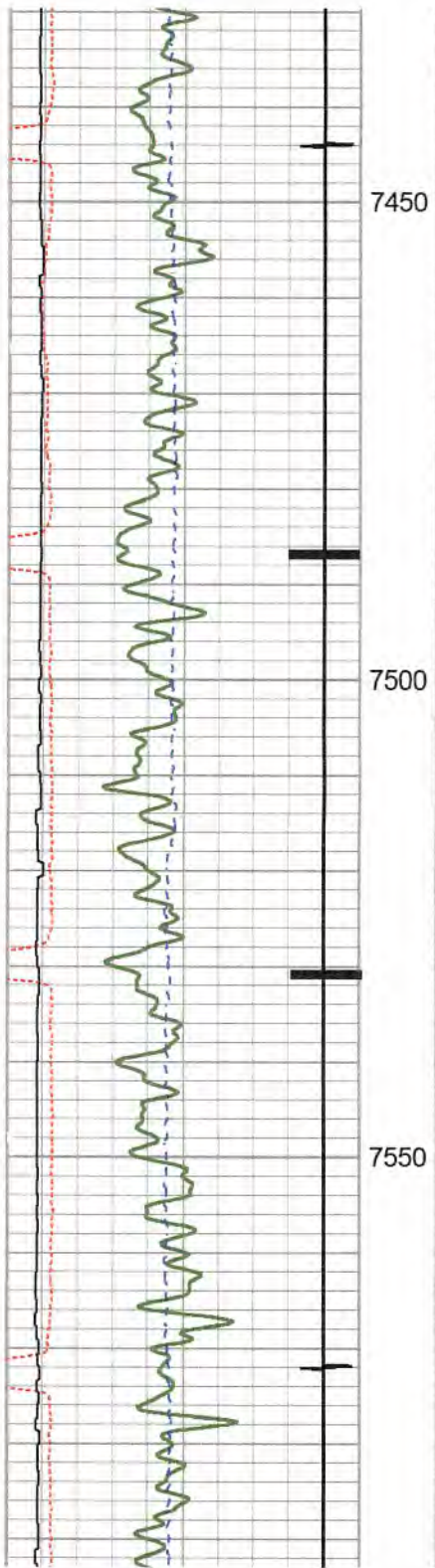


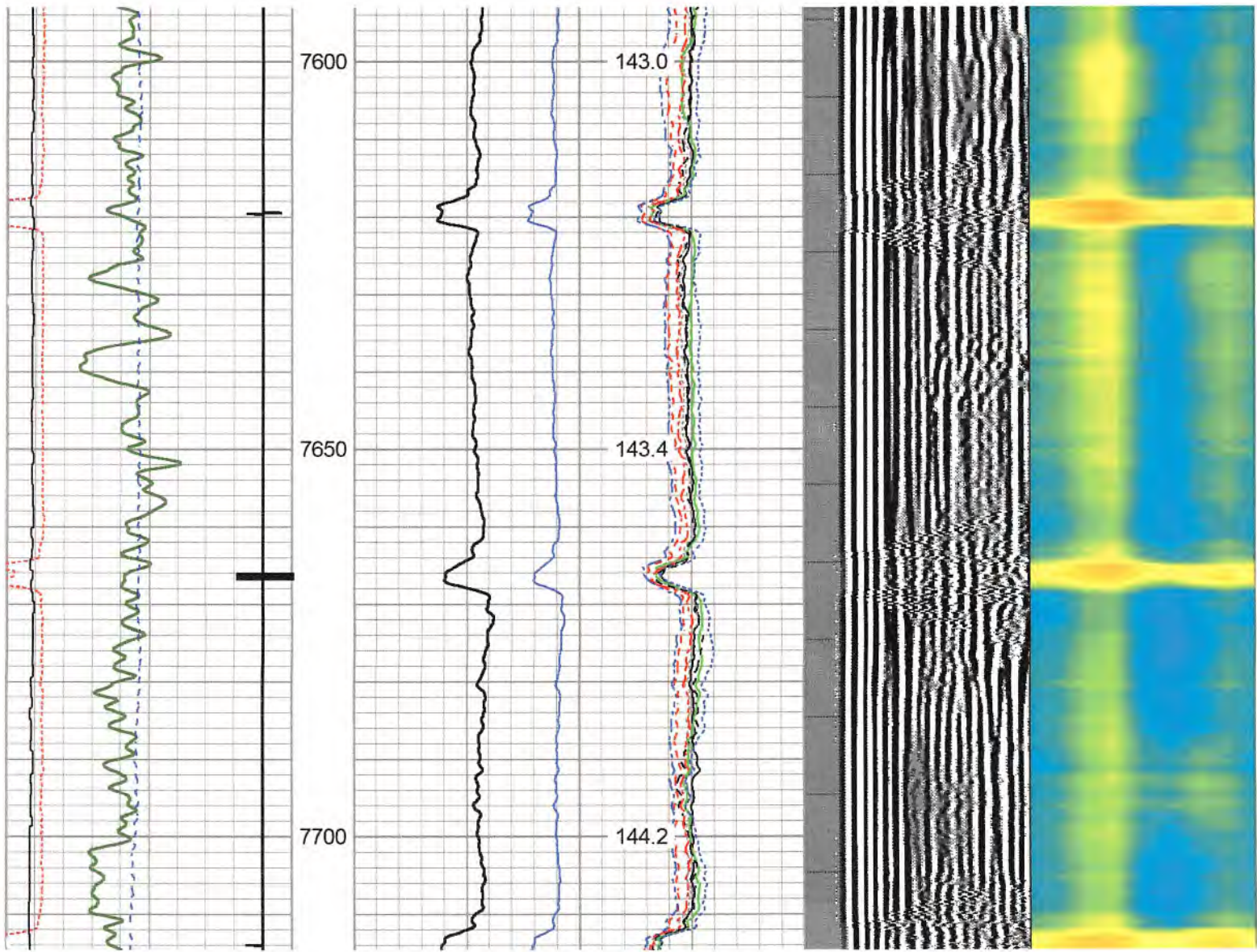


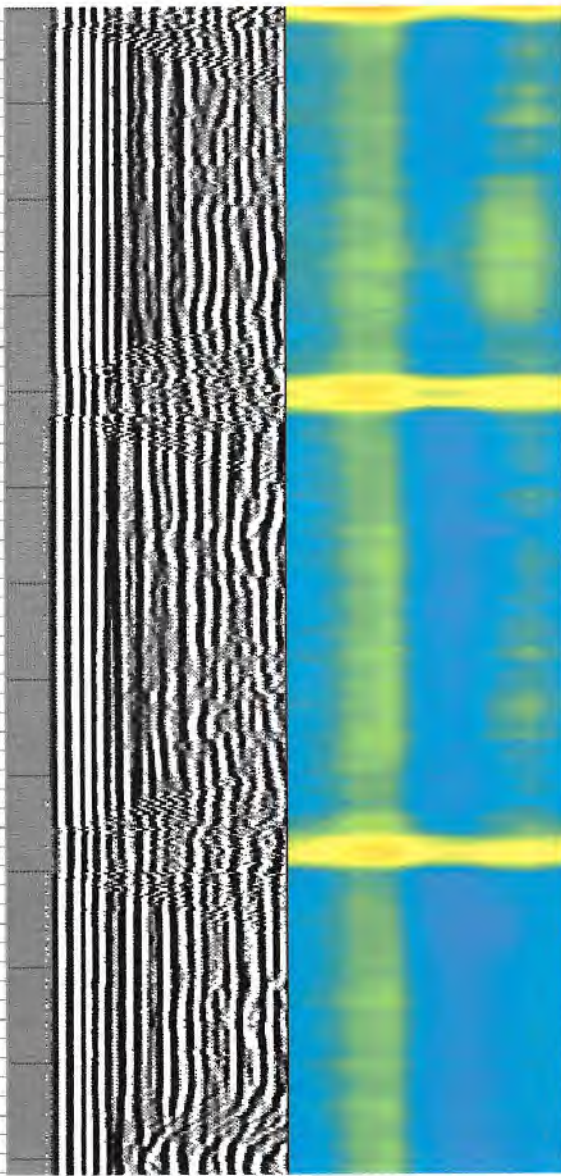
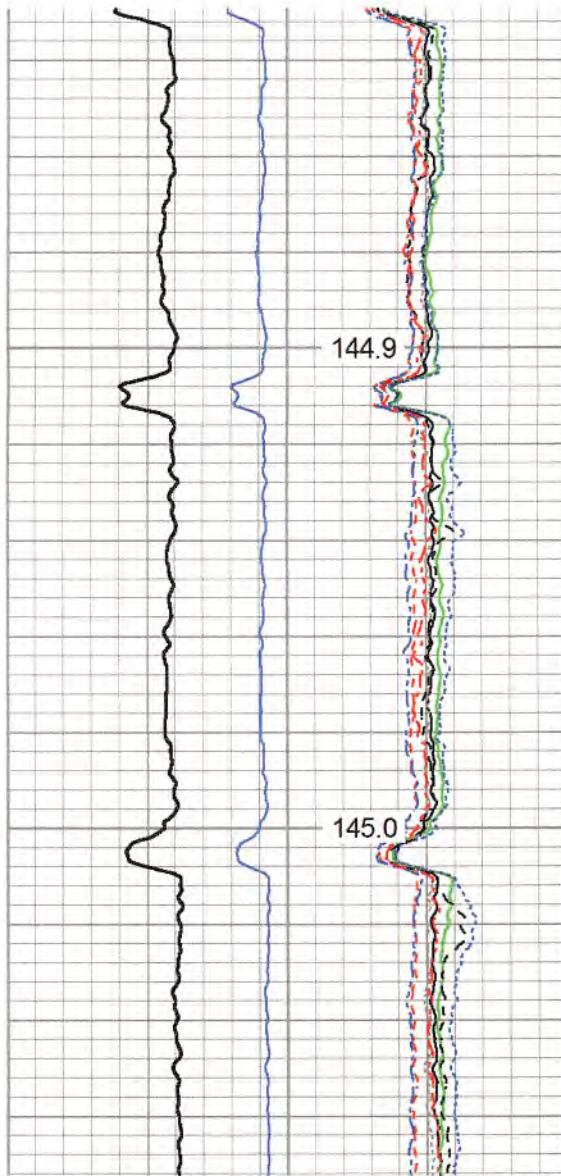
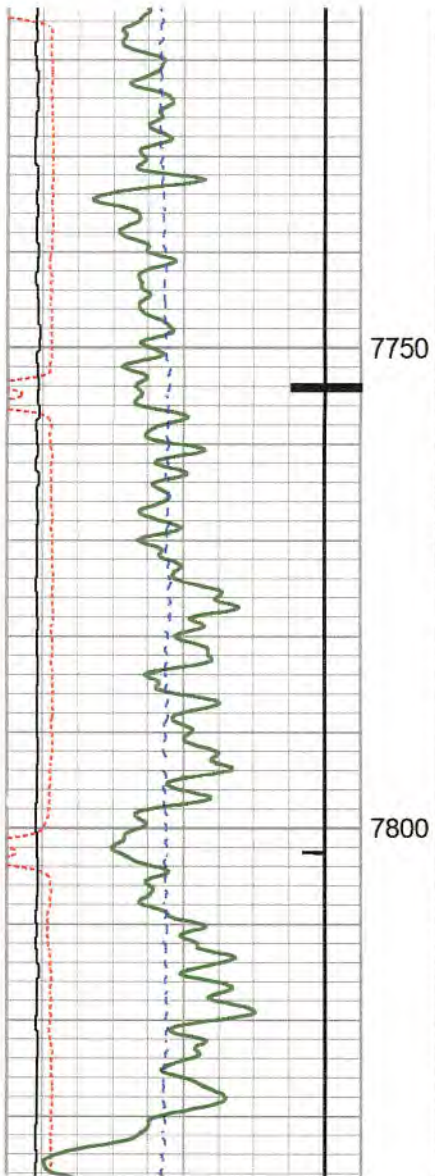


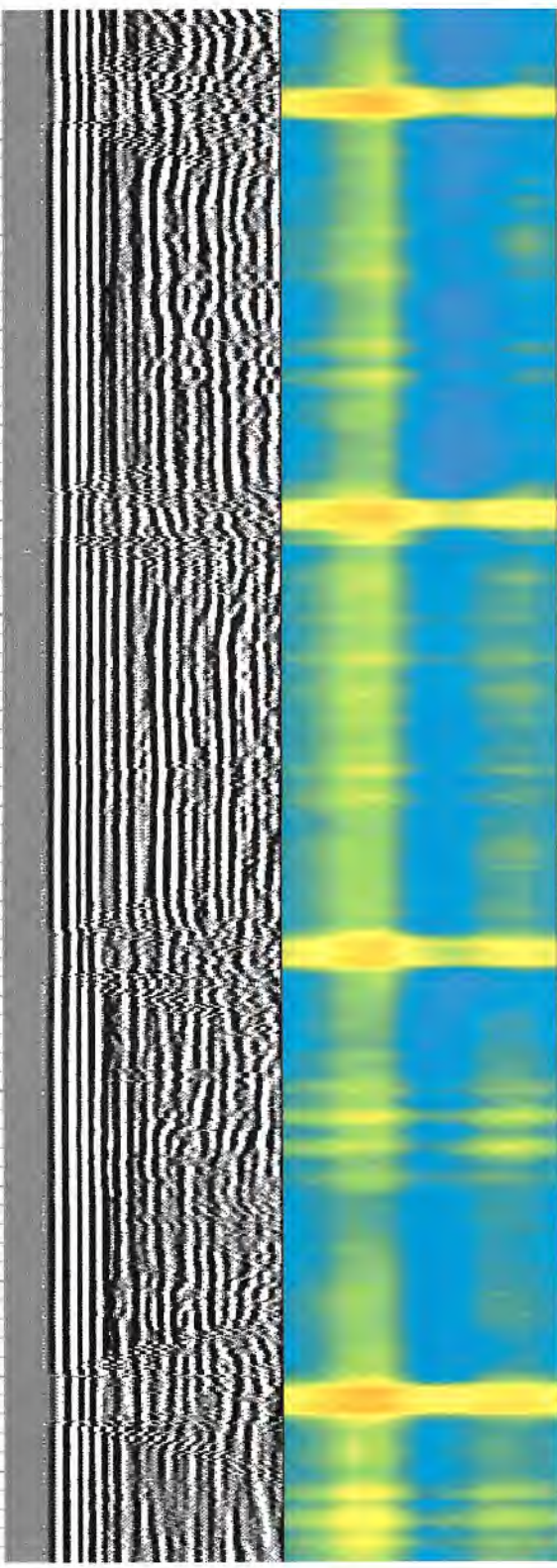
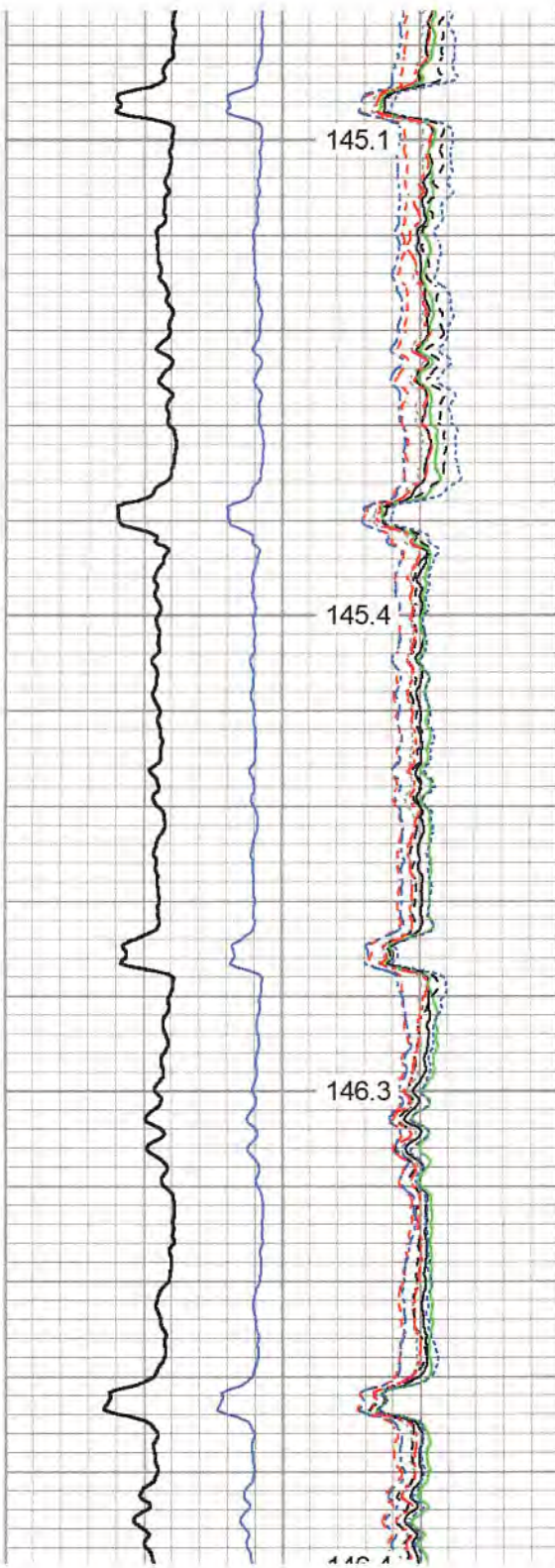
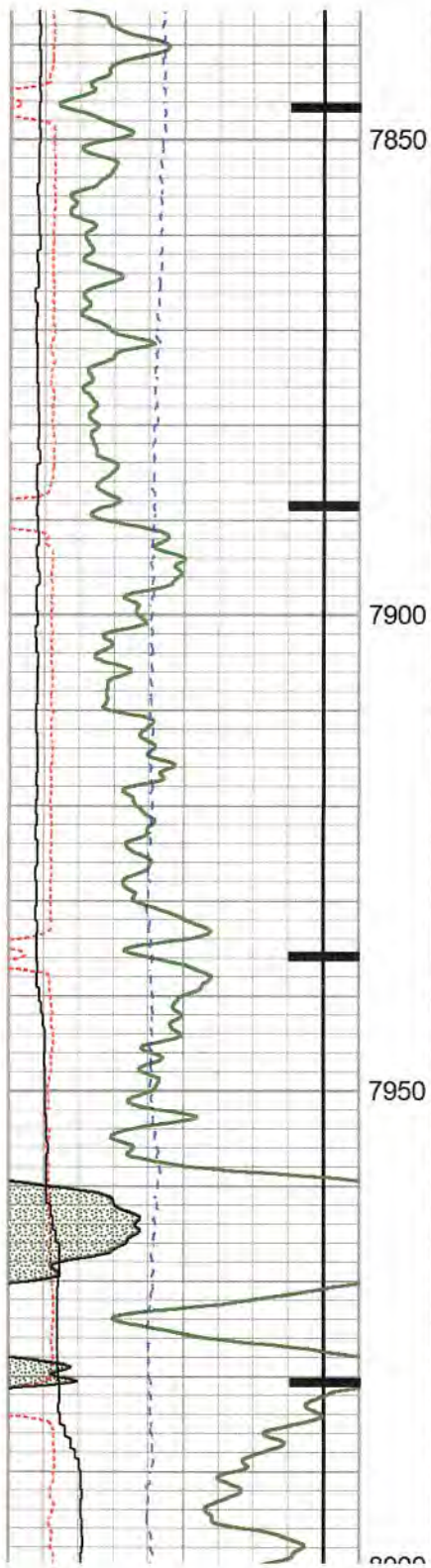


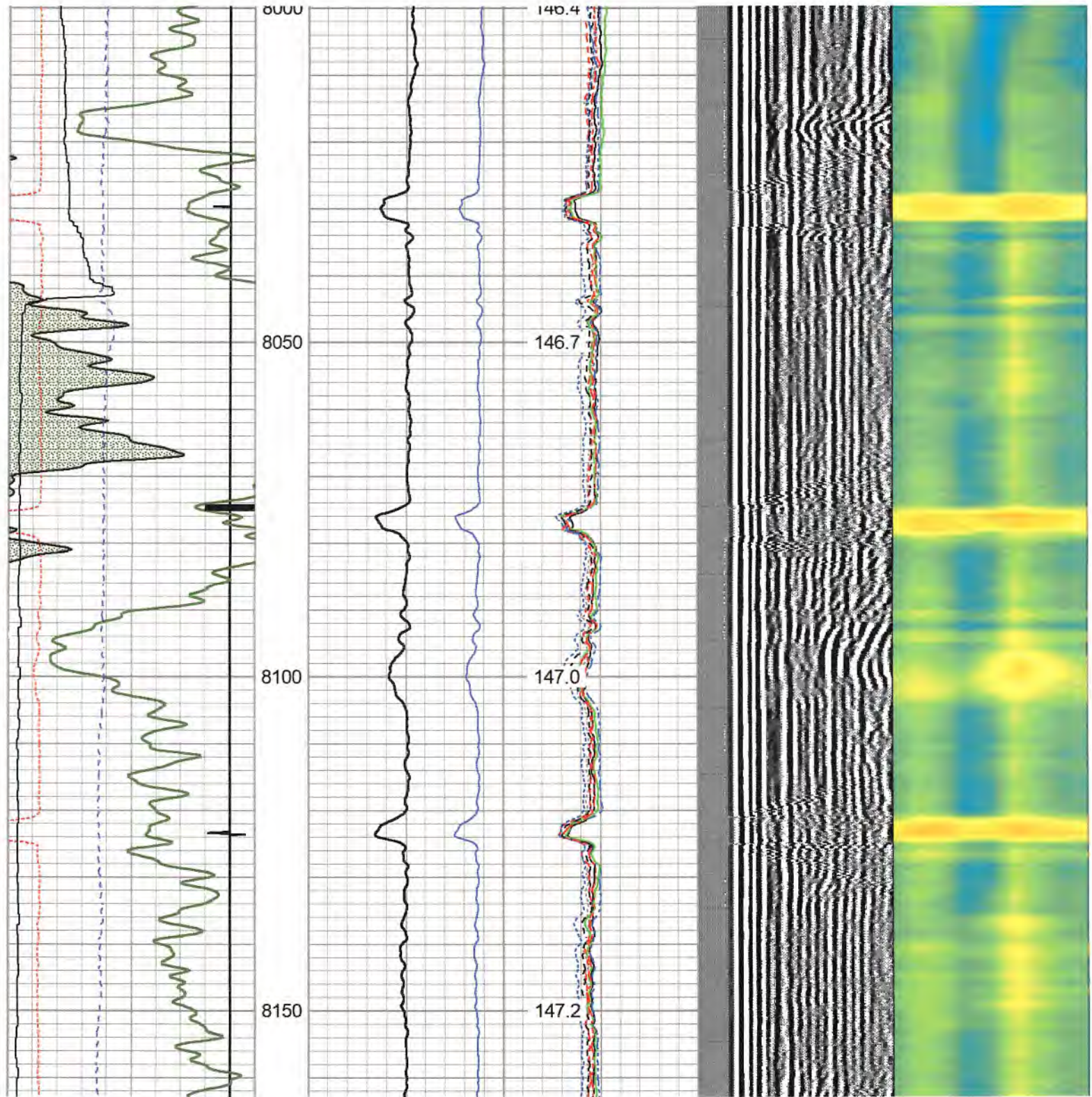


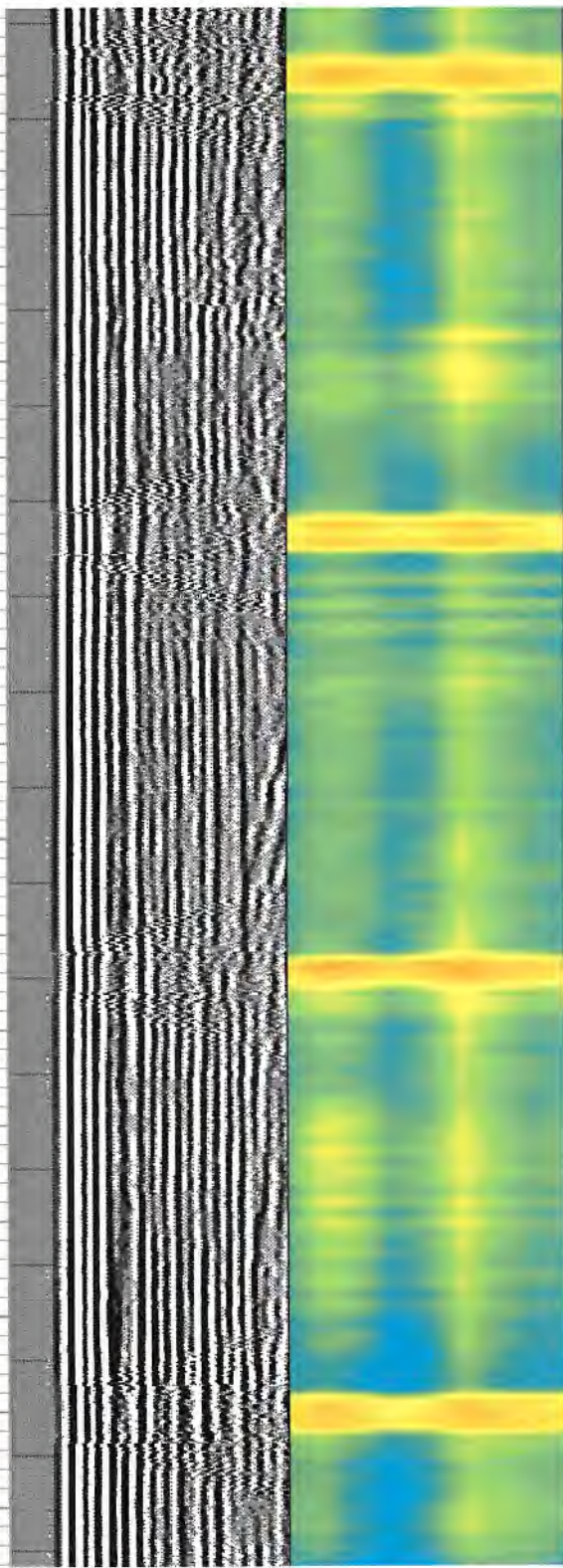
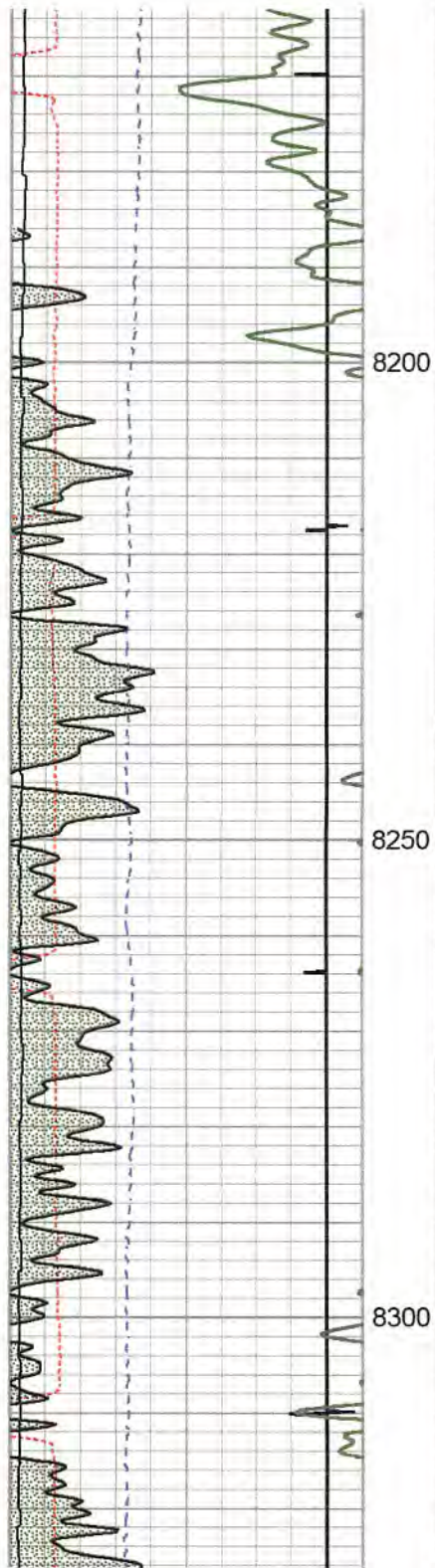


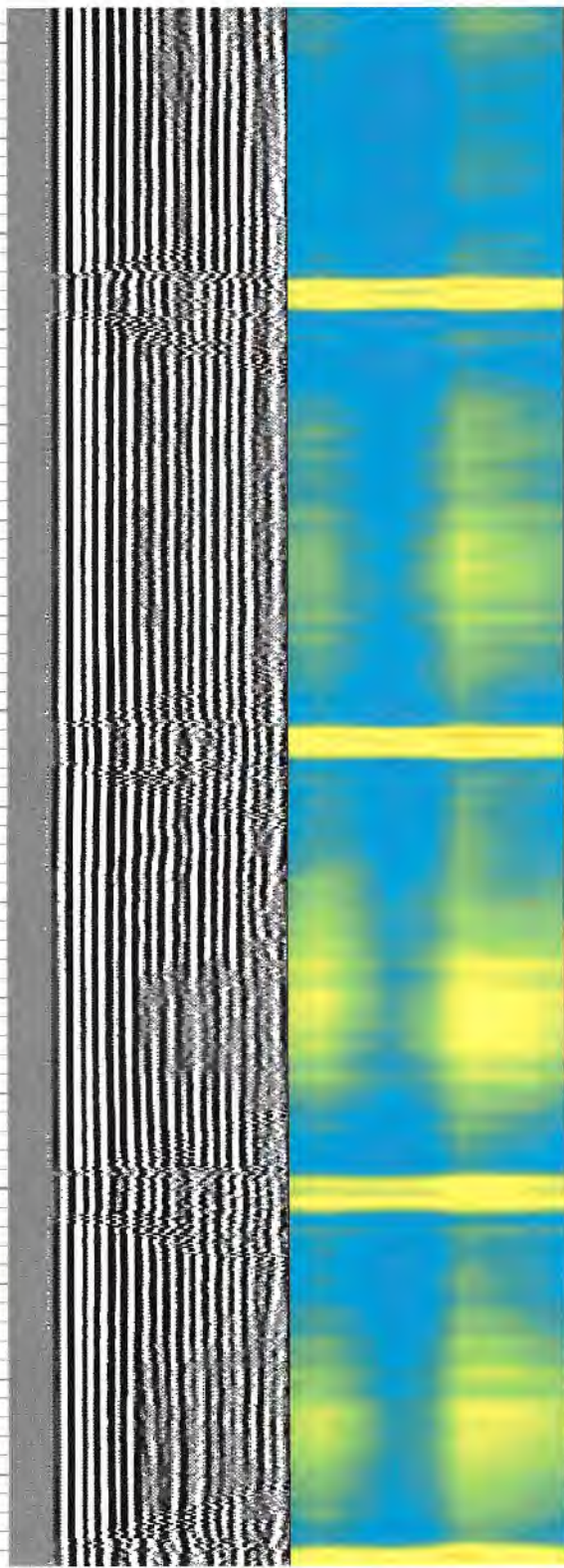
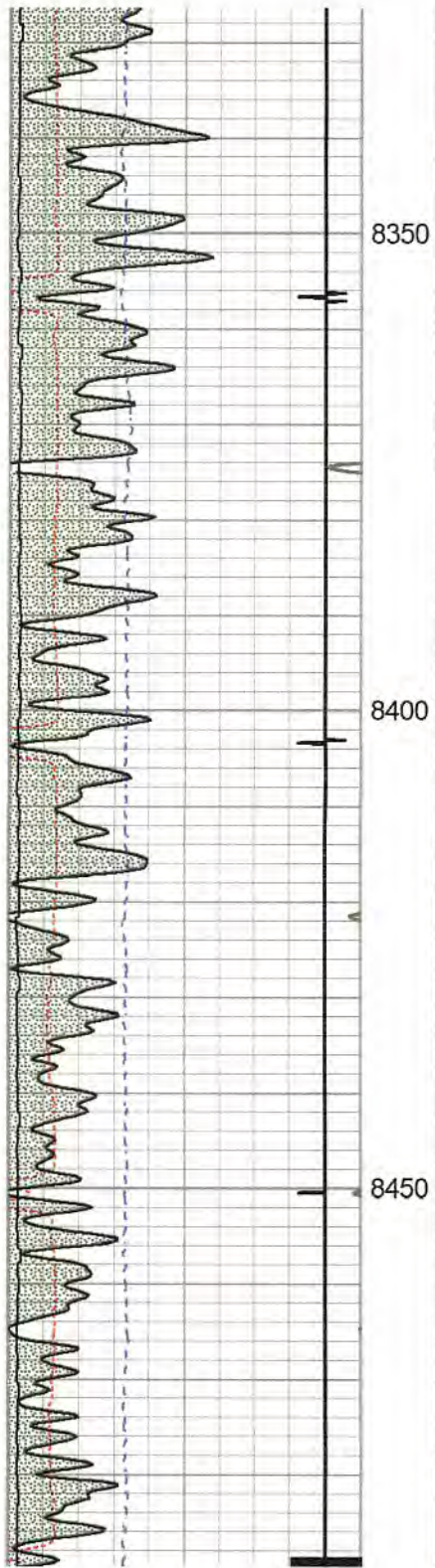




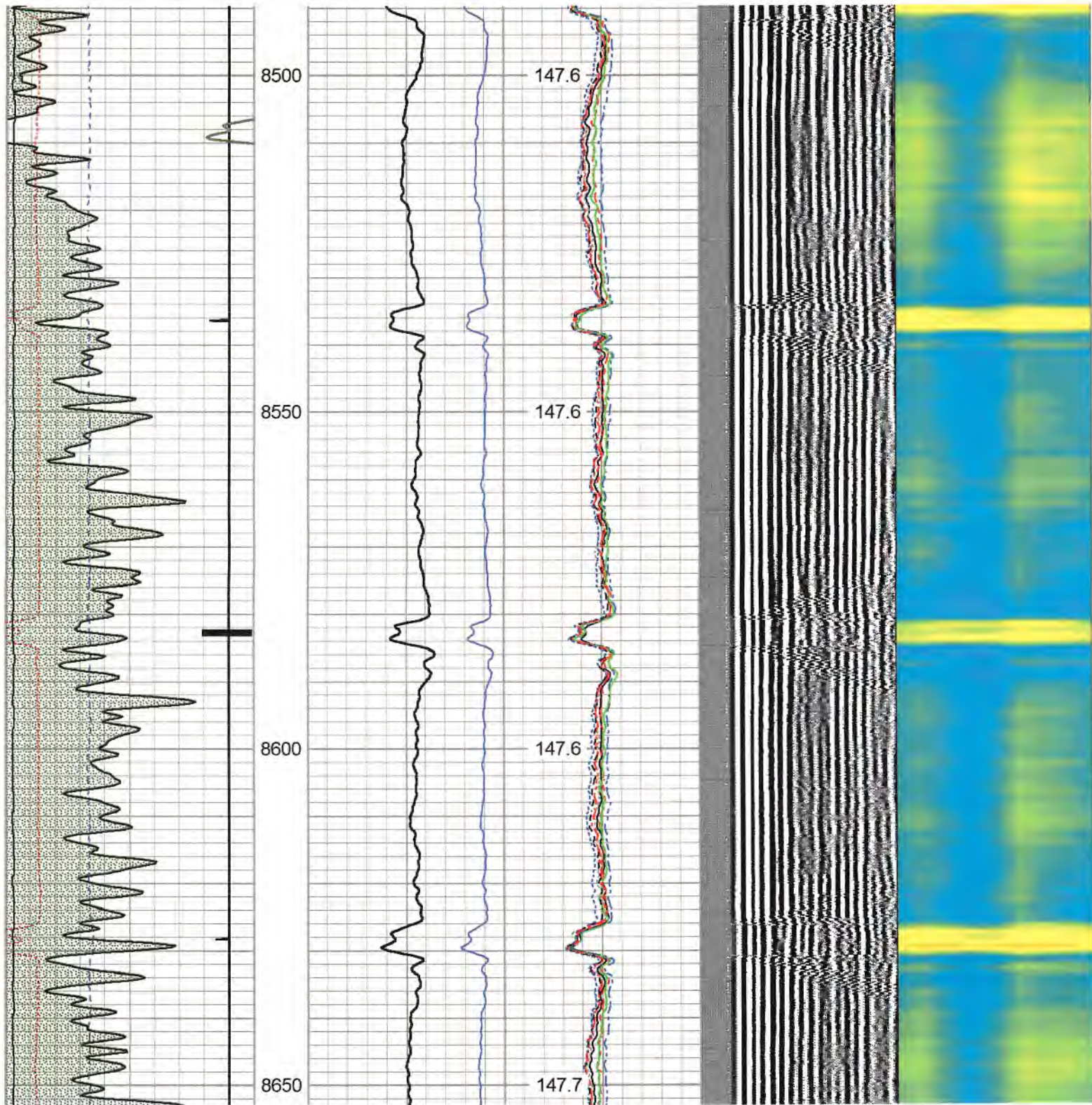


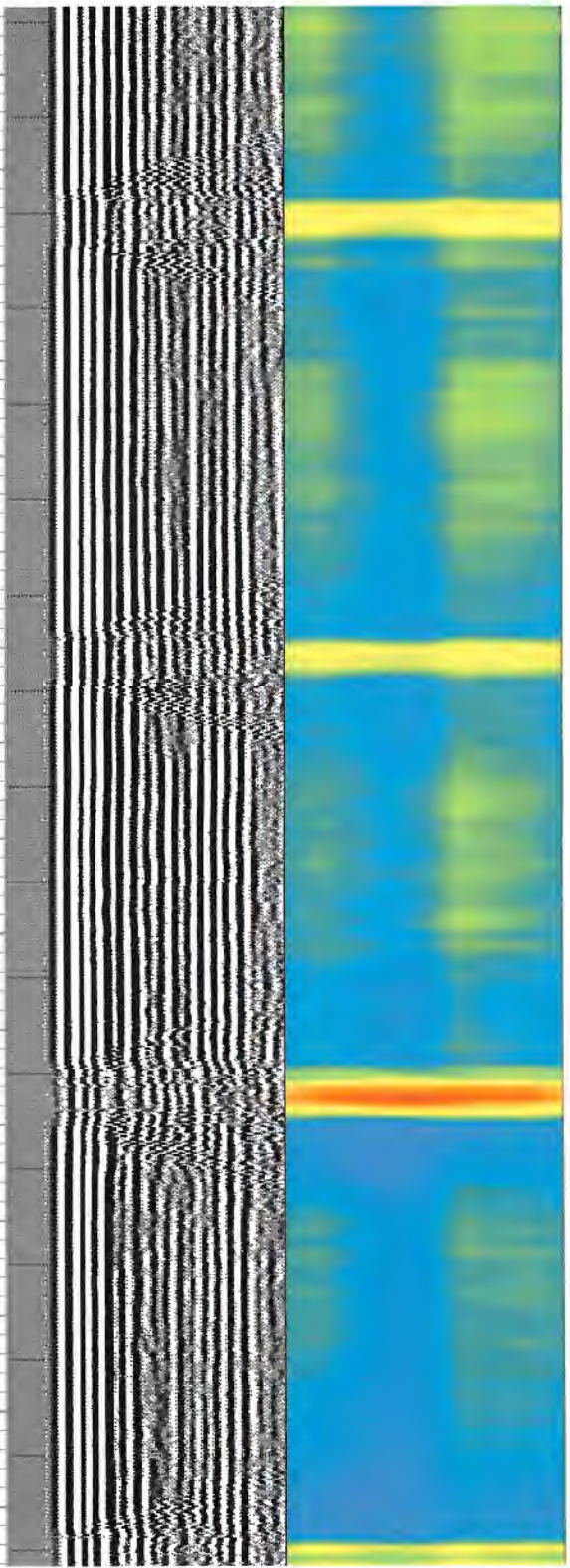
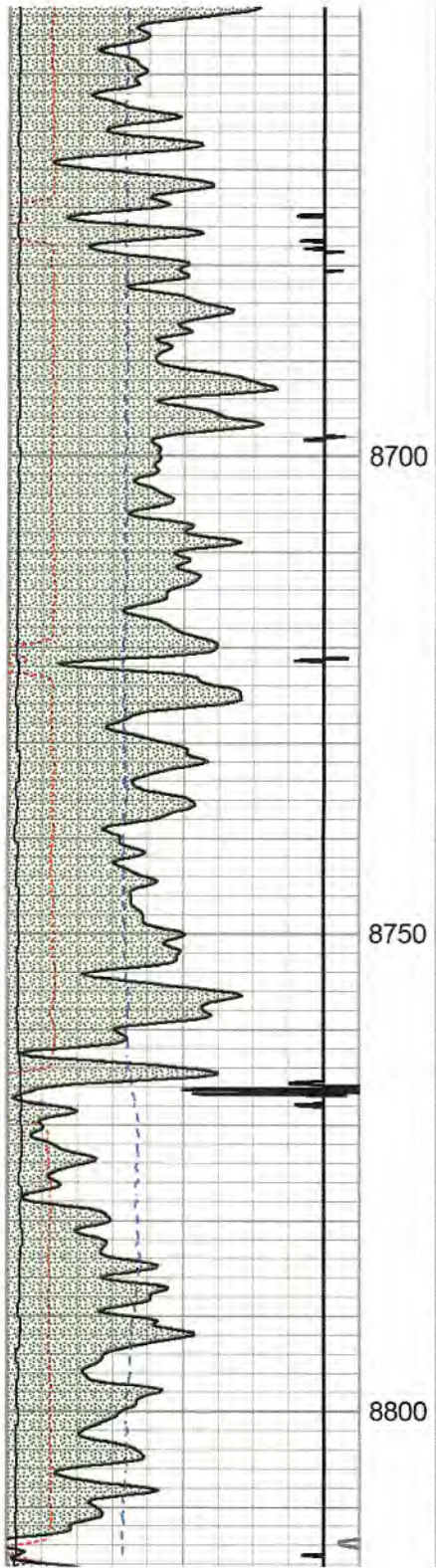


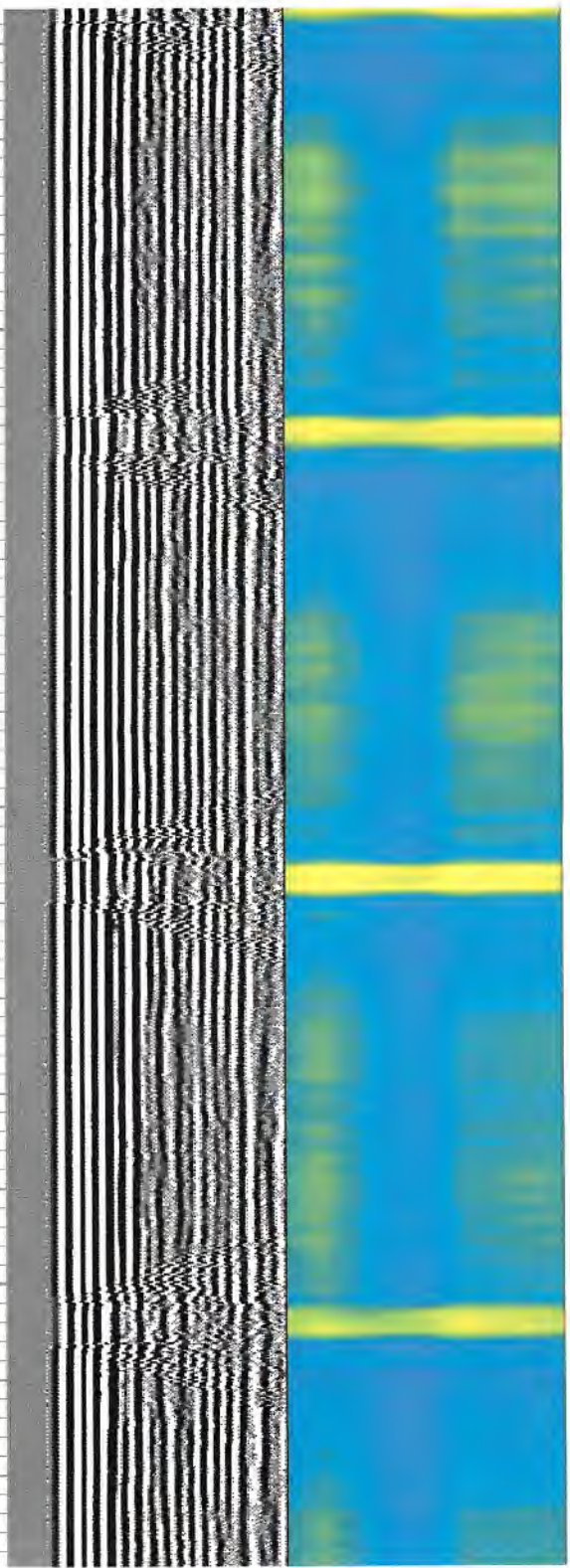
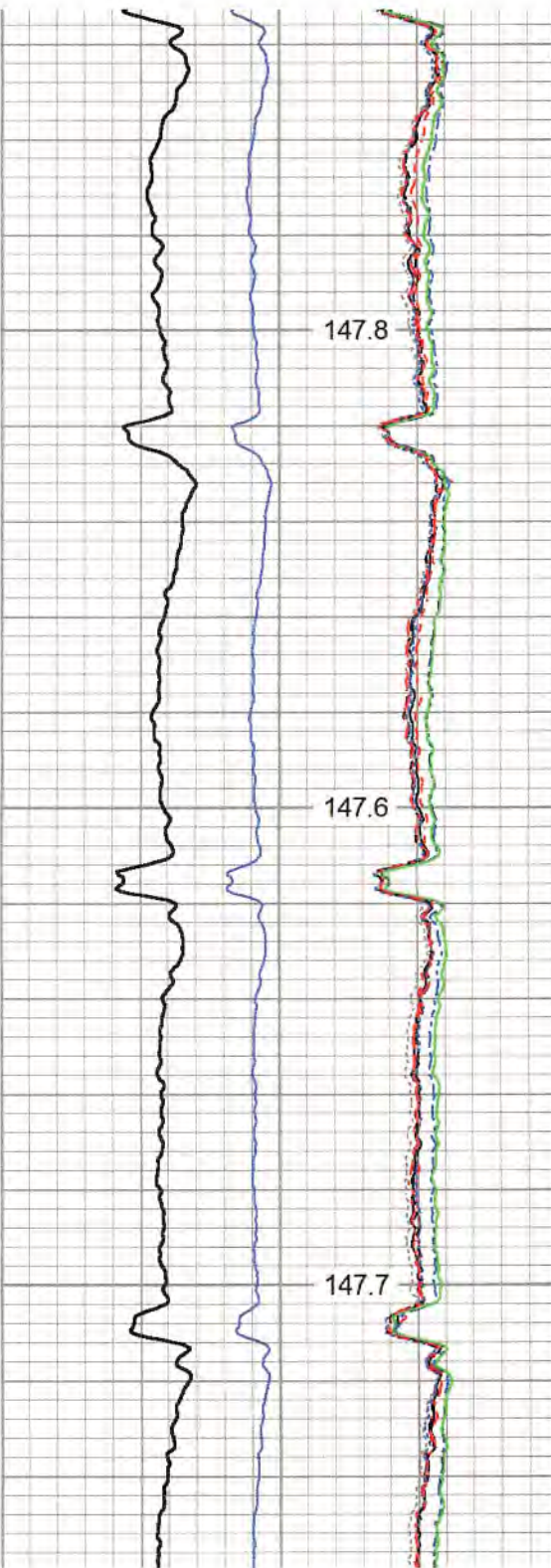
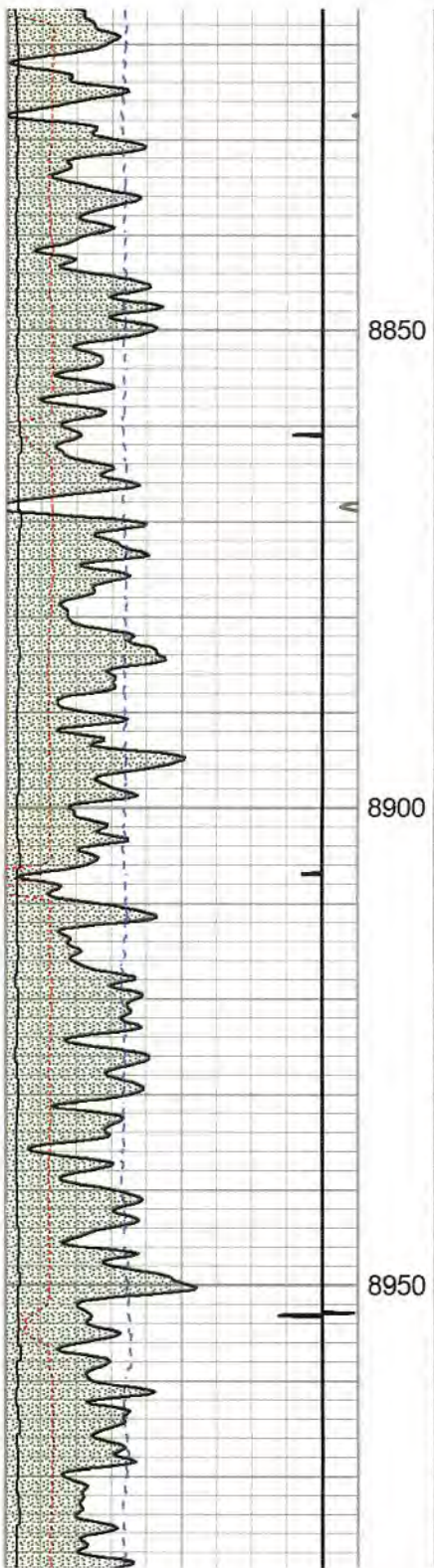


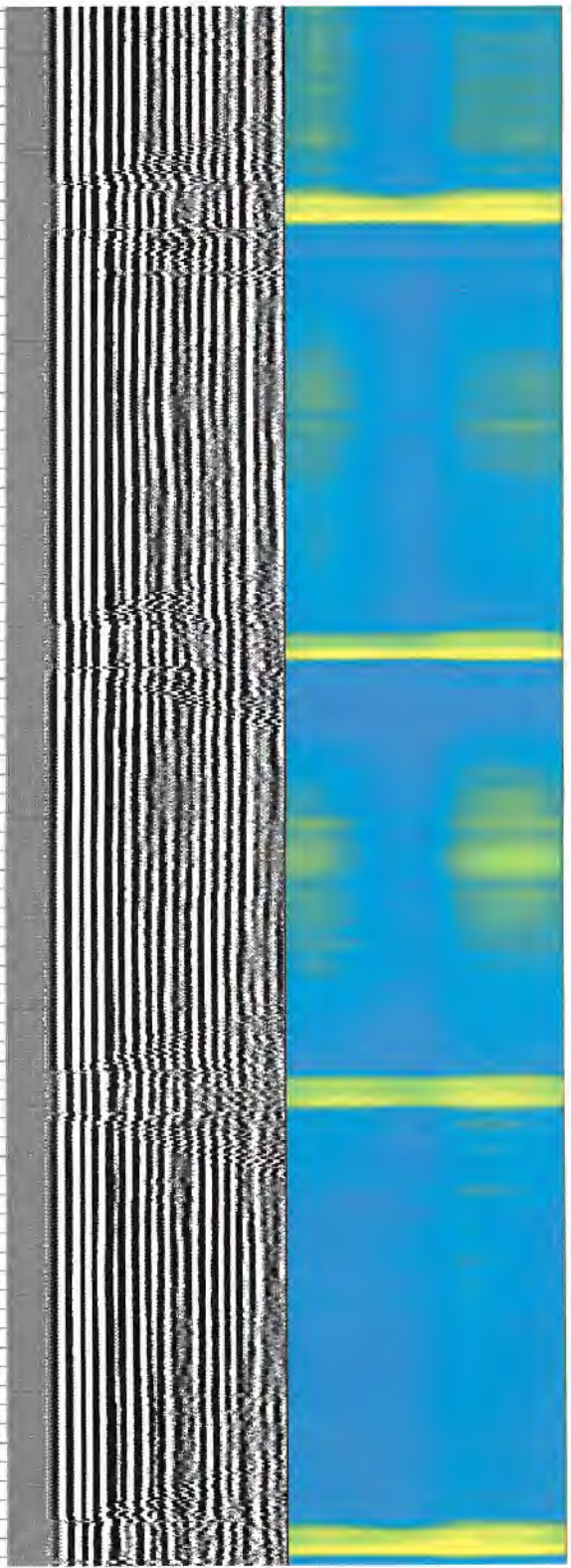
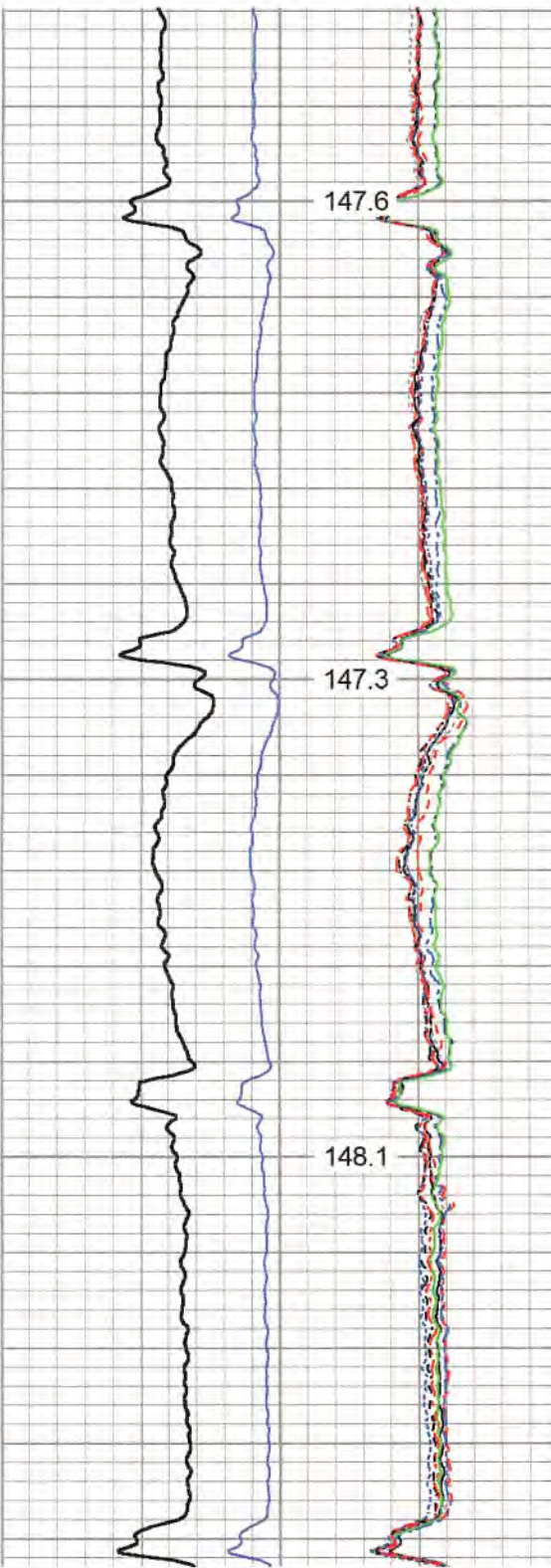
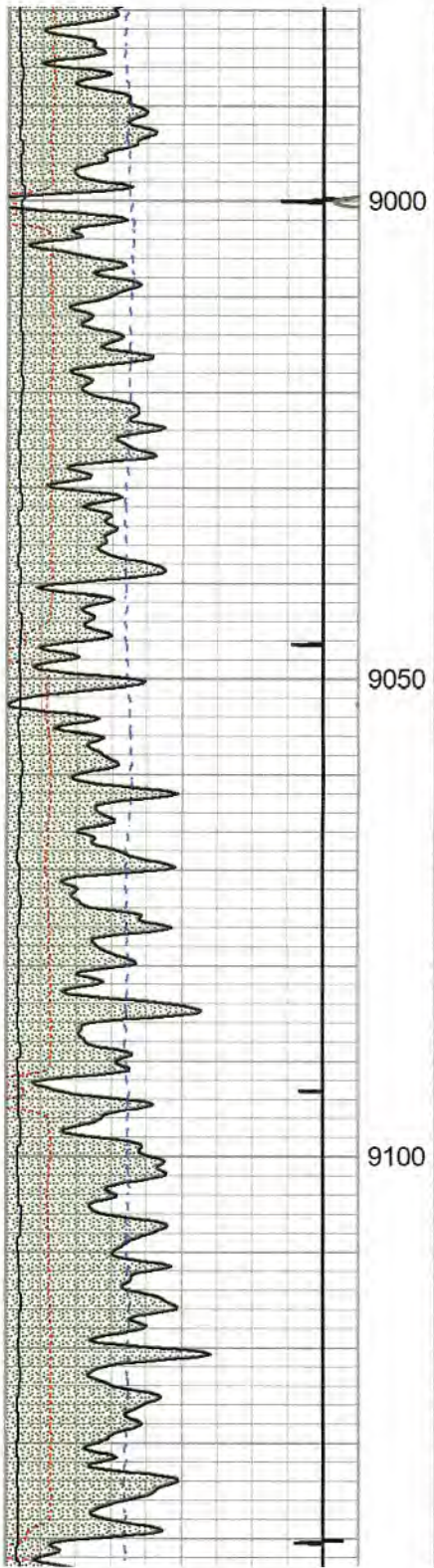


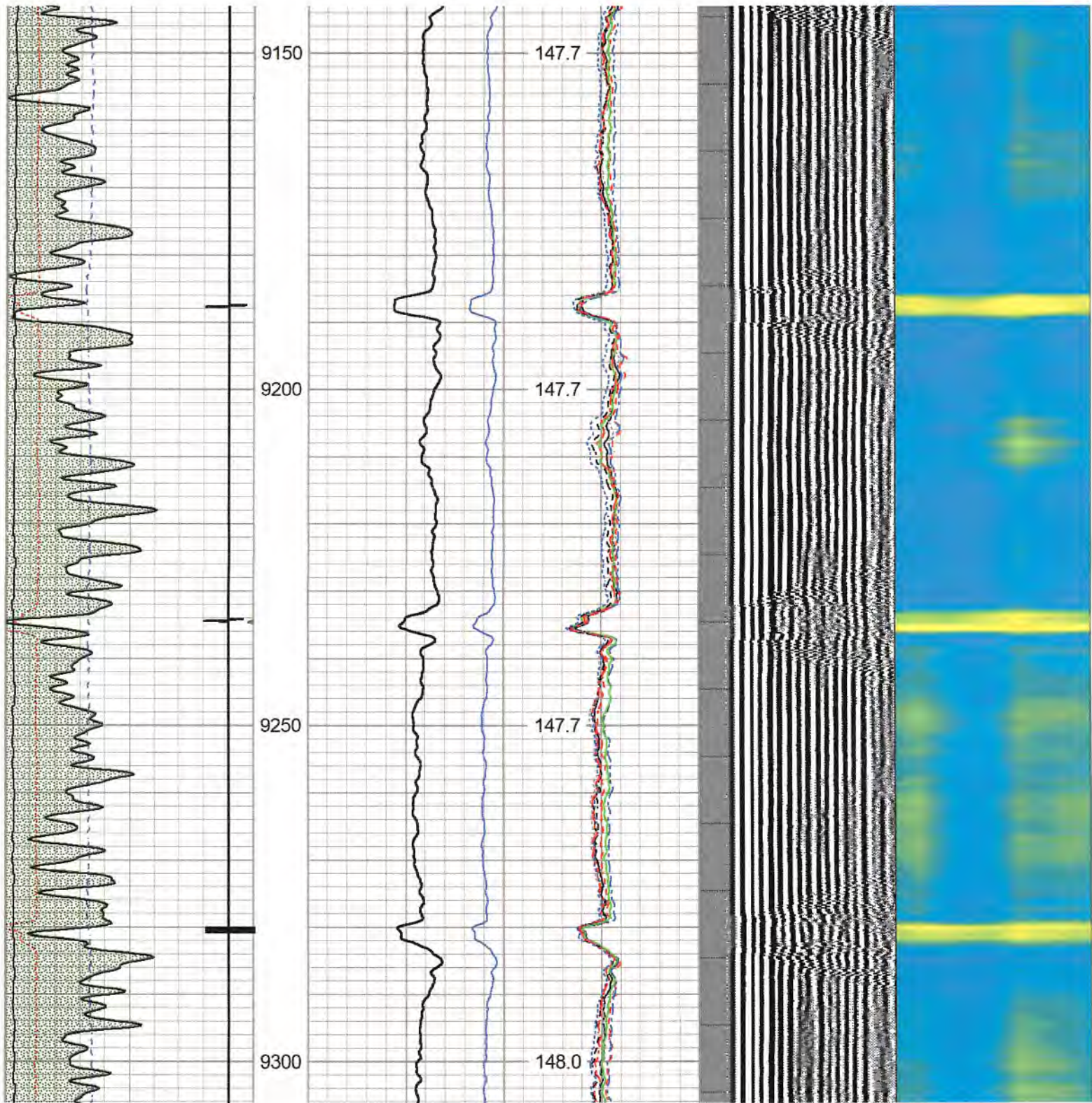


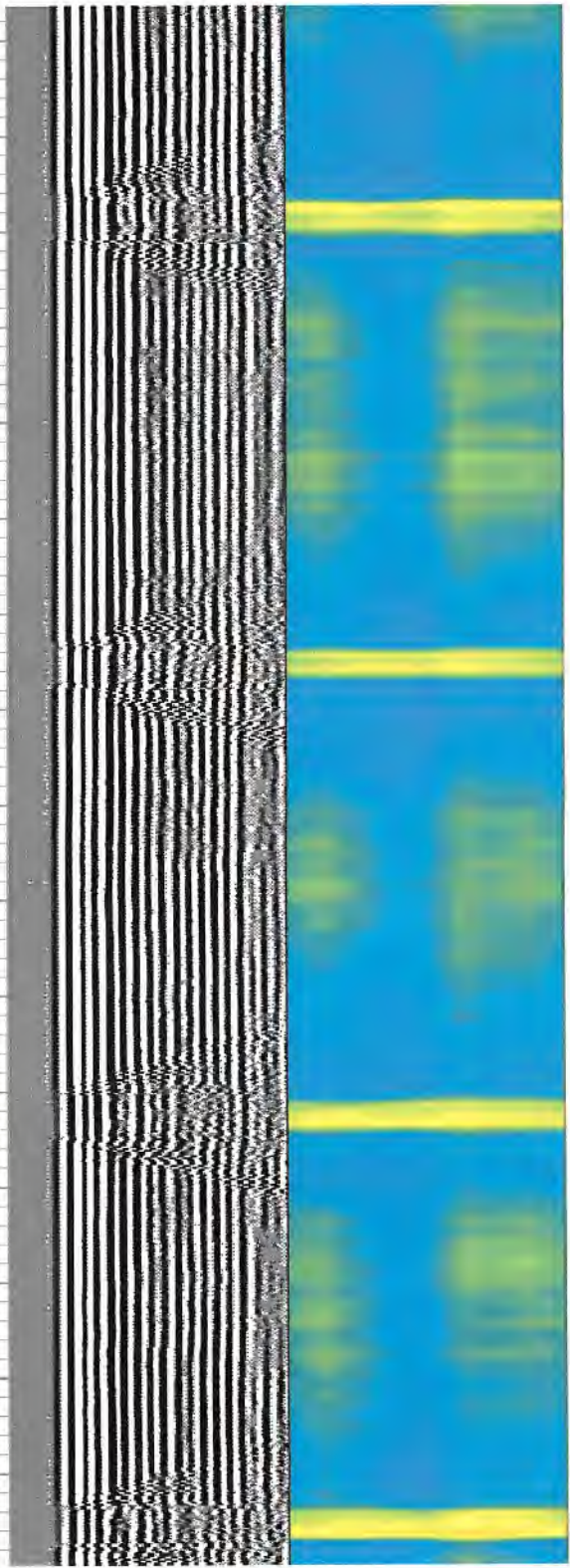
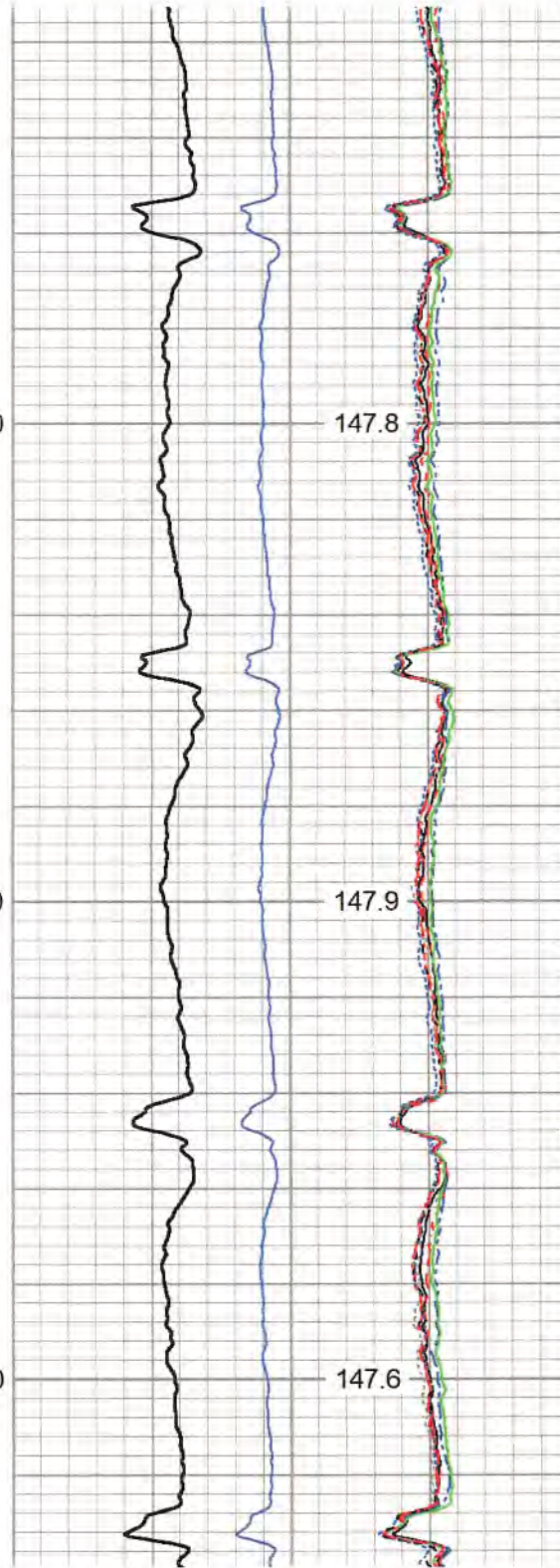
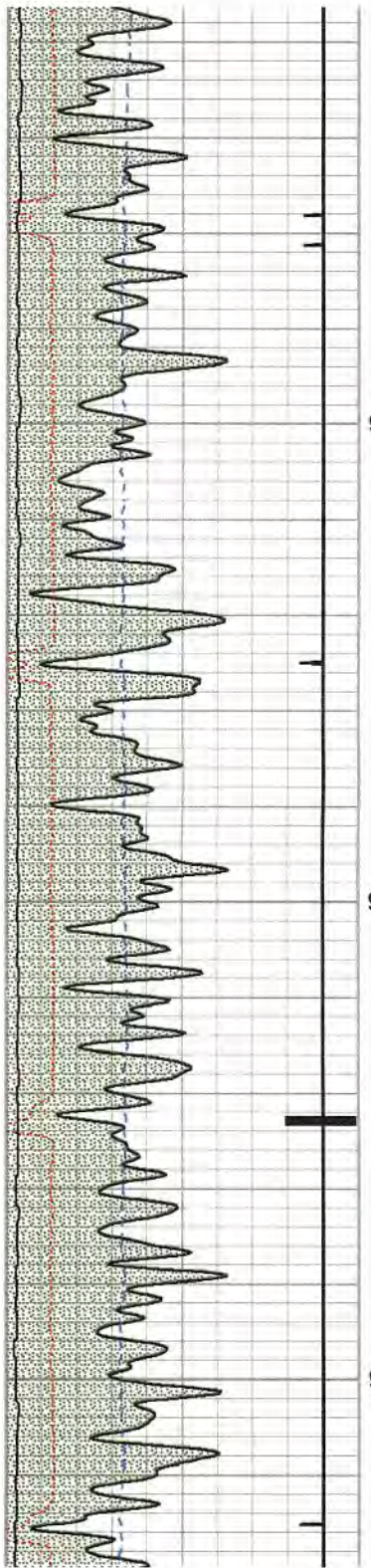


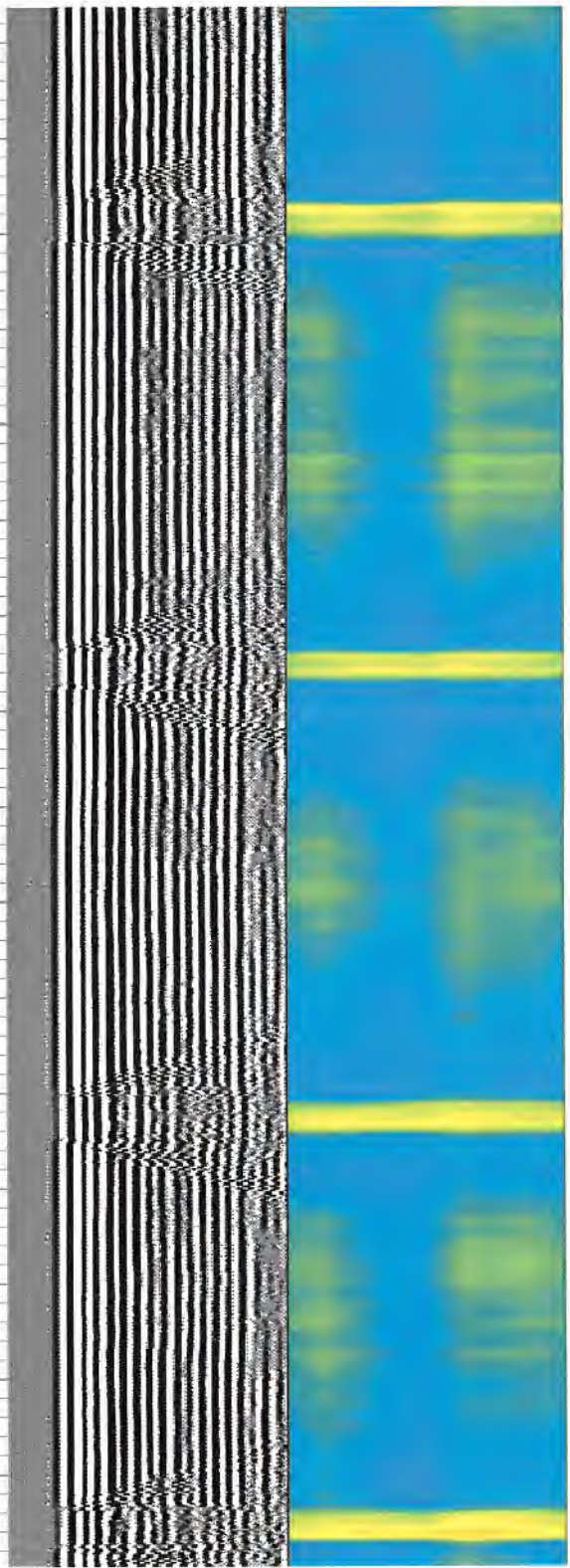
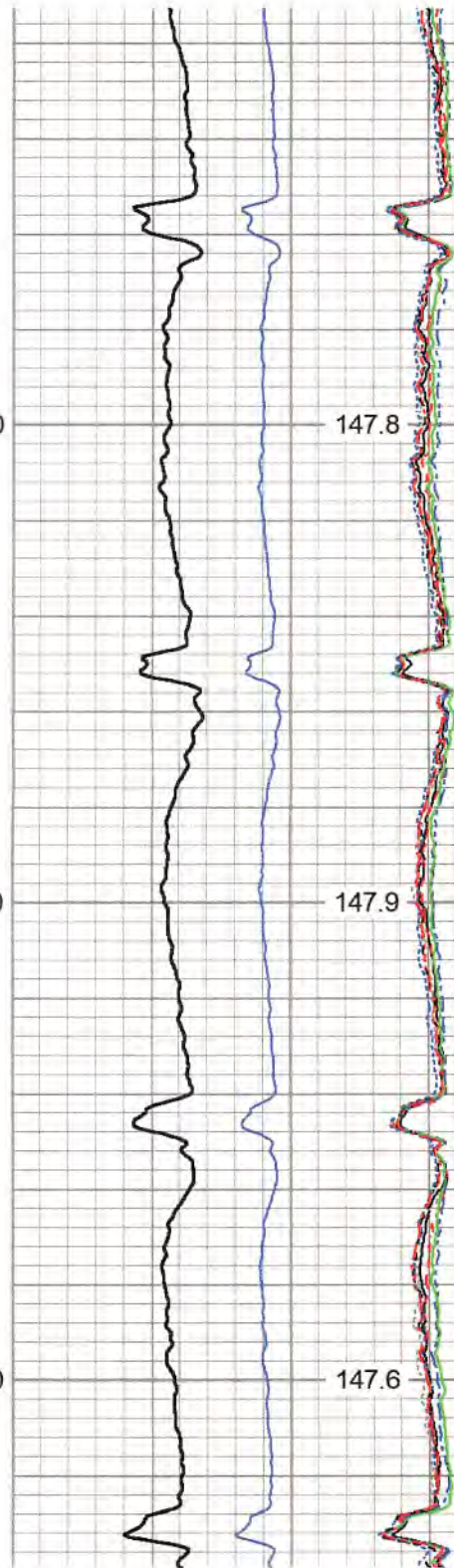
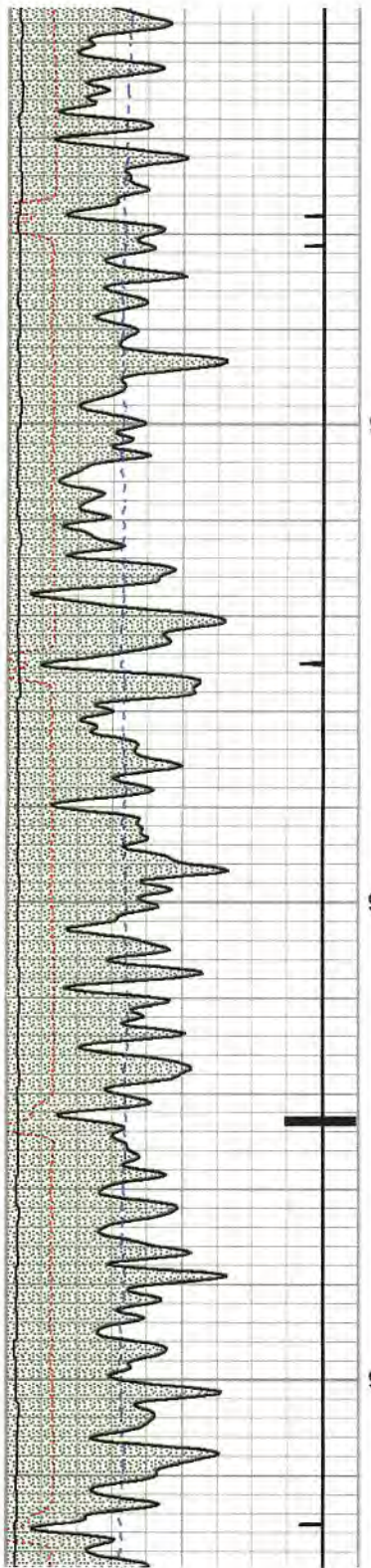


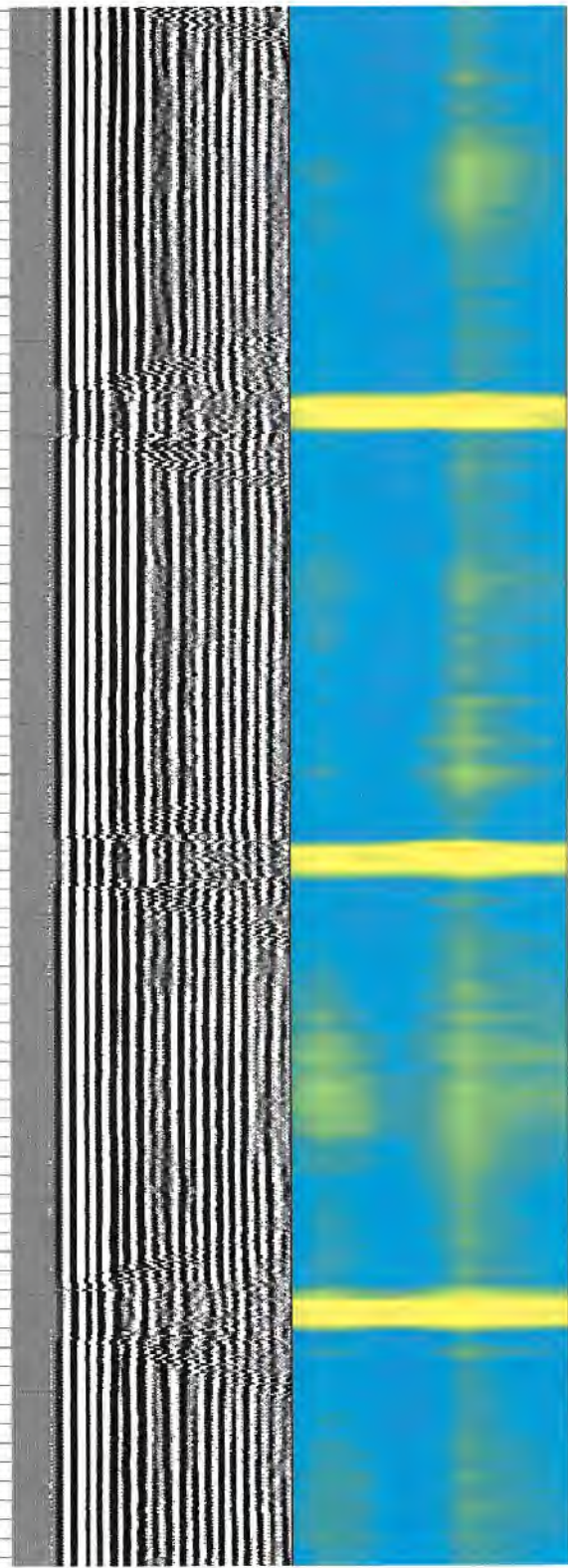
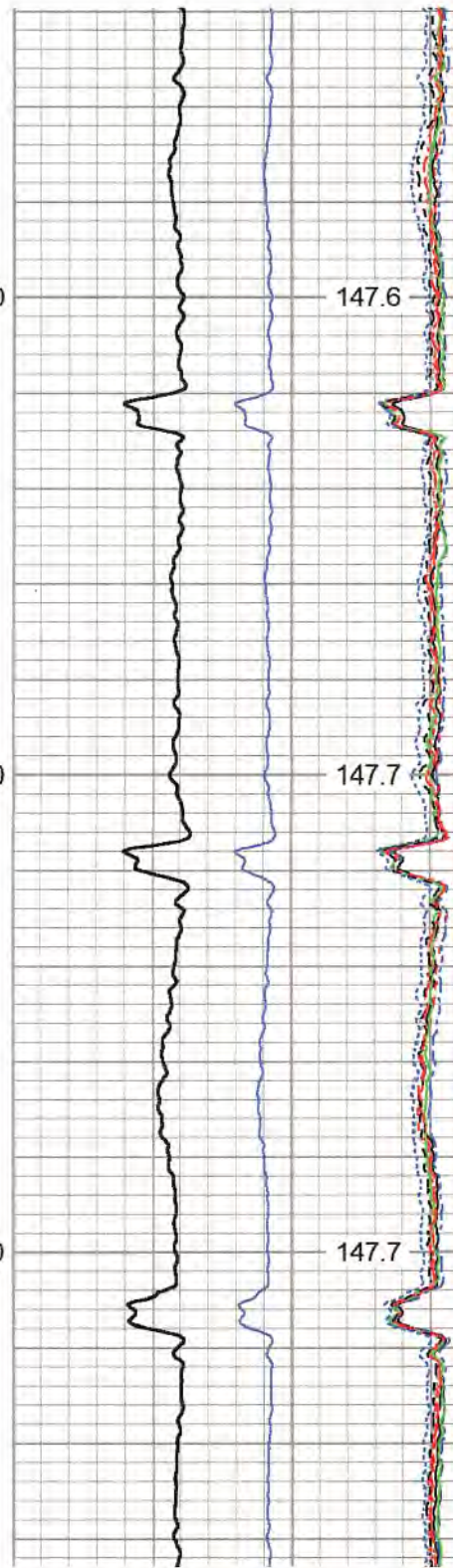
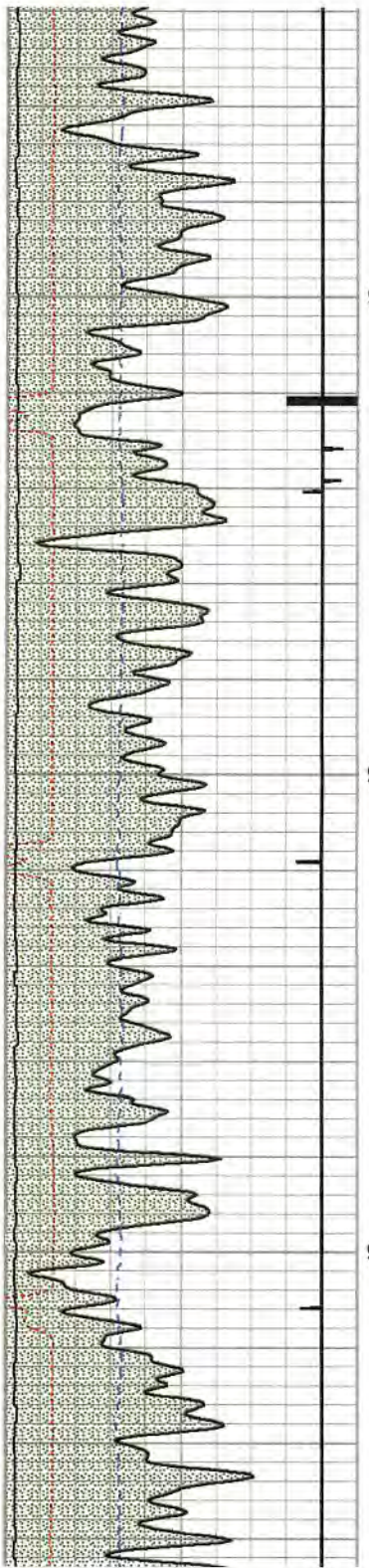




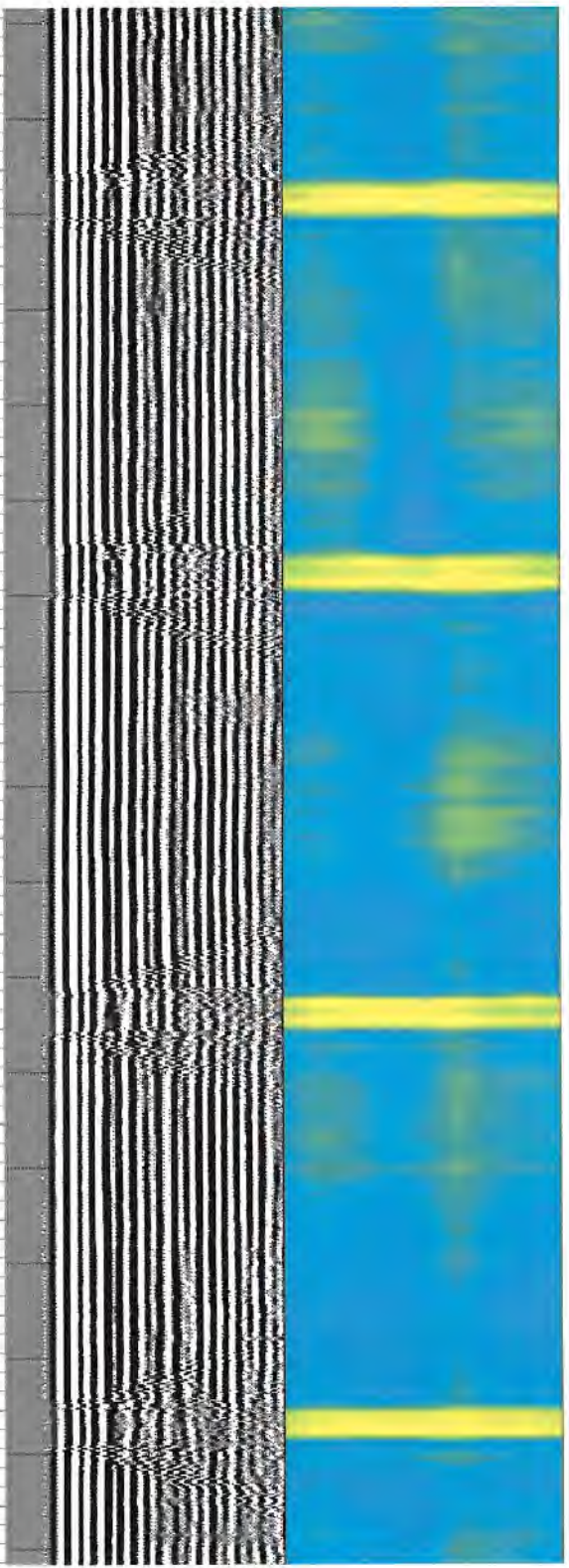
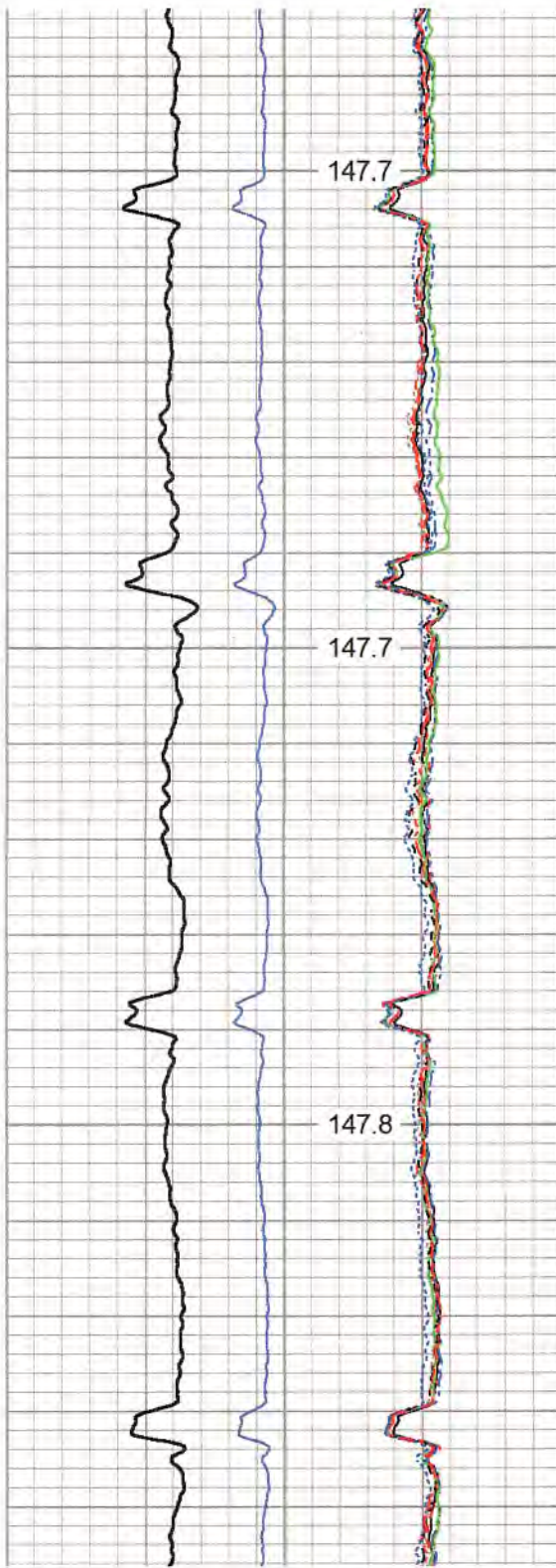
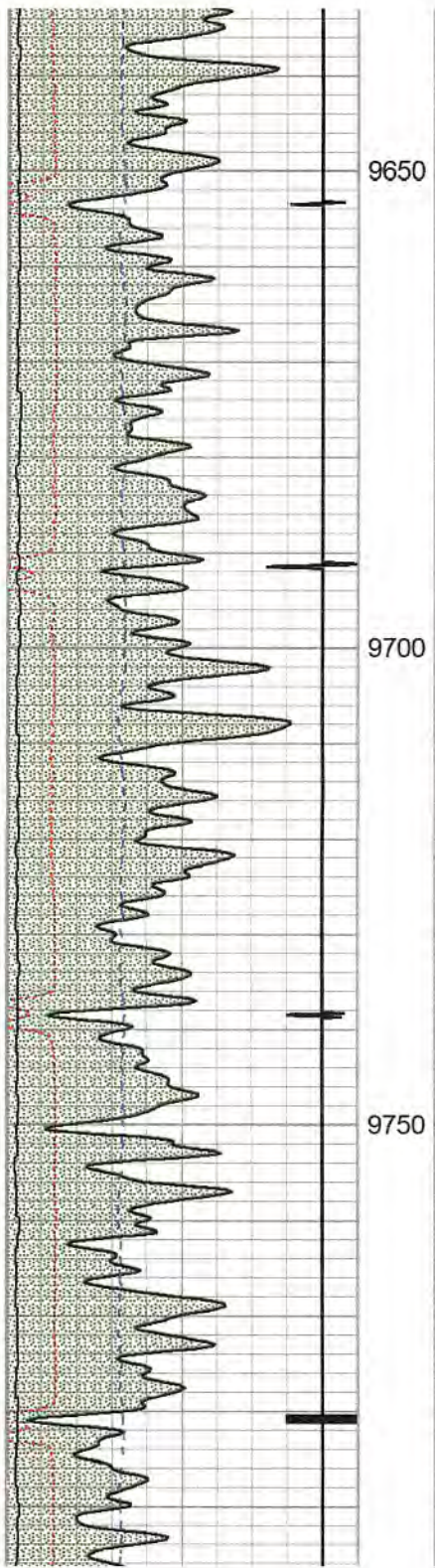


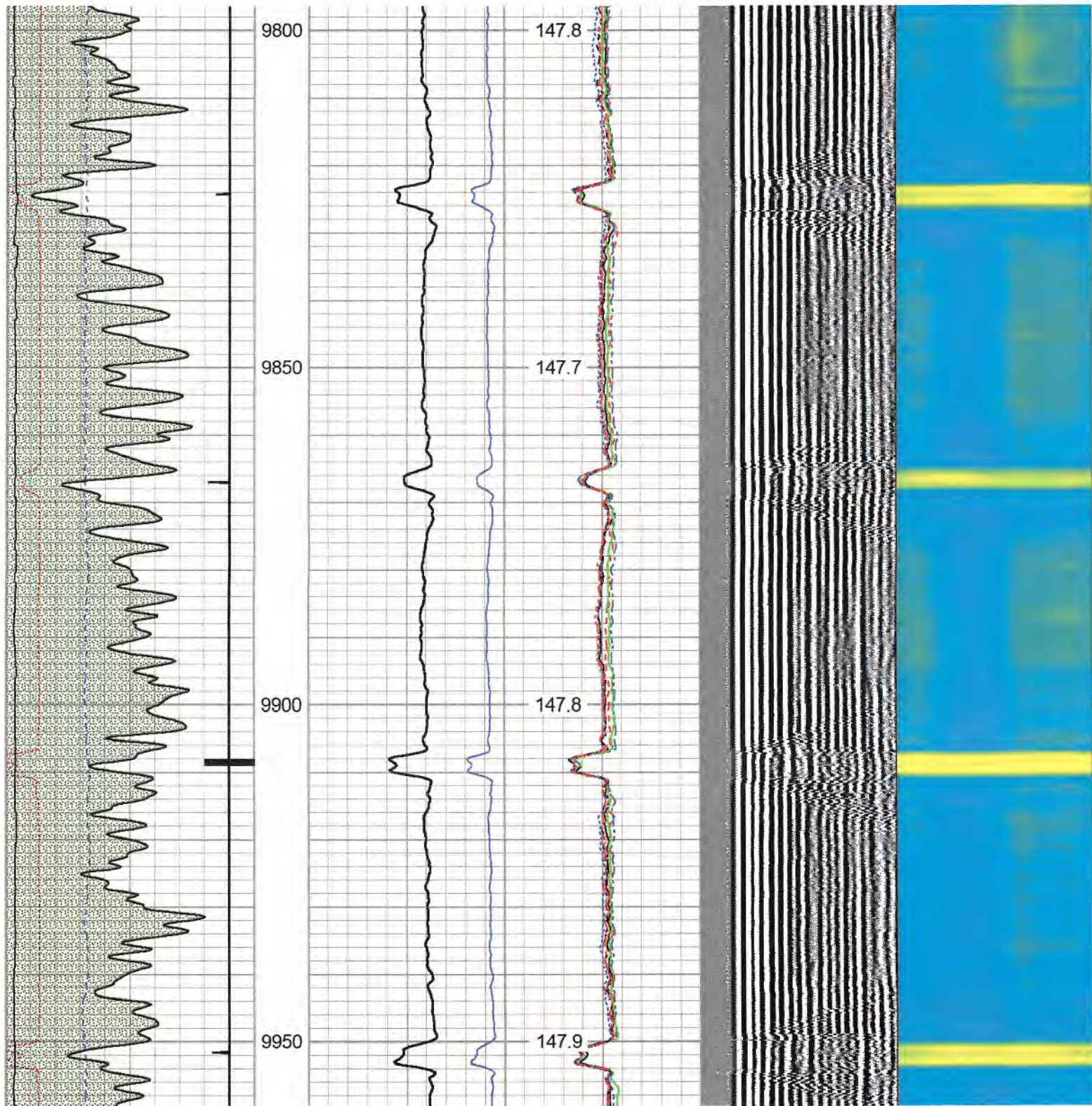


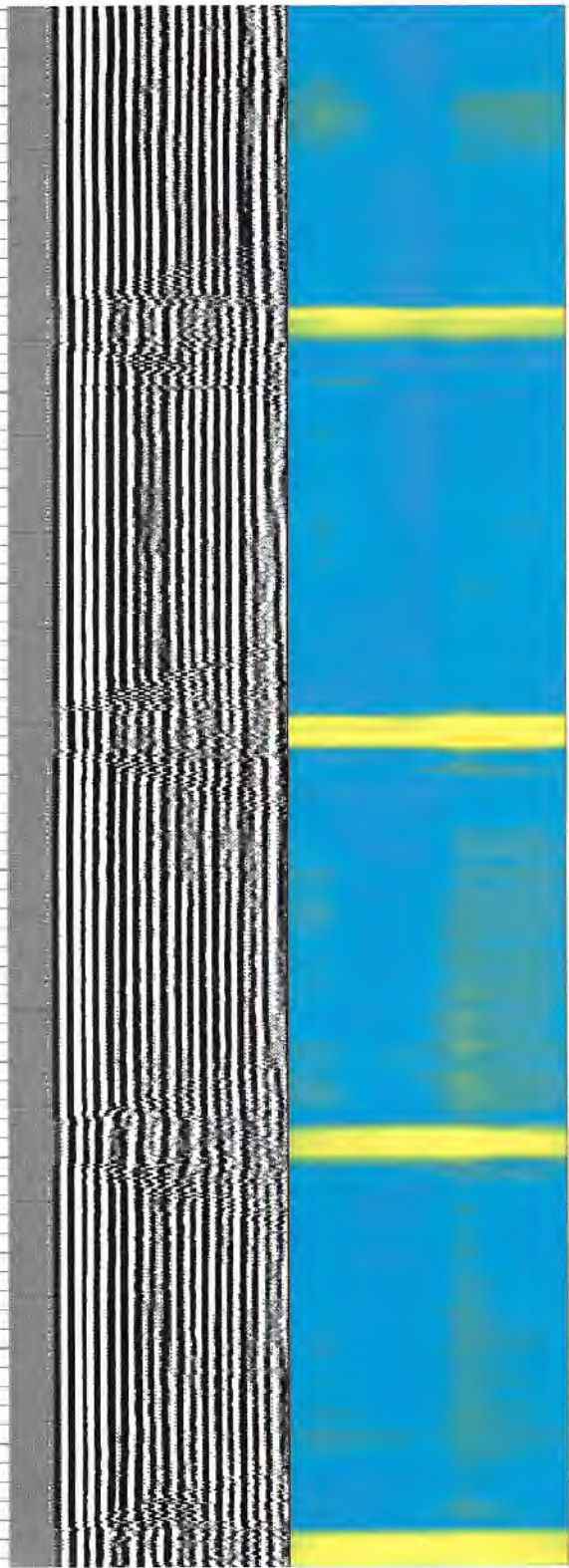
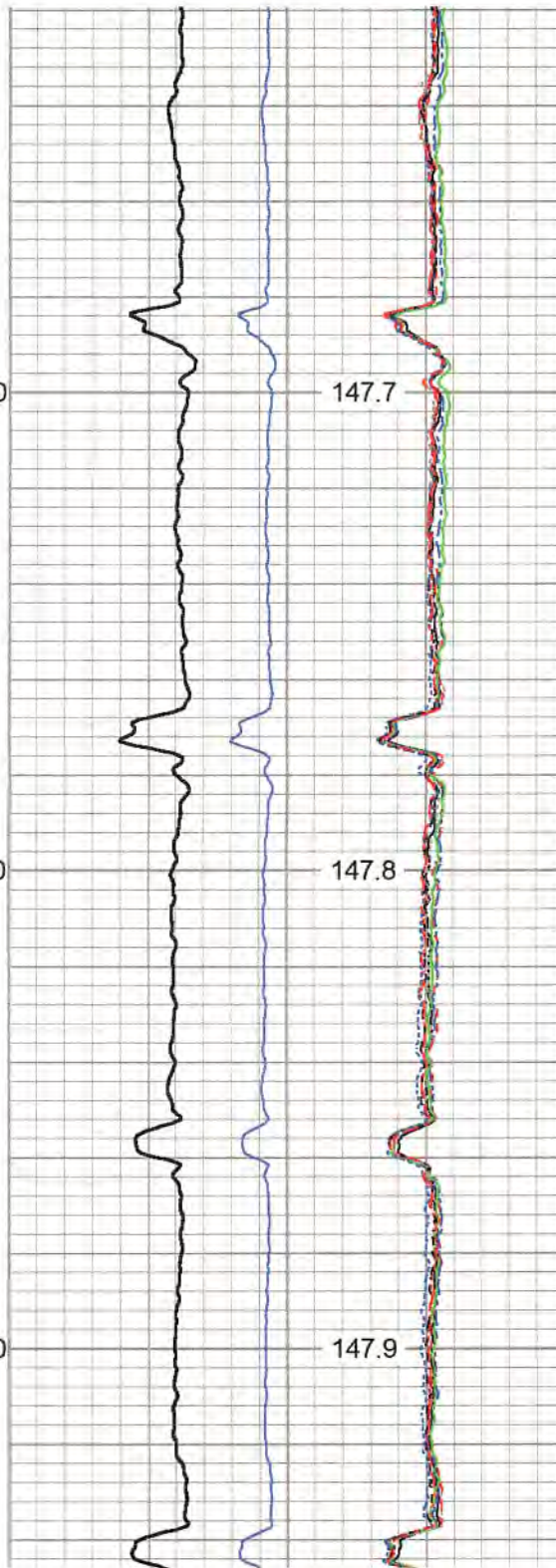
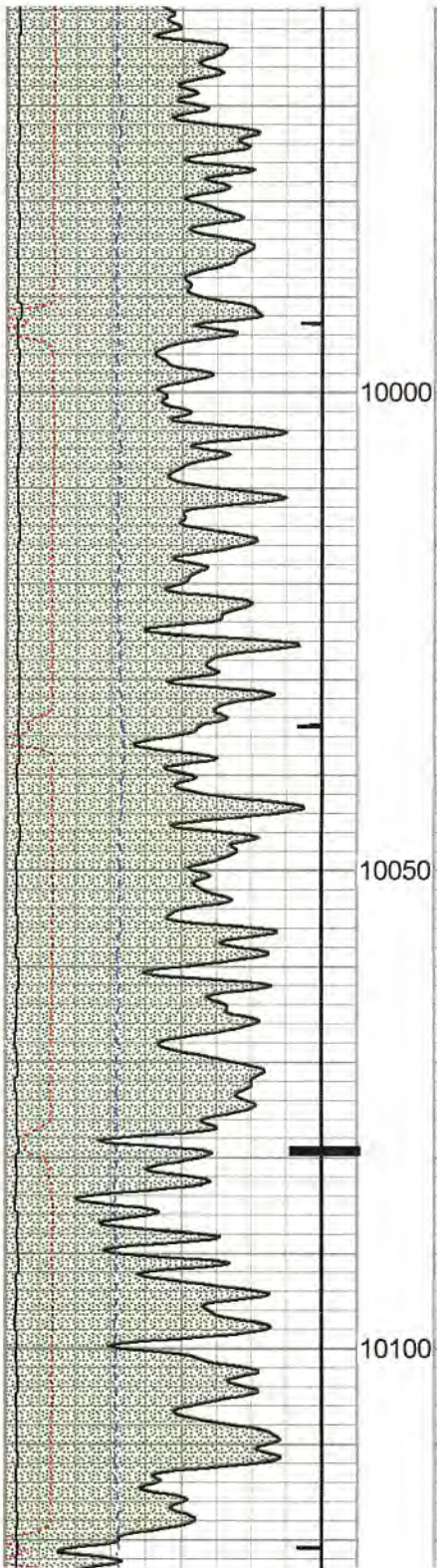


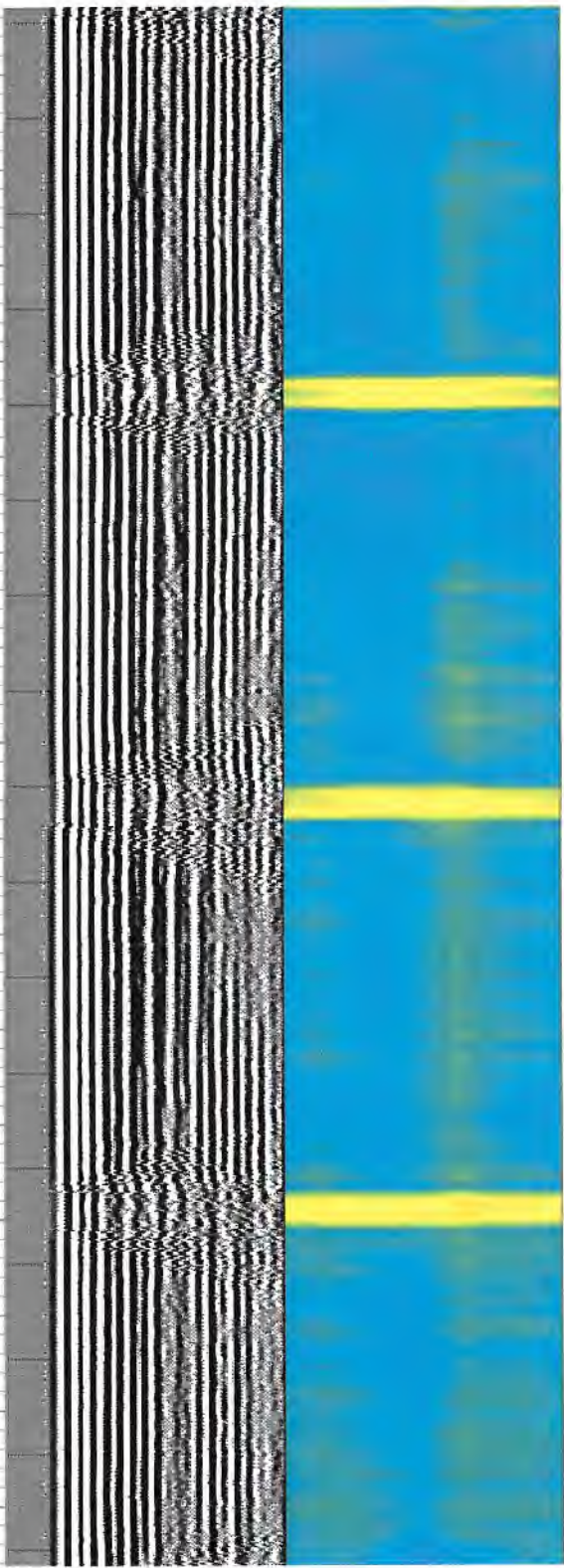
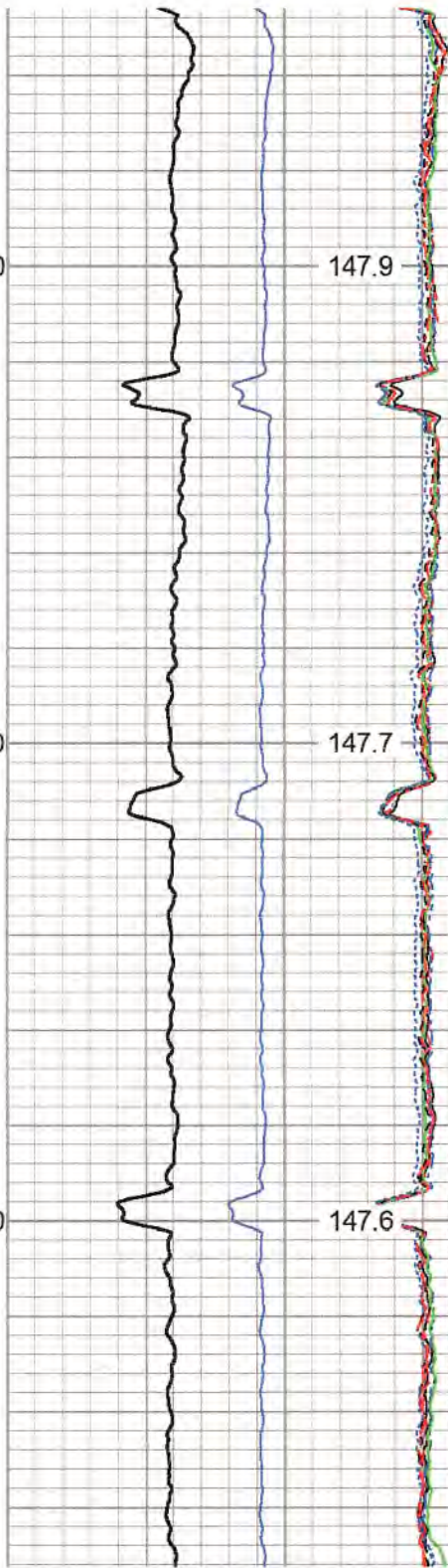
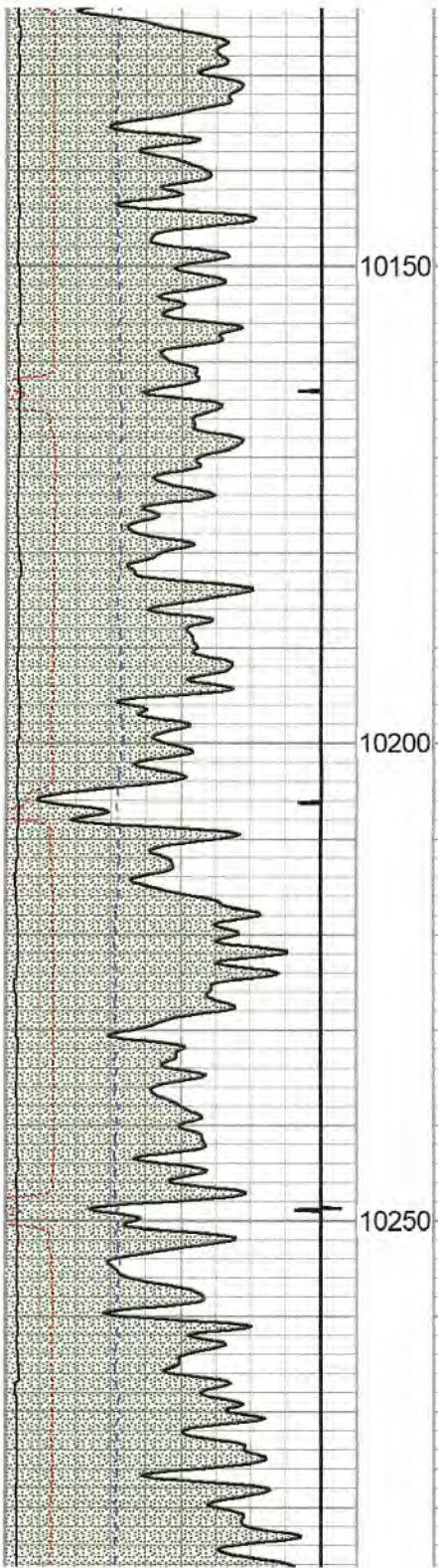


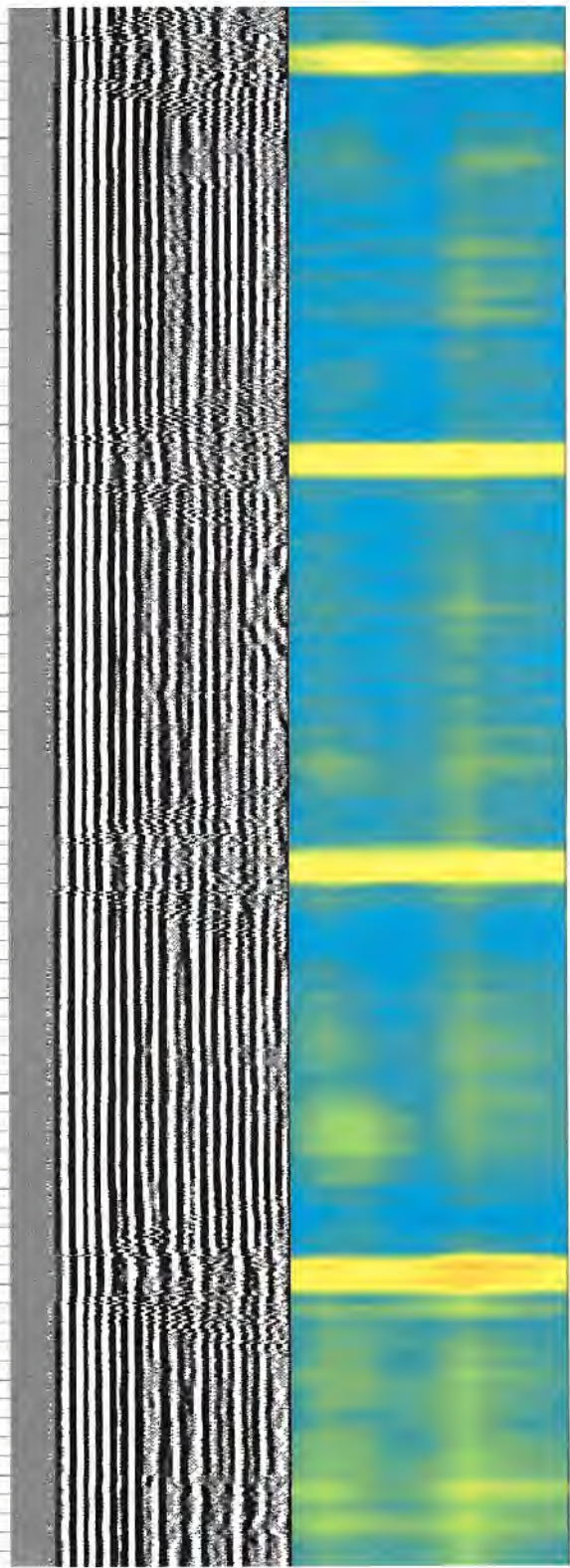
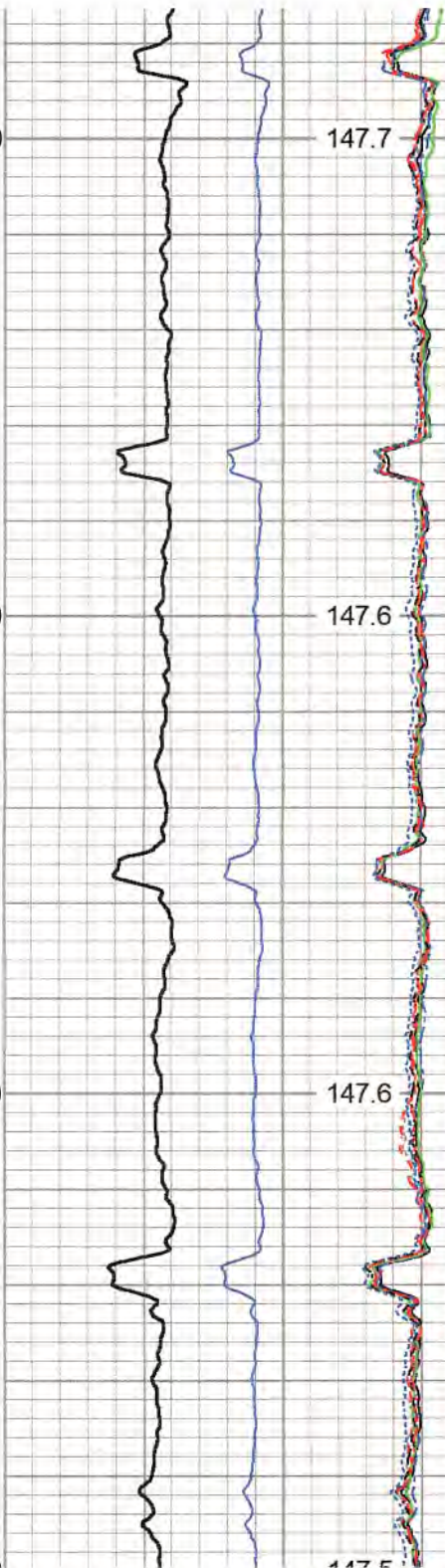
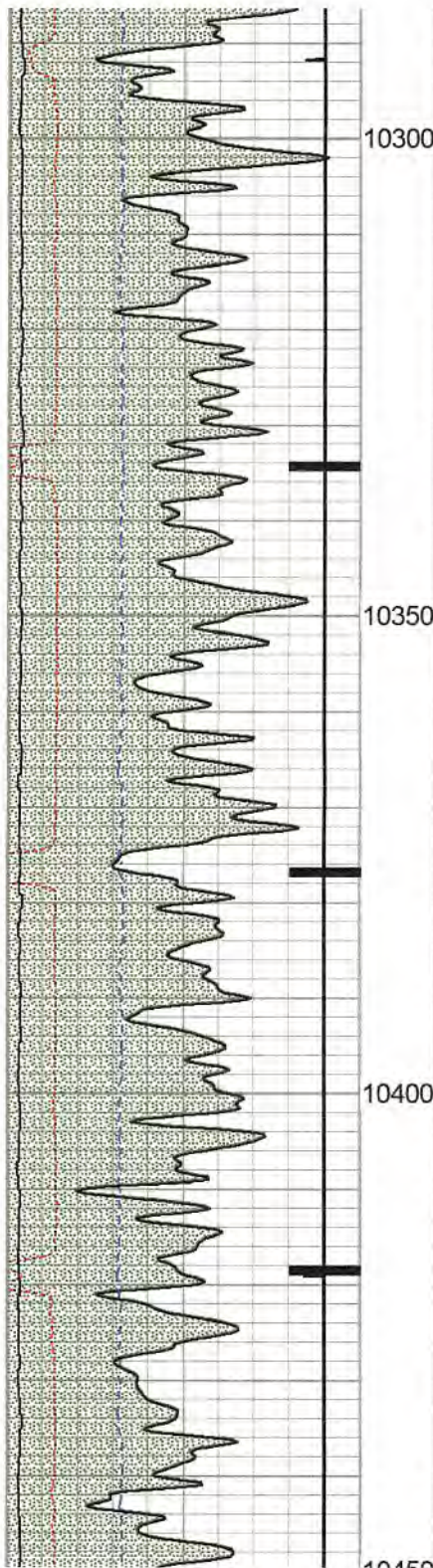


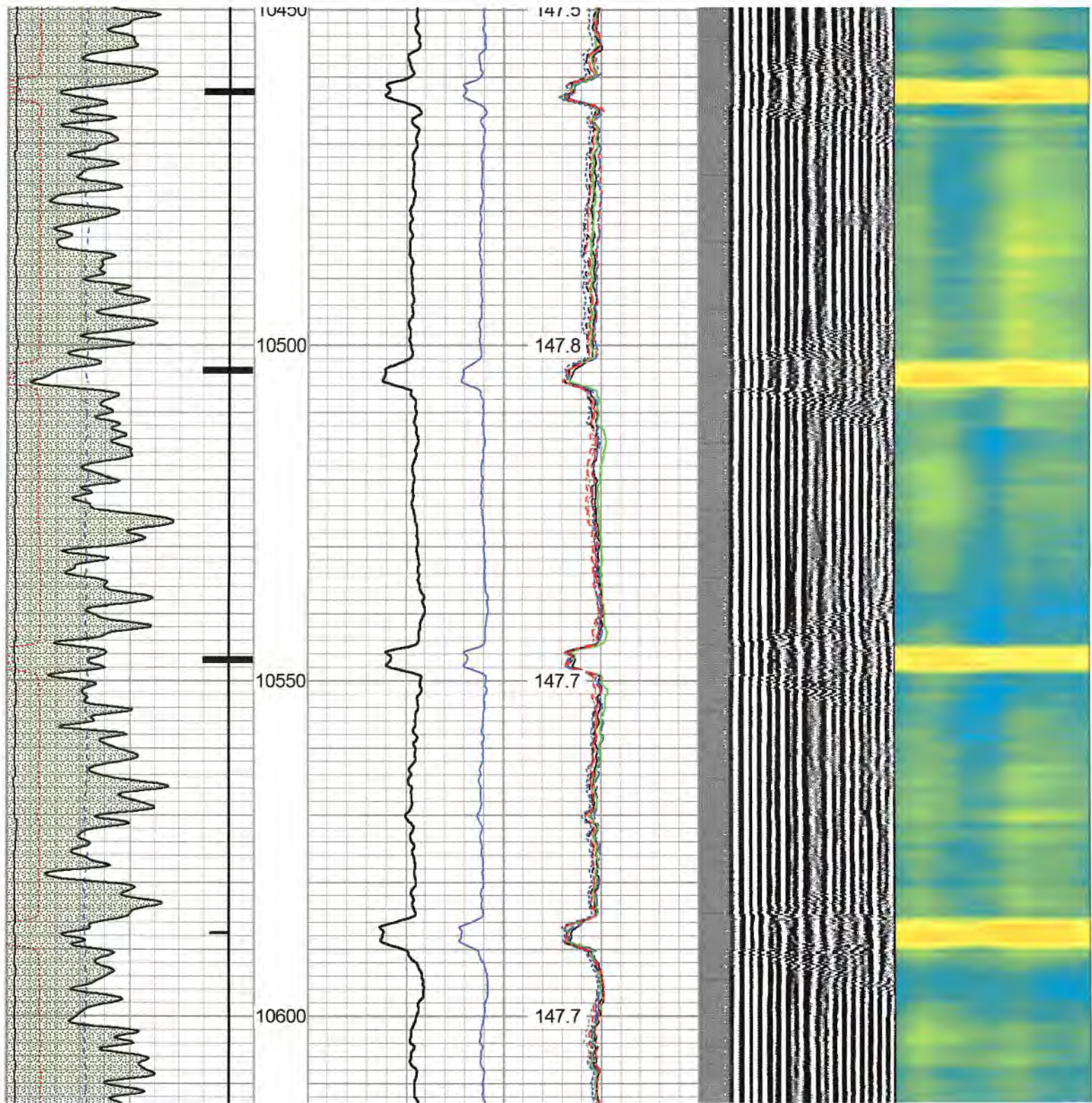


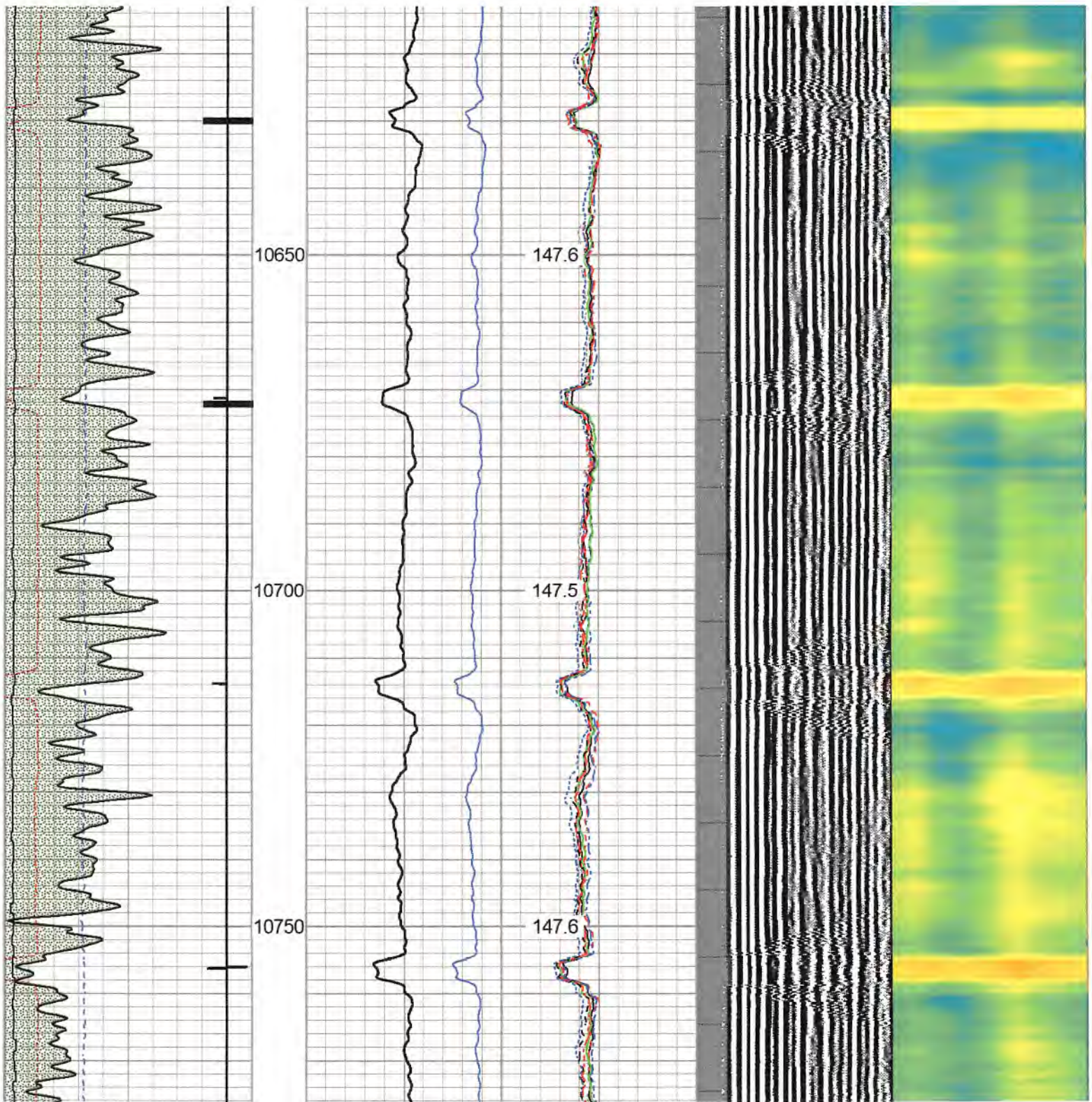


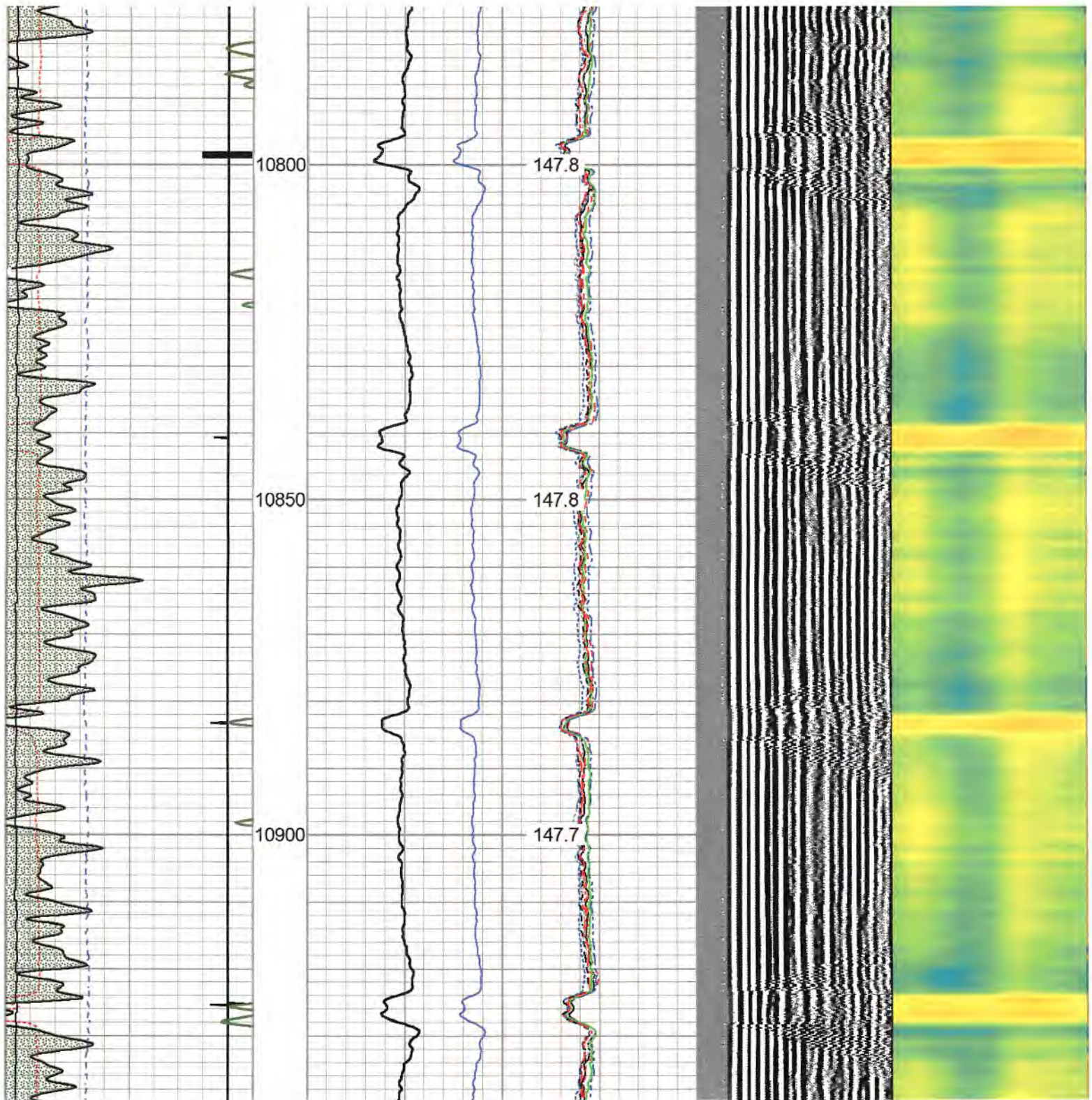




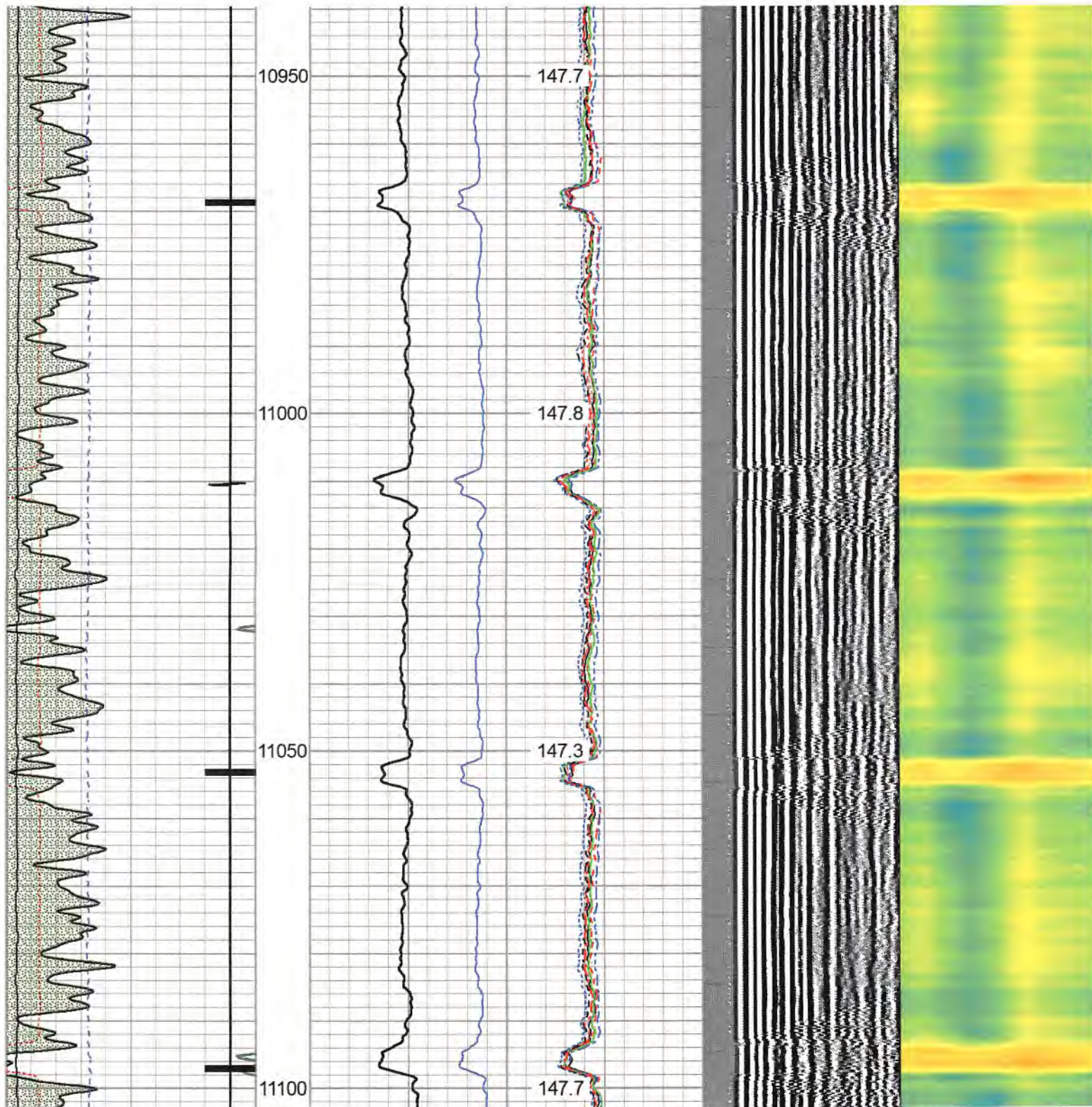


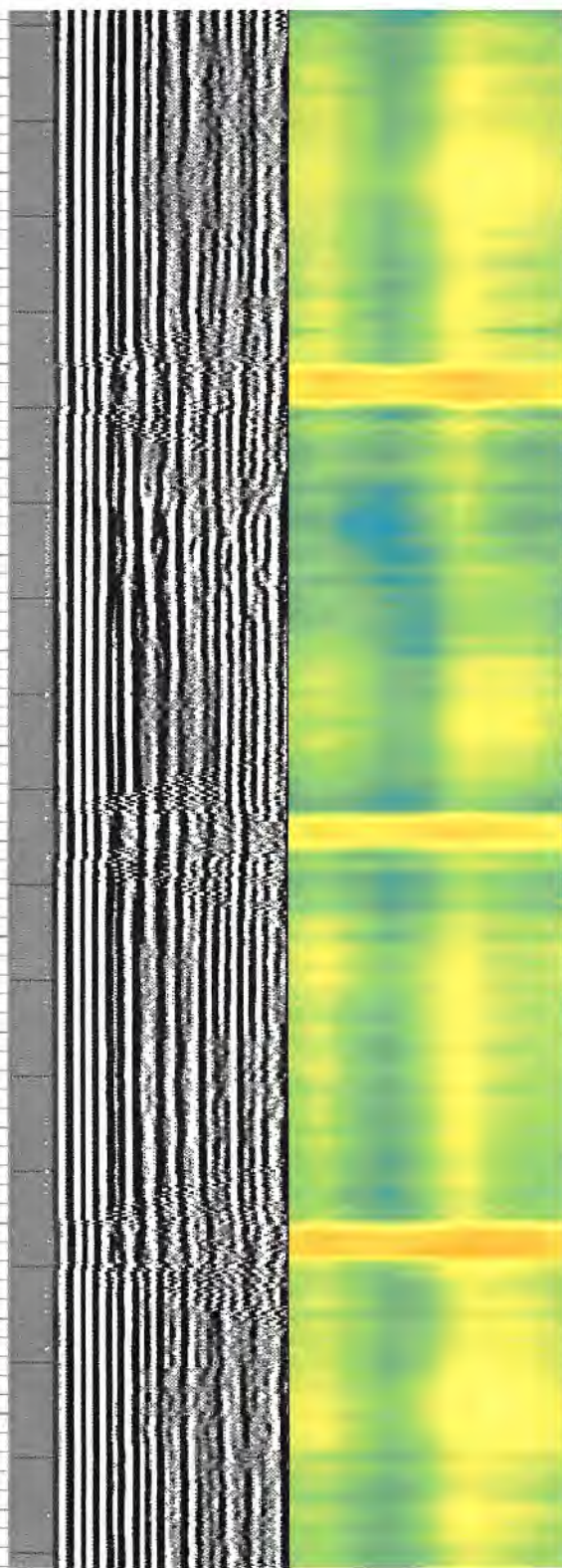
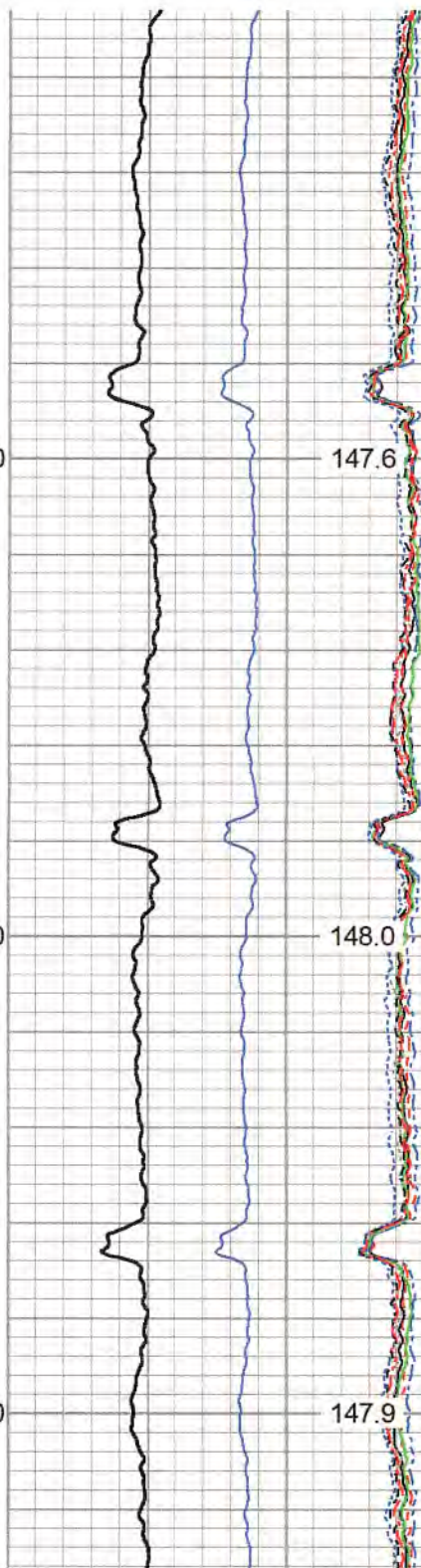
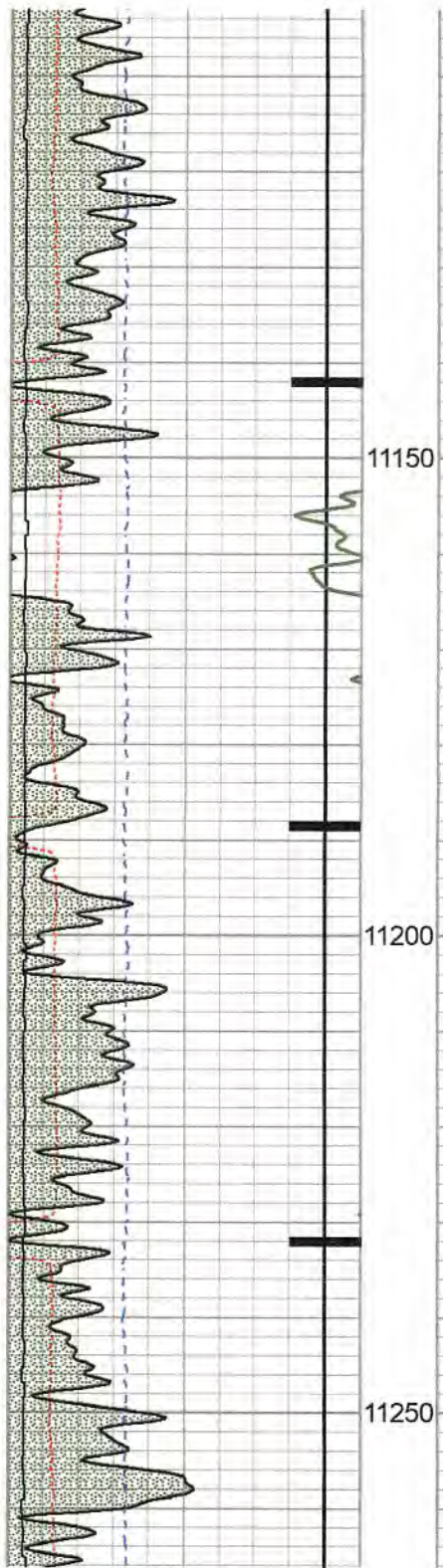


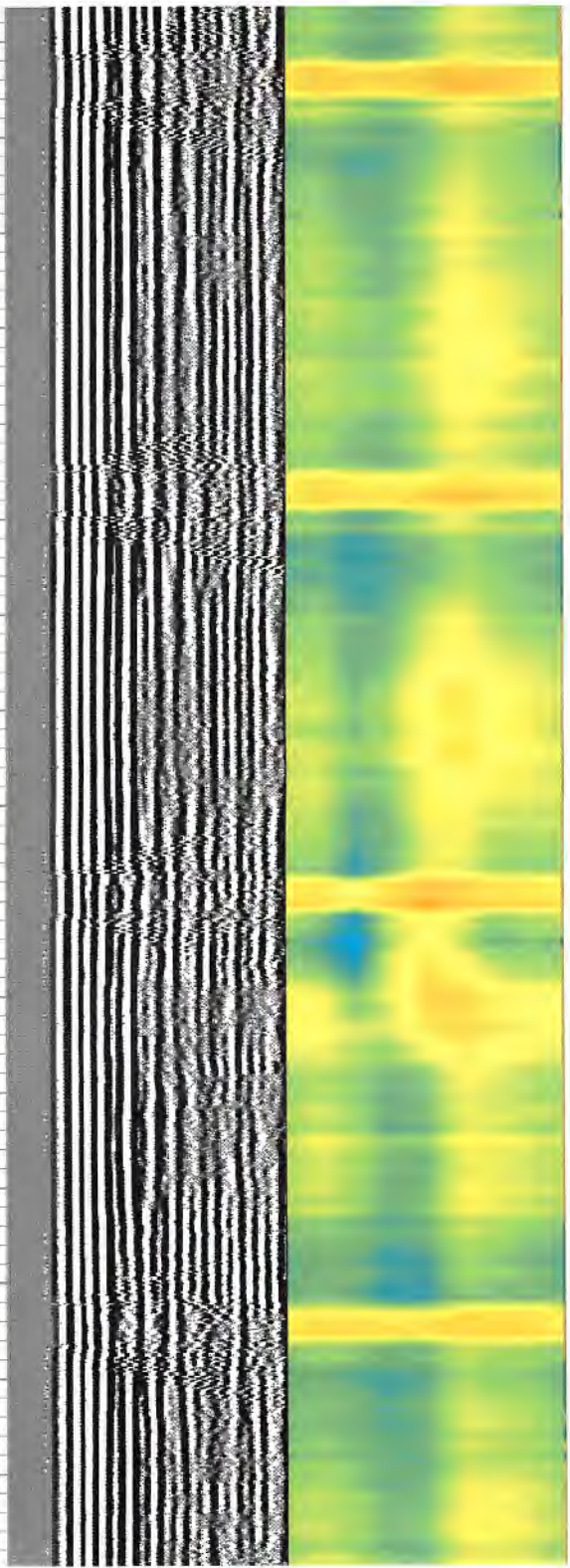
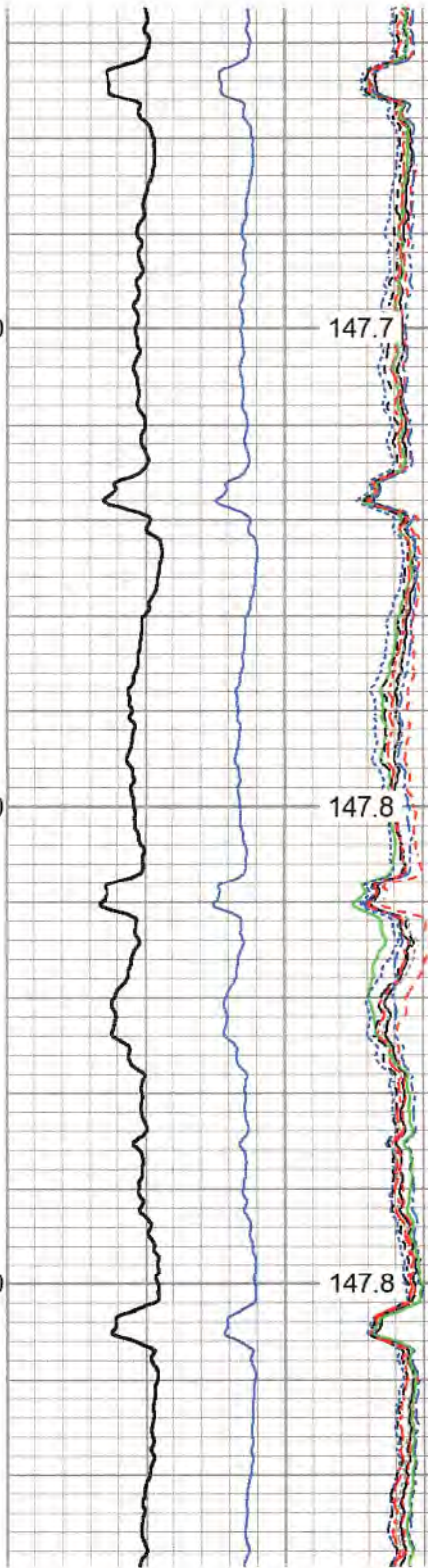
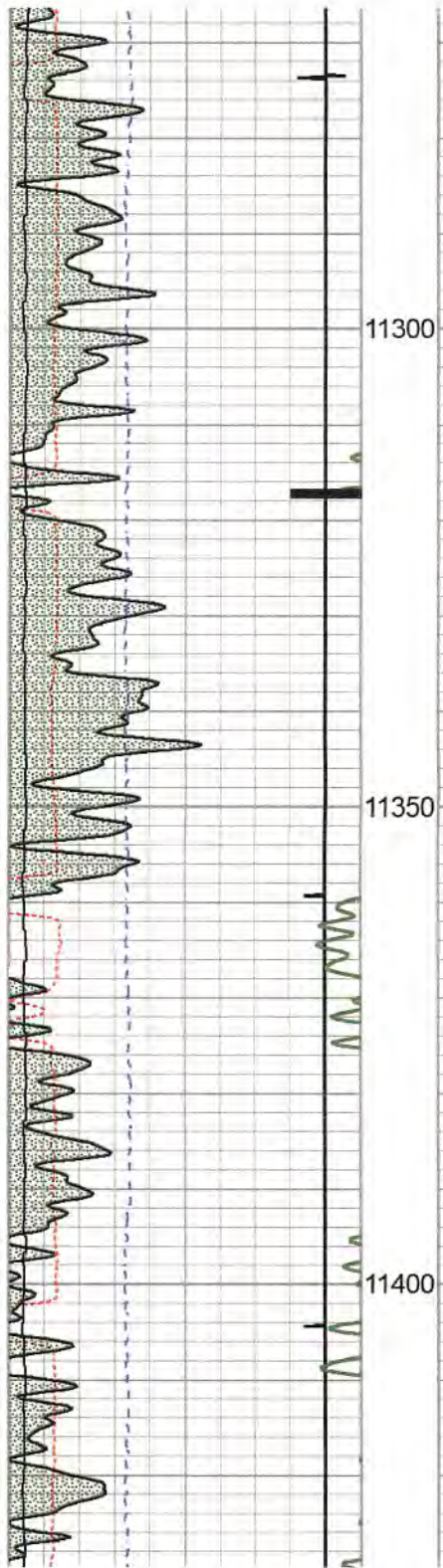


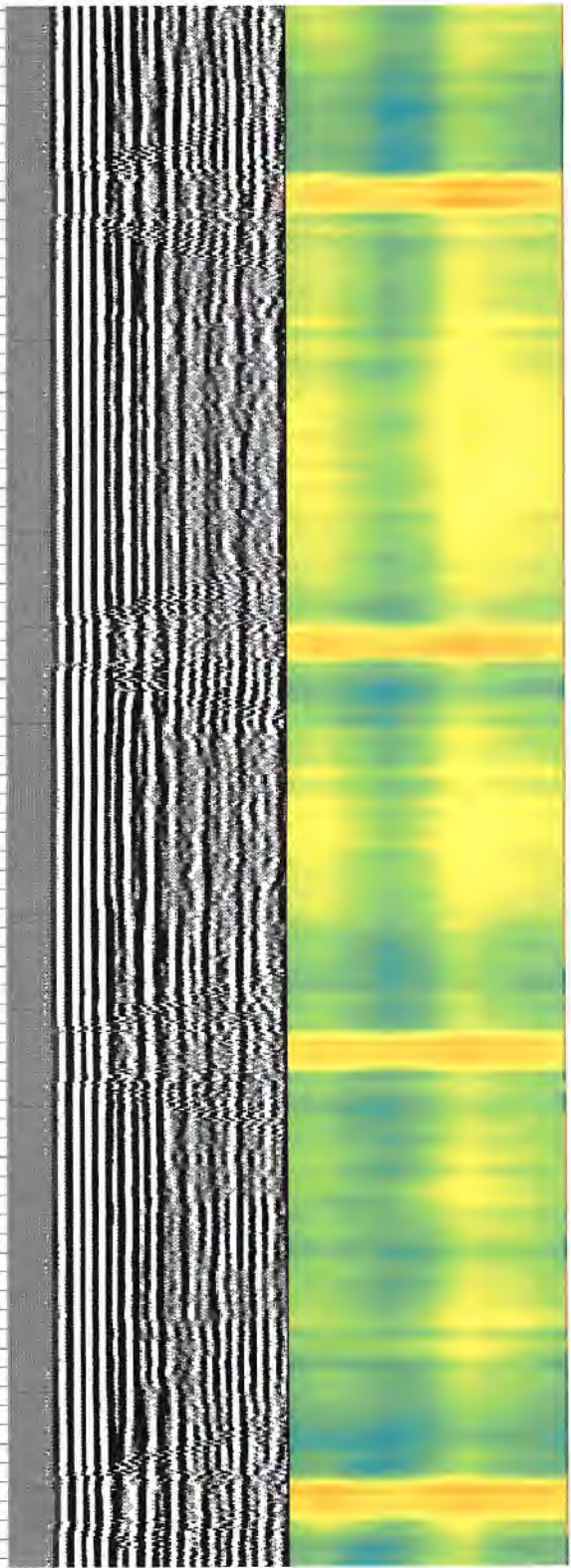
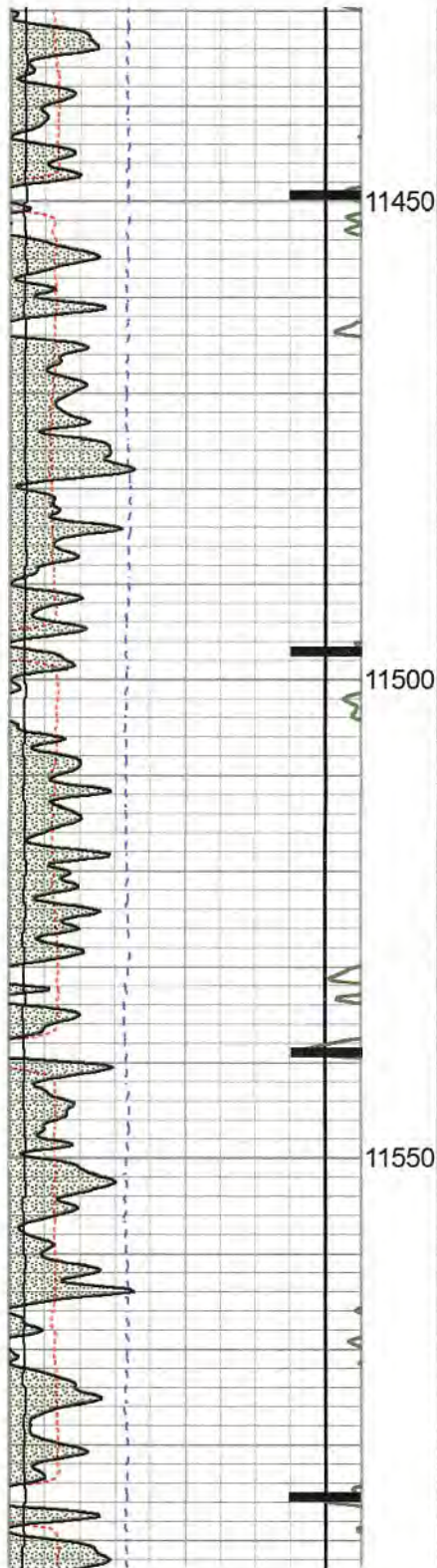


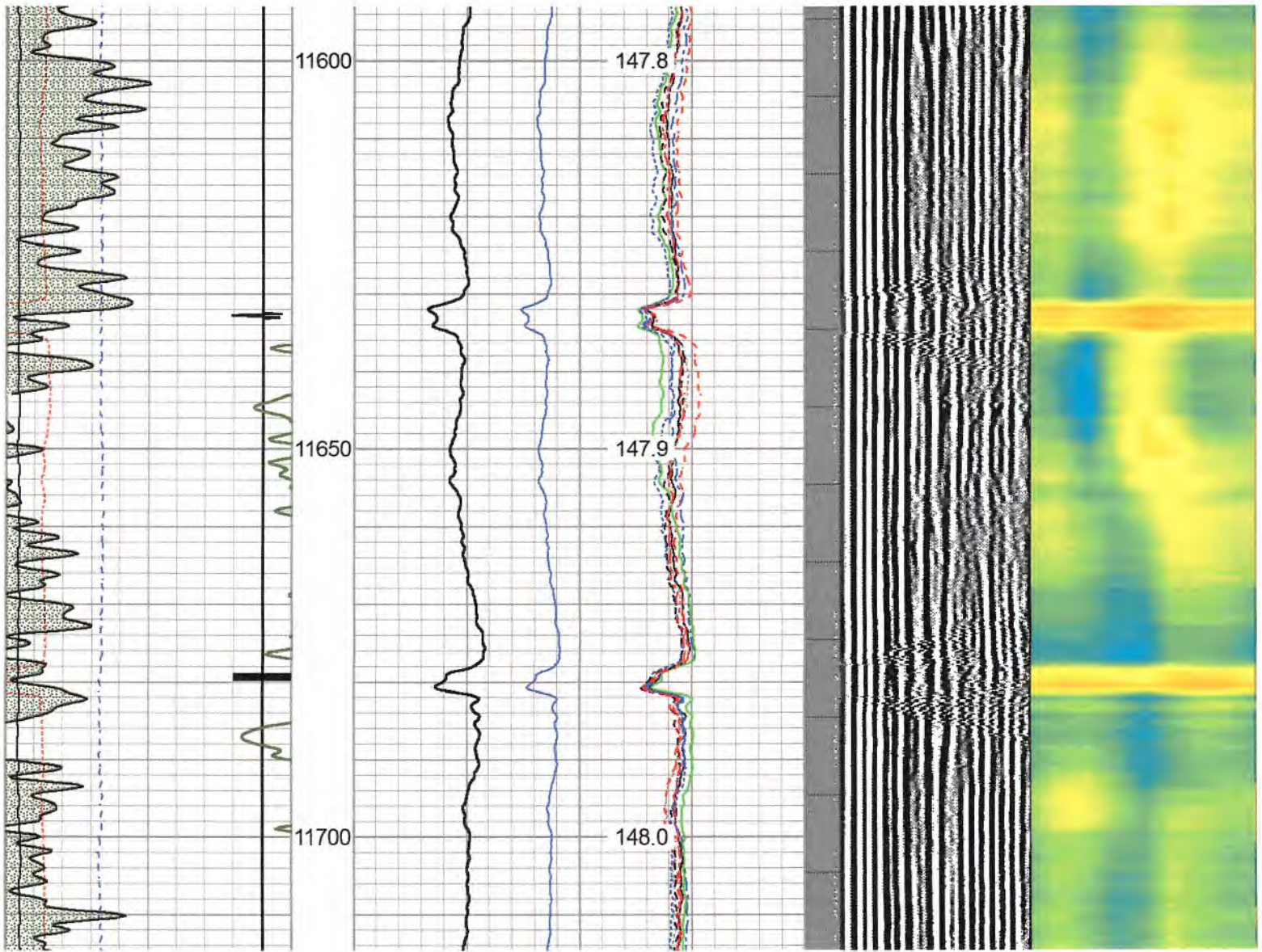


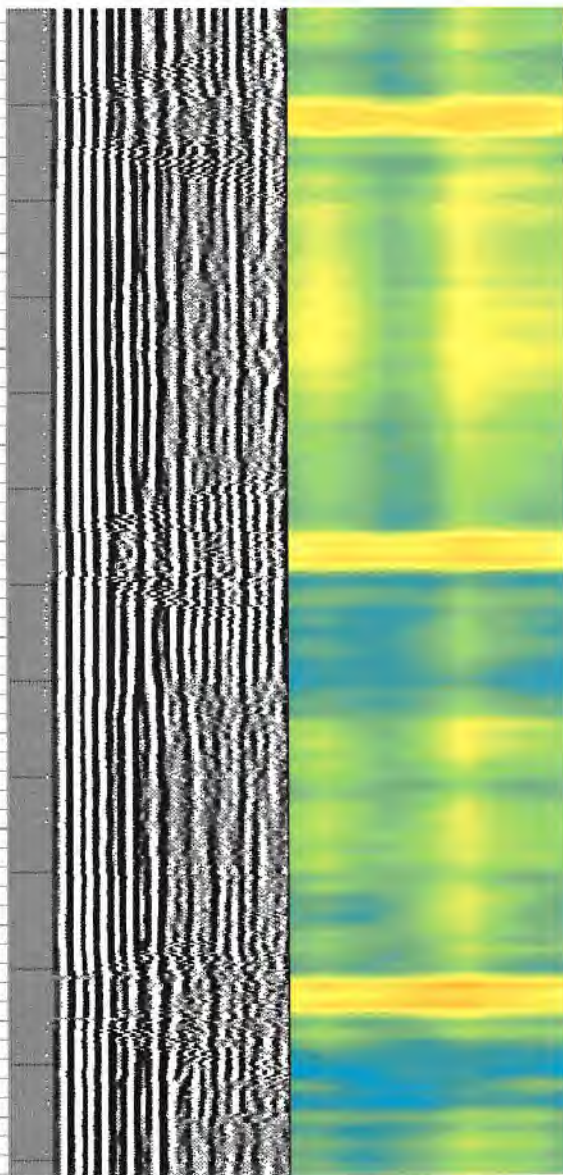
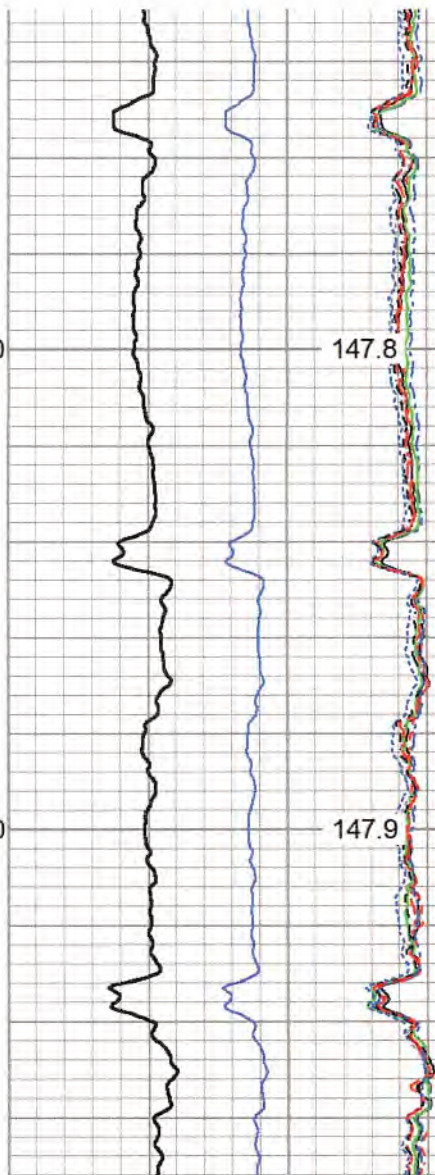
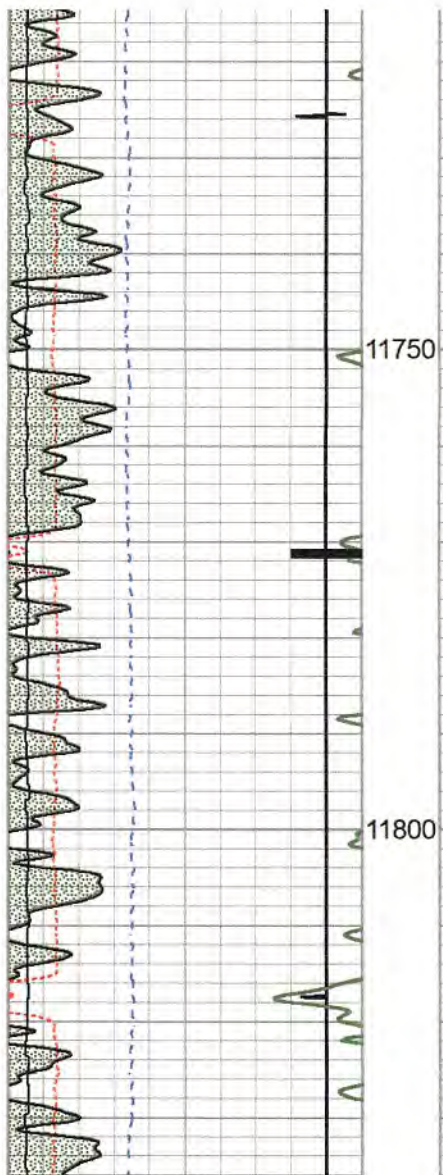


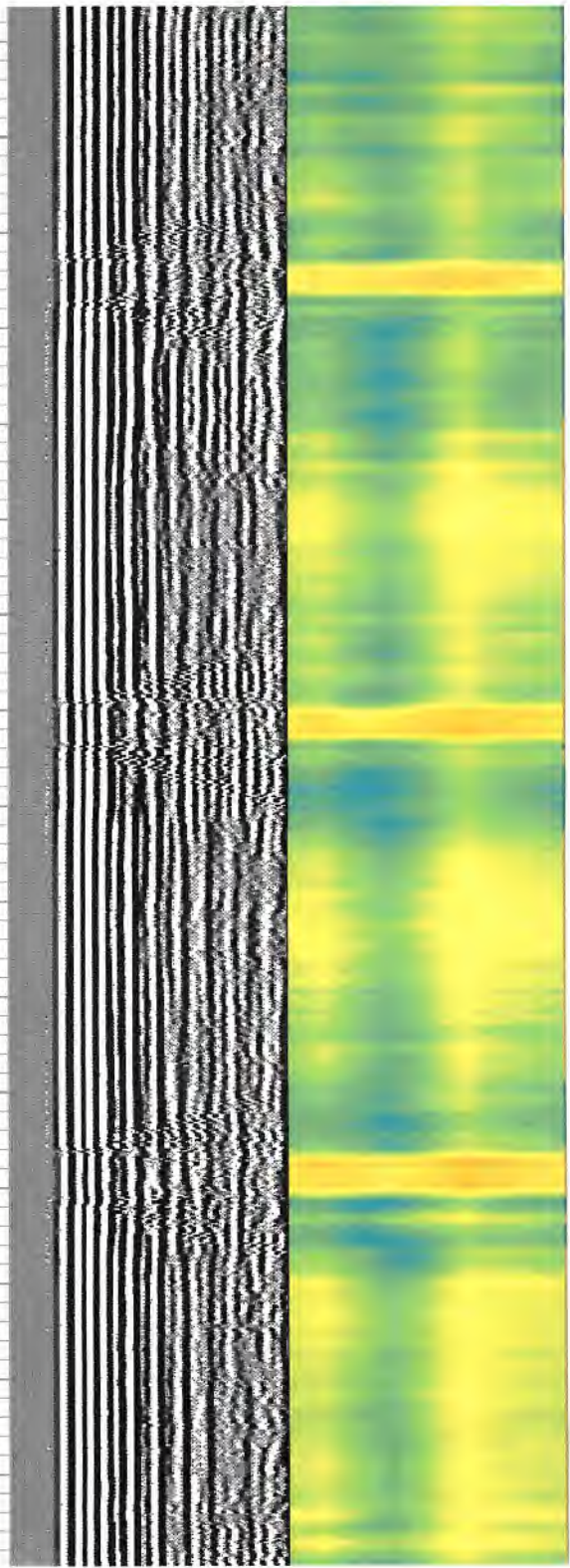
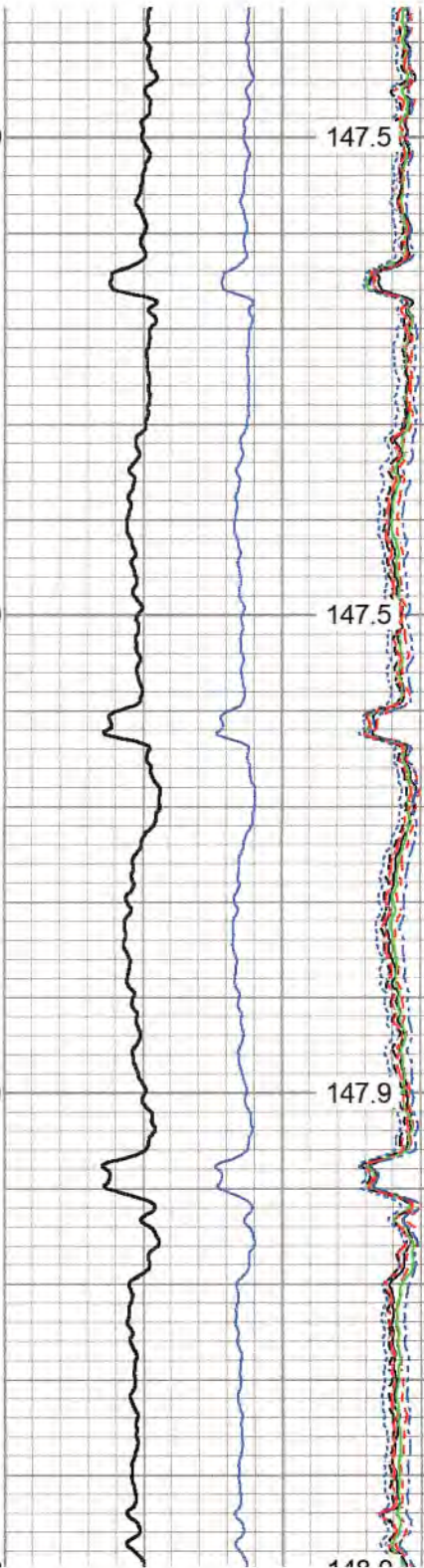
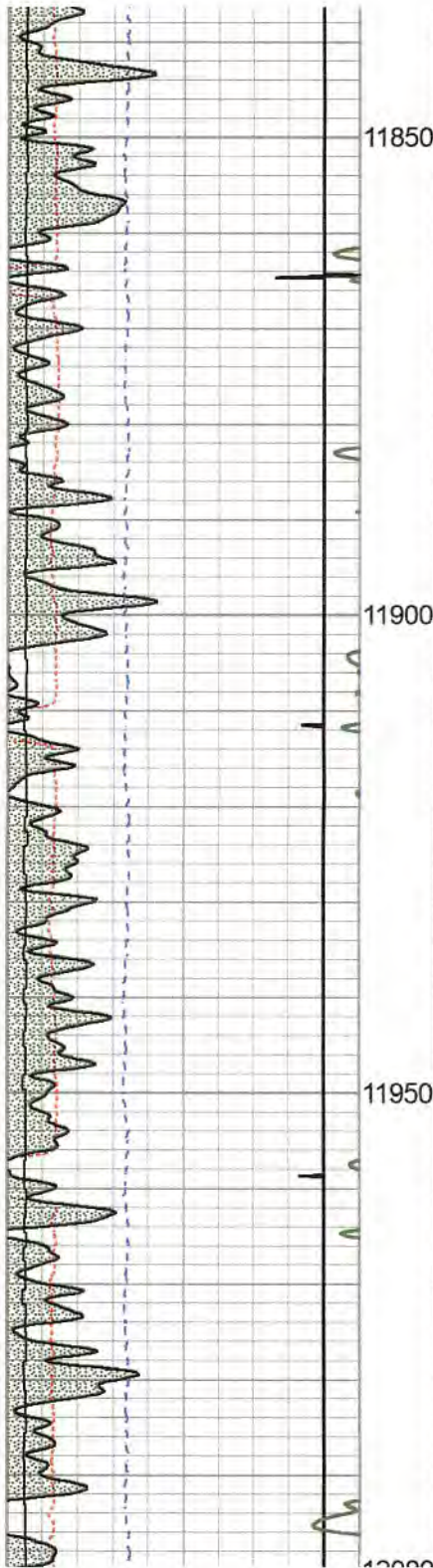


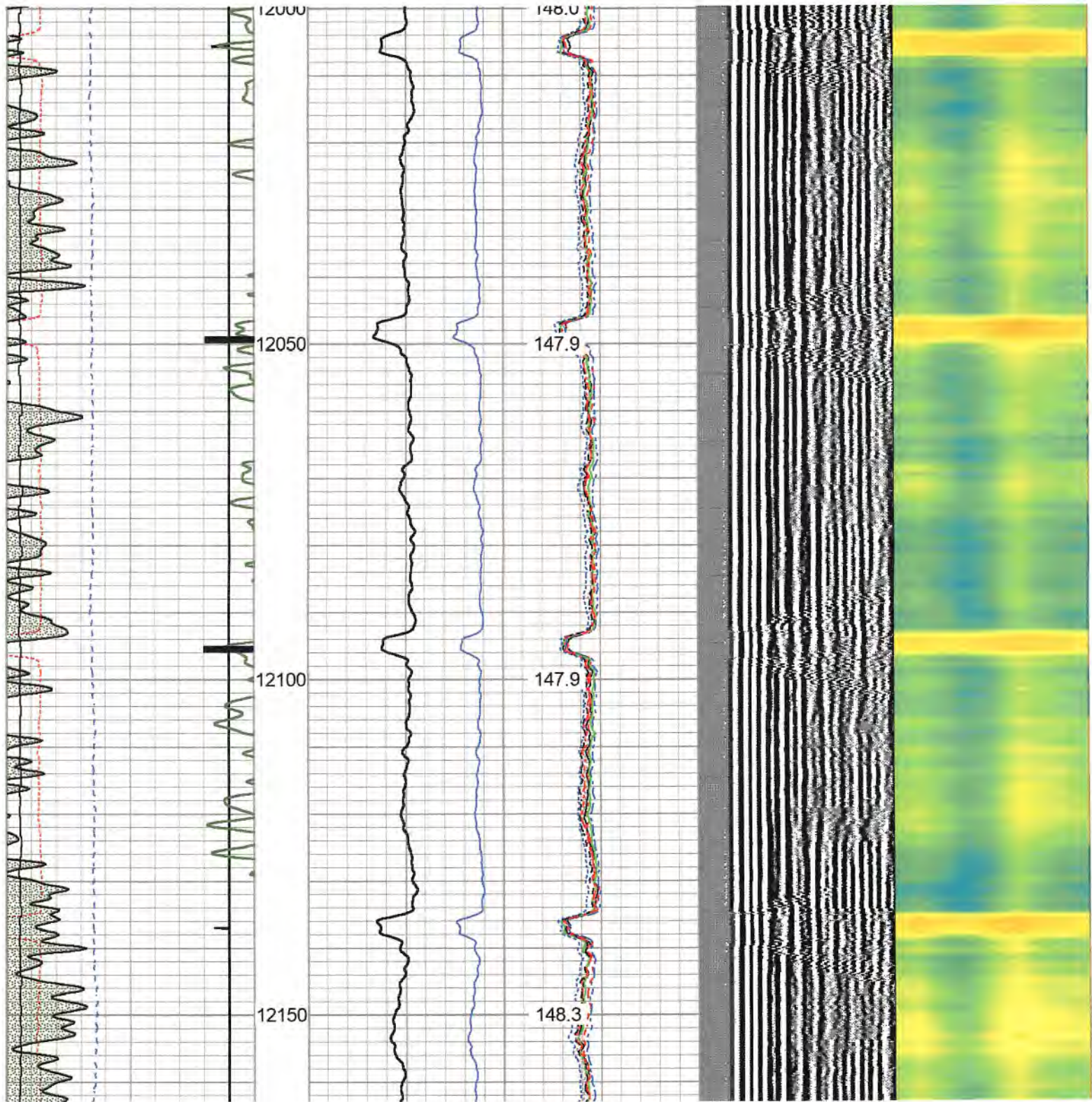




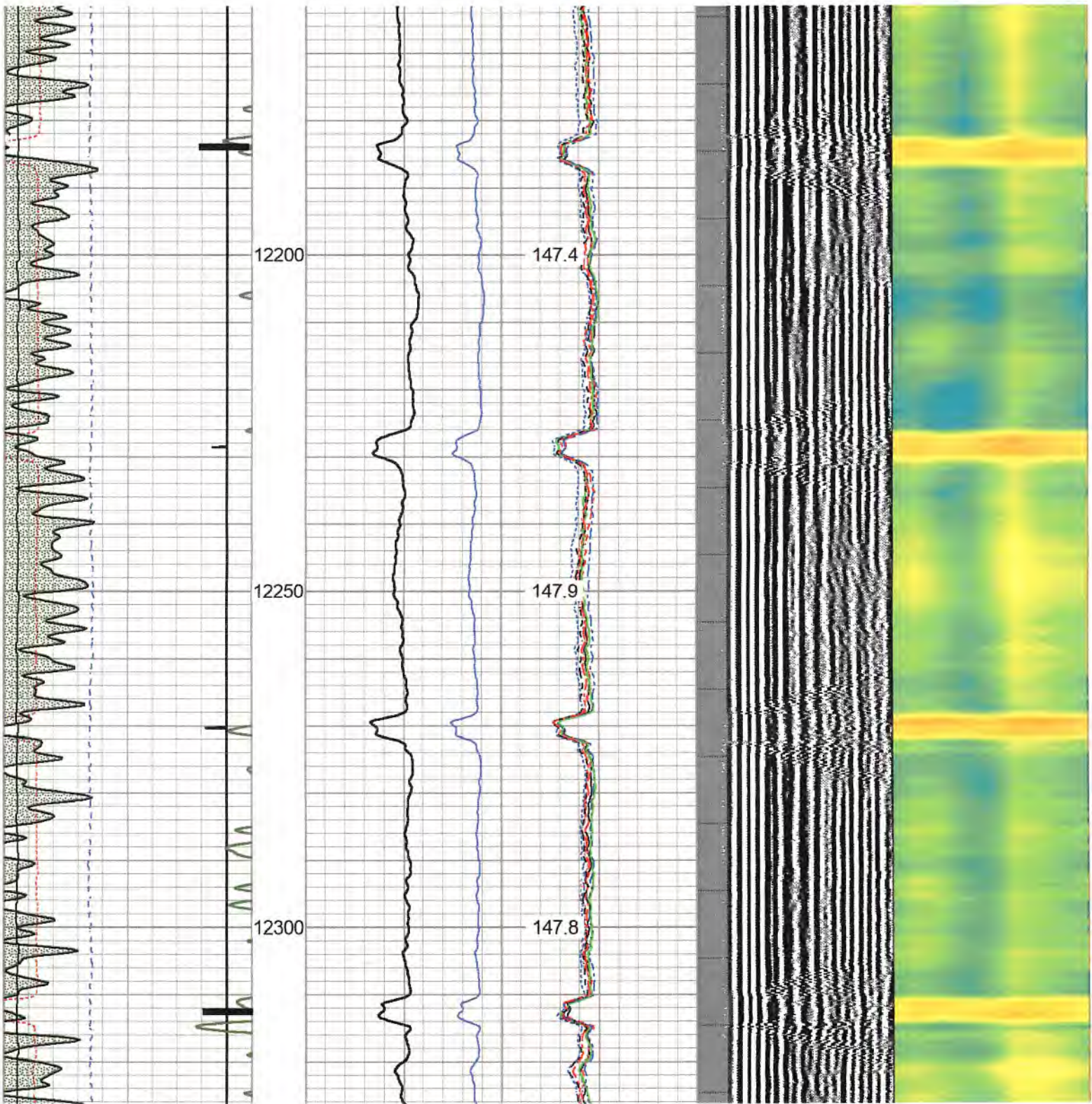


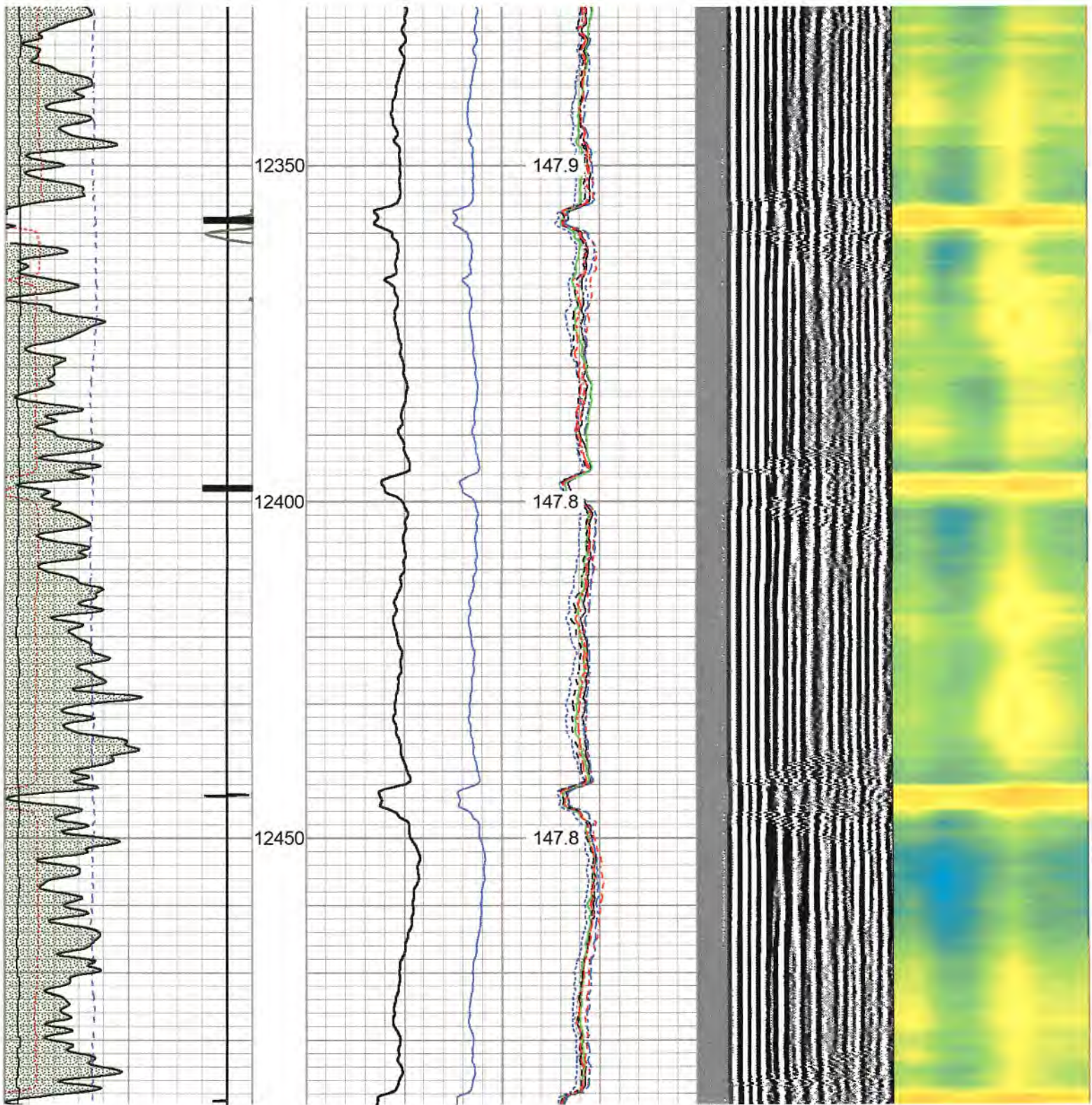


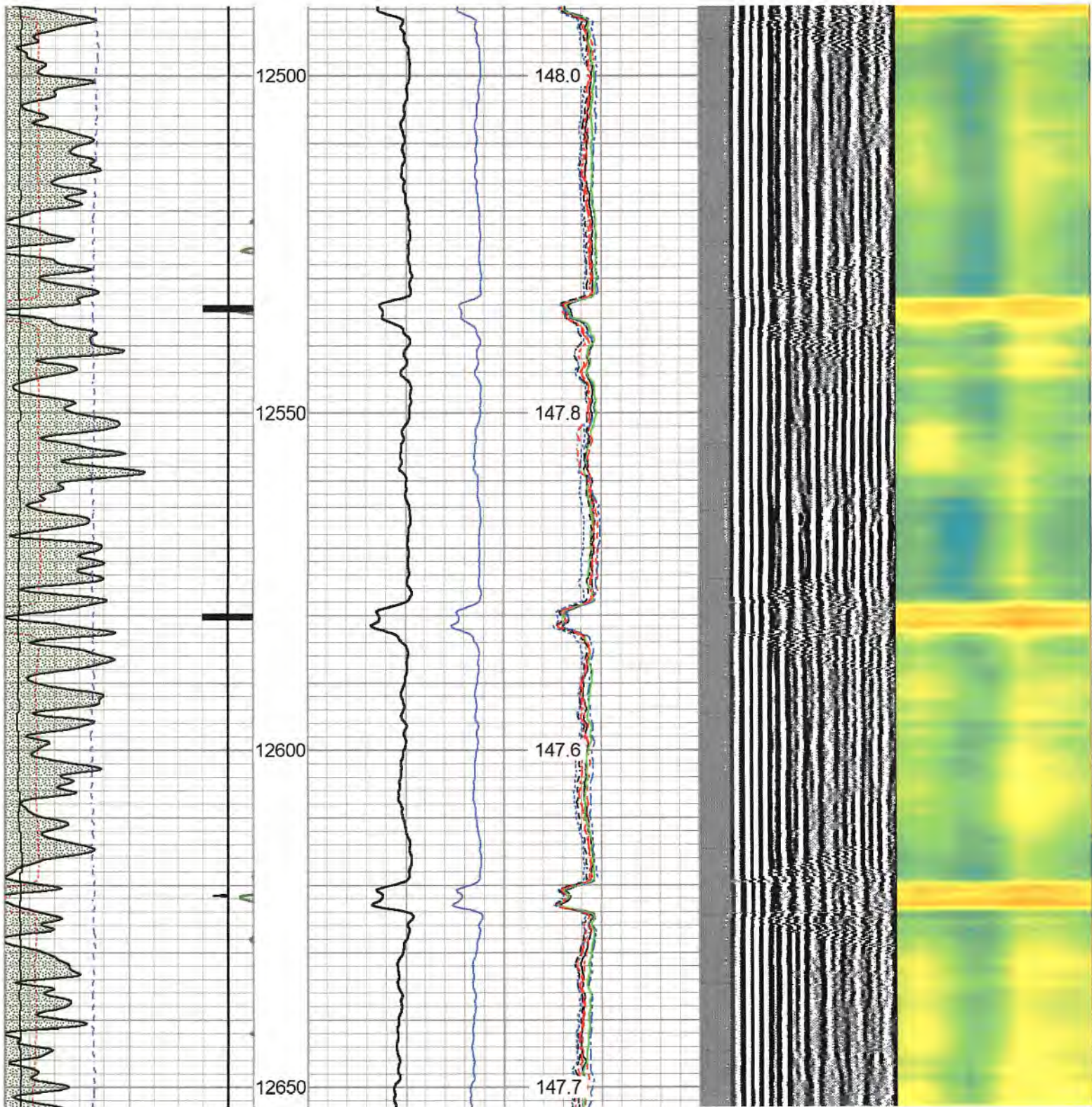


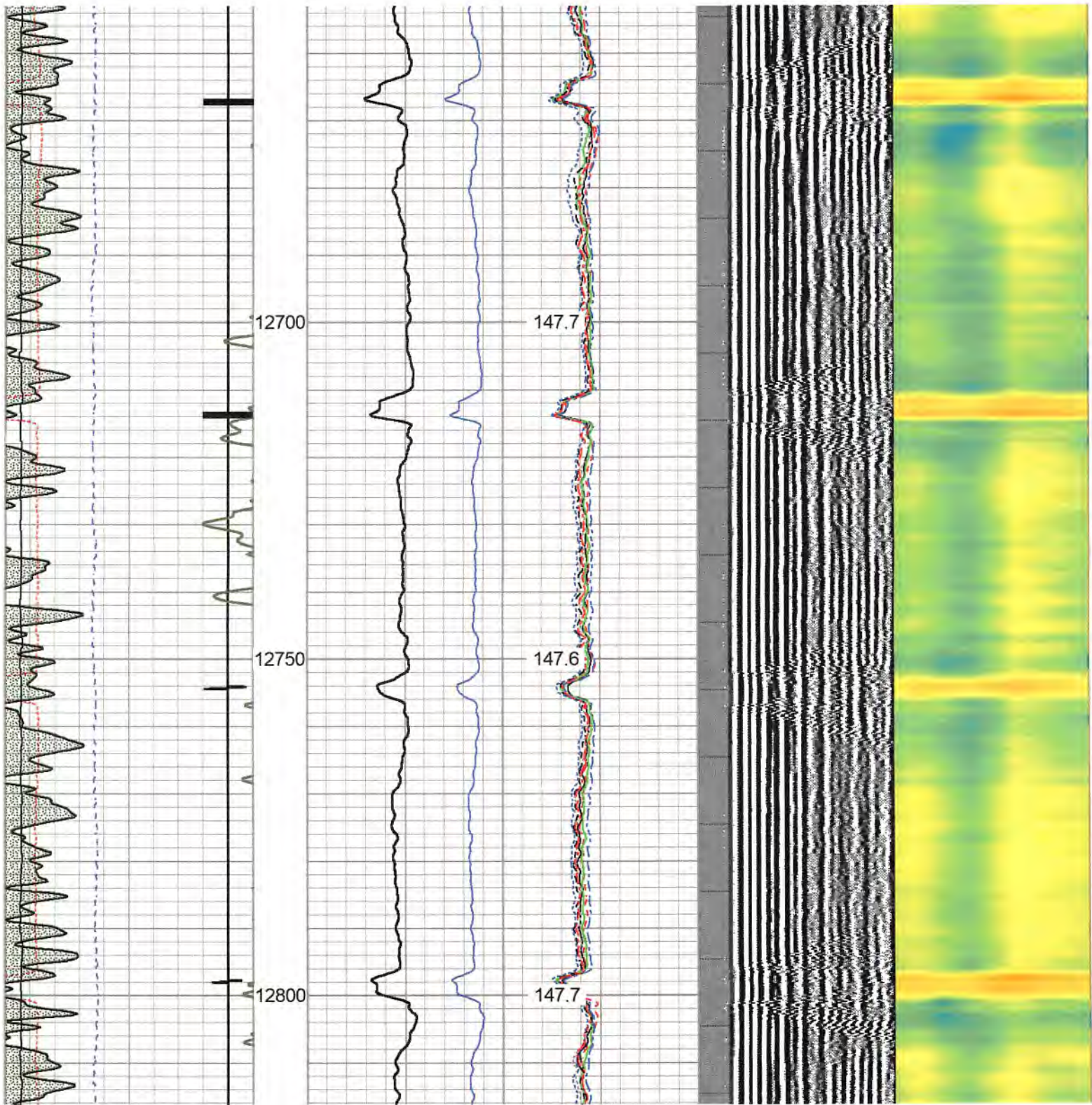


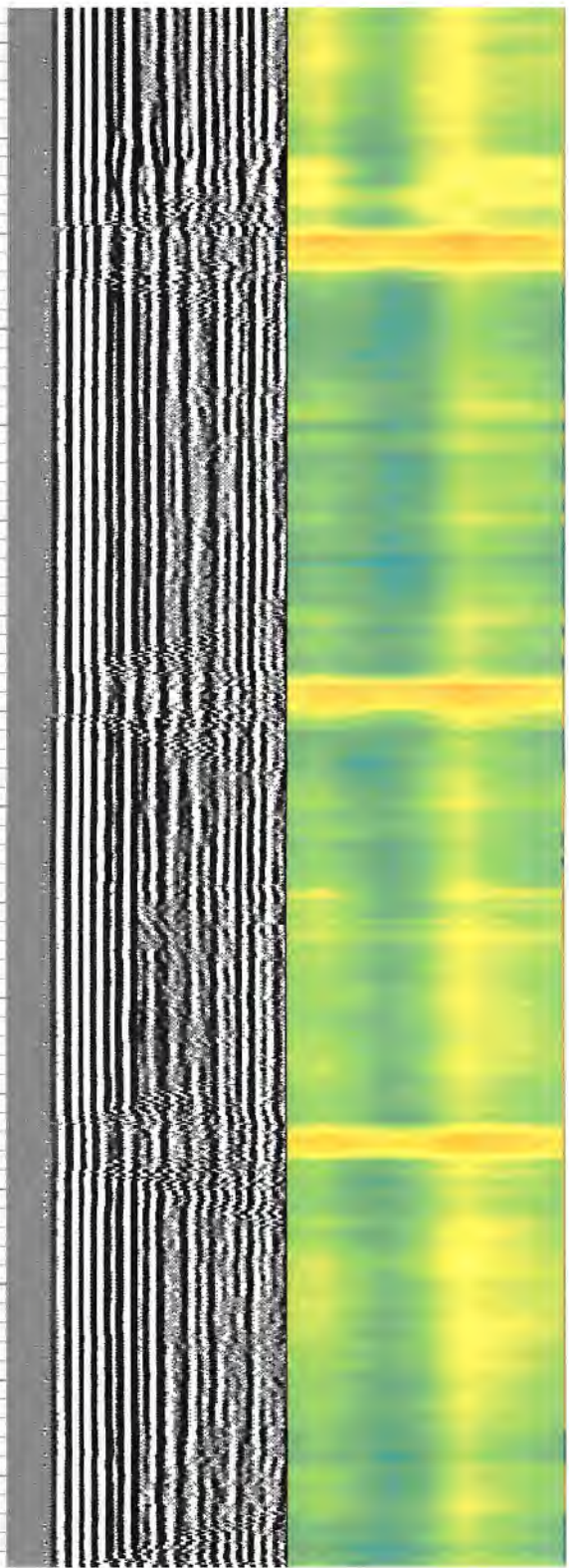
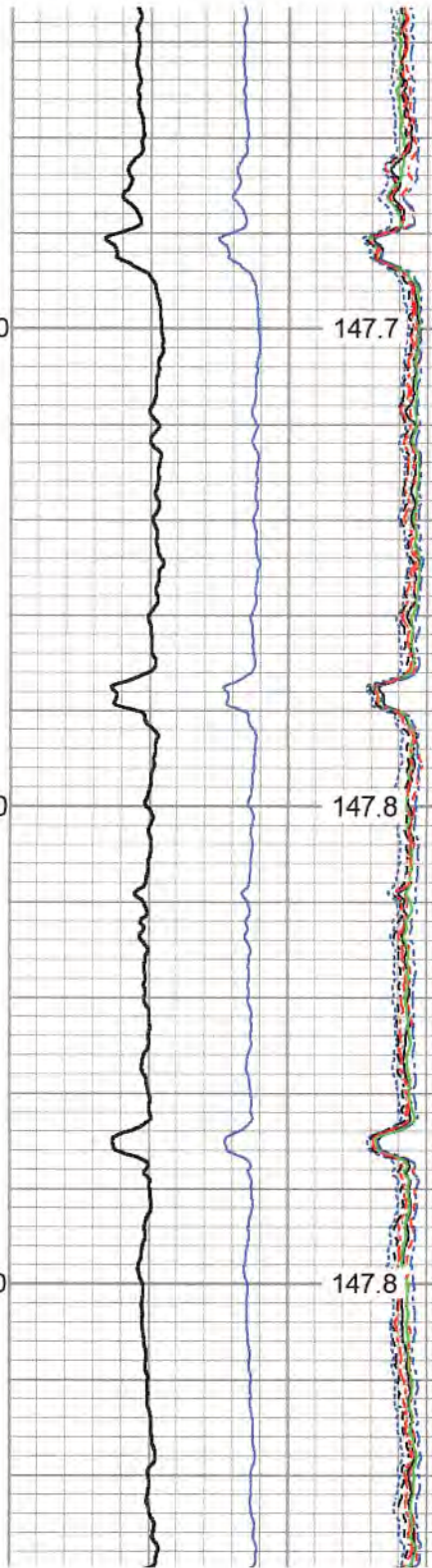
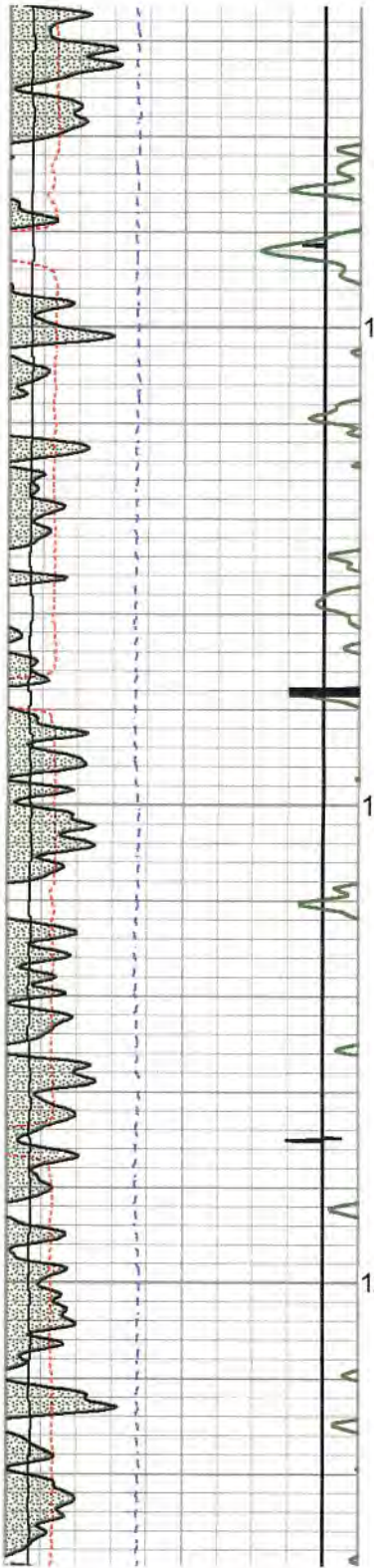


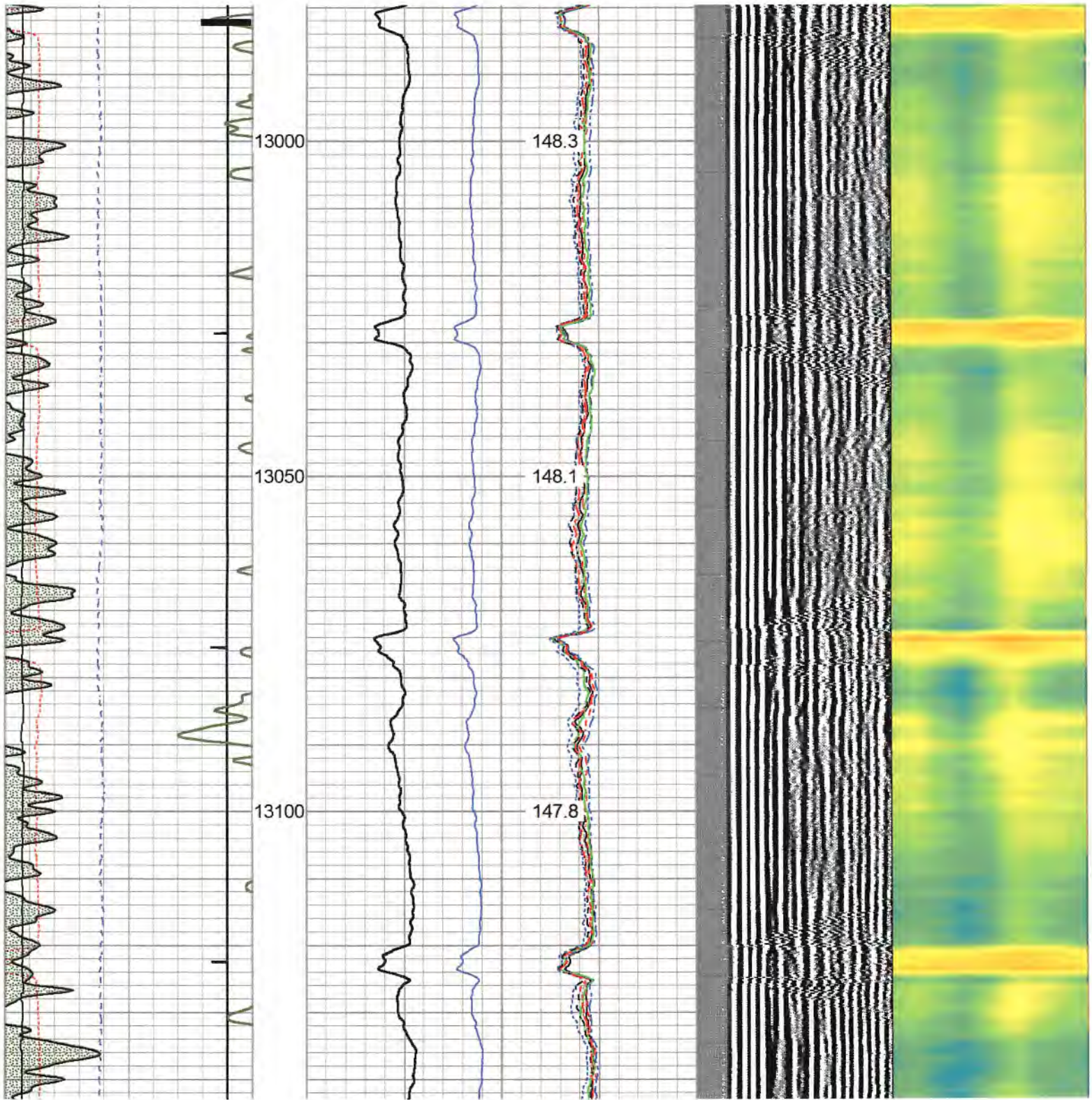


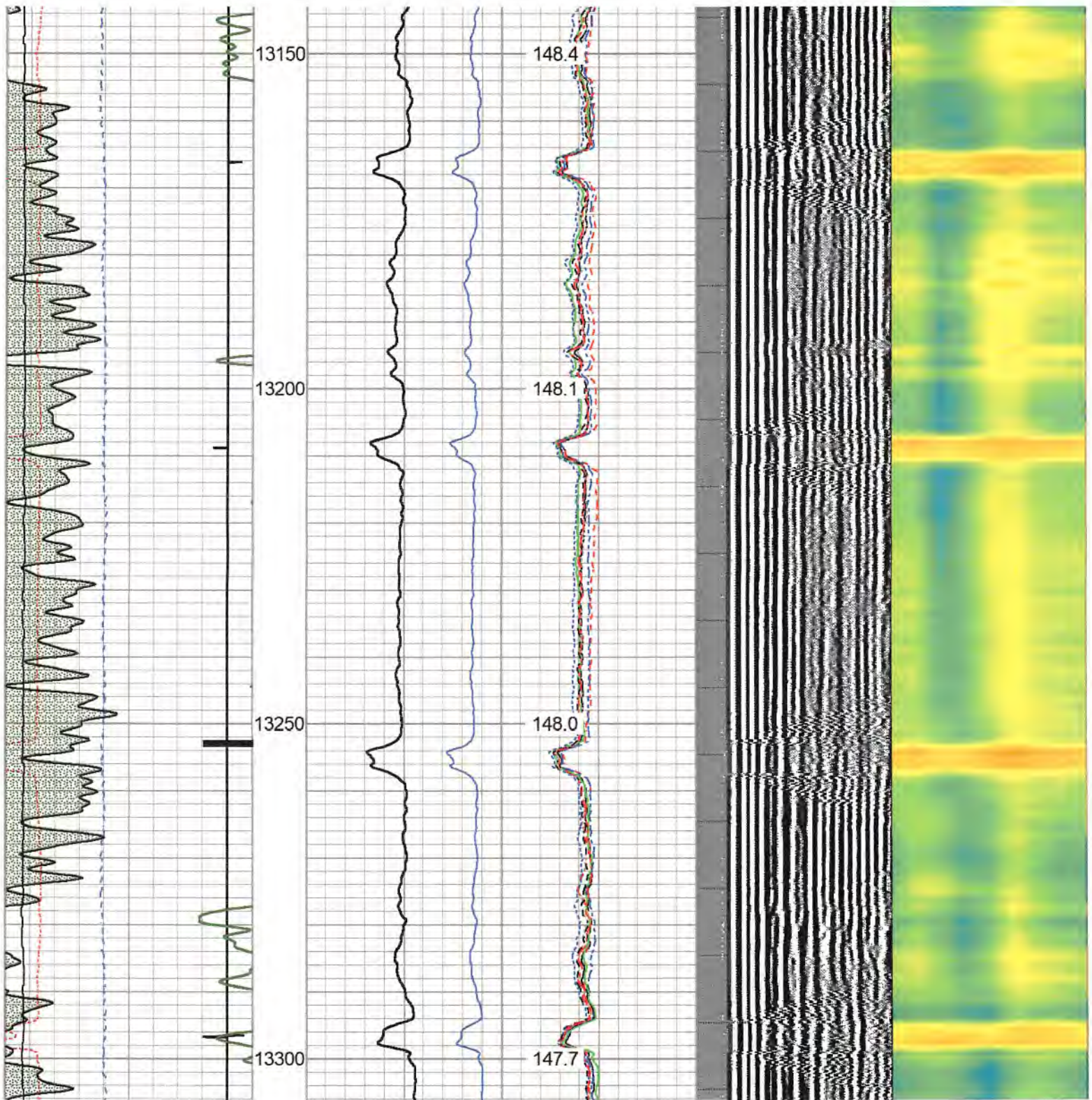


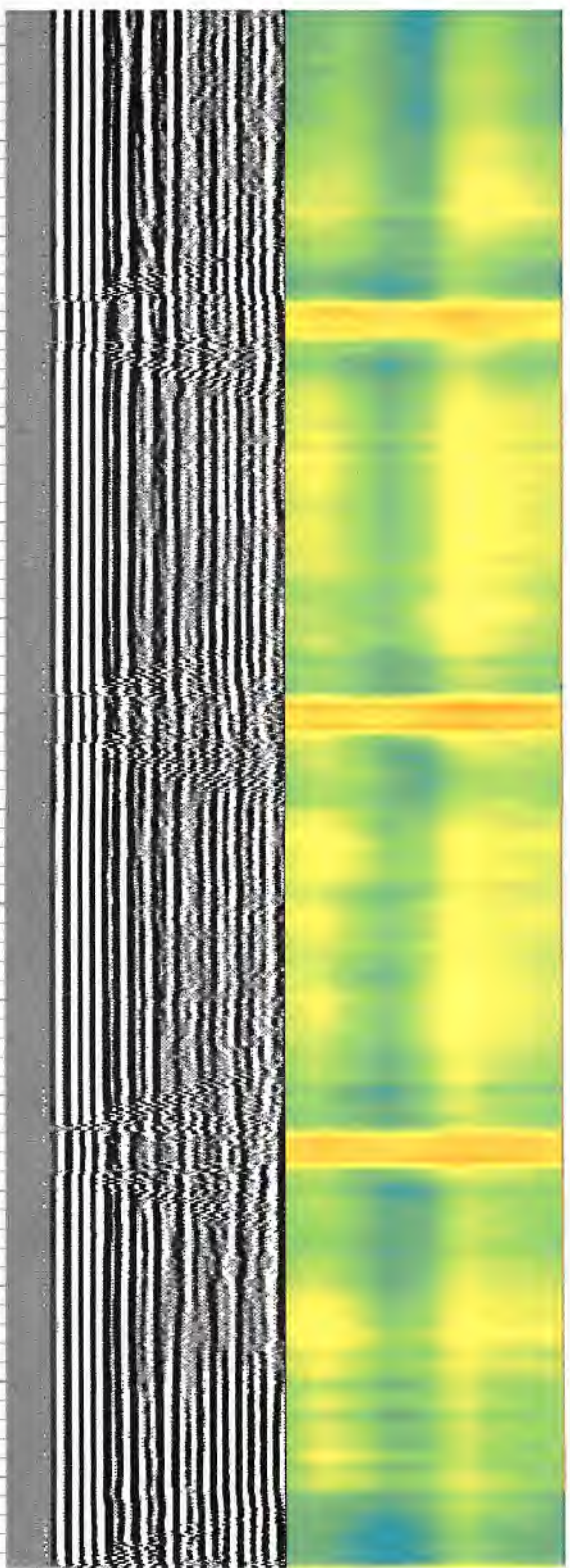
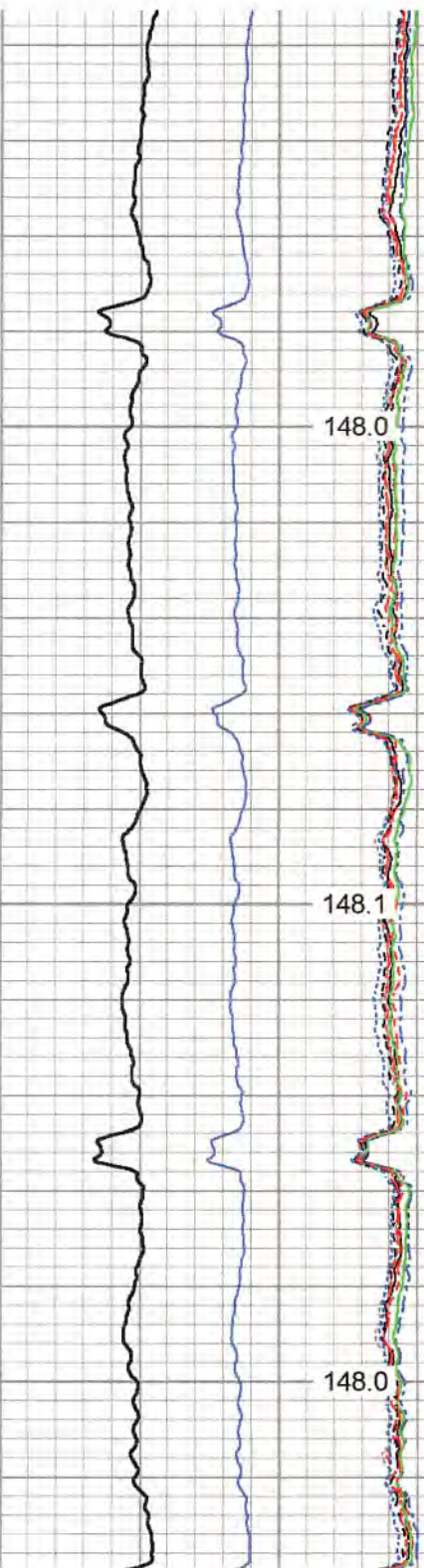
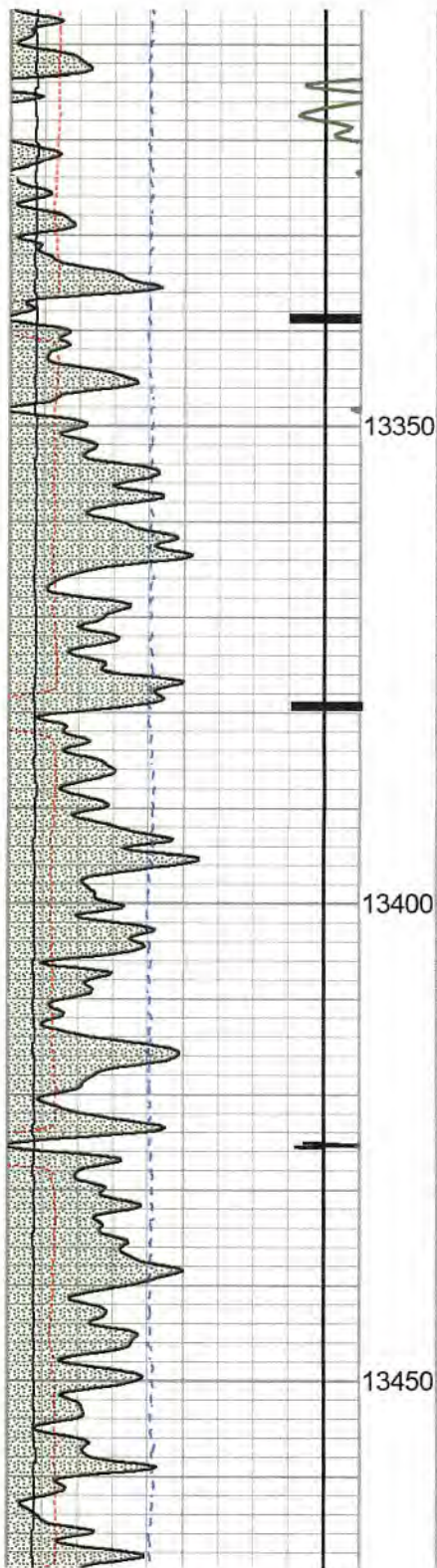










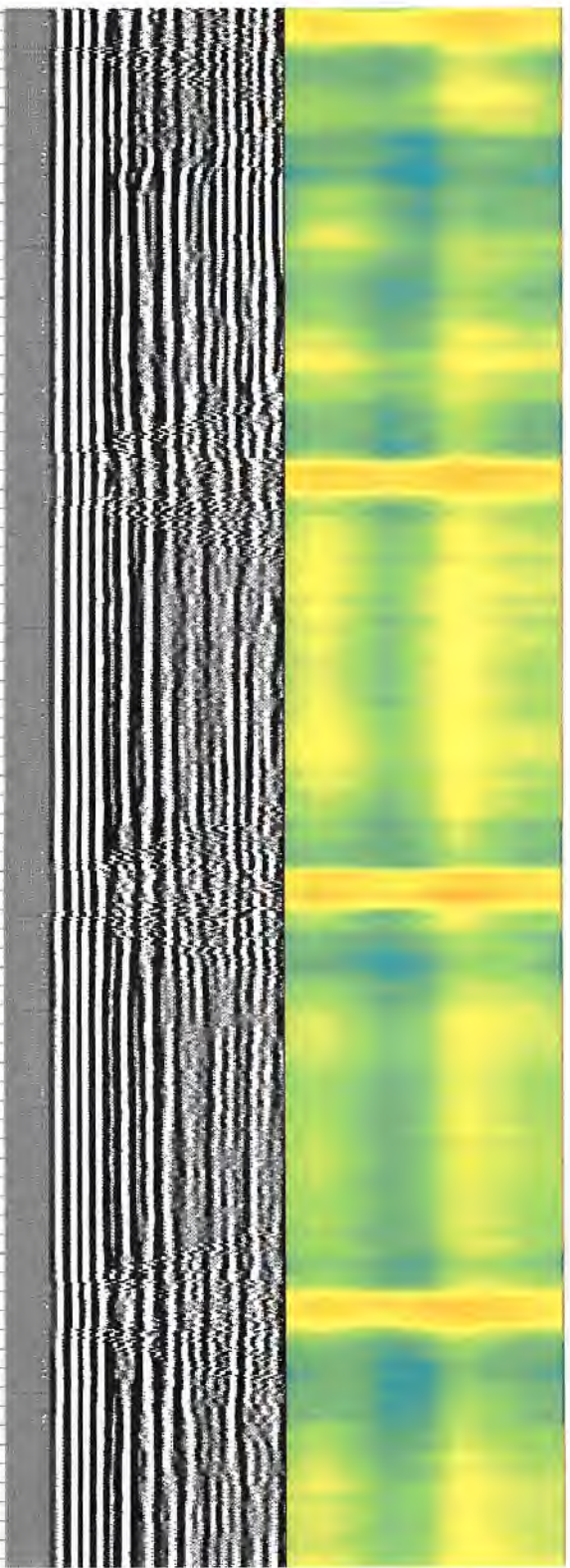
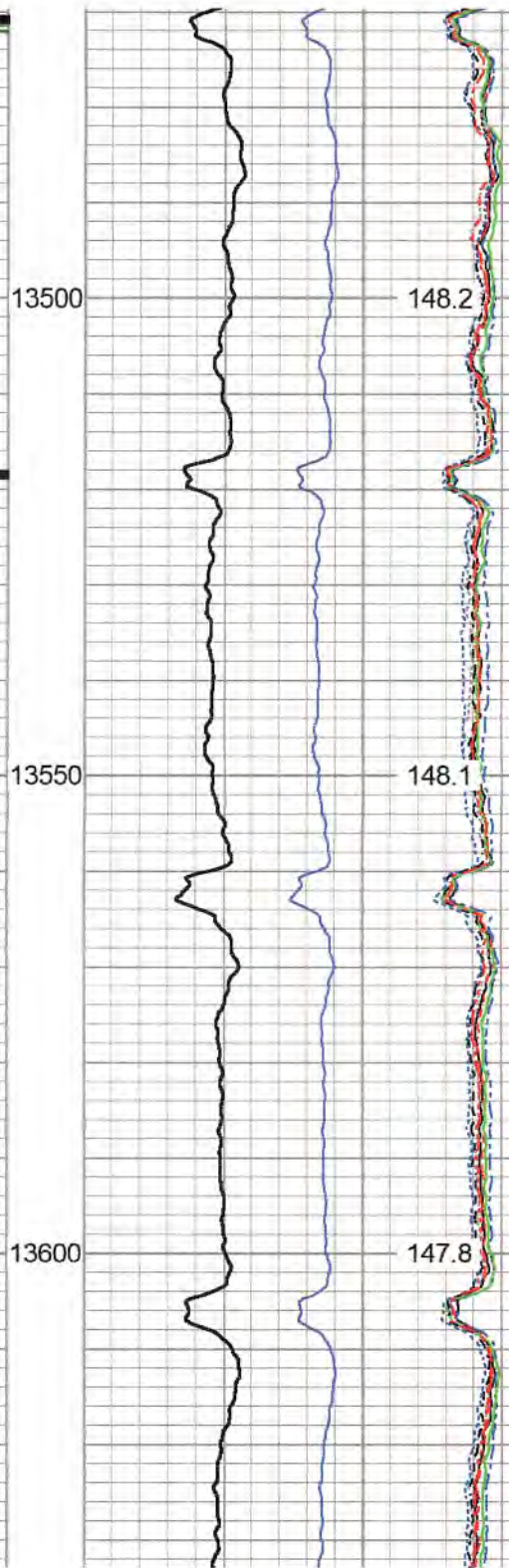
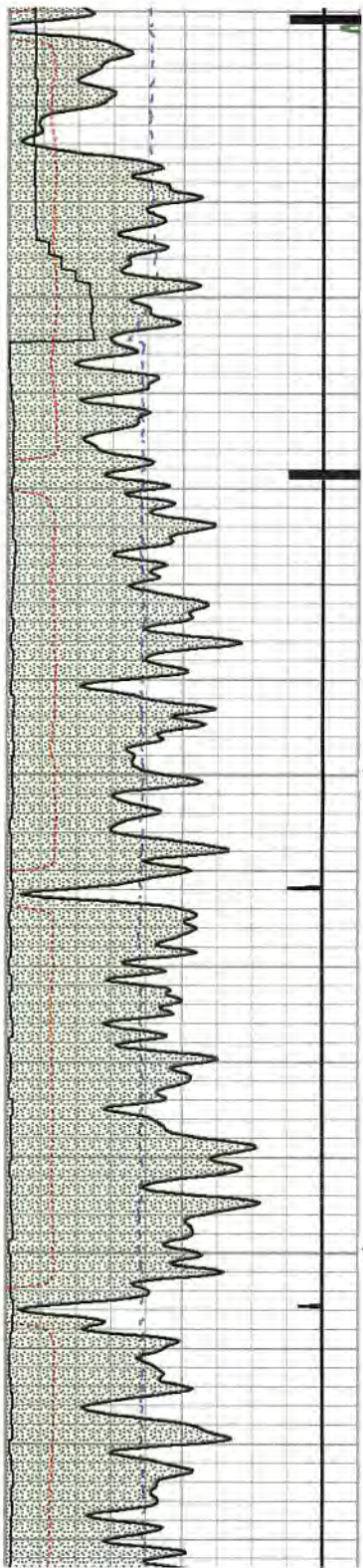


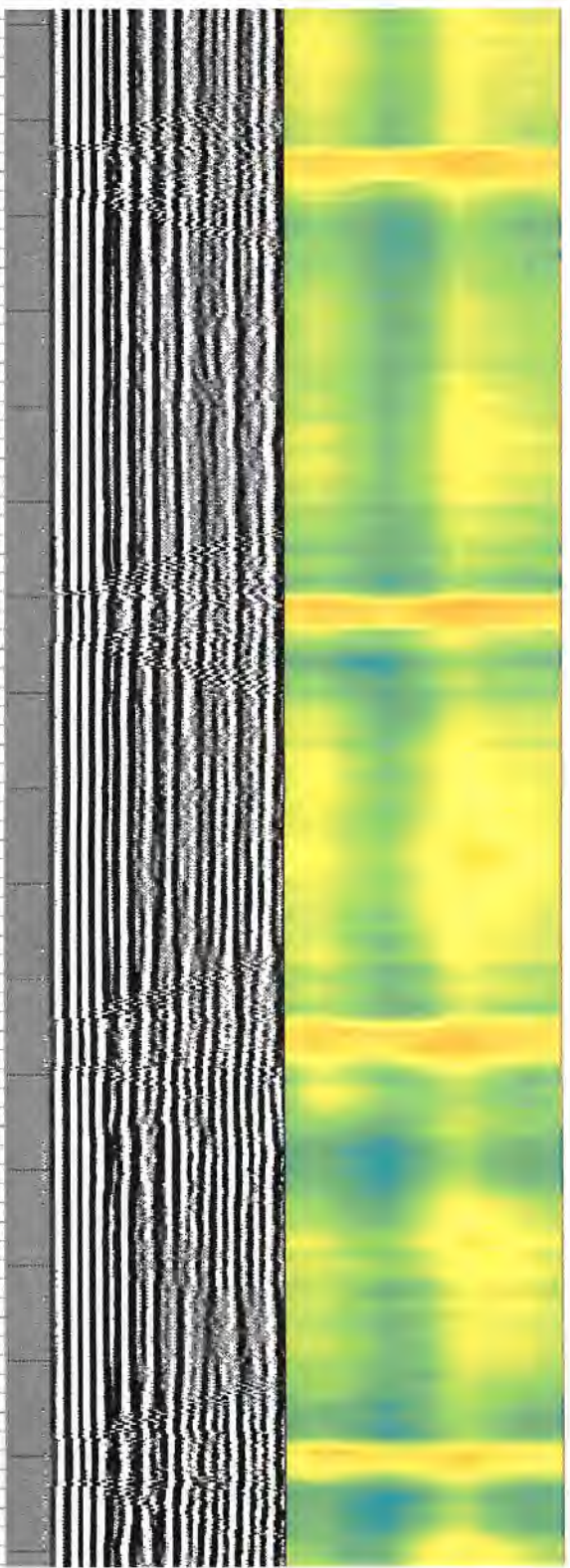
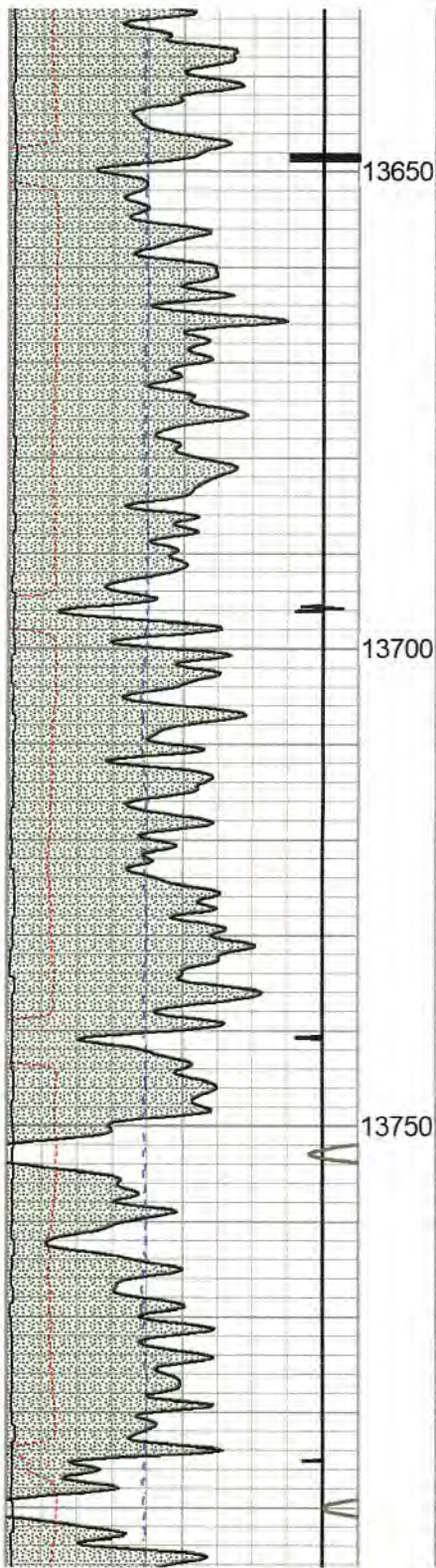
148.0

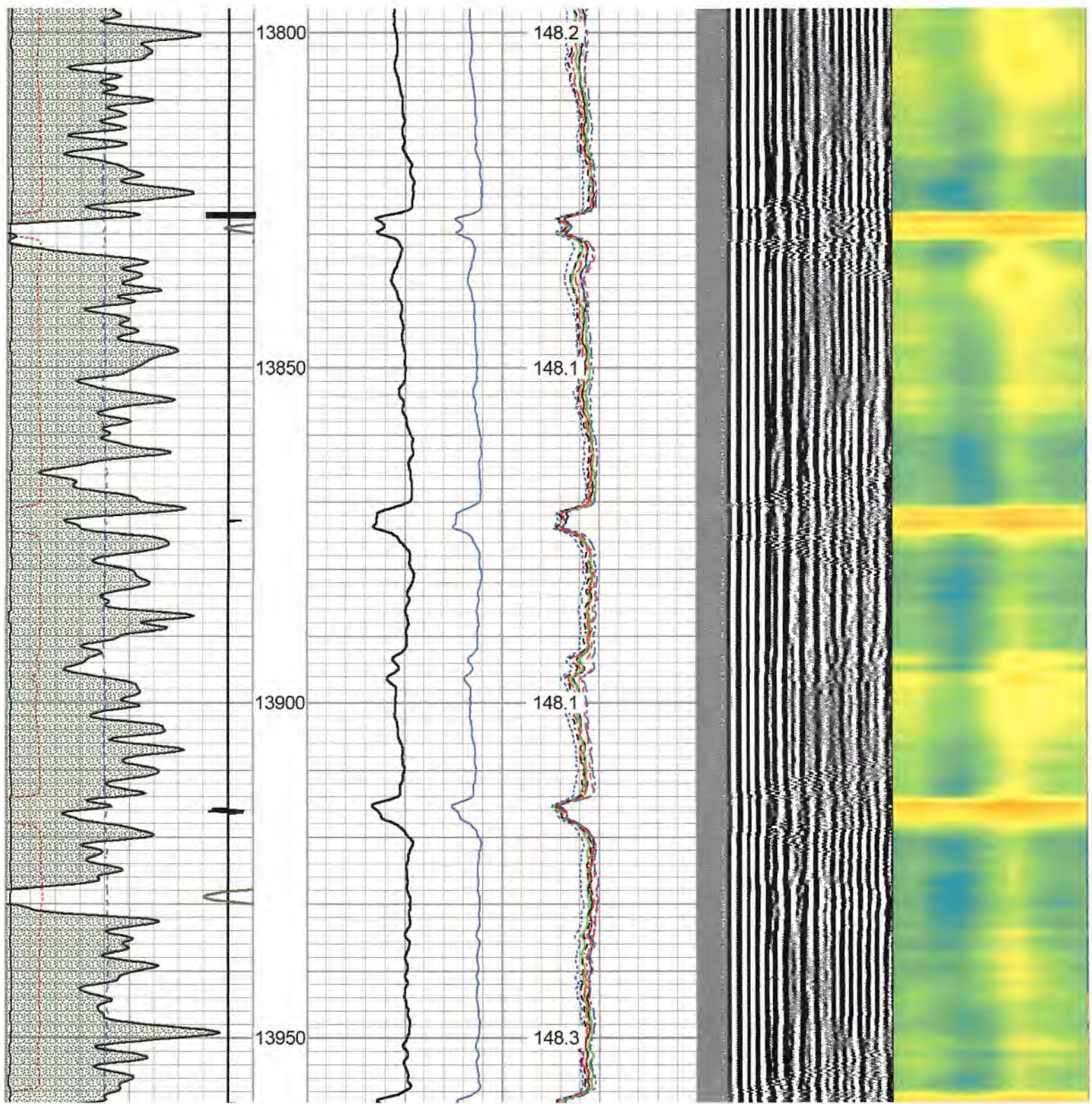
148.1

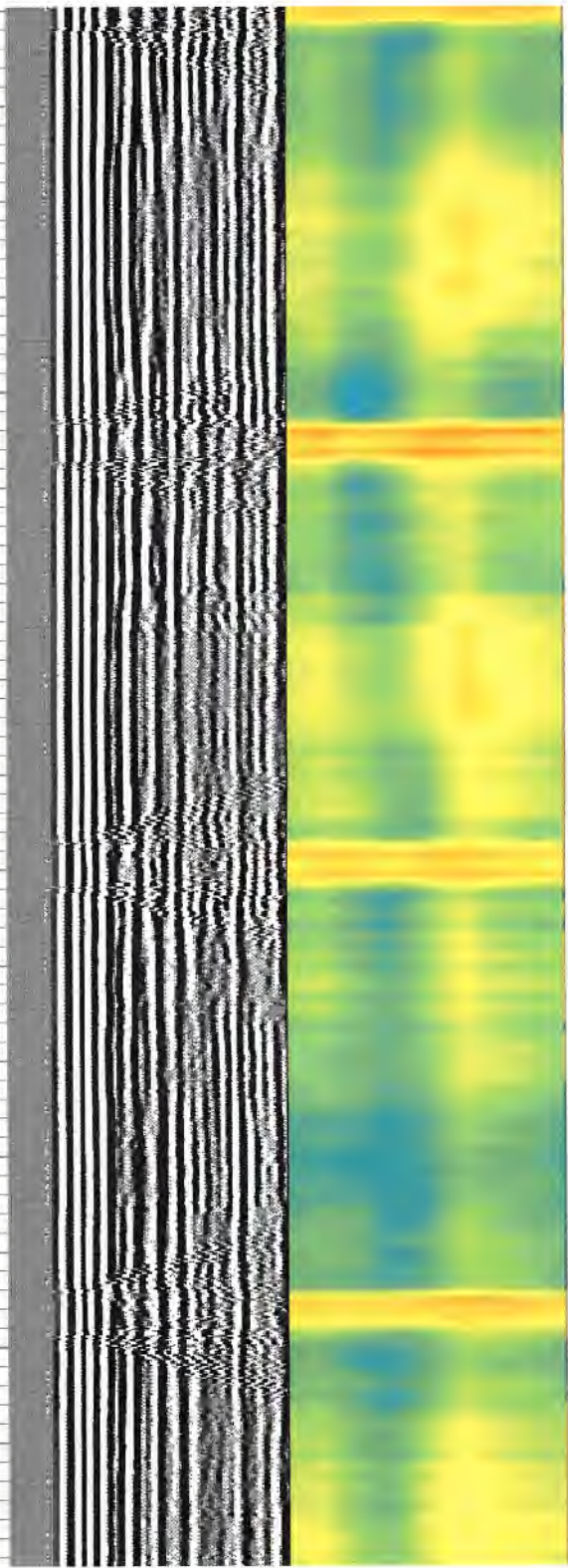
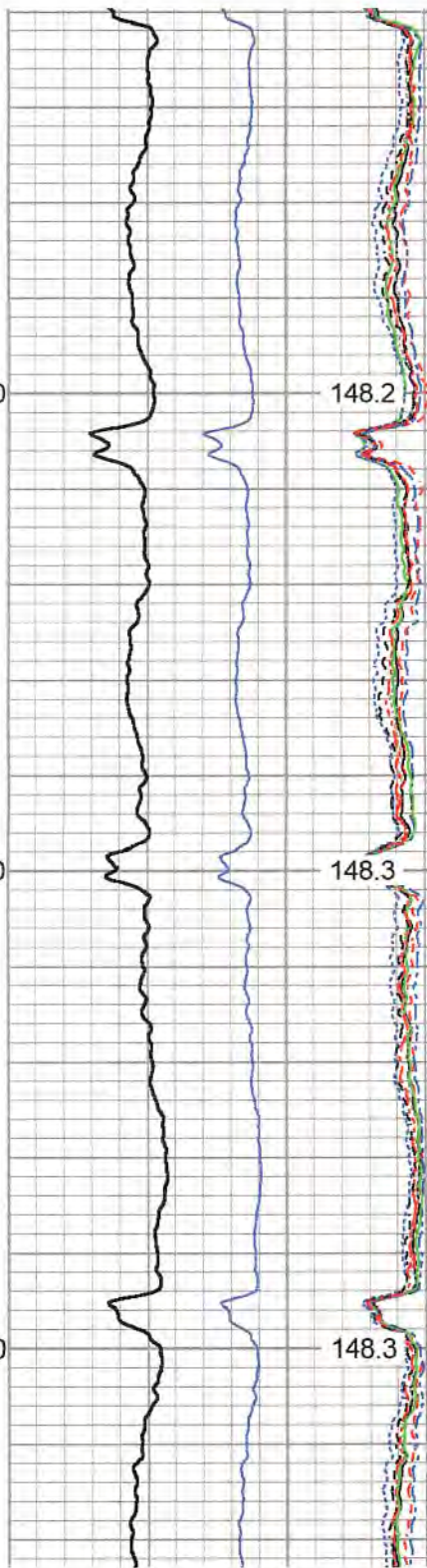
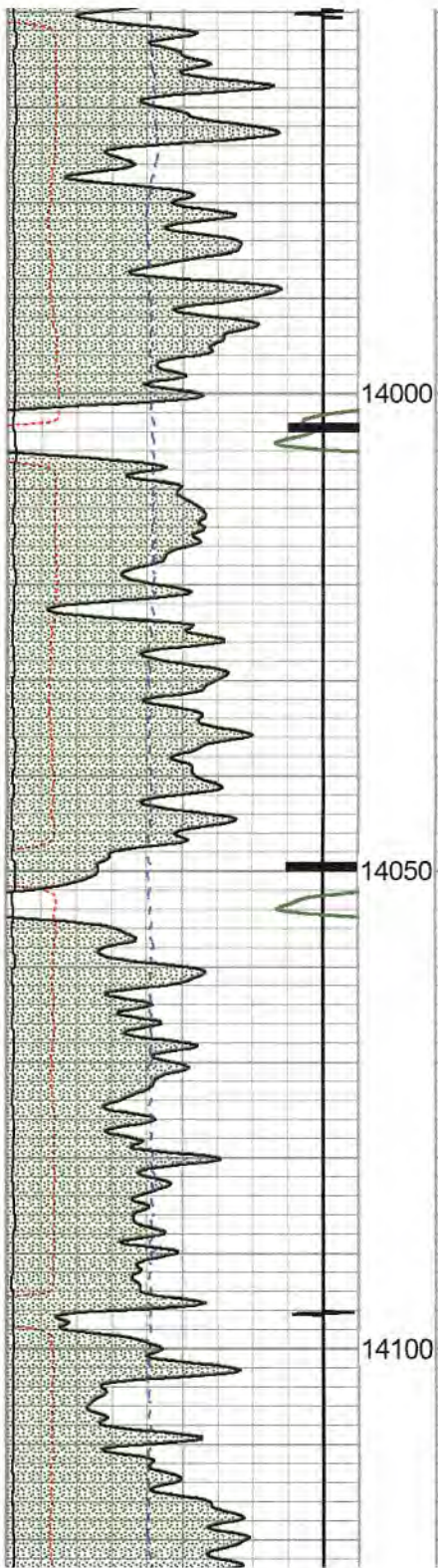
148.0

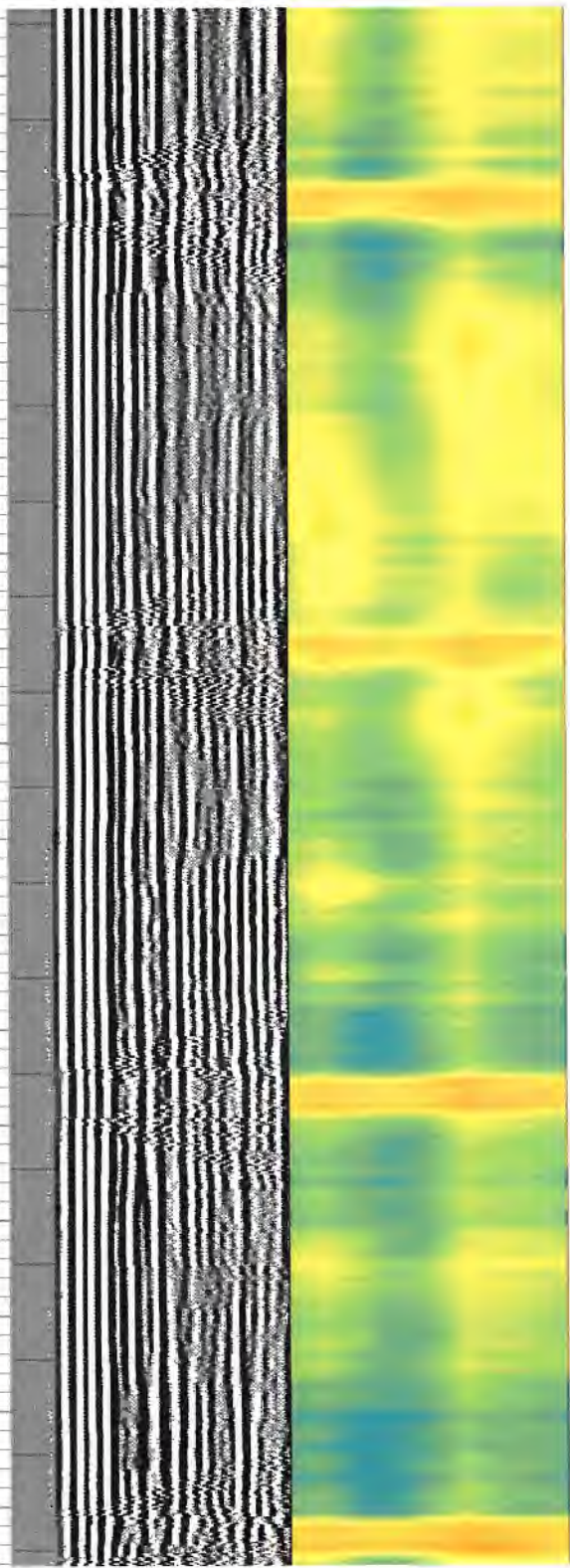
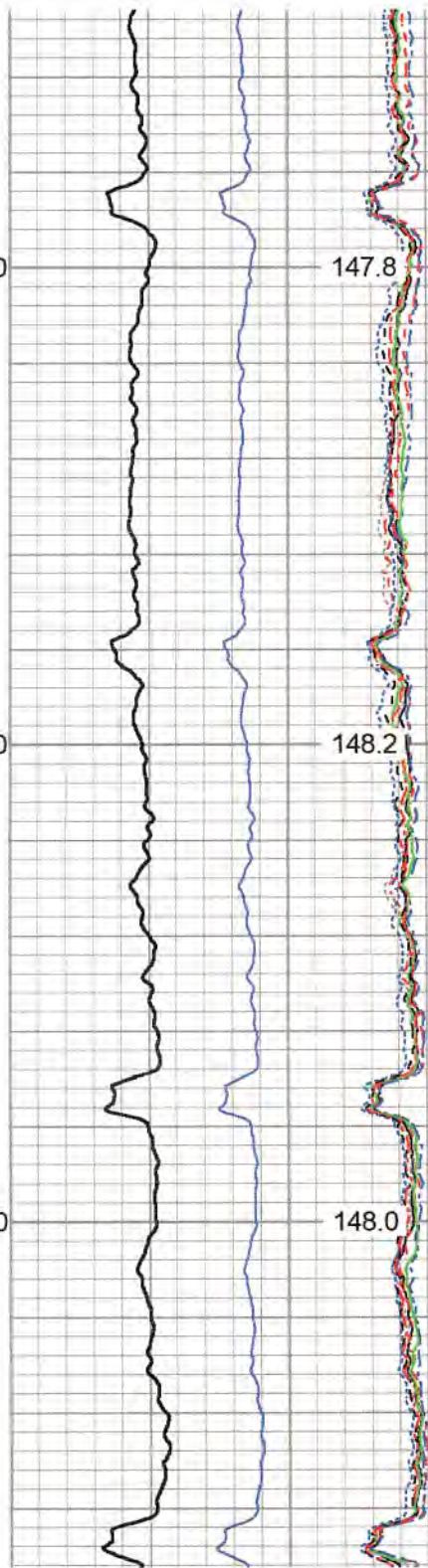
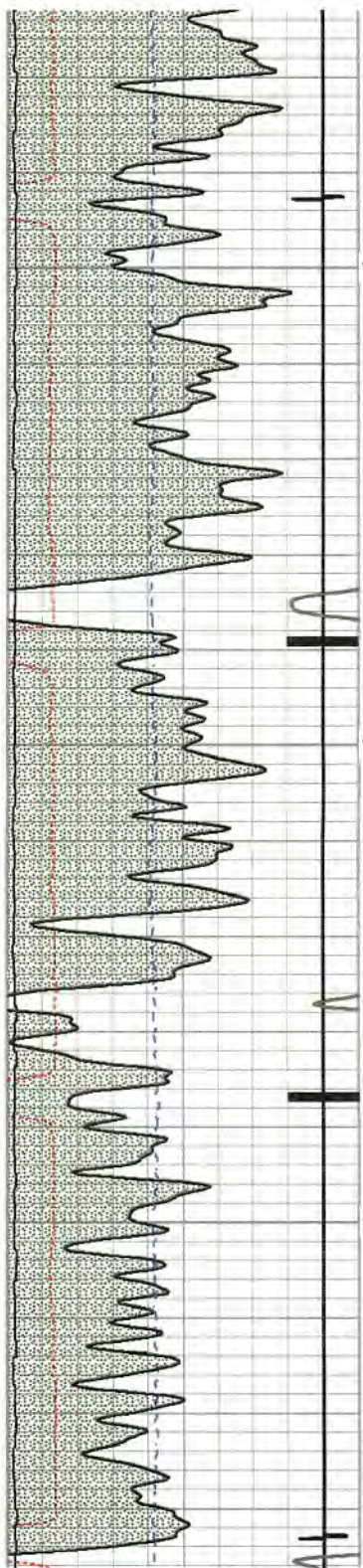


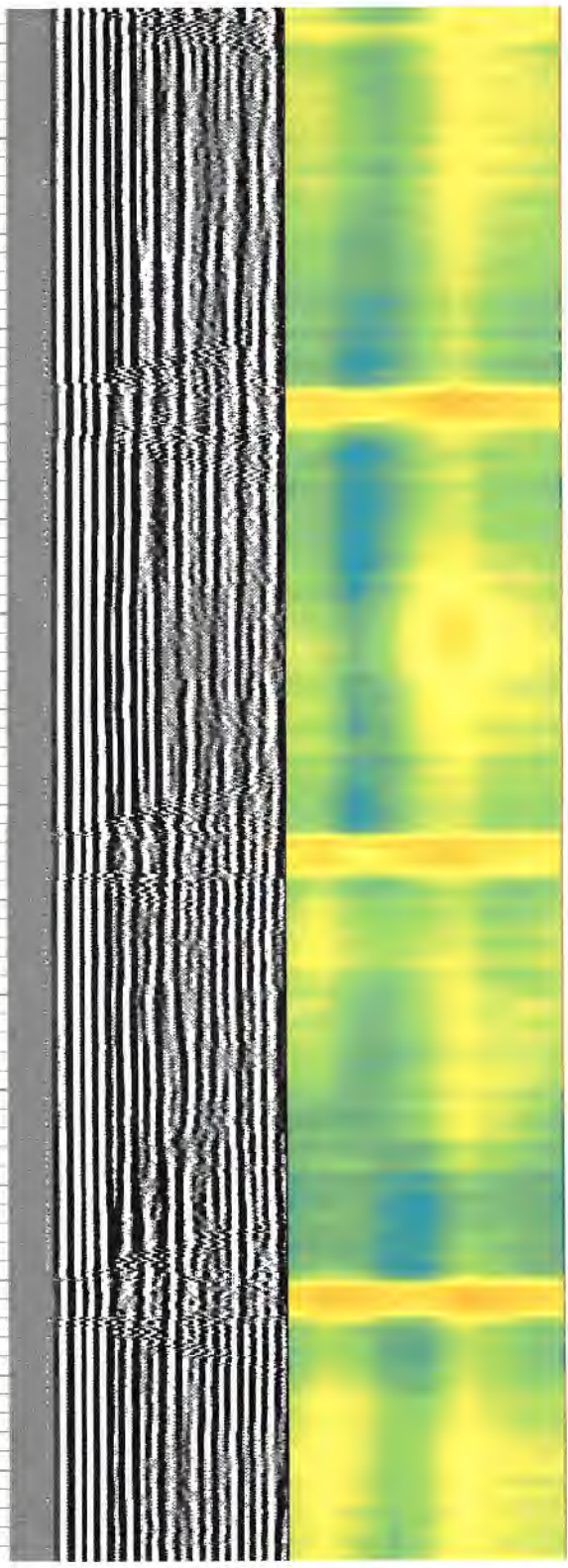
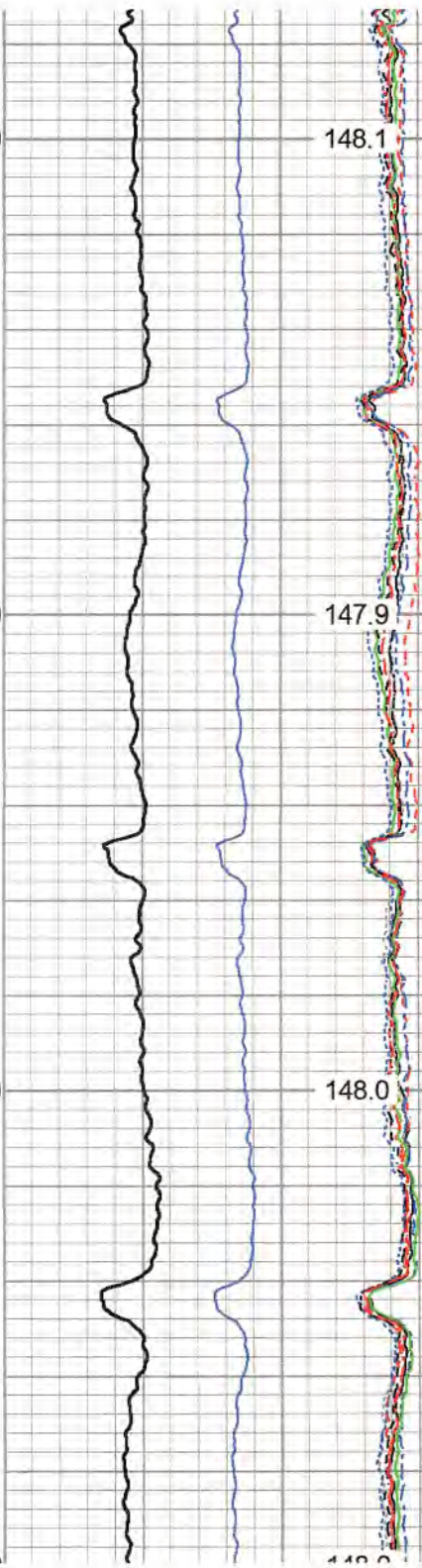
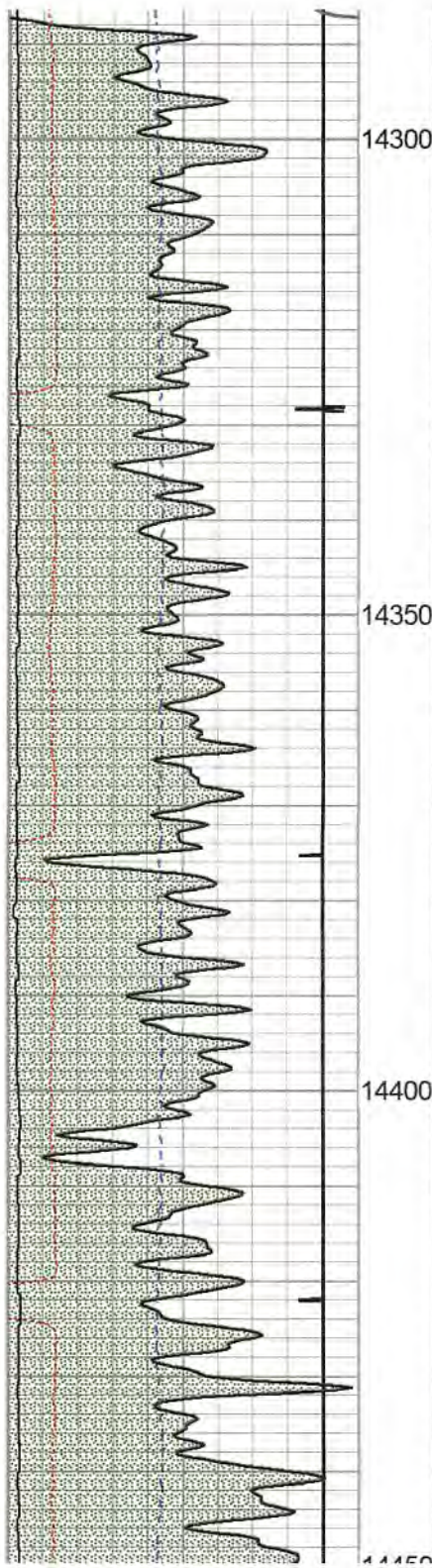












14300

14350

14400

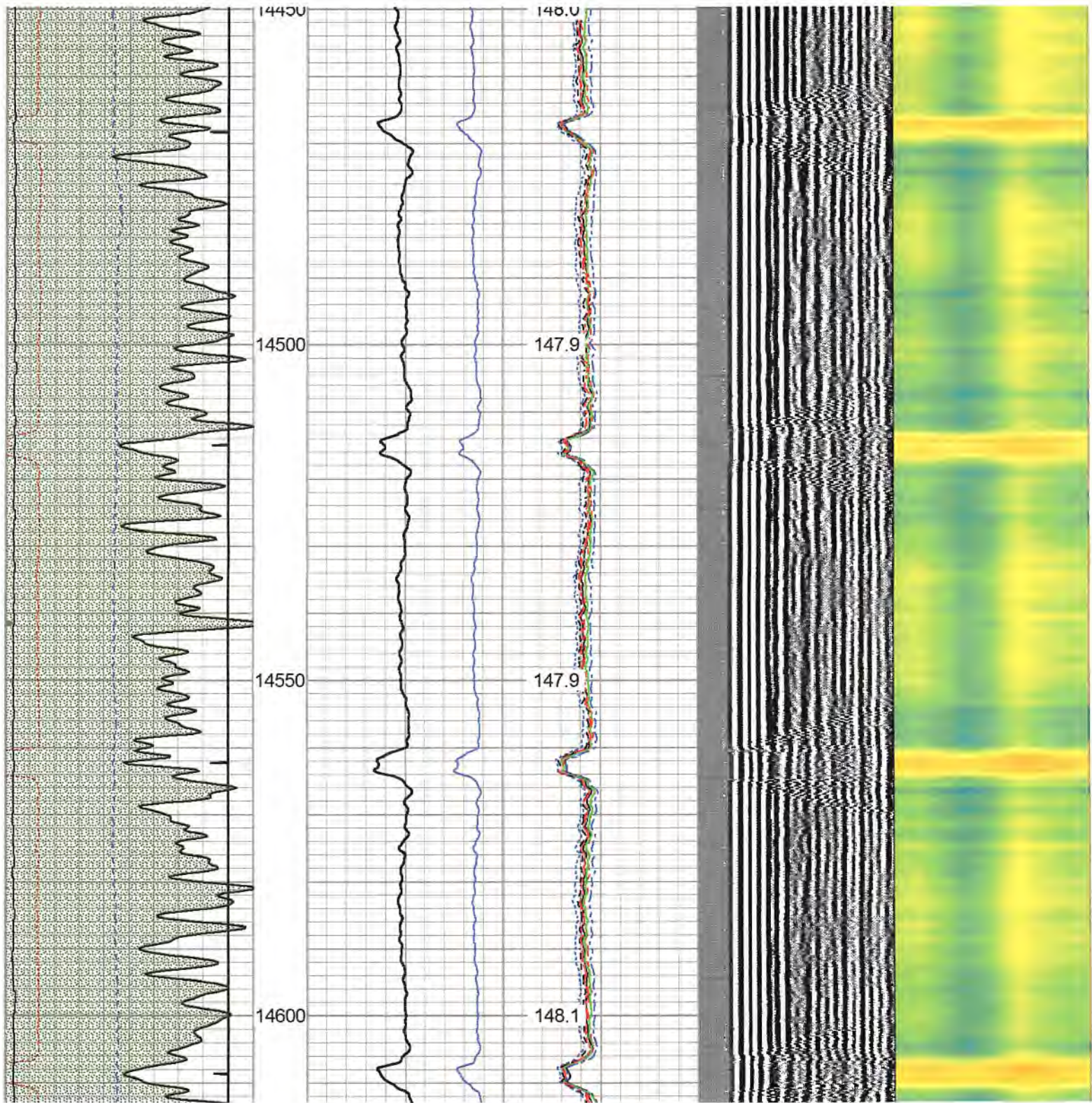
14450

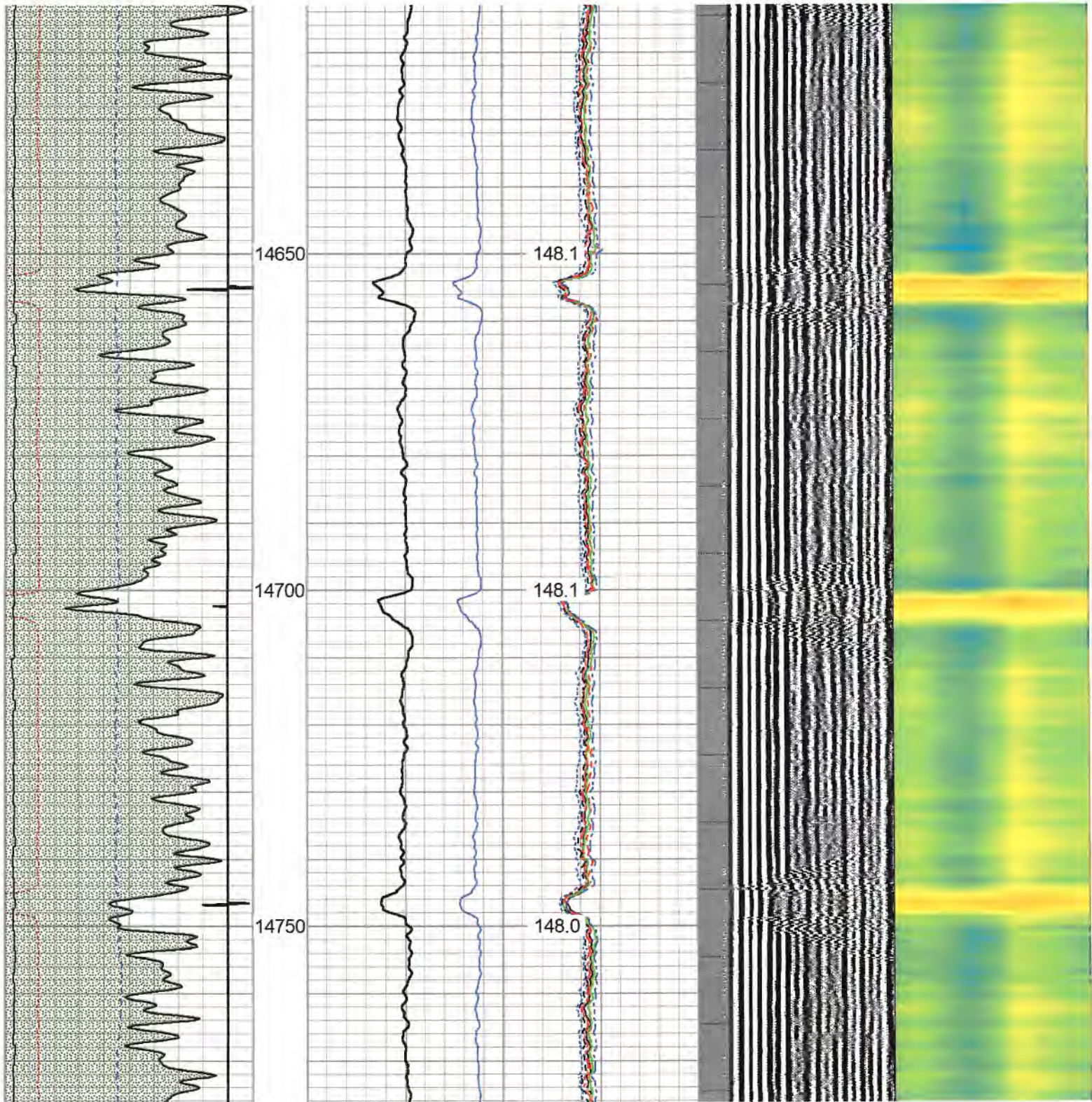
148.1

147.9

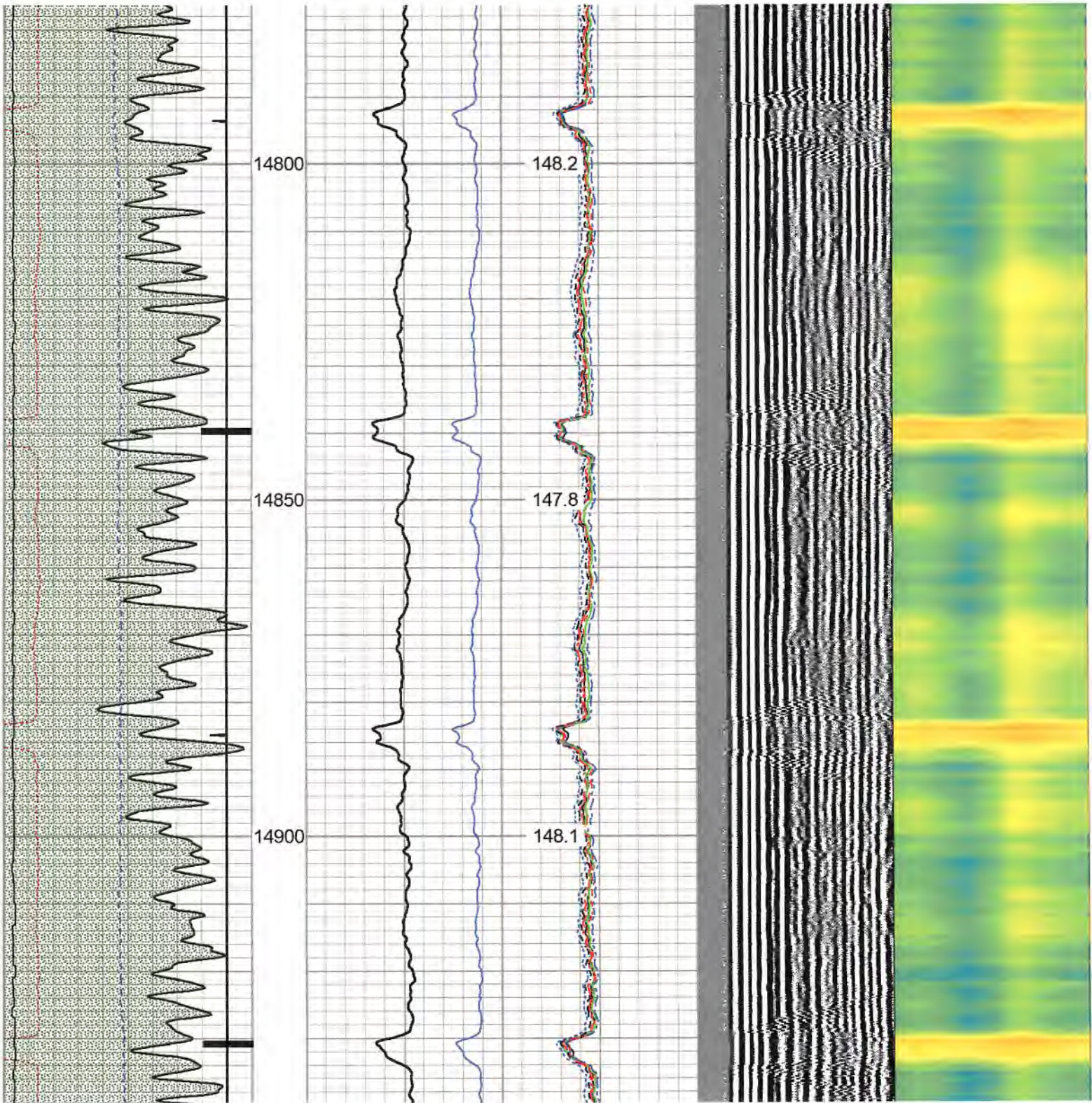
148.0

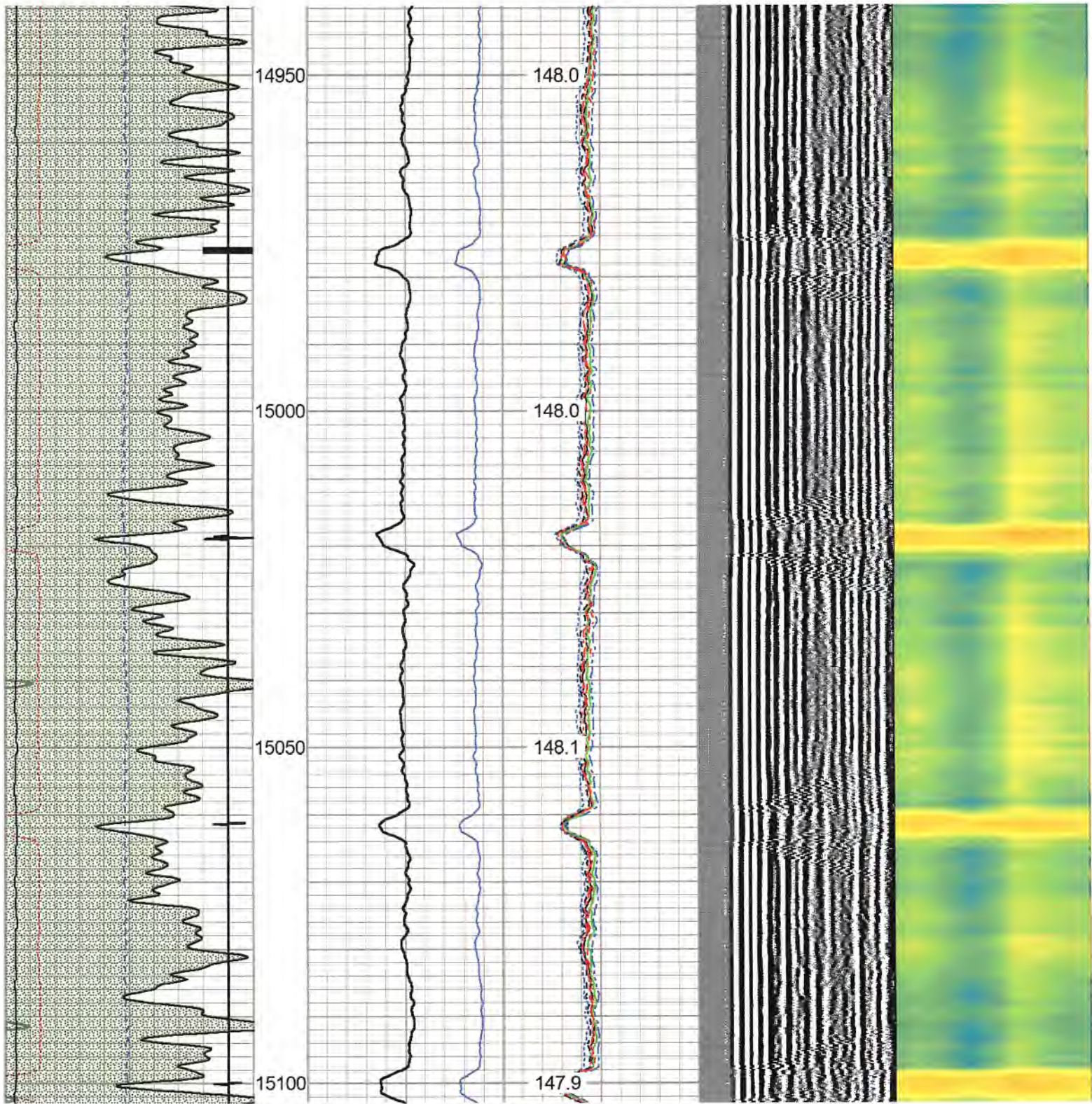
148.0

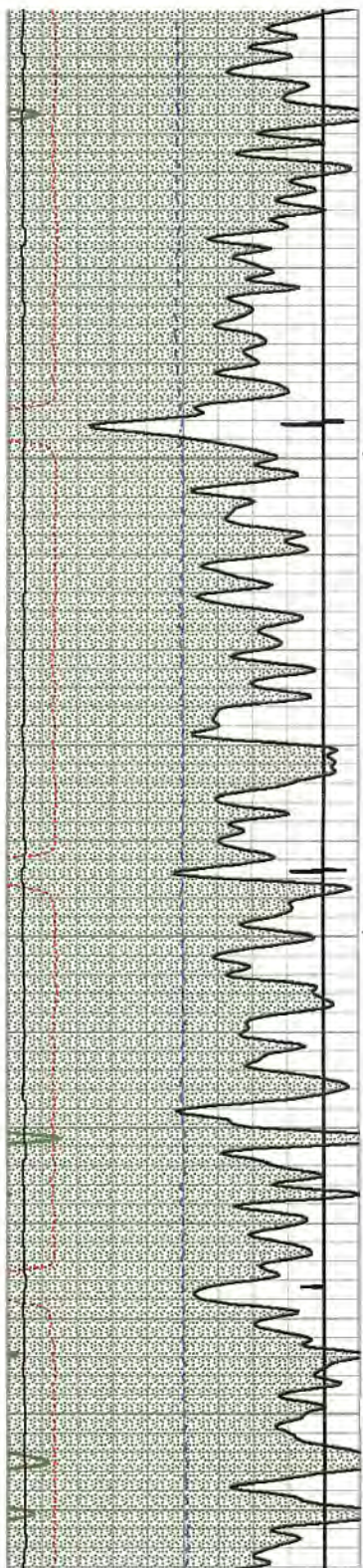












15150

15200

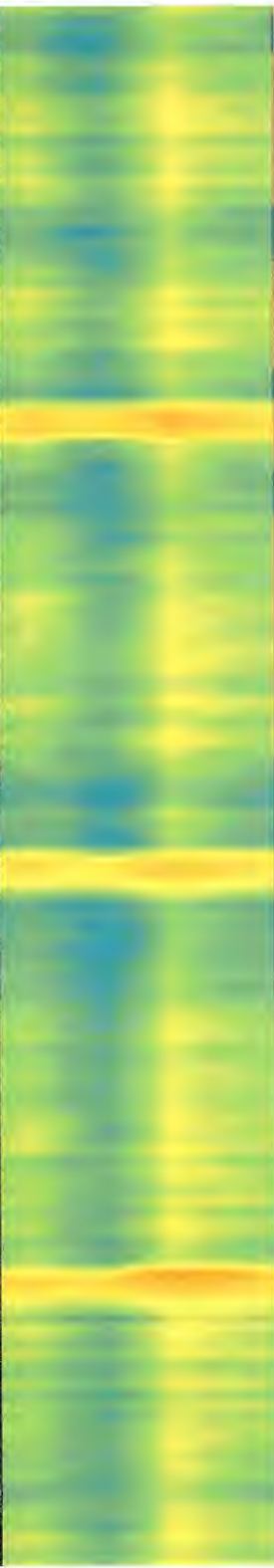
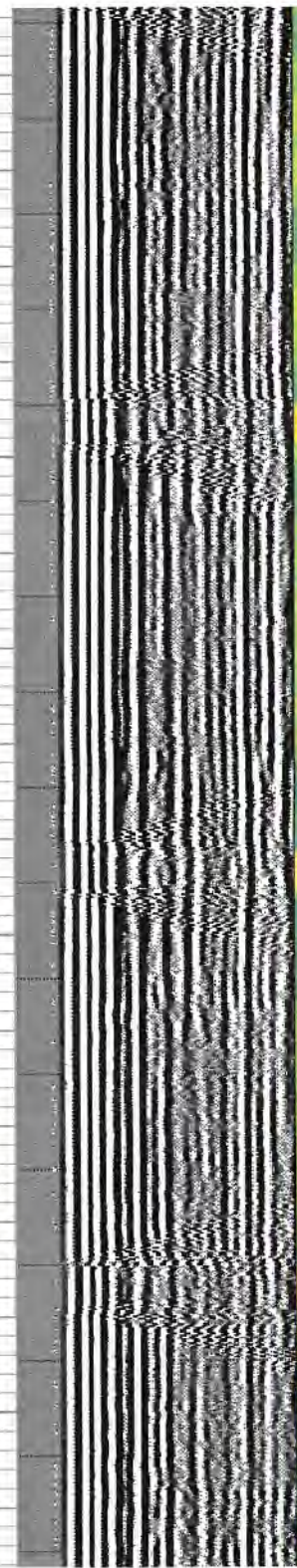
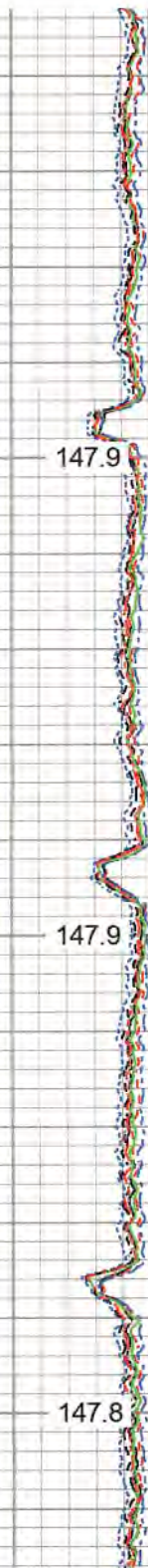
15250

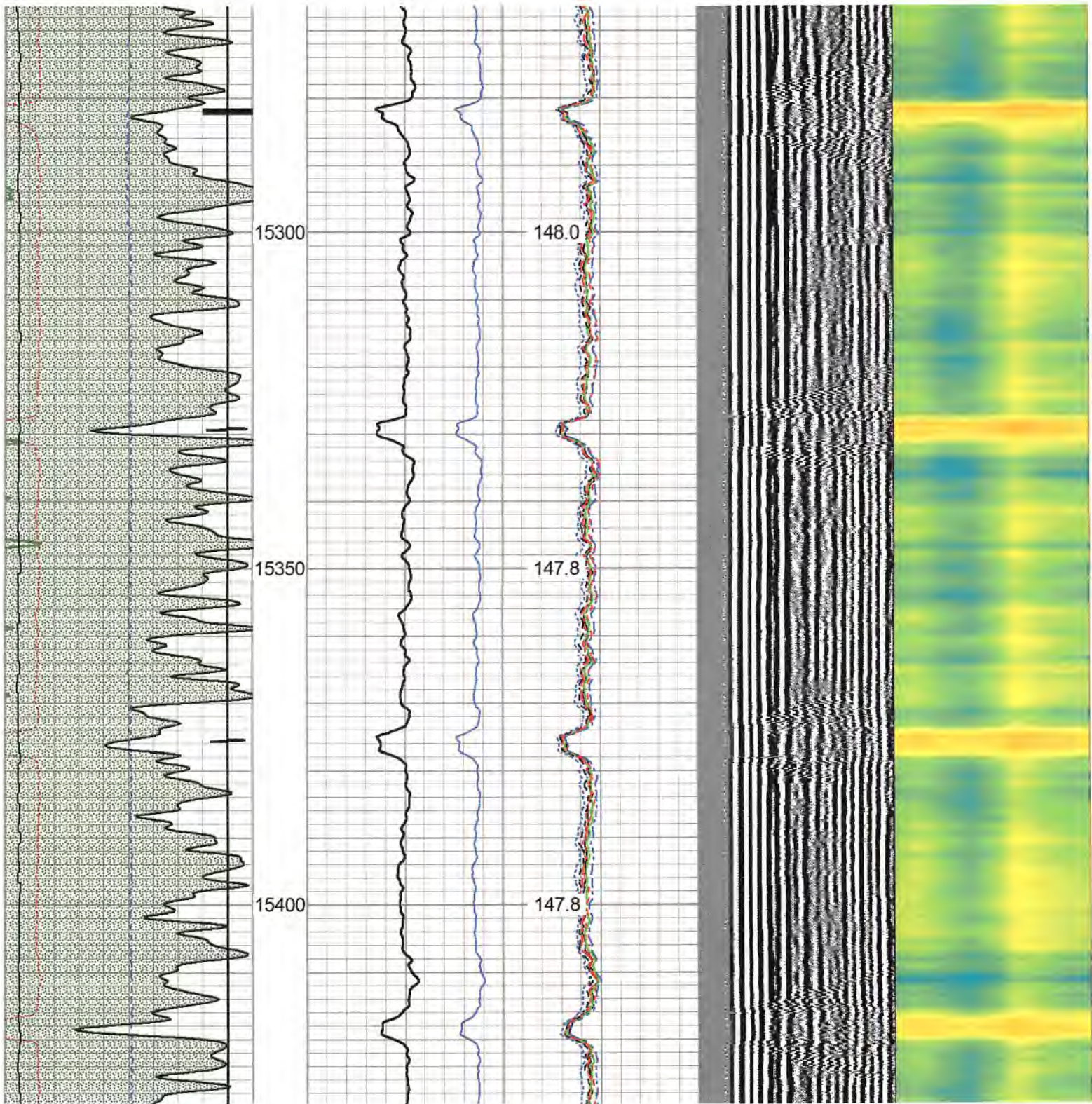


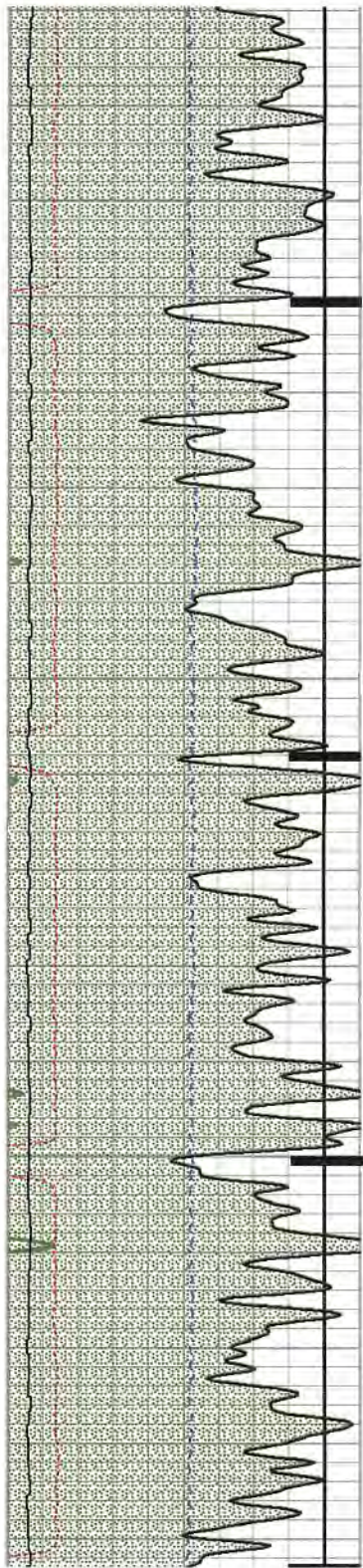
147.9

147.9

147.8







15450

15500

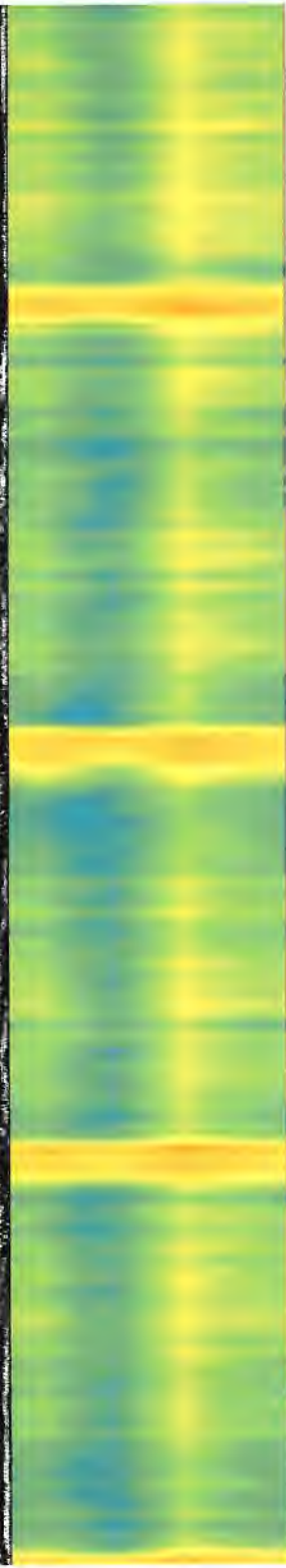
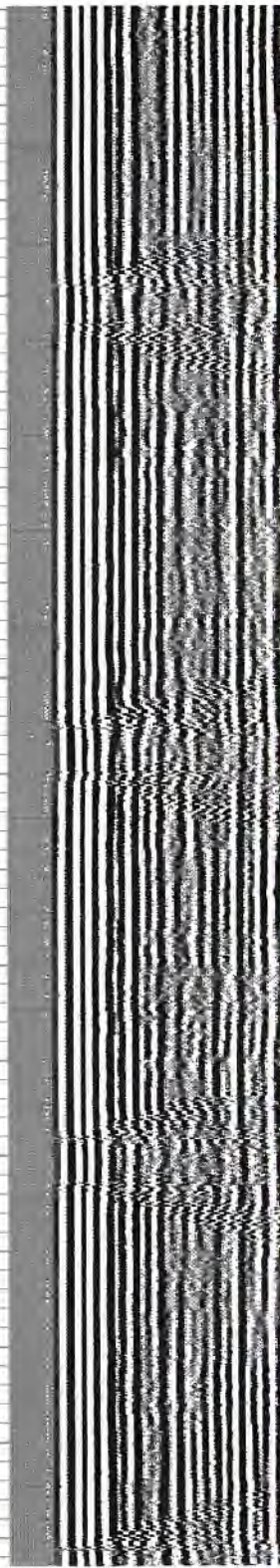
15550

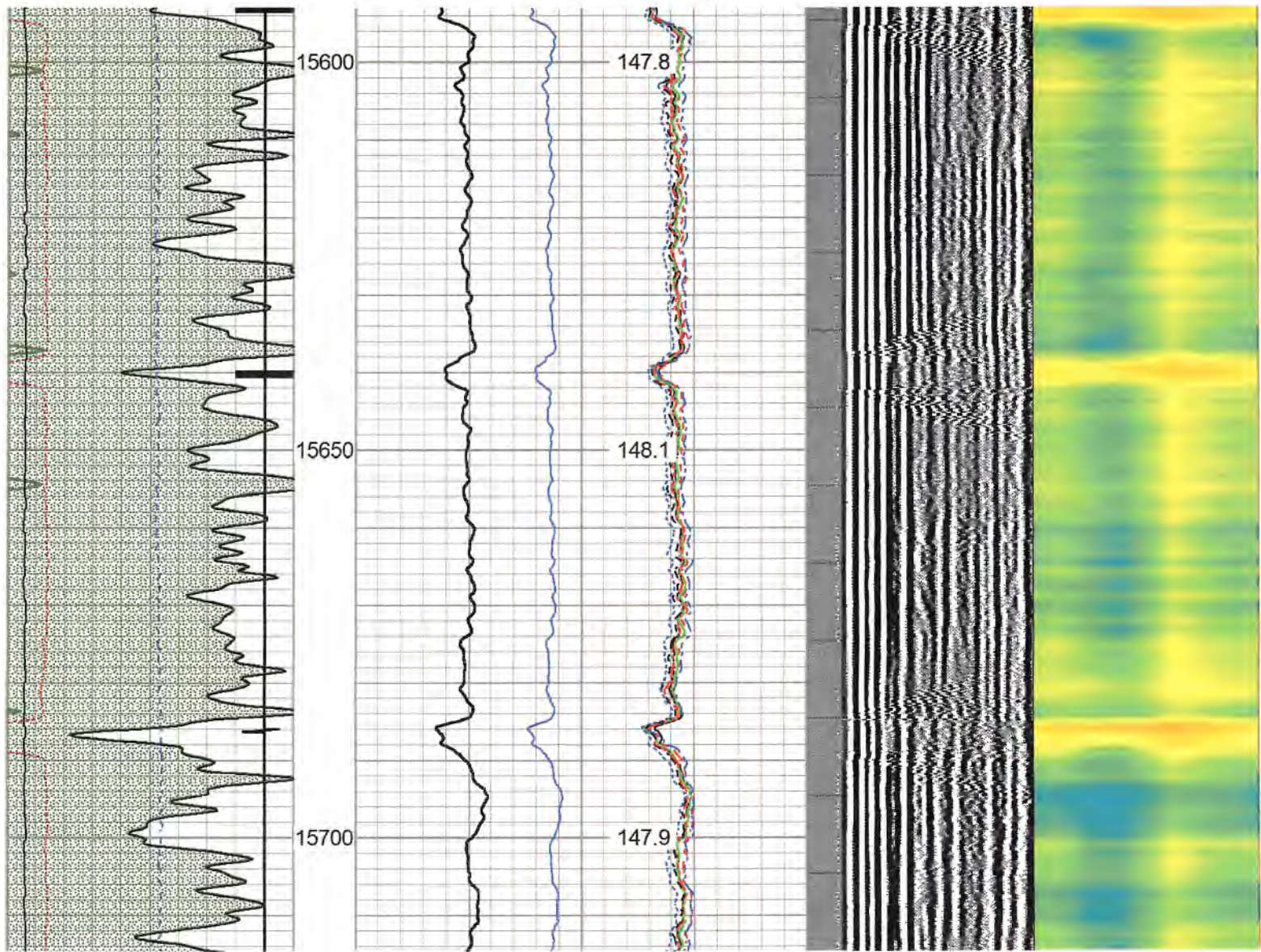


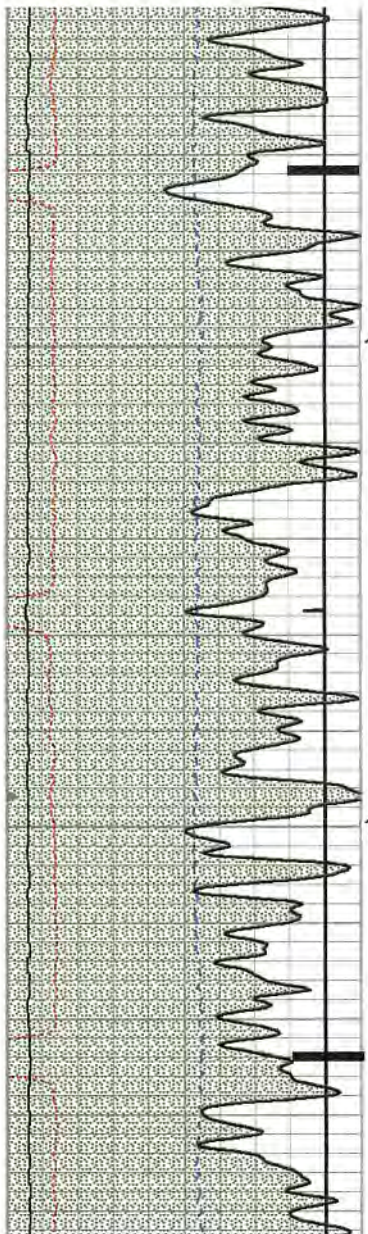
148.3

147.8

148.1

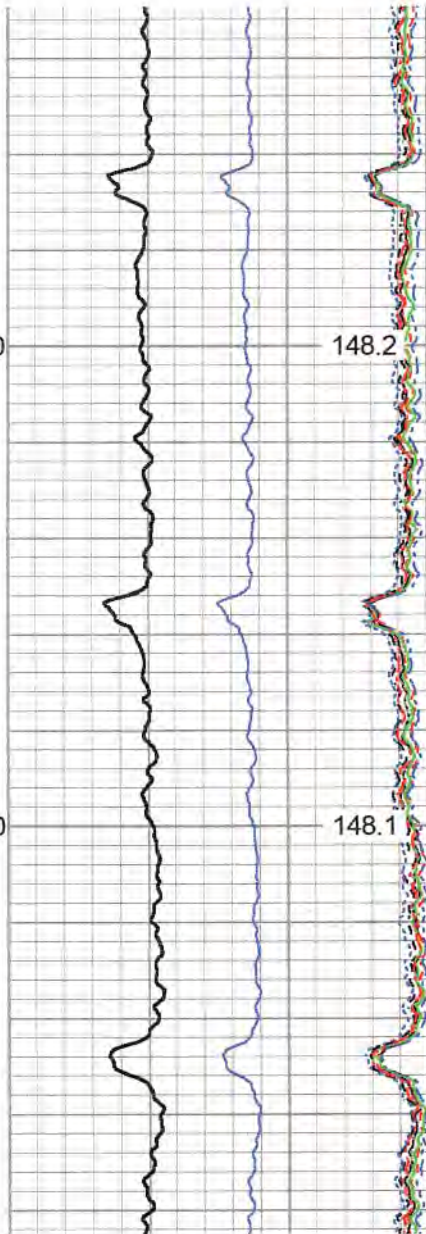






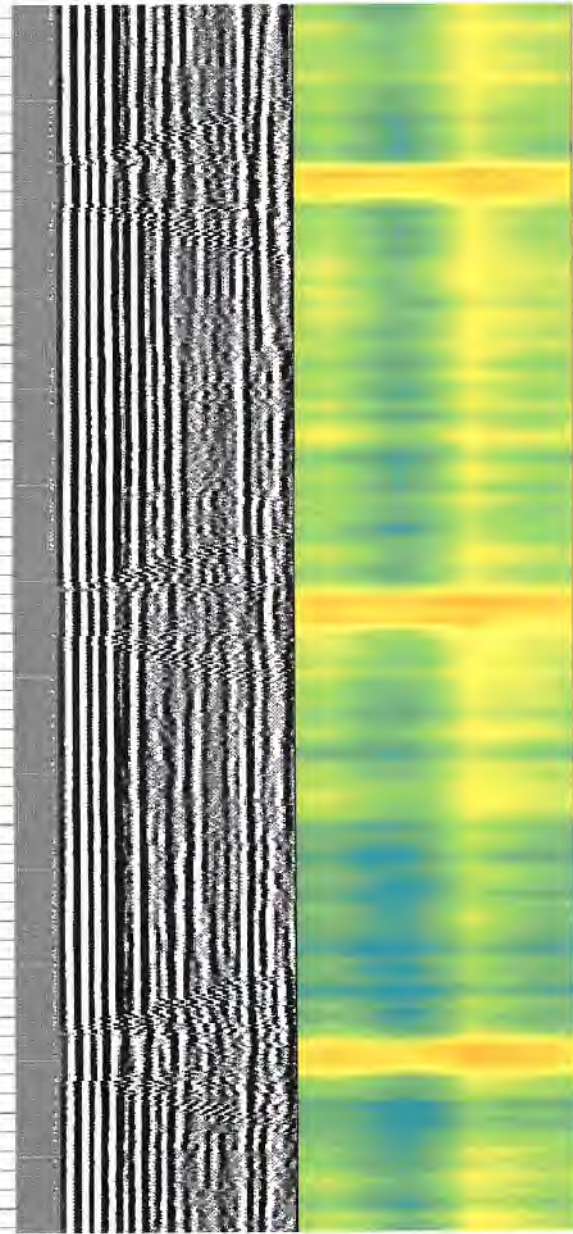
15750

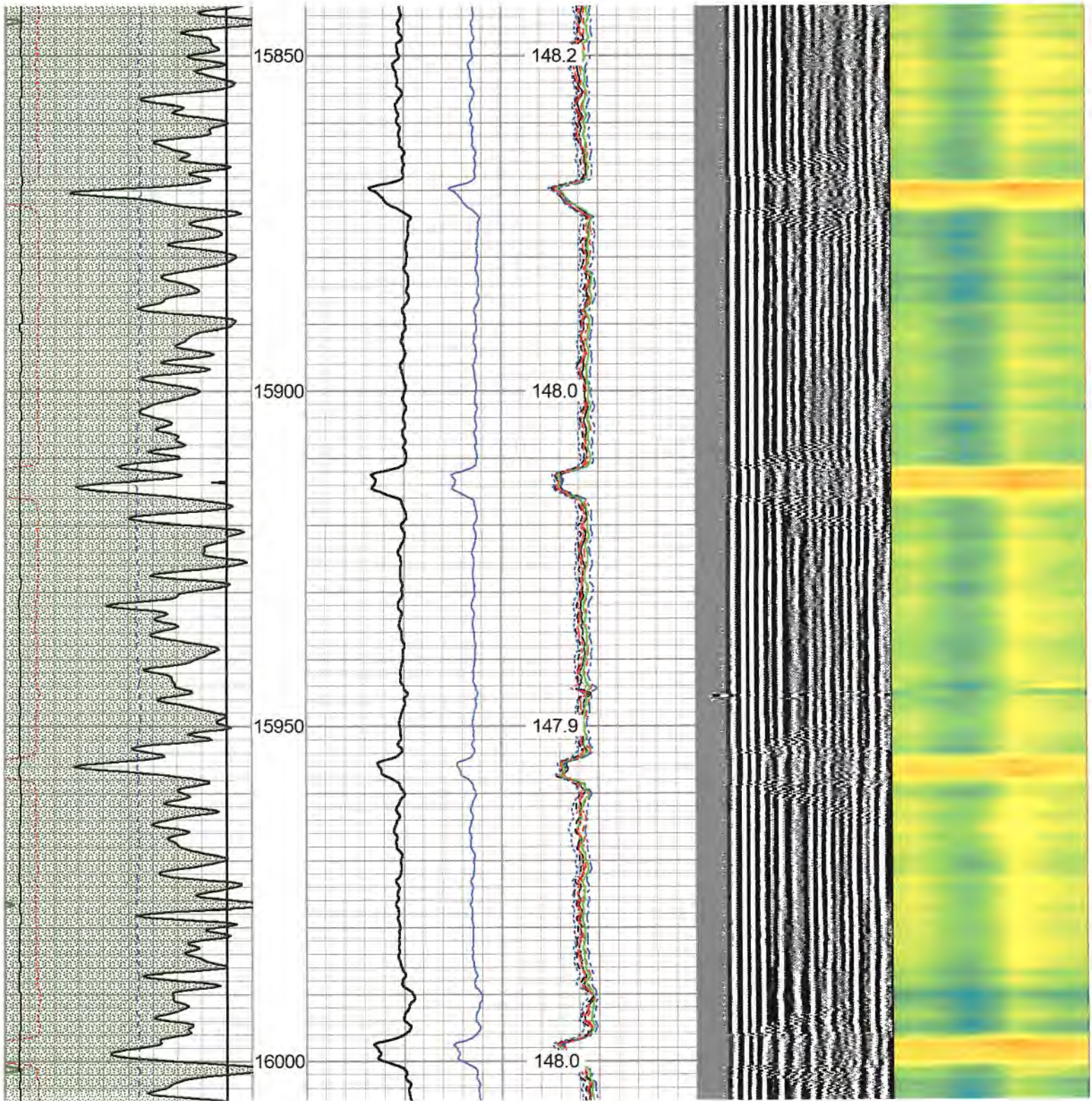
15800



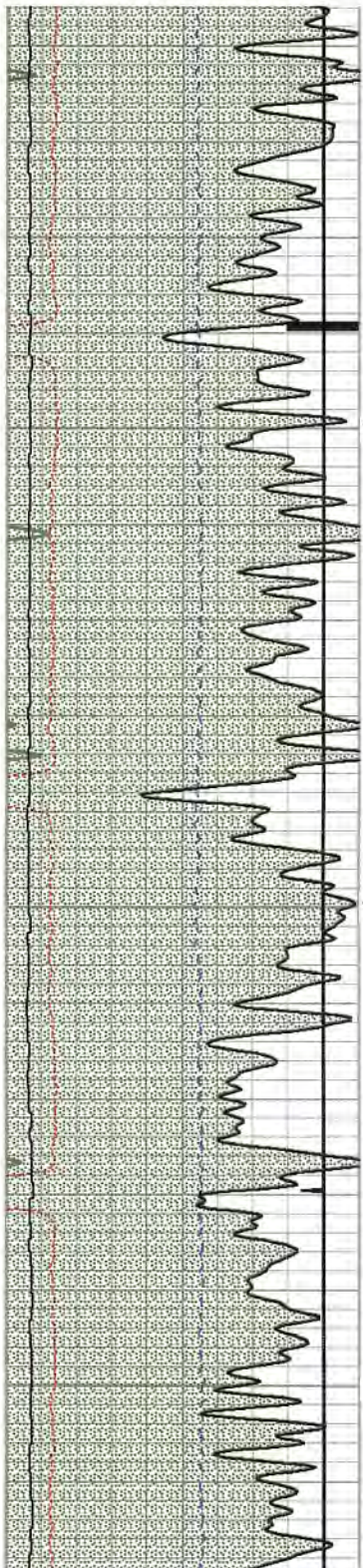
148.2

148.1





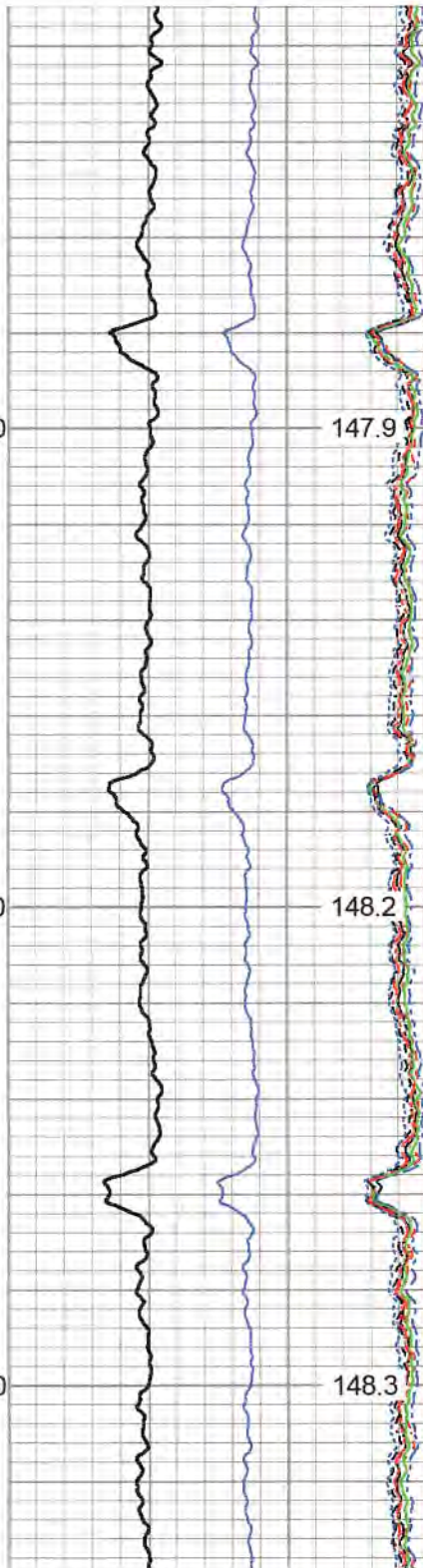




16050

16100

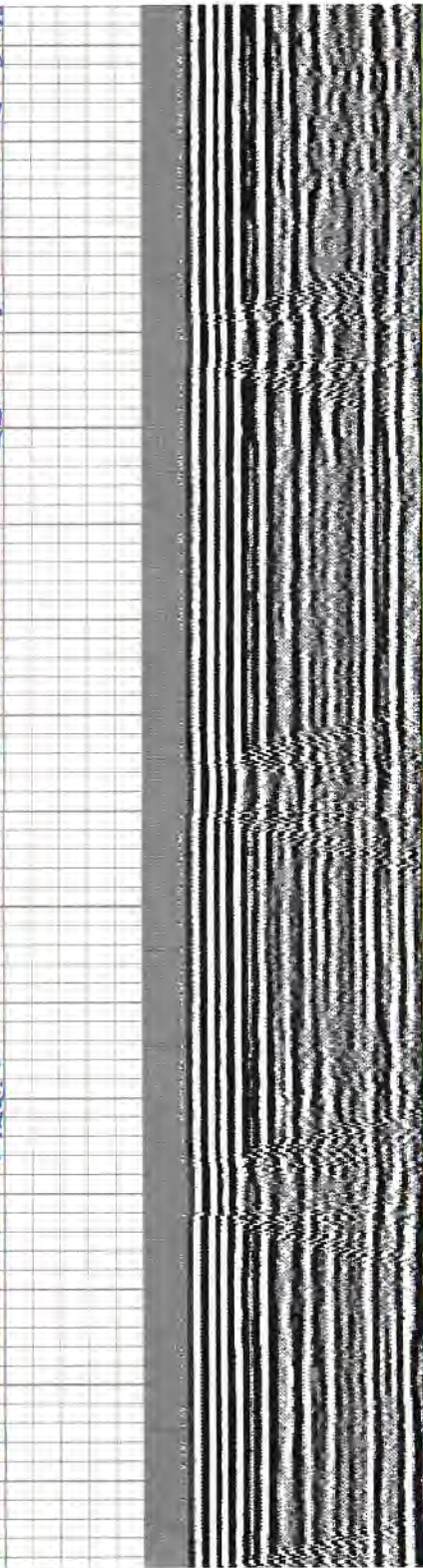
16150

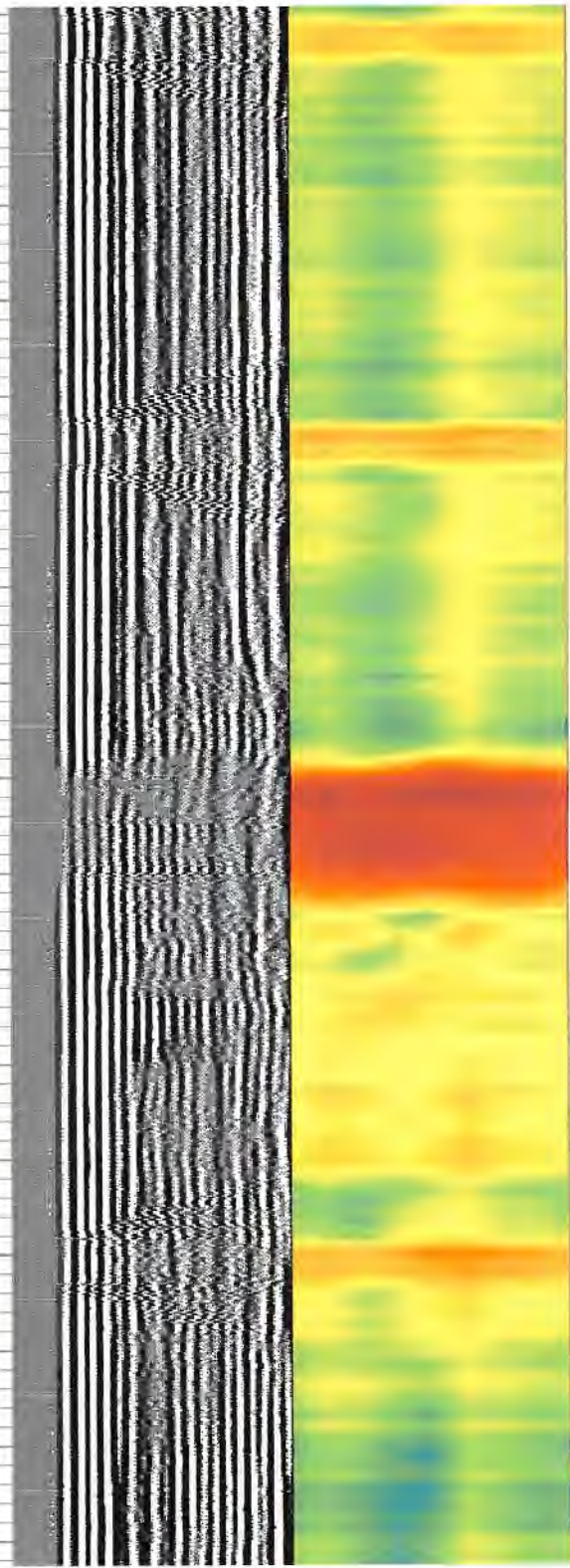
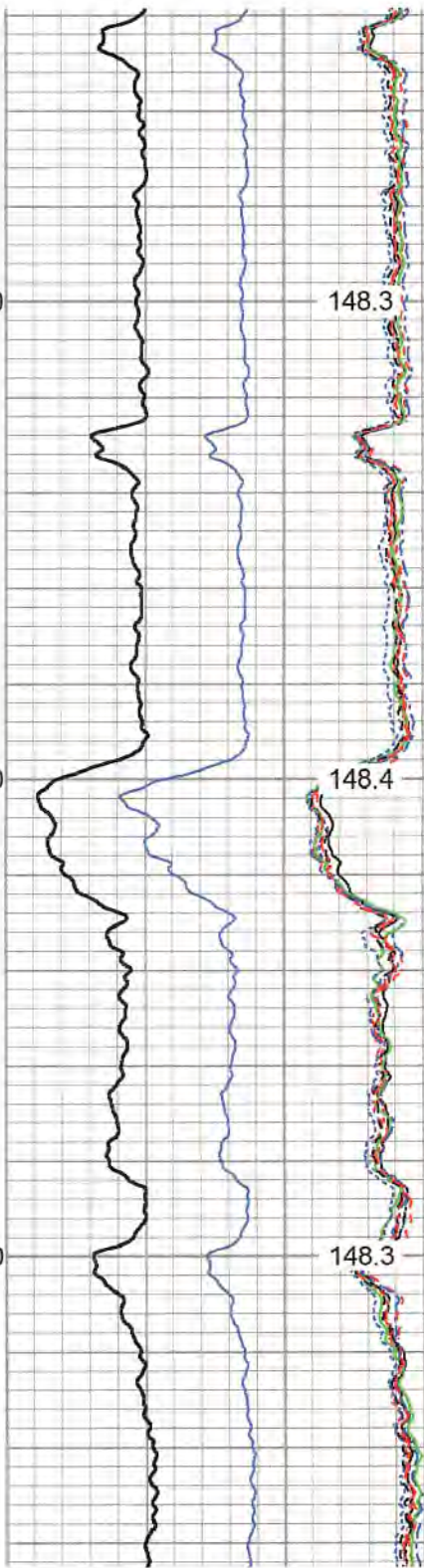
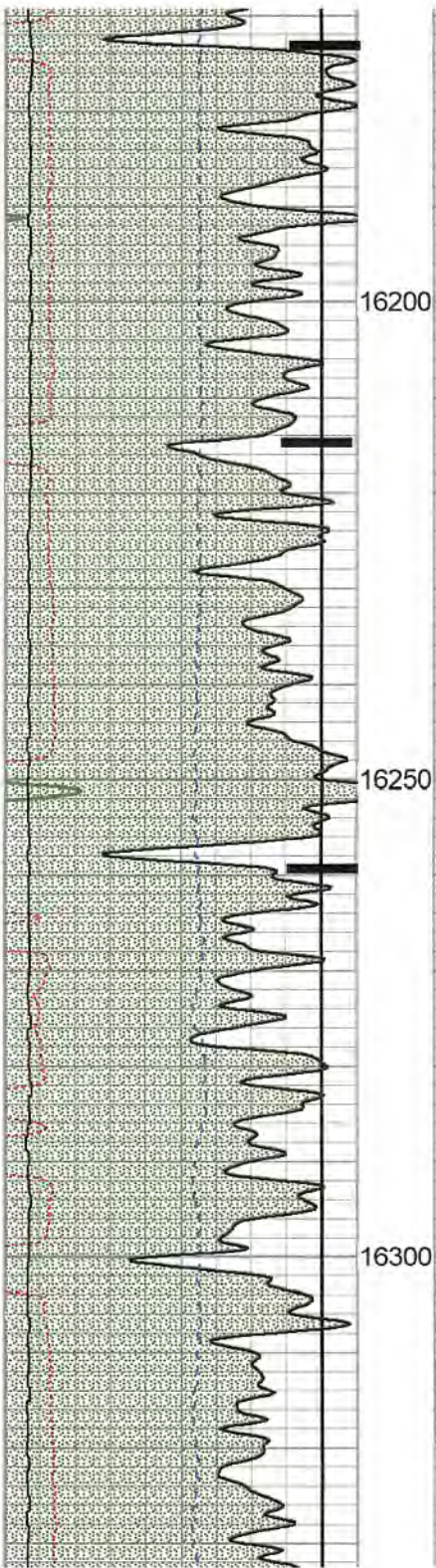


147.9

148.2

148.3





16200

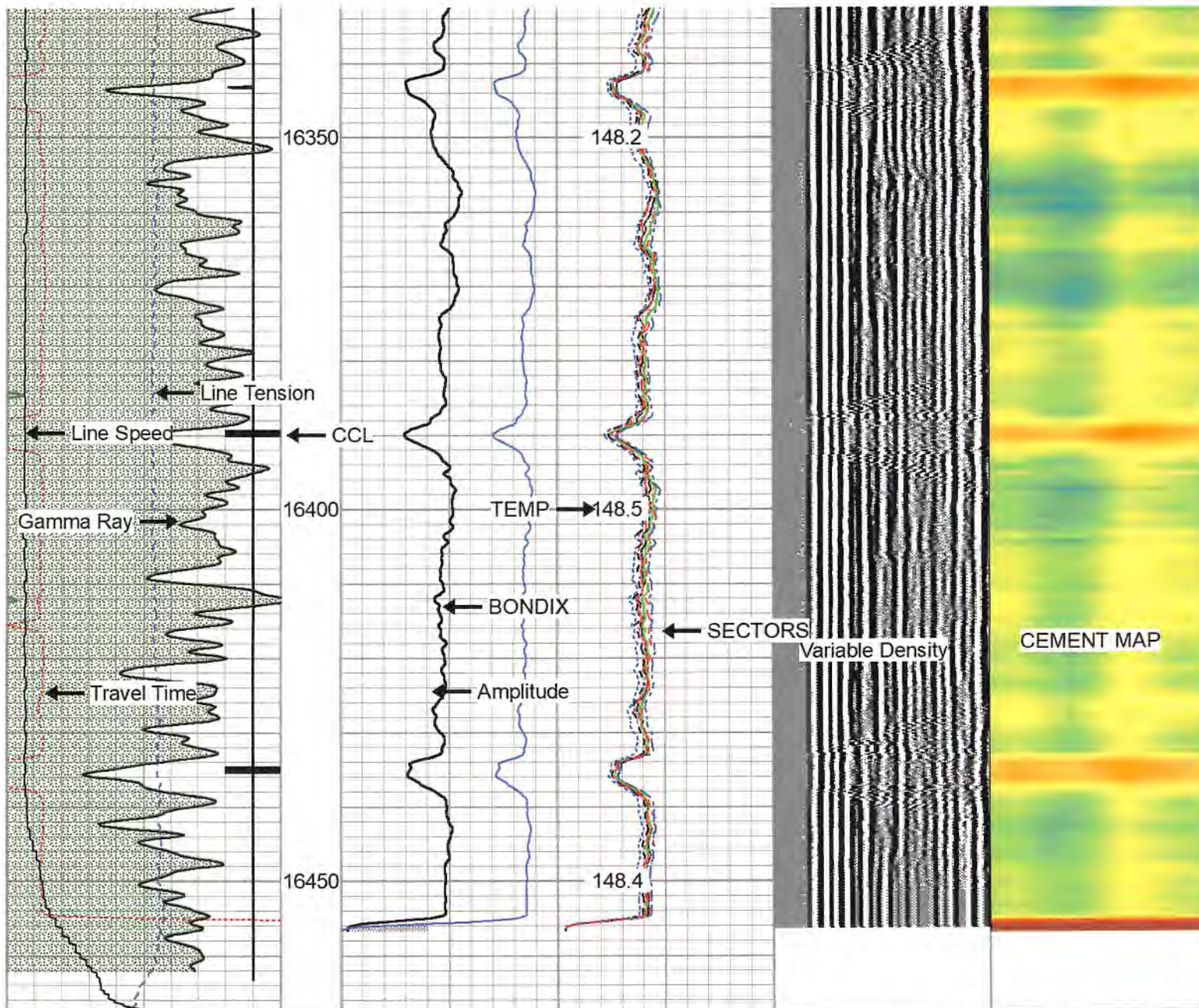
148.3

16250

148.4

16300

148.3



|      |                    |      |
|------|--------------------|------|
| 265  | Travel Time (usec) | 165  |
| 9    | Casing Collar      | -1   |
| 0    | Gamma Ray (GAPI)   | 200  |
| 0    | Line Tension (lb)  | 5000 |
| -100 | LSPD (ft/min)      | 100  |

|   |                |     |    |          |     |
|---|----------------|-----|----|----------|-----|
| 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 |
| 1 | BONDIX         | 0   | -5 | Sector 2 | 150 |
|   |                |     | -5 | Sector 3 | 150 |
|   |                |     | -5 | Sector 4 | 150 |
|   |                |     | -5 | Sector 5 | 150 |
|   |                |     | -5 | Sector 6 | 150 |

|                  |        |            |   |
|------------------|--------|------------|---|
| Variable Density | 1      | Cement Map | 8 |
| 200              | (usec) | 1200       |   |



|        |          |     |
|--------|----------|-----|
| -5     | Sector 7 | 150 |
| -5     | Sector 8 | 150 |
| TEMP   |          |     |
| (degF) |          |     |



# REPEAT PASS- 0 PSI

Database File      antero-jul-23-22-mule 1.db  
 Dataset Pathname    REPEAT 0 PSI  
 Presentation Format   rcbl-bond index for antero 1020  
 Dataset Creation     Mon Jul 25 00:35:45 2022  
 Charted by            Depth in Feet scaled 1:240

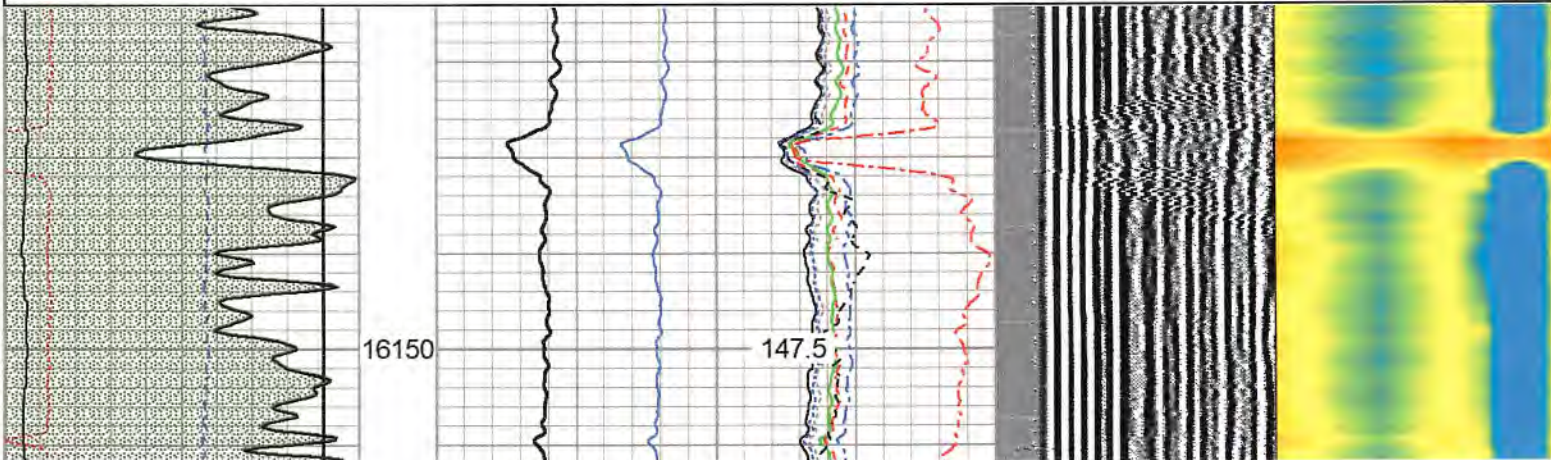
|      |                    |      |
|------|--------------------|------|
| 265  | Travel Time (usec) | 165  |
| 9    | Casing Collar      | -1   |
| 0    | Gamma Ray (GAPI)   | 200  |
| 0    | Line Tension (lb)  | 5000 |
| -100 | LSPD (ft/min)      | 100  |

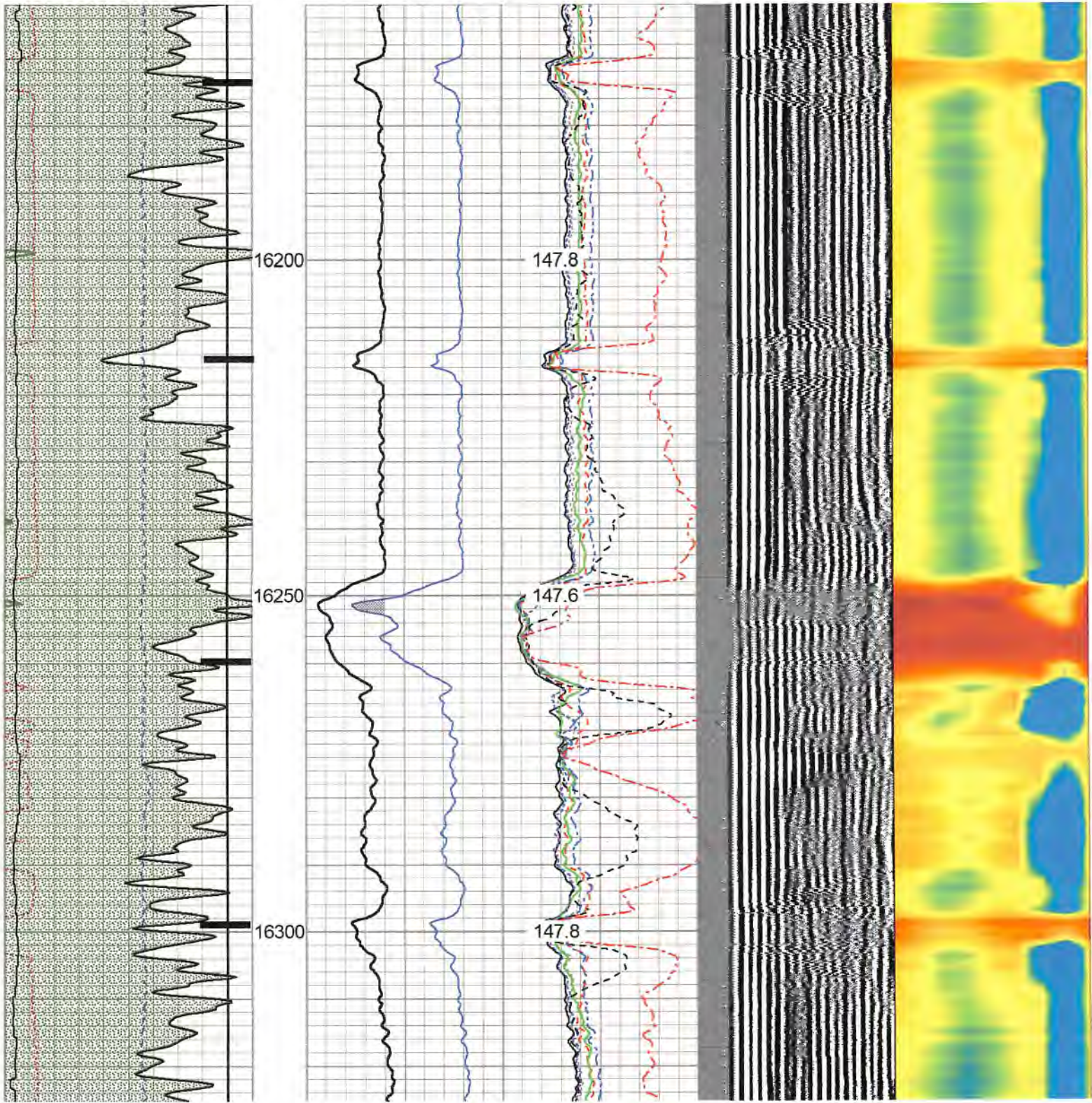
|   |                |     |    |          |     |
|---|----------------|-----|----|----------|-----|
| 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 |
| 1 | BONDIX         | 0   | -5 | Sector 2 | 150 |
|   |                |     | -5 | Sector 3 | 150 |
|   |                |     | -5 | Sector 4 | 150 |
|   |                |     | -5 | Sector 5 | 150 |
|   |                |     | -5 | Sector 6 | 150 |
|   |                |     | -5 | Sector 7 | 150 |
|   |                |     | -5 | Sector 8 | 150 |

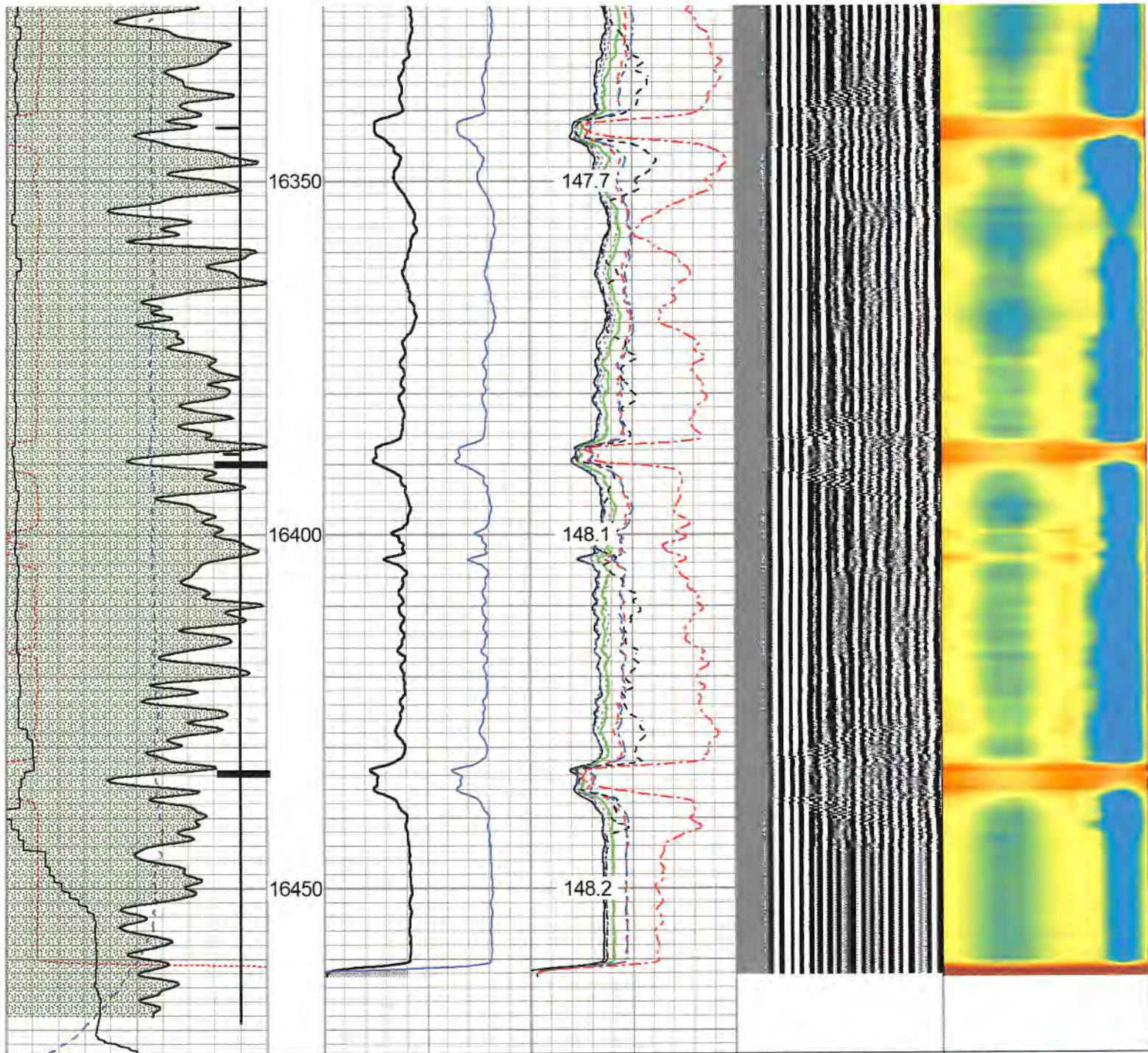
Variable Density    1    Cement Map    8  
 200    (usec)    1200



|        |
|--------|
| TEMP   |
| (degF) |







|     |                    |     |
|-----|--------------------|-----|
| 265 | Travel Time (usec) | 165 |
| 9   | Casing Collar      | -1  |
| 0   | Gamma Ray (GAPI)   | 200 |

|   |                |     |    |          |     |
|---|----------------|-----|----|----------|-----|
| 0 | Amplitude (mV) | 100 | -5 | Sector 1 | 150 |
| 1 | BONDIX         | 0   | -5 | Sector 2 | 150 |
|   |                |     | -5 | Sector 3 | 150 |

|                  |     |        |      |
|------------------|-----|--------|------|
| Variable Density | 200 | (usec) | 1200 |
|------------------|-----|--------|------|

|   |            |   |
|---|------------|---|
| 1 | Cement Map | 8 |
|---|------------|---|

|      |                   |      |
|------|-------------------|------|
| 0    | Line Tension (lb) | 5000 |
| -100 | LSPD (ft/min)     | 100  |

|        |          |     |
|--------|----------|-----|
| -5     | Sector 4 | 150 |
| -5     | Sector 5 | 150 |
| -5     | Sector 6 | 150 |
| -5     | Sector 7 | 150 |
| -5     | Sector 8 | 150 |
| TEMP   |          |     |
| (degF) |          |     |

## Log Variables

Database: C:\ProgramData\Warrior\Data\antero-jul-23-22-mule 1.db  
 Dataset: field/well/run1/MAIN RECALC/\_vars\_

### Top - Bottom

|            |        |         |         |          |          |         |         |
|------------|--------|---------|---------|----------|----------|---------|---------|
| BHTEMP_Src | BOREID | BOTTEMP | CASEOD  | CASETHCK | CASEWGHT | MAXAMPL | MINAMPL |
| TEMP       | in     | degF    | in      | in       | lb/ft    | mV      | mV      |
|            | 7.875  | 100     | 5       | 0        | 18       | 77      | 3       |
| MINATTN    | PERFS  | PPT     | SRFTEMP | TDEPTH   |          |         |         |
| db/ft      |        | usec    | degF    | ft       |          |         |         |
| 0          | No     | 0       | 0       | 0        |          |         |         |

### Variable Description

BHTEMP\_Src : BHTEMP Input Source Selector  
 BOREID : Borehole I.D.  
 BOTTEMP : Bottom Hole Temperature  
 CASEOD : Casing O.D.  
 CASETHCK : Casing Thickness  
 CASEWGHT : Casing Weight  
 MAXAMPL : Maximum Amplitude

MINAMPL : Minimum Amplitude  
 MINATTN : Minimum Attenuation  
 PERFS : Perforation Flag  
 PPT : Predicted Pipe Time  
 SRFTEMP : Surface Temperature  
 TDEPTH : Total Depth

### Calibration Report

Database File antero-jul-23-22-mule 1.db  
 Dataset Pathname MAIN RECALC  
 Dataset Creation Mon Jul 25 00:25:30 2022

### Gamma Ray Calibration Report

Serial Number: FW1211-86  
 Tool Model: Probe  
 Performed: Sun Aug 29 01:22:07 2021  
 Calibrator Value: 1.0 GAPI

|                     |        |          |
|---------------------|--------|----------|
| Background Reading: | 0.0    | cps      |
| Calibrator Reading: | 1.0    | cps      |
| Sensitivity:        | 0.7000 | GAPI/cps |

**Segmented Cement Bond Log Calibration Report**

|                              |           |    |
|------------------------------|-----------|----|
| Serial Number:               | FW1312-32 |    |
| Tool Model:                  | Probe275T |    |
| Calibration Casing Diameter: | 5.000     | in |
| Calibration Depth:           | 30.708    | ft |

**Master Calibration, performed (Derived):**

|     | Raw (v) |       | Calibrated (mv) |         | Results |        |
|-----|---------|-------|-----------------|---------|---------|--------|
|     | Zero    | Cal   | Zero            | Cal     | Gain    | Offset |
| 3'  | 0.001   | 0.618 | 3.000           | 76.186  | 118.615 | 2.870  |
| CAL | 0.990   | 0.980 |                 |         |         |        |
| 5'  | -0.004  | 0.487 | 3.000           | 76.186  | 149.128 | 3.540  |
| SUM |         |       |                 |         |         |        |
| S1  | 0.001   | 0.733 | 0.000           | 100.000 | 136.694 | -0.160 |
| S2  | -0.007  | 0.661 | 0.000           | 100.000 | 149.758 | 1.043  |
| S3  | -0.000  | 0.745 | 0.000           | 100.000 | 134.160 | 0.052  |
| S4  | -0.001  | 0.798 | 0.000           | 100.000 | 125.193 | 0.141  |
| S5  | 0.001   | 0.729 | 0.000           | 100.000 | 137.436 | -0.143 |
| S6  | -0.001  | 0.689 | 0.000           | 100.000 | 144.815 | 0.151  |
| S7  | -0.001  | 0.649 | 0.000           | 100.000 | 153.921 | 0.138  |
| S8  | -0.003  | 0.672 | 0.000           | 100.000 | 148.096 | 0.474  |

**Internal Reference Calibration, performed (Not Performed):**


|     | Raw (v) |       | Calibrated (v) |       | Results |        |
|-----|---------|-------|----------------|-------|---------|--------|
|     | Zero    | Cal   | Zero           | Cal   | Gain    | Offset |
| CAL | 0.000   | 0.000 | 0.990          | 0.980 | 1.000   | 0.000  |

**Air Zero Calibration, performed (Not Performed):**

|    | Raw (v) |  | Calibrated (v) |  | Results |  |
|----|---------|--|----------------|--|---------|--|
|    | Zero    |  | Zero           |  | Offset  |  |
| 3' | 0.019   |  | 0.000          |  | 0.001   |  |
| 5' | 0.001   |  | 0.000          |  | 0.001   |  |



|     |       |       |        |
|-----|-------|-------|--------|
| J   | 0.001 | 0.000 | 0.001  |
| SUM |       |       |        |
| S1  | 0.084 | 0.000 | 0.001  |
| S2  | 0.000 | 0.000 | -0.000 |
| S3  | 0.007 | 0.000 | -0.000 |
| S4  | 0.005 | 0.000 | -0.001 |
| S5  | 0.004 | 0.000 | 0.001  |
| S6  | 0.005 | 0.000 | -0.001 |
| S7  | 0.004 | 0.000 | -0.001 |
| S8  | 0.003 | 0.000 | 0.000  |

| Sensor | Offset (ft) | Schematic   | Description                              | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|---|--|-------------|-----------|-------------|
|        |             |  | CHD-Titan<br>Standard 1 7/16" Cable Head | 1.02        | 1.44      | 1.00        |
|        |             |   | W3.125-SOLID<br>tractor                  | 40.00       | 3.13      | 640.00      |

|   |       |  |   |      |      |       |
|---|-------|--|---|------|------|-------|
| Temp  | 14.39 |  |   |      |      |       |
| WVFS8   | 12.16 |  | Centralizer-2.75_Overbody   | 1.67 | 3.12 | 5.00  |
| WVFS7   | 12.16 |  | RBT-Probe275T (FW1312-32)<br>Probe 2.75" Radial with Integral Temperature Sub | 9.39 | 2.75 | 90.00 |
| WVFS6   | 12.16 |  |   |      |      |       |
| WVFS5   | 12.16 |  |   |      |      |       |
| WVFS4   | 12.16 |  |   |      |      |       |
| WVFS3   | 12.16 |  |   |      |      |       |
| WVFS2   | 12.16 |  |   |      |      |       |
| WVFS1   | 12.16 |  | CENT-Titn275Adj<br>Titan 2 3/4" Adjustable Centralizer                        | 2.86 | 2.75 | 35.00 |
| WV3FT   | 12.16 |  |   |      |      |       |
| WV5FT   | 11.16 |  |   |      |      |       |
| HeadVolt  | 7.91  |  |   |      |      |       |
| WVFCAL  | 7.91  |  | GR-Probe (FW1211-86)<br>Probe 2 3/4" Logging Gamma Ray                        | 4.78 | 2.75 | 57.00 |
| CCL   | 4.14  |  |   |      |      |       |
| GR  | 2.81  |  | Bull_Plug-1_7/16_GO<br>Titan 1 7/16" Female Bull Plug                         | 0.27 | 1.44 | 1.00  |
| Dataset: antero-jul-23-22-mule 1.db: field/well/run1/pass13.1<br>Total length: 58.32 ft<br>Total weight: 829.00 lb<br>O.D.: 3.13 in |       |  |   |      |      |       |

|  |         |                     |
|--|---------|---------------------|
|  | Company | ANTERO RESOURCES    |
|  | Well    | GASPAR-MULE UNIT 1H |
|  | Field   | SOUTH CANTON        |
|  | County  | DODDRIDGE           |
|  | State   | WEST VIRGINIA       |